

OGY DEPT.

FEBRUARY, 1942 - 25 CENTS
30 CENTS IN CANADA

AMERICAN BUILDER

AND
BUILDING
AGE

THE WORLD'S GREATEST BUILDING PAPER



"Building Continues—Metals Restricted"
Plan of War Production Board

How alert Contractors are Helping America and Keeping their Men Busy:

★ Many houses need repairs and remodeling to make suitable shelter for war workers. Roofs need replacement. Farm buildings can gain increased efficiency through insulation, to further the greater farm production which the government is calling for.

That's the kind of work contractors are doing, right now. This work helps America. It increases the value of buildings, *which are an important part of America's wealth.* And it can be done, very largely, without using any of the "critical" materials needed by the government for war activity.

For instance: Celotex Vapor-seal Sheathing can play a major part in additions to homes—and in insulating dairy barns and laying-houses. And Celotex Insulating Interior Finishes make short work of providing extra rooms out of basements, porches, or attics.

Any new roof or roof replacement need can be met with the help of Celotex Asphalt Roofing Products. And Celotex Products can also meet any rock wool or gypsum requirement.

Talk to 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

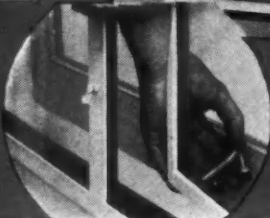
Sales Distributors Throughout the World

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, Ill. Address communications to 105 W. Adams St., Chicago, Ill.

YES!

AN ORDINARY STORM SASH FITS THIS STEEL CASEMENT WINDOW PERFECTLY *and* —

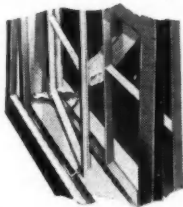


ABOVE—Simply hang ordinary storm sash atop, on outside of Fenestra Package Window. Storm sash not supplied by Fenestra.

LEFT—Storm sash is linked at bottom to casement ventilator, from inside, with hook-and-eye supplied by Fenestra.

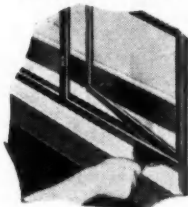
You gain these *Three New Advantages*

OPENS AUTOMATICALLY



Linked to the casement ventilator at the sill, the storm sash opens automatically when the casement window is opened from the inside for fresh air.

OPENS EASILY WITH ONE HAND



Both storm sash and casement vent *swing* instead of *slide*; casement vent is *steel*, which never binds or sticks—hence double window opens easily.

PROTECTS LIKE A CANOPY



When this double window is opened for winter ventilation, the storm sash forms a protecting canopy—keeps snow or rain from entering a room.



INSTALLED OUTSIDE IN 5 MINUTES



TRIMMED INSIDE IN 8 MINUTES

The Fenestra Package Window includes a Bonderized Steel Casement Window, already glazed, wood cased and outside trimmed, with all hardware included; with prefit inside wood trim if desired. It's installed in a jiffy... It helps sell houses—provides better appearance, more daylight, better ventilation, easier opening, safer cleaning, permanent weather-tightness, better screens, higher quality, lower upkeep... Get Fenestra facts and prices. Use coupon.



THE NEW LOW-COST Fenestra PACKAGE WINDOW

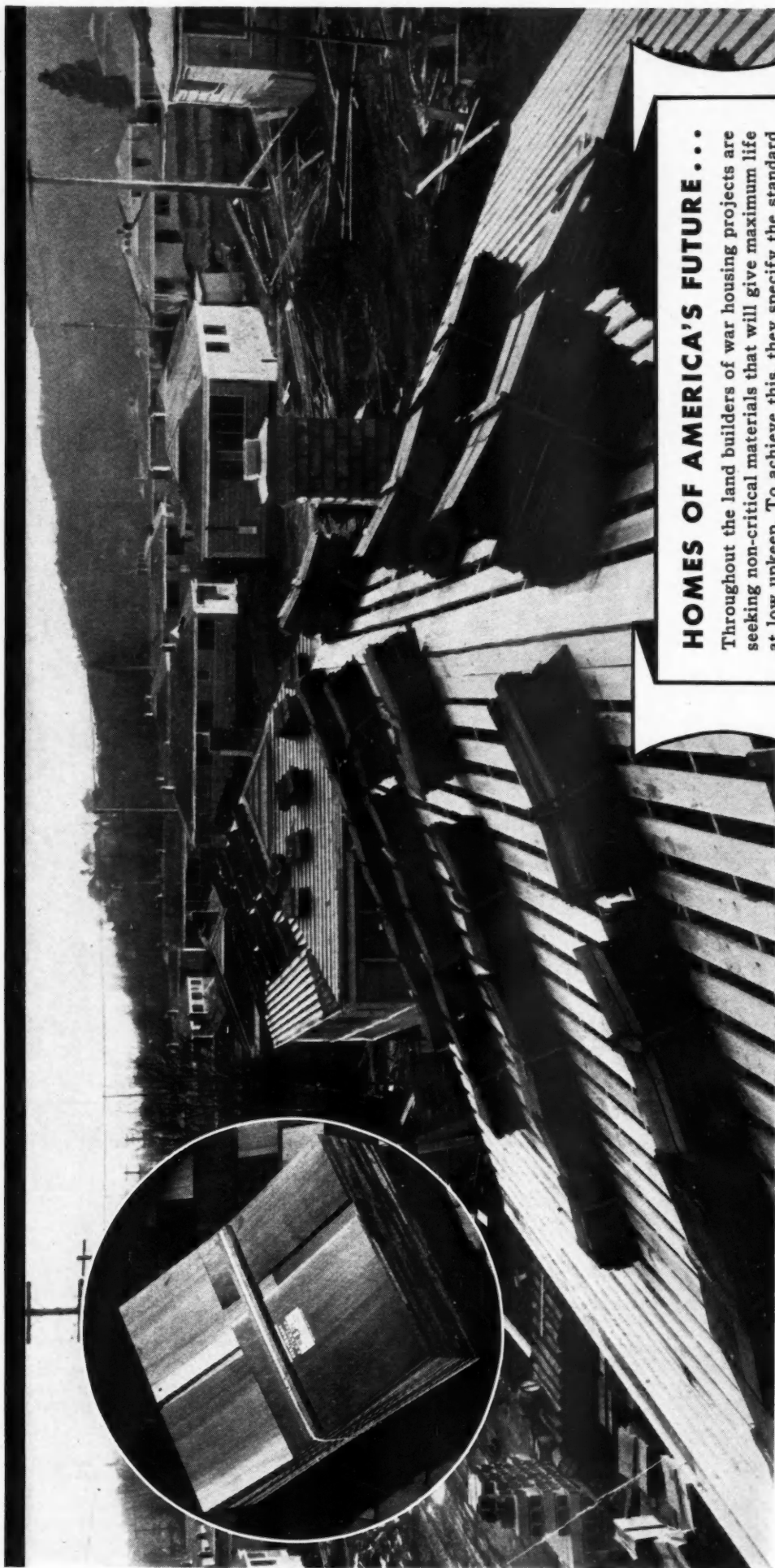
DETROIT STEEL PRODUCTS COMPANY,
2260 East Grand Blvd.,
Dept. AB-2, Detroit, Mich.

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

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

Name _____
Address _____
City _____ State _____

WAR DEFENSE HOUSING



HOMES OF AMERICA'S FUTURE...

Throughout the land builders of war housing projects are seeking non-critical materials that will give maximum life at low upkeep. To achieve this, they specify the standard roof and sidewall material—Red Cedar Shingles.

at low upkeep. To achieve this, they specify the standard roof and sidewall material—Red Cedar Shingles.

RED CEDAR SHINGLES

Give Superior Service on Roofs and Sidewalls of War Housing!

ECONOMY No other roof or sidewall material has the economic advantages of Red Cedar Shingles. Figured by their many years of service, they cost less per square than any other material.

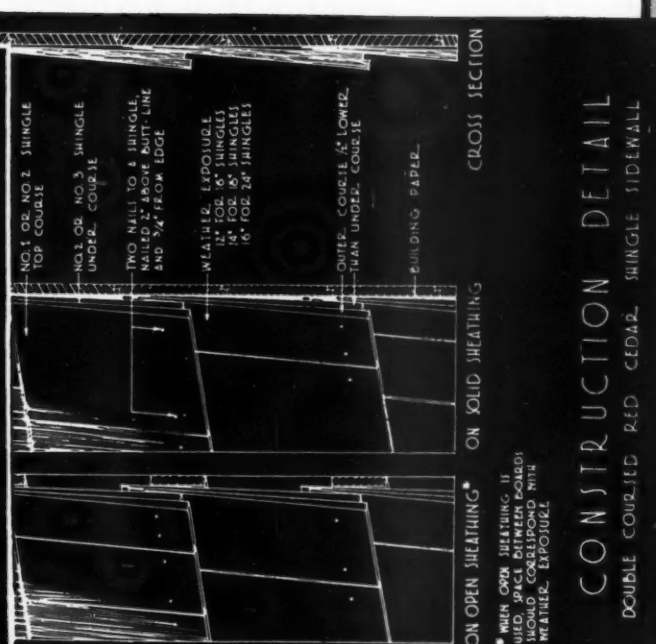
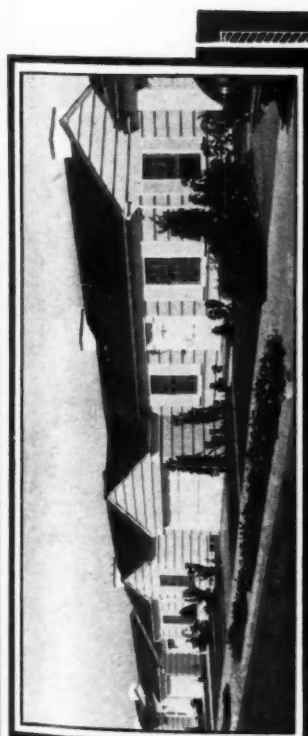
COMFORT A greatly magnified cross-section of a Red Cedar Shingle shows millions of insulating cells in every cubic inch. Heat loss through a Red Cedar Shingle roof is negligible, as demonstrated by the fact that snow and heavy frost will melt more slowly on roofs of this material. During the summer months this same insulating quality wards off the sun's heat. The clatter of hailstones and heavy rain is minimized on a roof of Red Cedar Shingles.

LONG LIFE The existence of natural preservative oils in shingles of Red Cedar has been found by experiments made in the United States Forest Products Laboratories. These oils are highly toxic to wood-attacking fungi. This accounts for the unusual resistance to rot of shingles of Red Cedar. Another authority credits Red Cedar Shingles with "great durability under all sorts of exposure."

PROTECTION The best defense against weather for houses, for barns and for storage sheds is provided by Red Cedar Shingles. No less than three layers of shingles exist throughout a roof applied according to the established method. This triple-ply covering creates a "bridging" effect which resists hail, wind, earthquake and hurricane.

NON-CRITICAL Not classified among the hard-to-get "critical" defense materials, Red Cedar Shingles are readily available.

RED CEDAR SHINGLE BUREAU
5508 WHITE BLDG., SEATTLE, U. S. A. VANCOUVER, B. C., CANADA



FREE BLUEPRINTS!

Send for these free guides to better roof and sidewall construction. They illustrate the recommended methods for the application of Red Cedar Shingles. Mail the coupon today!

RED CEDAR SHINGLE BUREAU
5508 White Building, Seattle, Washington
Generators: Please send, free, a set of Architectural Blueprints of Shingle Applications.

NAME.....
ADDRESS.....
CITY..... STATE.....



Who Has a Better Right to this Security?

Today The American Workman Has The Greatest Need For Home Equipment That Will Serve Him Well And Long AT LOW OPERATING COST!

When a wage earner buys a house, financial consideration goes beyond a choice of land and structure. For it's the monthly cost *to live* which determines whether he can continue to afford the security of a home of his own.

Give him home operating equipment that will keep on giving good service at low cost. Give him an efficient and adequate heating plant and wiring system,

and money-saving kitchen appliances. These can contribute more in operating economies than any



slight increase they may cause in monthly payments under a long term mortgage.

And at the same time *you* can profit by specifying General Electric home equipment, because *the homes you design and build today are the homes that will build your reputation for tomorrow.*

★ ★ ★ ★

Write us for the complete story . . . how G-E Equipment can lower living costs for your customers!

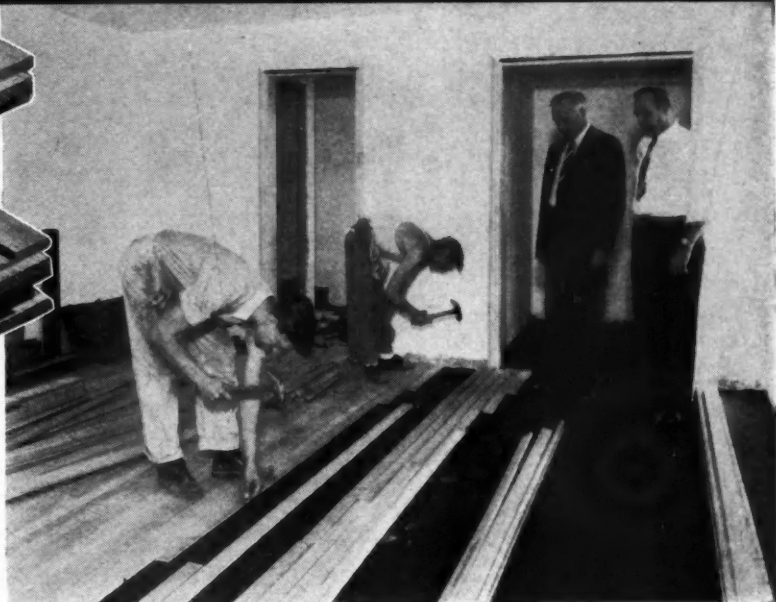
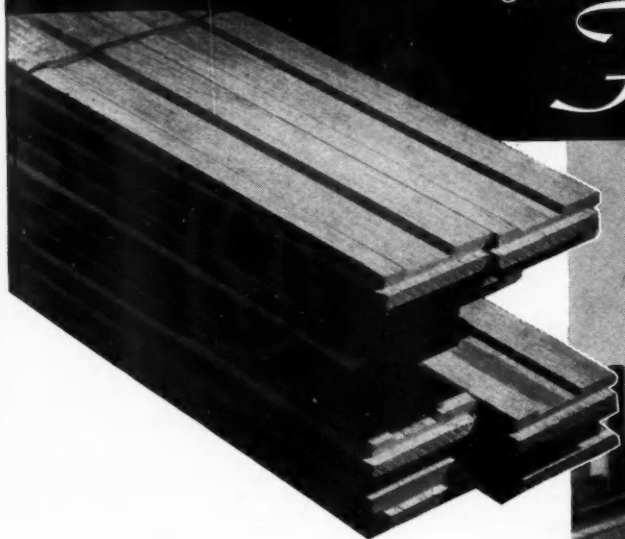


WIRING • REFRIGERATOR • RANGE • FURNACE • WASHER • IRONER • CABINETS • DISPOSALL and DISHWASHER • WATER HEATER

GENERAL ELECTRIC

HOME BUREAU, BRIDGEPORT, CONN.

*For lasting Defense of their
Floor Dollars—*



they're laying
BRADLEY'S

STRAIGHT-LINE Oak Flooring

If there ever was a time when property owners were demanding top value for their building dollars, that time is now. By the same token, builders are installing more Bradley Straight-Line Oak Floors than ever before. For, this proved superior product assures the highest possible protection for floor dollars in any construction where hardwood floors are specified.

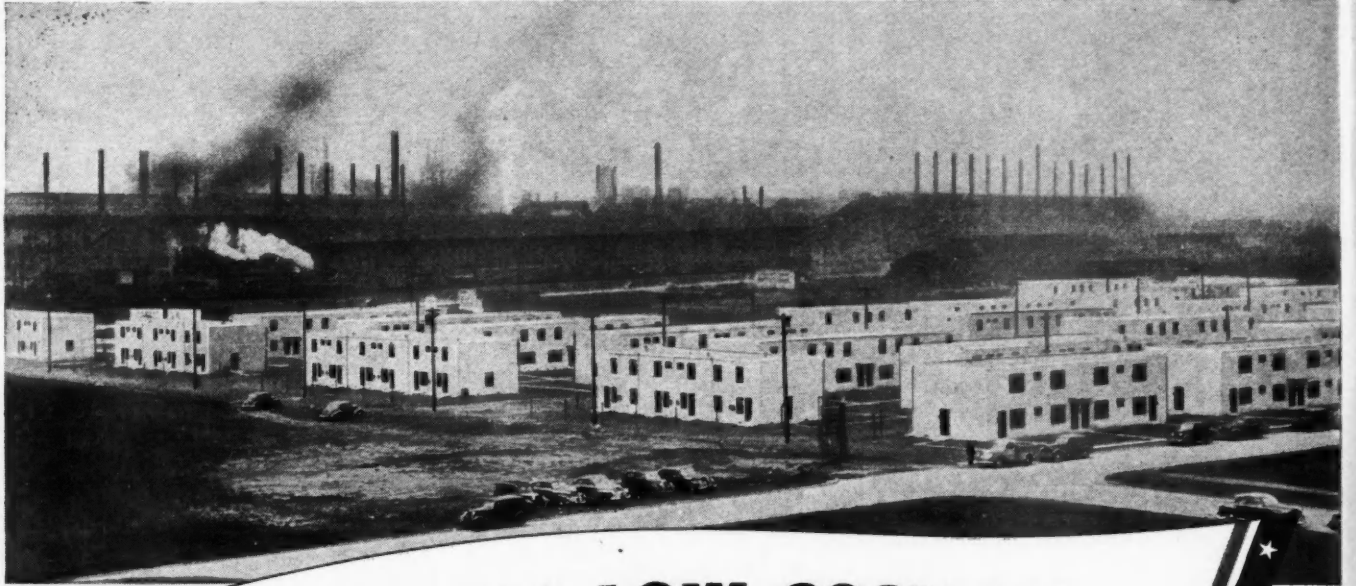
Further increase in sales is indicated as small home building and remodeling gain momentum. That building trades are taking advantage of these opportunities is apparent from the volume of orders coming in and the volume of Bradley Straight-Line Oak Flooring going out to a nation-wide market.

What's the outlook in your territory? Remember, there's a Bradley Straight-Line Oak Flooring suitable for every defense or private housing specification . . . including remodeling . . . and there's a Bradley distributor within reach of your telephone.

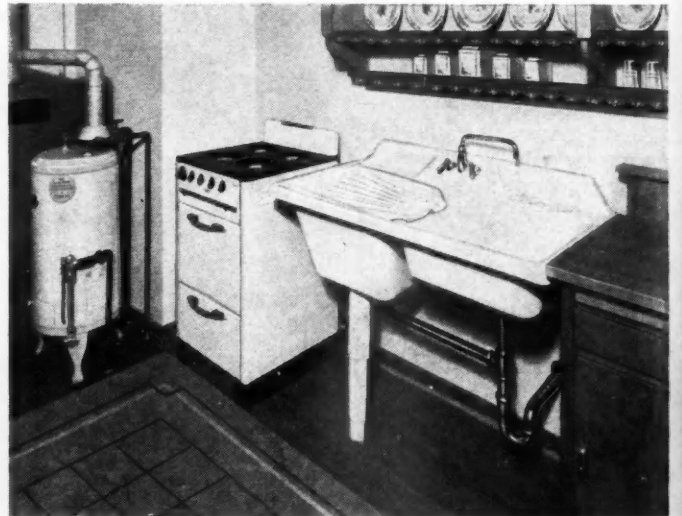
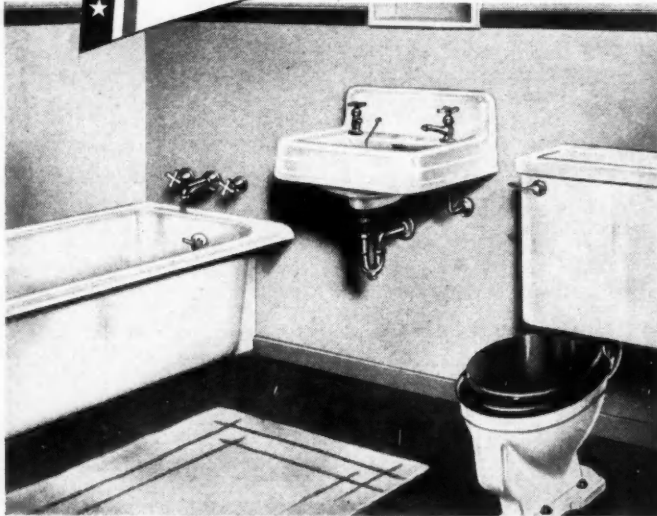


"BRADLEY BRAND" includes all sizes of standard strip in Straight-Line Oak Flooring and in Oak Plank Flooring. These can be matched with Bradley Oak Trim, Mouldings and other finish items, for completely harmonized interior installations.

BRADLEY LUMBER COMPANY *of Arkansas*
WARREN, ARKANSAS



**QUALITY AT LOW COST ON
YOUR *Defense Contracts***



New Albright housing project at Lackawanna, New York, equipped with Crane Plumbing.

America's vast armament program to assure victory will call for more and more housing projects in 1942 similar to the Albright homes at Lackawanna, New York, illustrated here.

To assure maximum service and maximum satisfaction to the occupants, these

homes should be equipped with dependable plumbing and heating equipment. The selection of Crane for the Albright homes is indicative of the recognition of the principle of high quality in defense housing.

On homes you are building in defense areas, it will pay you to install Crane quality plumbing and heating. Not only are you assured of satisfied buyers, but your *investment is protected* in case of repossession. Consult your Crane Plumbing and Heating Contractor or get in touch with your nearest Crane branch.

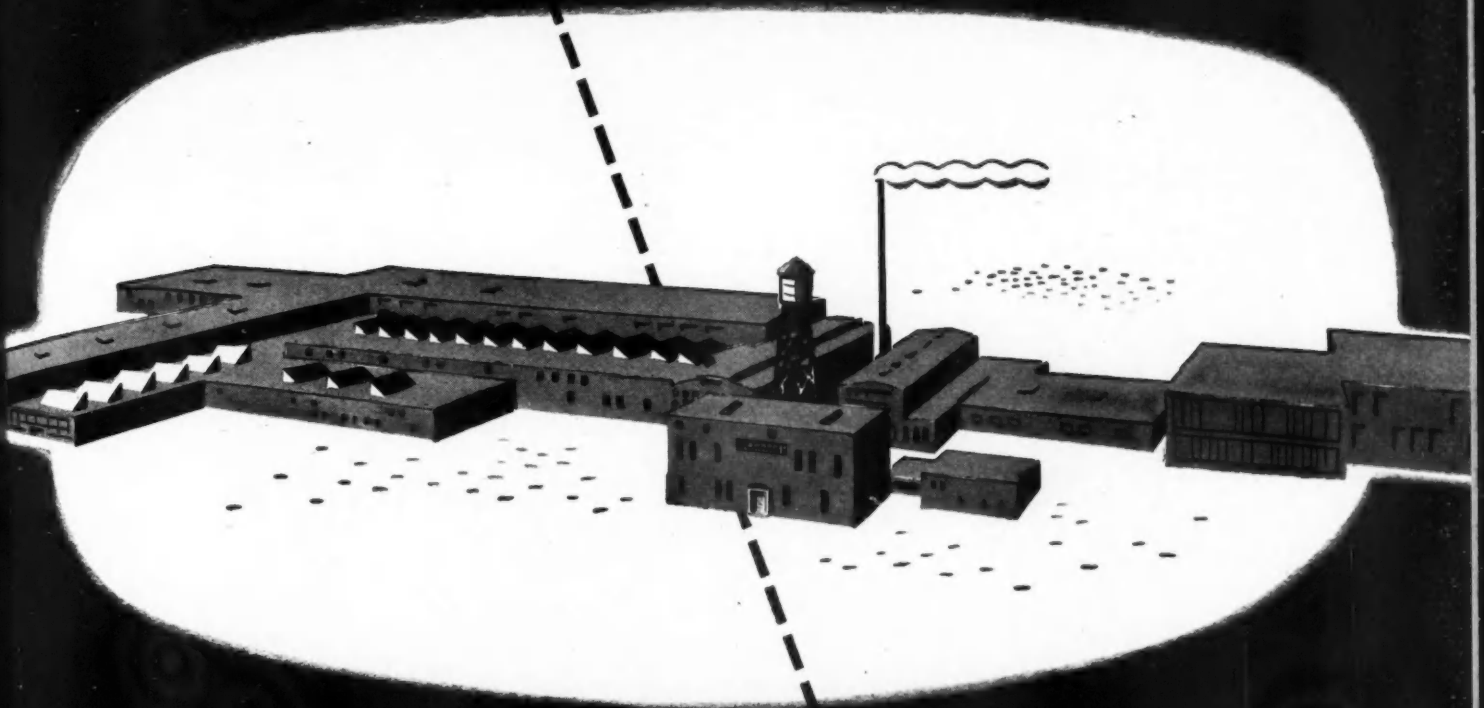
CRANE

CRANE CO., GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO

VALVES • FITTINGS • PIPE • PLUMBING • HEATING • PUMPS

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

ORIGINATORS
OF THE RUSTLESS METAL STORE FRONT
1905



WORLD'S LARGEST MANUFACTURERS OF
RUSTLESS METAL STORE FRONTS
1942

Kawneer's comprehensive experience in fabricating aluminum and other rustless metals has resulted in our selection for a vital role in the National Defense effort. Check with your local dealer for information on Kawneer Store Front Construction available in your territory.



The Kawneer Company, Mfg. Co. Manufacturers of Rustless Metal Store Fronts, Doors, and Aluminum Windows

JUST PUSH IT DOWN ... IT STAYS



The biggest advance in butt construction in 40 years – that's the opinion of builders when they see this new non-rising pin.

Why They Stay Down

The pins are grooved to hold a split ring. When the pin is seated, the split ring automatically *snaps* into a top knuckle pocket. No ears to line up... no twisting, turning – no pliers. Split ring pressure on the inside of the knuckle above the pocket prevents the pin from rising under action of the door. It's down for keeps – yet is easily removed!

Be sure you get the benefits of this improved butt construction. Ask your dealer for Stanley Butts with the new non-rising pin. The Stanley Works, New Britain, Connecticut.

New-type non-Rising Pin in STANLEY BUTTS



STANLEY

TRADE MARK

HARDWARE FOR CAREFREE DOORS

do an HOUR'S WORK — IN 6 MINUTES! — with a BLACK & DECKER Electric Saw



CUTTING STAIR STRINGERS in a fraction of the usual time with Black & Decker No. 85 Electric Quick Saw—famous builder's saw with easy one-hand operation.

TEN TIMES FASTER THAN HAND, Black & Decker Portable Electric Saws enable builders to speed up all sawing operations and make more money. Being built by the world's largest manufacturer of portable electric tools, Black & Decker Saws have plenty of power, more speed and outlast others on the market. Four models, with safe telescoping, ball-bearing blade guard, easy adjustments for depth and angle of cut—and other features that make them the *most dependable* saws you can buy. Phone your jobber to show you how fast and easy they operate on *your* jobs—or write today: The Black & Decker Mfg. Co., 766 Pennsylvania Ave., Towson, Maryland.



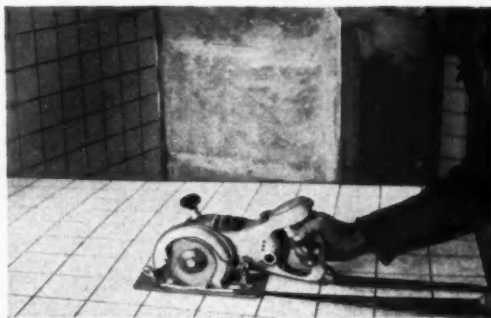
Send for Free "Saw Handbook"

New and revised edition just off press! Contains 28 pages full of pictures and facts, showing how Black & Decker Saws and Accessories save time and help builders make money on dozens of sawing operations.

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker

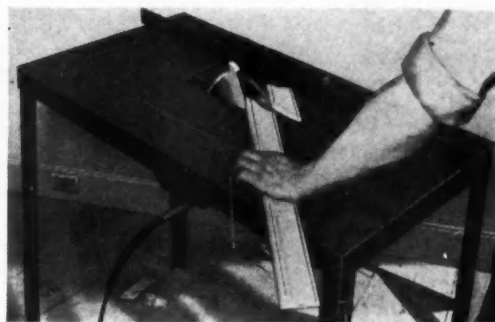
PORTABLE ELECTRIC **SAWS**



RIGHT ON THE JOB, tile, wall board or compositions can easily be cut to the correct size with light-weight Black & Decker No. 35 Portable Electric Saw.



SAWING SIDE SHEATHING to measured angle cuts with Black & Decker Saw. These fast saws make any cut a hand saw will perform faster and easier.



A SAW MILL YOU CAN CARRY! Black & Decker Electric Saw mounted on sturdy, steel Portable Saw Table gives fast, accurate work—right on the job.

... and now
CHEVROLET
 announces a great nationwide

“

Truck

**CONSERVATION
 PLAN”**

To help keep America's trucks
 serving America for the duration

Conserve TIRES
Conserve GAS
Conserve OIL
Conserve ENGINE
Conserve TRANSMISSION
Conserve COOLING SYSTEM
Conserve BRAKES
Conserve EVERY VITAL
 PART

Trucks are playing a vital part in America's Victory Program . . . serving agriculture—serving industry—serving all America. . . . Keep *your* trucks on the job by taking especially good care of them—by having regular service “check-ups”—and by deciding to adopt Chevrolet's “Truck Conservation Plan.” . . . See your Chevrolet dealer for full details—*today!* Remember—Chevrolet dealers service all makes of trucks.

CHEVROLET MOTOR DIVISION, *General Motors Corporation*, DETROIT, MICHIGAN

**A MOBILE NATION
 IS A STRONG NATION**

Always SEE YOUR LOCAL CHEVROLET DEALER FOR SERVICE

You're in step with changing conditions

... with **MUELLER'S**
complete furnace line,
keyed to today's
building needs...

**Just what you need
for Defense Housing**

... a wide range of moderately-priced units, designed for high efficiency with specific fuels, and specially engineered for this defense housing market . . . War or no war, your prospective customers still favor homes with this good-looking, nationally-known equipment — and, for the sake of your reputation, you still want to deliver performance that *keeps* them sold . . . It pays you to stay with Mueller—for "the duration" and after. If you need heating equipment for a single defense house or a large group of houses — for factory buildings, hangars, warehouses, etc. — for use with any fuel — ask your nearest Mueller dealer or write *L. J. Mueller Furnace Co., 2016 W. Oklahoma Avenue, Milwaukee, Wisconsin.*

★ ★ ★

In 1942 concentrate on these classes of work, rated "essential" to war effort:

- *High-priority defense home-building*
- *Home modernization for added dwelling units*

— and look to Mueller for the moderately-priced furnaces you need for \$6000 "defense homes" — as well as home modernization.

B-9

GAS

OIL

COAL

New MUELLER SERIES CVP ALL-CAST-IRON GAS-FIRED WINTER AIR CONDITIONER. Small, compact, cabinet type for utility room or basement.

MUELLER FLOR-AIRE GAS-FIRED FLOOR FURNACE. Completely self-contained. Also Dual Flor-Aire with wall registers for two adjacent rooms.

MUELLER SERIES SHP STEEL GAS-FIRED WINTER AIR CONDITIONER. Attractive, compact cabinet type for utility room or basement.

New MUELLER SERIES G90 GAS-FIRED GRAVITY FURNACE. Highly efficient up-draft design. Round or square casing.

New MUELLER SERIES OVP VERTICAL OIL-FIRED WINTER AIR CONDITIONER. Equipped with Mueller Vaporizing Oil Burner. Burner and controls enclosed.

New MUELLER SERIES OHP HORIZONTAL OIL-FIRED WINTER AIR CONDITIONER. Equipped with Mueller Vaporizing Oil Burner. Burner and controls exposed.

MUELLER SERIES F & G COAL-FIRED CAST-IRON FURNACE. Known for its unailing performance. Also "Eterno" Furnace, guaranteed for 20 years.

MUELLER SERIES 400 COAL-FIRED STEEL FURNACE. Dependable, economical performance.



MUELLER

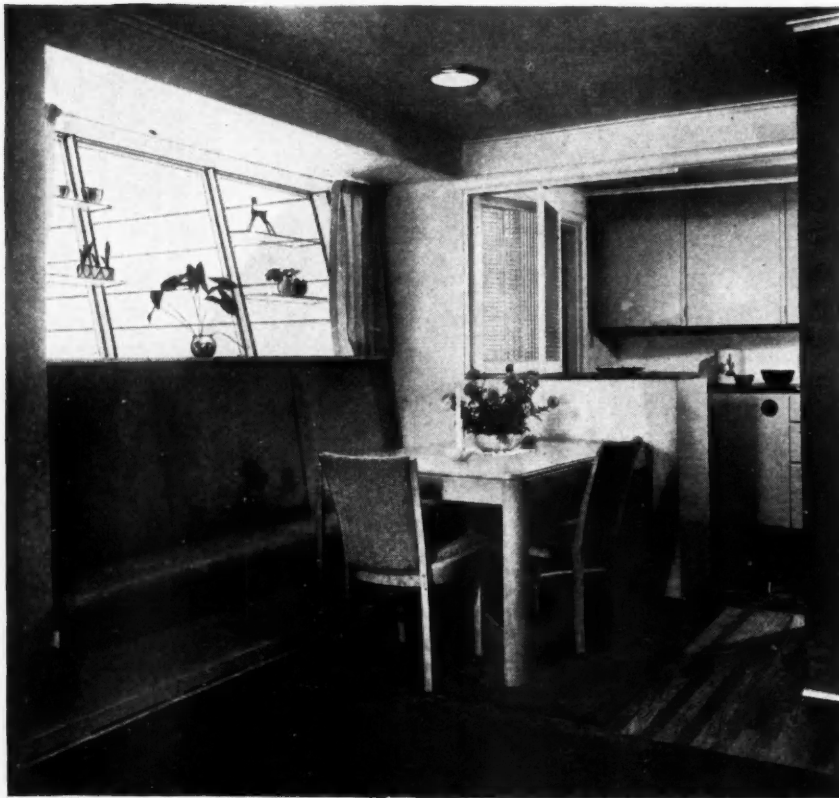
HEATING AND AIR CONDITIONING

Milwaukee



9 WAYS to brighten A \$4,200 HOME!

● Generous window areas are a pleasing feature of this \$4,200 home designed by Architect Milo D. Folley, Syracuse, N. Y. Note the slanting window treatment.



● Folding doors of decorative Flutex Glass are used over service counter between dining wing and kitchen. Plate glass shelves break up the window area without obstructing light.

HOW ARCHITECT FOLLEY DID IT

WITH  Glass

- 1 Used large window areas for abundant natural light.
- 2 Placed a plate glass mirror over mantle.
- 3 Framed the fireplace with mirror panels.
- 4 Used Doublex decorative glass folding doors between dining wing and kitchen.
- 5 Placed plate glass shelves in windows.
- 6 Used Vitrolite on walls over bathtub.
- 7 Used fixed lights of decorative glass above bathtub.
- 8 Placed generous size mirror over wash bowl.
- 9 Put full-length mirror on bedroom closet door.

When building small homes or defense housing projects, remember that flat glass products can brighten them in many ways... add to comfort and convenience... actually help build morale.

The fact that glass is thoroughly in keeping with modern architecture is another point to keep in mind.

An important consideration these days is the ready availability of practically all types of Libbey-Owens-Ford flat glass. No priority headaches.

For full information about Libbey-Owen-Ford Glass, write for architect's catalog. Libbey-Owens-Ford Glass Company, 1210 Nicholas Building, Toledo, O.

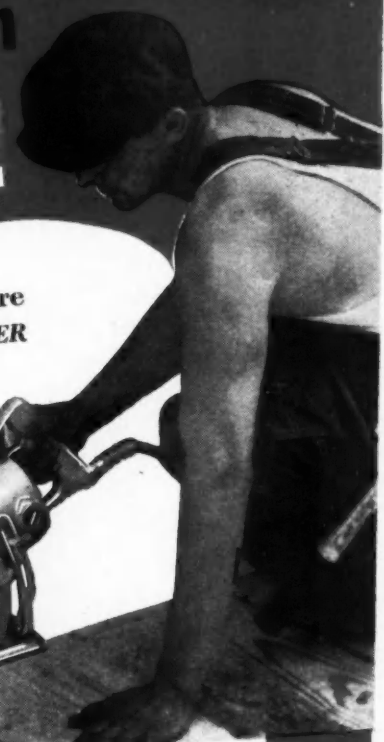
*You can GET
Glass!
Use it!*



LIBBEY · OWENS · FORD GLASS COMPANY
Glass Designed for Happiness

PLANTS THAT MUST BE BUILT FAST CAN BE BUILT FASTER with **SKILSAW TOOLS!**

NEW plants, enlarged plants, remodeled plants—they're needed *FAST* for America's victory... they're finished *FASTER* when SKILSAW TOOLS are on the job, speeding up building each hour of each day. *Are skilled hands scarcer? One hand with SKILSAW does the work of ten! Is time too short? SKILSAWS cut days from schedules... SKILSAW DRILLS punch holes in bottlenecks! Do you want proof? 9 out of 10 defense contractors use SKILSAW TOOLS! Ask your distributor for a demonstration.*



SKILSAW trims roof sheathing faster... after it is nailed in place to save extra time.

SKILSAW quickly cuts plywood panels... speeds up concrete form work... makes pocket cuts swiftly.

SKILSAW DRILL speeds up timber boring. Powerful, yet compact for drilling in close quarters.



SKILSAWS speed up all sawing in maintenance, remodeling and construction. Cut out old flooring... make pocket cuts in walls and floors for service pipes and ducts. Size and trim all lumber... cross-cut, bevel-cut, rip and groove. 9 Powerful Models.

SKILSAW DRILLS are as fast on maintenance and remodeling work as they are on production! Do all drilling from lightest lead holes for hardware and fixtures to heaviest boring in construction. Swiftly drill holes for all conduit and pipes. 22 Powerful Models.

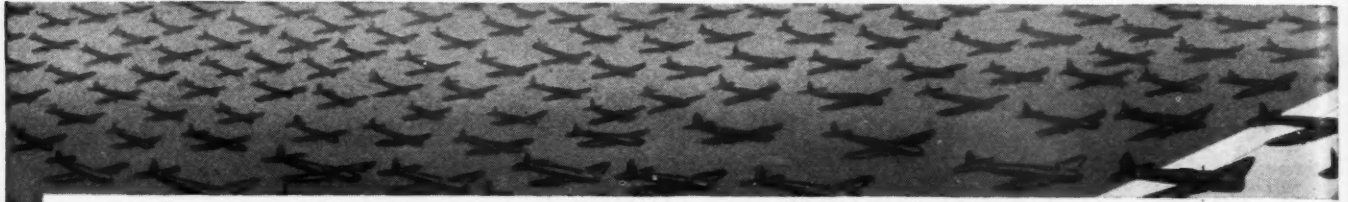
SKILSAW, INC., 5031 Elston Avenue, Chicago

New York • Boston • Buffalo • Philadelphia • Cleveland • Detroit • Indianapolis • St. Louis
Kansas City • Atlanta • New Orleans • Dallas • Los Angeles • Oakland • Seattle • Toronto, Canada

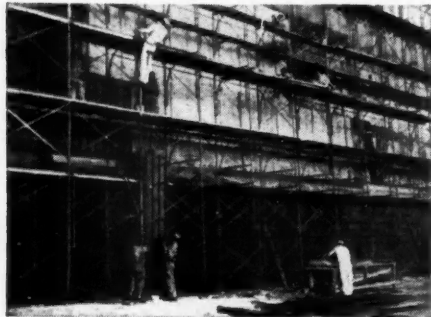
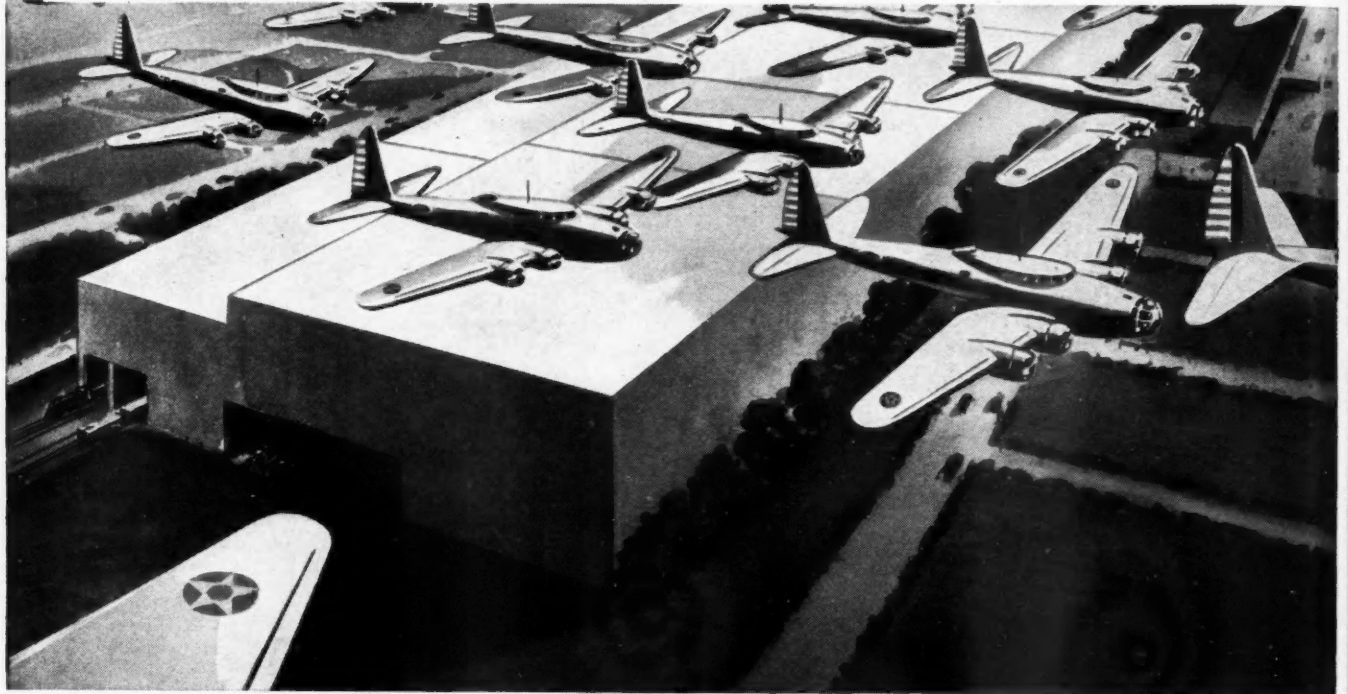
SKILSAW PORTABLE ELECTRIC TOOLS

★ FOR THE DEFENSE OF AMERICA ★

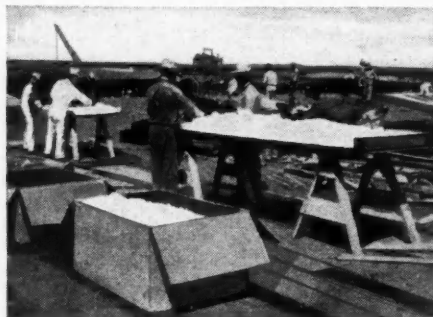




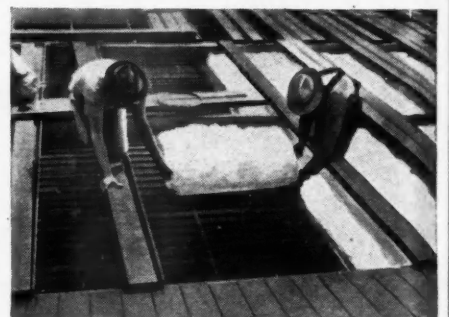
WORLD'S LARGEST INSULATION ORDER FOR HUGE BOMBER PLANTS



Walls, as well as roof, are thoroughly insulated



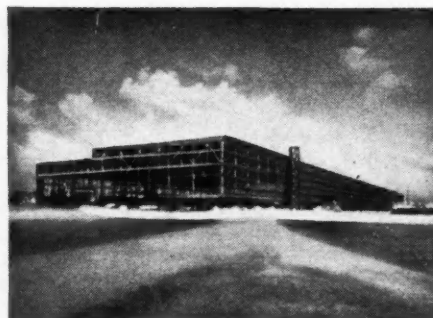
Special bats of Red Top Wool were prepared on the roof



Red Top Wool was placed under the steel roof deck



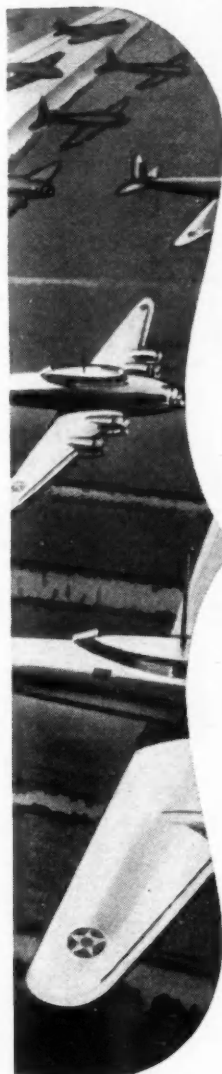
The steel roof deck was erected immediately after



The record speed of construction was noteworthy



Lightness of Red Top Wool met load restrictions of wide spans



One of two "twin" bomber plants for Consolidated Aircraft and Douglas Aircraft Engineers—The Austin Co., and Army Engineering Corps

RED TOP INSULATING WOOL

used on these two huge bomber plant projects would completely insulate walls and ceilings of 10,062 six-room homes—with insulation of medium thickness

The problem—Insulation for two windowless, air conditioned plants, each longer than the world's 4 largest ocean liners, each demanding uniform temperatures in every square foot, plus high light reflectivity and sound insulation.

The solution—U. S. Gypsum provided an insulation that helps maintain constant temperatures throughout the plants, and meets unusual structural requirements as well.

In addition, this light colored insulation, blanketing interior walls and ceilings, provides a surface which maintains a high level of light reflectivity, plus sound absorption of between 60% and 70% of factory and office noise.

In one application, Red Top Wool insulates, reduces sound, reflects light, saves cooling and heating expense, saves lighting cost, reduces dead load—*some job for one material!*

The same features that make Red Top worth while on huge projects like these, apply proportionately and personally to the American Home Owner and his fuel supply.

Made of Fiberglas, in 3 thicknesses—in Rolls, Bats, and Junior Bats—Red Top fills varying job conditions and cost requirements. Red Top figured in cents per square foot, combined with money-saving speed in application, makes it the "Best Buy for Quality."

Get the complete Red Top story



UNITED STATES GYPSUM

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

PLASTER • LATH • WALLBOARD • INSULATION • ROOFING • PAINT



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

• What makes good window glass? Primarily, two qualities: good vision and surface beauty. Pennvernon Window Glass provides these two advantages in high degree. For a sheet glass, it is remarkably free from the defects which frequently tend to distort vision. And it has a brilliant, reflective surface finish on both sides of the sheet. Look *through* Pennvernon Window Glass . . . or look *at* it . . . and in either case, you know immediately that it is a glass thoroughly worthy of quality windows.

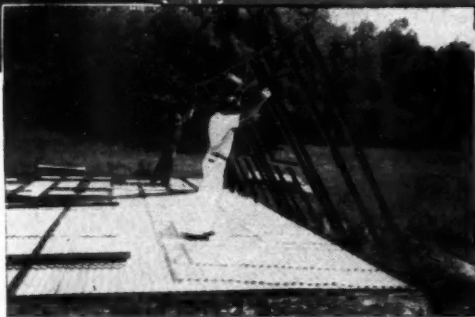
PENNVERNON WINDOW GLASS
 PITTSBURGH PLATE GLASS COMPANY

"PITTSBURGH" stands for Quality Glass and Paint





**Stran-Steel
Cuts Costs by
Speeding Up
the Job**



Side-wall panels are assembled flat and raised as a unit, in a fraction of the time required for this phase of a conventional job. No special training is required.



Frame units are fastened together quickly and easily with an ordinary screw-driver, using self-threading screws. Roof channel plate and wall-section channel plate are being assembled here.

The use of Stran-Steel framing reduces construction costs by speeding up the job all along the line.

The framing itself can be assembled rapidly with an ordinary screw-driver, using self-threading screws. Subsequent stages of erection move faster, too. Carpenters apply collateral materials by the usual hammer-and-nail methods, made possible by Stran-Steel's patented nailing groove.

The saving in construction time through the use of Stran-Steel makes available the advantages of steel —fire-safety, permanence and low maintenance cost —at a price no higher than if conventional materials were used.

GET THE FACTS NOW!

Stran-Steel's new building manual, detailing the methods used in Stran-Steel construction, showing this material in use on typical projects, and furnishing technical data on standard Stran-Steel members, will be sent you upon request. There is no obligation. Write for your copy today. Address Stran-Steel Division, Great Lakes Steel Corporation, 607 Shelby Street, Detroit, Michigan.



**STRAN
STEEL**

UNIT OF NATIONAL STEEL CORPORATION

**EYE-CATCHING
GROUPS OF
ANDERSEN
WINDOWS**

**SALES
FOR DEFENSE**



*I MAKE MY SMALL
HOMES LOOK LIKE A
MILLION BUCKS BY
USING ANDERSEN
WINDOW GROUPS*

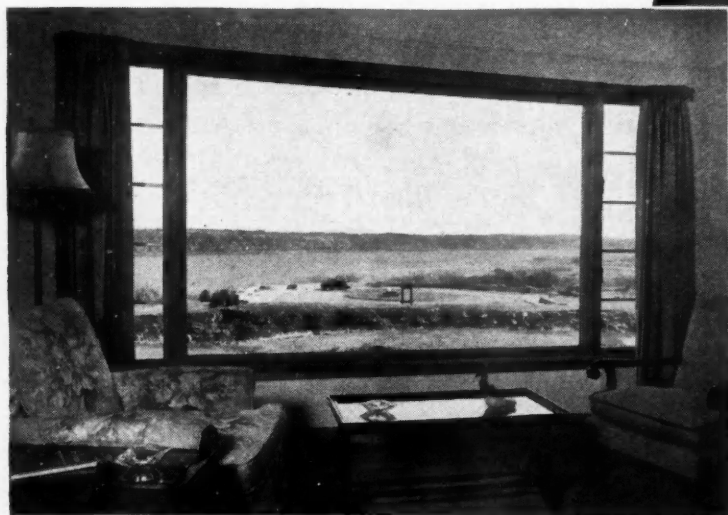


THIS YEAR you can build homes—if you have proper priority support. This year there are home prospects by the thousands—and they'll buy your homes—**IF THEY LIKE 'EM.**

To build a home—no matter what its cost, \$1,500 or \$10,000—that will sell, and sell quickly, be sure you include a window feature, a group of beautiful Andersen Lifetime Windows. Put in a bay... a corner window... a convenient pair of casements in the kitchen... a picture window. That's the way to get Mrs. Prospect instantly on your side. That's the way to put sales "oomph" into your homes.

For Every Home, Regardless of Its Cost, An Eye-Catching Group of Andersen Windows!

You'll save time on installation with Andersen complete, prefabricated Window Units. You won't have homes that are slow to sell. You'll step up the tempo of your sales—with groups of beautiful Andersen Windows.



A fixed sash picture window with an Andersen Casement Window on each side to take care of ventilation requirements—a formula that works when you want to sell homes quickly.



Can't you just imagine Mrs. Prospect's enthusiasm over a corner window like this one? Andersen Horizontal Gliding Windows.

Andersen Corporation BAYPORT, MINNESOTA

DYNAMITE HOMES and REMODELING JOBS!



The trend is to larger windows and more of 'em . . . so if the homes you build have banks of Andersen Casement Windows like these at the left, you'll find it's an easy job to sell them. Four Andersen Casements in a mullion installation provide a large area of glass, yet this large area is perfectly weathertight due to removable inside double glazing panels.



To give kitchens the sales appeal that clicks, combine the kitchen with a breakfast nook, and put in Andersen Narroline Double Hung Windows around the corner.



This bay of Andersen Casements does a perfect job of selling a home. In this instance, it's part of a bedroom. Typical of the sales punch that Andersen Windows put into a home!

★

WOOD WINDOWS

NO DRAIN ON DEFENSE RESERVES

Wood is still plentiful. When you use Andersen Wood Windows, you make no drain on needed stocks of metals. Andersen Windows are available now through your local lumber dealer, who either carries stocks of these fine windows, or who can order for prompt delivery from jobbers.

LIFETIME WINDOWS

HORIZONTAL GLIDING WINDOW UNITS
NARROLINE DOUBLE HUNG WINDOW UNITS

BASEMENT WINDOW UNITS
CASEMENT WINDOW UNITS

THIS MUCH FLOOR SPACE COSTS \$40 to build in the average U. S. 1-story residence
YET IS WASTE SPACE WHEN YOU INSTALL HINGED DOORS!

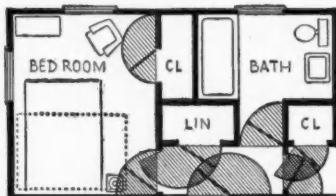
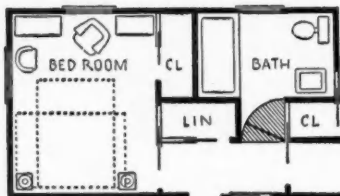
A standard-size hinged door wastes at least 8 square feet of floor area and 21 square feet of wall area. When you use a Sav-A-Space Sliding Door Unit, much of this valuable space is made usable for furniture, pictures and other decoration.



Your clients get full use of the floor space they pay for when you wisely install...

SAV-A-SPACE SLIDING DOOR UNITS

WRONG Look at the space wasted by hinged doors. The small but typical hallway is obstructed when doors are open. The bedroom furniture cannot be arranged differently without doors striking it.



RIGHT \$200 worth of floor space has been made usable by Sav-A-Space Sliding Door Units. The hallway is never blocked by doors. Not only can the bedroom furniture be rearranged, but additional furniture can be added without crowding.

These new door units are entirely different from old-fashioned sliding doors!

● Don't confuse the new Sav-A-Space Sliding Door Units with any others you have ever known. Sav-A-Space Units have no noisy metal track, no clanking wheels. They permit the doors to glide out or in quietly, without strenuous pulling and tugging.

The track consists of a cylindrical channel in a durable fir header. In it travel 2 rust-proof ball-type rollers. Hangers descend directly from these rollers to brackets on the top of a stock 1 3/8" door, keeping the door always plumb. So smoothly do the rollers operate that even after 100,000 movements of the door—far more than it would have in a normal lifetime—there is no perceptible wear on either rollers or track.

Now used in thousands of structures!

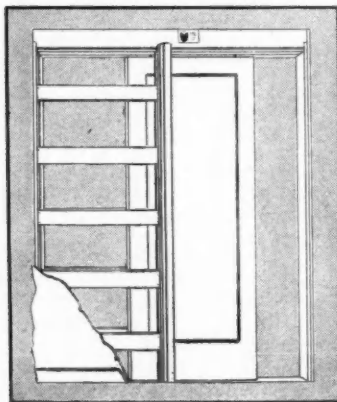
The Sav-A-Space Unit is just now being distributed nationally. But in the few sections of the country where it has been on the market for several years, it has achieved tremendous popularity. It is the perfect sliding door unit to use in small homes, pre-fabricated structures, apartments, offices, stores . . . everywhere space is at a premium or full use of available floor area is desired.

A Sav-A-Space Unit consists of frame and hanger hardware. It does NOT include door, finish hardware or finish trim. Any stock door may be used in a Sav-A-Space Unit, but a stock door of Douglas fir—the wood made durable by nature—gives the best service. Special Sav-A-Space locks and pulls are available in a variety of finishes.

SEE YOUR LUMBER DEALER TODAY! If he can't get Sav-A-Space Units for you, write Fir Door Institute, Tacoma Building, Tacoma, Washington, for nearest source of supply or free catalog.



EASY TO INSTALL! The frames of Sav-A-Space Units are delivered to your job assembled, ready to install in standard 2" x 4" studding. No extra thick walls are required. No special tools or equipment are needed for the installation. The placing of electric wiring, plumbing and heating ducts is no problem when the use of Sav-A-Space Units is planned in advance. Installation details show how easily dry-wall finish or plaster is placed over frame.



STANDARD SIZES!

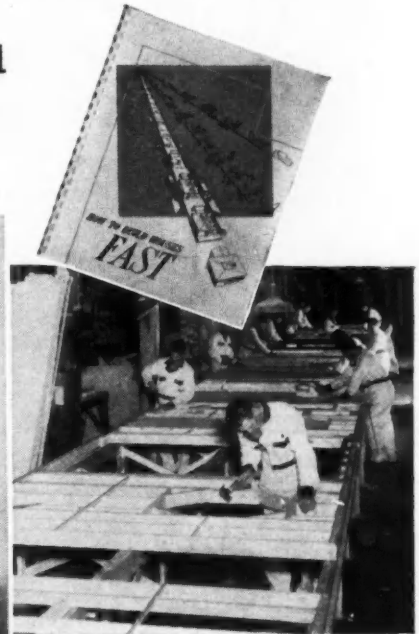
Sav-A-Space Units are furnished only for doors 1 3/8" thick and 6'8" high, but these five different widths are manufactured: 2'0", 2'4", 2'6", 2'8" and 3'0".

LOW PRICED!

Because Sav-A-Space Units are produced in quantity, the price is extremely low. Considering the value of the space they save, they are far more economical than hinged doors. Use them in every structure you build and give your clients full use of the floor space they're paying for.

PREFABRICATION WITH PLYWOOD IS YOUR FASTEST WAY TO BUILD!

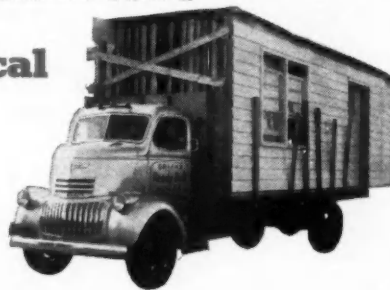
Write now for this free book that gives you full details. Study it and see how you can profit!



LEFT: One of the attractively designed residences offered by Green's Ready-Built Homes, Rockford, Ill. Douglas Fir Plywood is the basic structural material.



is being proved practical on more than 1000 structures a month!

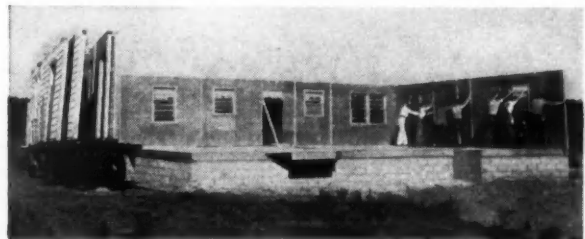


ABOVE: Scene in Green's factory, showing how sections are assembled in production lines. The plant's present capacity is 30 houses a month. Each house contains 4000 to 6000 sq. ft. of Plywood.

THE SECTIONS are trucked to the site where the foundation has been constructed in advance.

The free book, "How to Build Houses Fast", describes prefabrication with plywood in detail and contains photographs of the operations and the structures built by the nation's leading prefabricators. It is a book you will read with interest because prefabrication is no longer a theory. In factories from coast to coast, prefabricators are demonstrating daily that they can produce better shelter in less time while reducing overhead and providing superior working conditions for their employees.

After reading this book, you may come to the conclusion that prefabrication is ideally suited to your operations . . . that it can help you build more and profit more. But even if you continue with traditional on-the-job construction methods, you can still build better and save time by using the prefabricators' favorite material, Douglas Fir Plywood. Plywood is definitely superior for sub-flooring, wall and roof sheathing, interior walls and ceilings, built-ins, exterior finish and concrete forms. Its use in home construction is accepted by F.H.A. and approved in the Uniform Building Code. Send a post card now for your copy of "How to Build Houses Fast" to Douglas Fir Plywood Assn., Tacoma, Wash.



FIELD ERECTION is quickly completed. Because the bulk of the work is done indoors, greater accuracy and control are obtained. No time is lost because of bad weather. Employees enjoy better working conditions.



SPECIFY DOUGLAS FIR PLYWOOD BY THESE "GRADE TRADE-MARKS"





No. 240

Low-Cost Homes

FIND THE ANSWER TO BATHROOM BEAUTY and UTILITY

in MIAMI

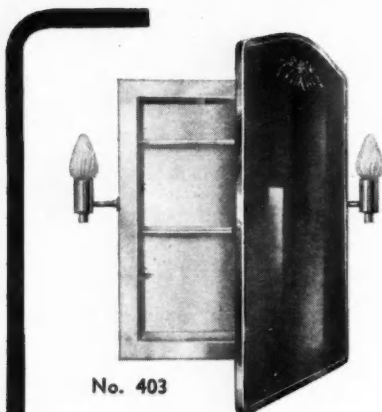
CABINETS and ACCESSORIES

EVERY architect and builder knows that when he must create an unusually luxurious bathroom, a MIAMI CABINET is one of the answers to his problem.

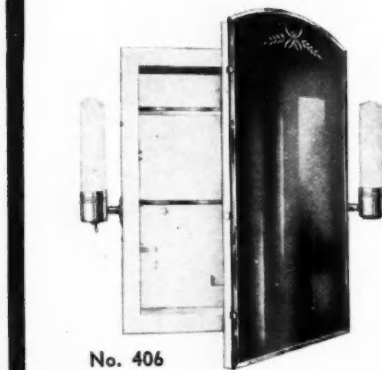
Not so generally known is the fact that Miami also produces beautiful and distinctive cabinets that are correct in size and price for low-cost homes; and that these models are just as outstanding, price for price, as Miami's finer creations.

Regardless of the price class, Miami Cabinets offer superior quality, more alluring beauty, more convenience features. And because this is true, more families are enjoying the luxury of Miami Cabinets than any other metal bathroom cabinet built.

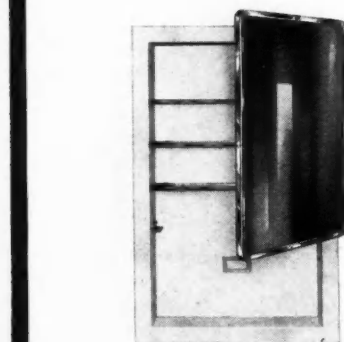
Whatever your bathroom cabinet problem—whether for public or private housing, for cottage or mansion—you'll find the better solution among MIAMI'S 140 lovely models. See Catalog in Sweet's, or write for illustrated book, address Dept. AB.



No. 403



No. 406



No. 1616

MIAMI CABINET DIVISION

The Philip Carey Mfg. Company
MIDDLETOWN, OHIO

Details of cabinets illustrated:

No. 240, a flush door, recessed model finished in Crystal Snow.

No. 403 has stainless steel frame. Fitted with Colonial lights, completely wired at factory.

No. 406 is an all-mirror front model equipped with demi-tubular light bracket. Completely wired at factory.

No. 1616 has mirror set in stainless steel frame. Open shelf at bottom provides space for shaving and toilet articles.



Typical Public Housing Project in which Miami Bathroom Cabinets have been installed.

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



MESKER STEEL WINDOW
ENGINEERING
fills a war-time need by provid-
ing ample natural light and
ventilation for the
A. S. ALOE CO.
ST. LOUIS, MO.
important surgical supplier to the
UNITED STATES
ARMED FORCES
☆
William P. Wachsman, Architect
Fruin-Colnon, Contractors

PERMANENCE...

that is more than a claim

No matter what you pay, nor which window you buy, you expect it to be *permanently weather-tight*.

Yet, the Weathering Bar is the potential "weak link" in every Steel Window. Mesker eliminates this "weak link" by using a Weathering Bar the same thickness as other

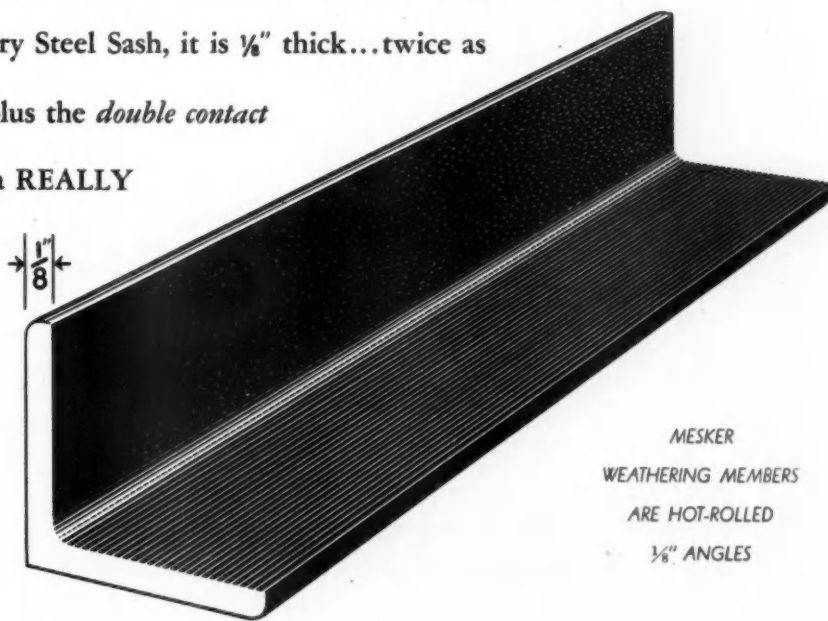
sections of the Sash. Compared with ordinary Steel Sash, it is $\frac{1}{8}$ " thick...twice as thick...**TWICE AS STRONG**. This, plus the *double contact*

Mesker's Weathering Bar provides, assures a **REALLY**

weather-tight window. More than a mere advertising claim, the Double-Thick

Weathering Bar is visual proof of

Mesker superiority. A good reason why, *today especially*, you should *specify Mesker*.



MESKER
WEATHERING MEMBERS
ARE HOT-ROLLED
 $\frac{1}{8}$ " ANGLES

THE DOUBLE THICK WEATHERING BAR

used on Mesker Industrial Sash is $\frac{1}{8}$ " thick...twice as thick as used by others in Industrial Sash. This exclusive feature, dramatically illustrated by the Merit-Meter Test Kit (free upon request), is indicative of the quality built into ALL Mesker products.

Mesker Brothers

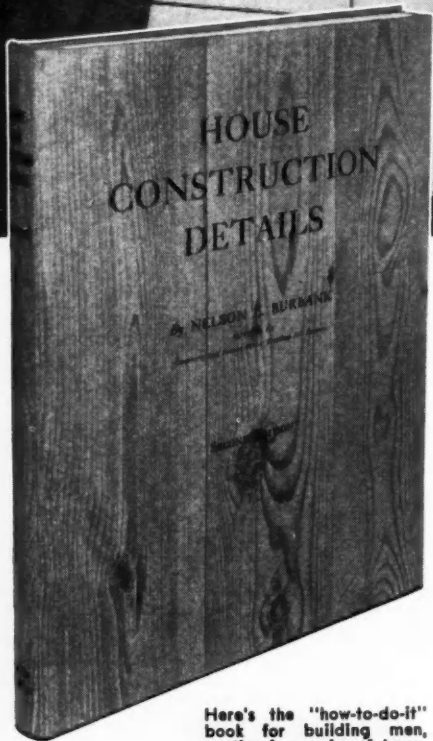
STEEL SASH

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

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



**JUST WHAT
WE WANT!
YOU GET
THE JOB**



Here's the "how-to-do-it" book for building men, another in a series of American Builder self-help books.

That's what satisfied owners and prospects say to the building man who knows how to alter a floor plan. Success often depends on your ability to suggest alternate materials, or on knowing how to handle some detail that has an owner confused. *The man who knows how* is the man who gets most of the jobs.

You too can be *The man who knows how*. It's easy, because you can read and learn at home or in your spare

time. *House Construction Details*, by Nelson L. Burbank can help you become *The man who knows how*. Here is the "how-to-do-it" book for building men, crammed with ideas, 1,500 illustrations, details and scale drawings, with short, clear explanations.

It's easy to find what you want in *House Construction Details*, because all drawings and details are grouped in construction sequence, beginning at the foundation and carrying through step-by-step to painting and finishing. Look over the table of contents below and see how well the book has been arranged.

There is a gold mine of ideas and practical information in *House Construction Details*—for the beginner who wants to learn or for the veteran who needs workable methods or saleable ideas *right now*.

Send the coupon today for your copy of "House Construction Details." With it you'll receive FREE the 1942 Book Guide—your guide to profitable reading.



FILL OUT THIS GUARANTEED ORDER FORM

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

Enclosed find \$3.00 for which send me a copy of the New Second Edition of *House Construction Details*, and a copy of the American Builder Book Guide FREE. If I do not find the book entirely satisfactory I will return it within 5 days of receipt and you will refund my \$3.00.

Name

Address

City and State
A.B. 2-42

**Contents of
The New Edition**

- | | |
|----------------------------|-----------------------------|
| Floor Plans | Finished Flooring |
| Set of House Plans | Chimneys and Fireplaces |
| Excavations | Scaffolds |
| Foundation Forms | Garages |
| Foundations | Heating |
| Outside Walls | Air Conditioning |
| Inside Walls | Elements of Electric Wiring |
| Wall Sheathing | Insulation |
| Ceiling Joists | Sound Proofing |
| Roof Construction | Gates |
| Ray Construction | Garden Furniture |
| Roofing | Shoprafter's Corner |
| Cornices and Porches | Camps |
| Exterior Wall Construction | Cabins |
| Interior Wall Coverings | Cottages |
| Interior Trim | Farm Buildings |
| Stair Construction | Wood Connectors |
| Windows | Pre-fabrication |
| Doors | Modern Building Materials |
| Hardware | Painting and Finishing |
| Closets | Modern Homes |
| Shelves | Index |
| Built-in Equipment | |



What really influences a person to buy one product in preference to another? It's VALUE. Value is not price alone; and it's not quality alone. Value is that relation between price and quality that gives a purchaser the most for his money.

Value necessarily is related to use. A suit of clothes, made of fine materials and priced right, represents good value for business wear, but poor value for ditch digging.

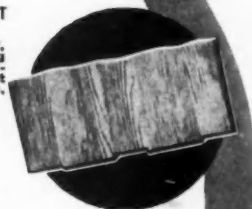
CAREY ASQU Roofing (98½% guaranteed minimum asphalt saturation) is outstandingly the best asphalt roofing money can buy—unsurpassed value for a permanent building. But if a roofing for a temporary shed is wanted, the smart buyer will see top value in a low-priced, light-weight CAREY Roll Roofing.

Through years of scientific research, PLUS VALUES have also been built into other Carey Products. In the Carey laboratories raw materials are chemically and physically torn apart to determine their fitness. Every formula—every finished material—is checked, re-checked. Whether it's roofing, rock wool insulation, heat insulation, products of asbestos or asbestos-cement, you'll find in the CAREY LINE the product that best serves its purpose and gives the consumer the most for his money.

Whether you are Dealer or Contractor, make sure that your customer gets the most for his money, by recommending CAREY Products. You'll profit by his good will. For details address Dept. 10.

CAREYSTONE ASBESTOS-CEMENT SIDING

Fireproof, rot-proof, wear-proof. Painting not essential. Available in hatch butt and wave line units, in random widths.



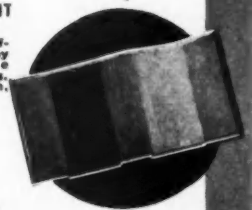
ROCK WOOL HOME INSULATION

Loose, granulated, bats, and sealed roll blankets—to meet all installation conditions in old or new homes.



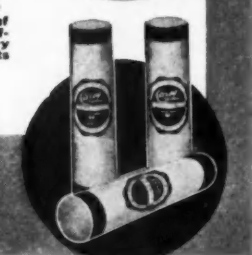
CAREYSTONE ASBESTOS-CEMENT STRIP SHINGLES

Individual shingle effect is produced by texture, color-tone and staggered butts. Blends of green, gray and autumn.



ROLL ROOFINGS

A complete line of ready-to-lay Roll Roofings—to meet every need. Various weights and finishes.



THE PHILIP CAREY MANUFACTURING COMPANY
 Lockland, Cincinnati, Ohio

Dependable Products Since 1873

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

"Why settle for 75¢ when you can have \$1.00?"



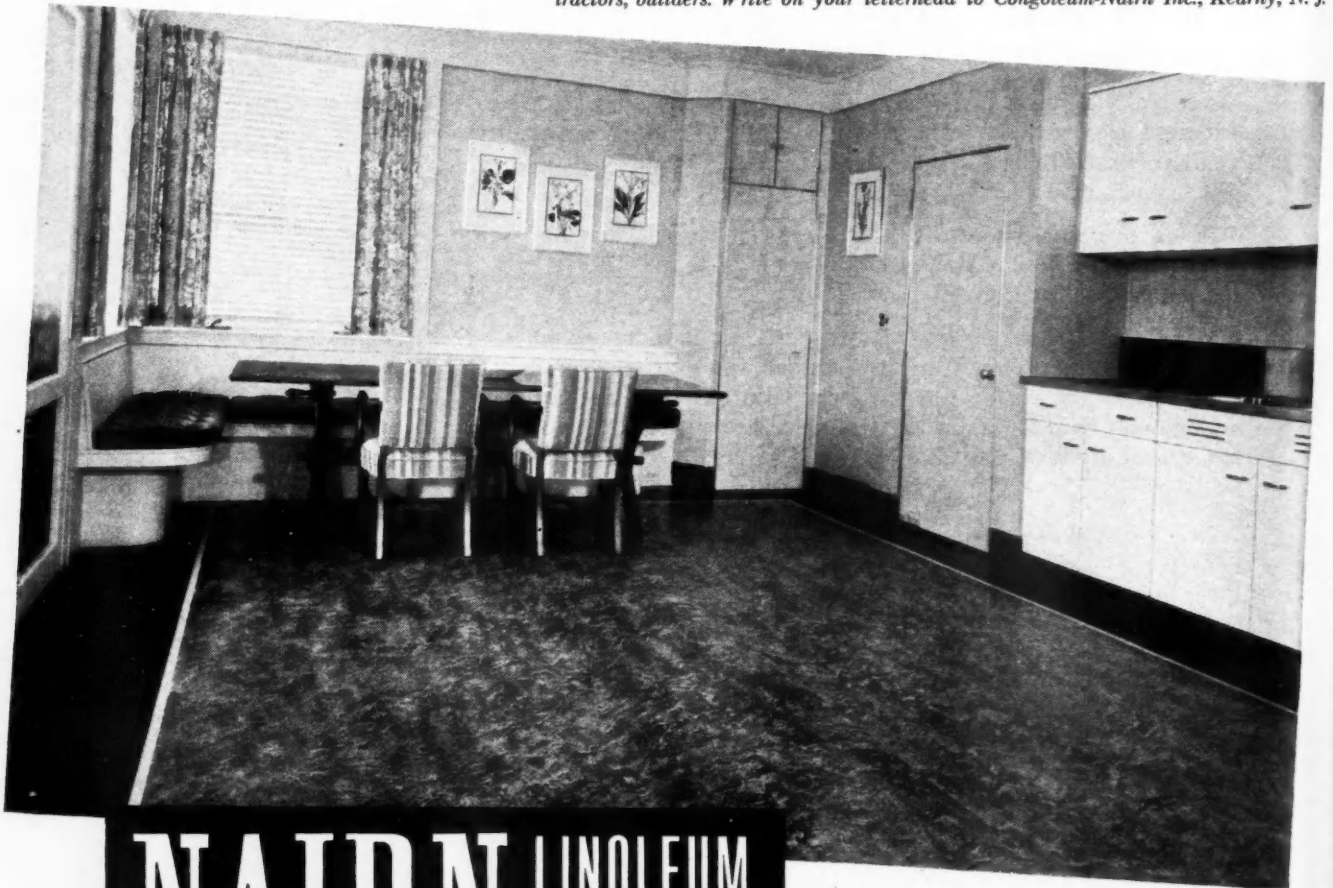
It gives you something to think about when you compare the advantages of Nairn Linoleum with other floor materials. For Nairn Linoleum alone meets *all four* of the basic specifications for the modern floor.

1. **EYE APPEAL**—Unequaled beauty and wide variety of color offer unlimited freedom of design. Patterns that are Color Correlated—with each other and other decorating materials.
2. **LONGER WEAR**—Nairn household linoleums not only meet, they *exceed* U. S. Government specifications on *every* point. Built-in ruggedness that spells long-range economy.
3. **RESILIENCE**—Quiet, "foot-easy" Nairn Floors are sound absorbing, sound deadening . . . "comeback" with a minimum of marring after indentation.
4. **CLEANLINESS AND EASY MAINTENANCE**—One-piece construction leaves no dirt-catching cracks and joints . . . reduces maintenance time and cost to a minimum. Positive germicidal properties. No splinters! No "dusting"!

Why be satisfied with a floor that gives you only two or three of these advantages—a 50% or 75% value for your money? In times like these especially—it's important to get "all 4"—100% for every dollar you spend—with Nairn Linoleum!

EXTRA VALUE IN NAIRN WALL LINOLEUM, TOO. It lasts as long as the building. It won't fade, crack, discolor, stain or dent. And—with its amazing variety of patterns and colors—it offers more decorating possibilities than any other permanent wall material. Both Nairn Floor and Wall Linoleum are fully guaranteed when installed in accordance with specifications.

FREE—200 PAGE BOOK of installation aids and specifications—for architects, contractors, builders. Write on your letterhead to Congoleum-Nairn Inc., Kearny, N. J.



NAIRN LINOLEUM
FLOORS AND WALLS

A Nairn Linoleum Veltone pattern lends water-proof stain-proof beauty to the kitchen of Mr. & Mrs. H. K. McCann of Greenport, L. I. Feature strip and wide border add a distinctive decorative note. Wall Linoleum on walls and doors sets off this handsome, practical room.

Nairn Linoleum—the floor that gives you "all 4"



1/2 A LOAF IS BETTER THAN NONE . . .

But THE INSULITE APPROVED WALL OF PROTECTION Is the Whole Loaf in Building Protection

WHEN YOU BUILD with the Insulite Approved Wall of Protection you build comfort and insulating efficiency into the home—thus giving the owner the whole loaf of protection against weather extremes.

The Insulite Approved Wall of Protection provides these important advantages:

- *Double insulation*
- *A double strong weathertight wall*
- *Double protection against destructive condensation within the wall.*

Write today, or consult your Insulite representative for complete information.

Address inquiries to Insulite, Department AB22, Minneapolis, Minnesota.

INSIDE ➔

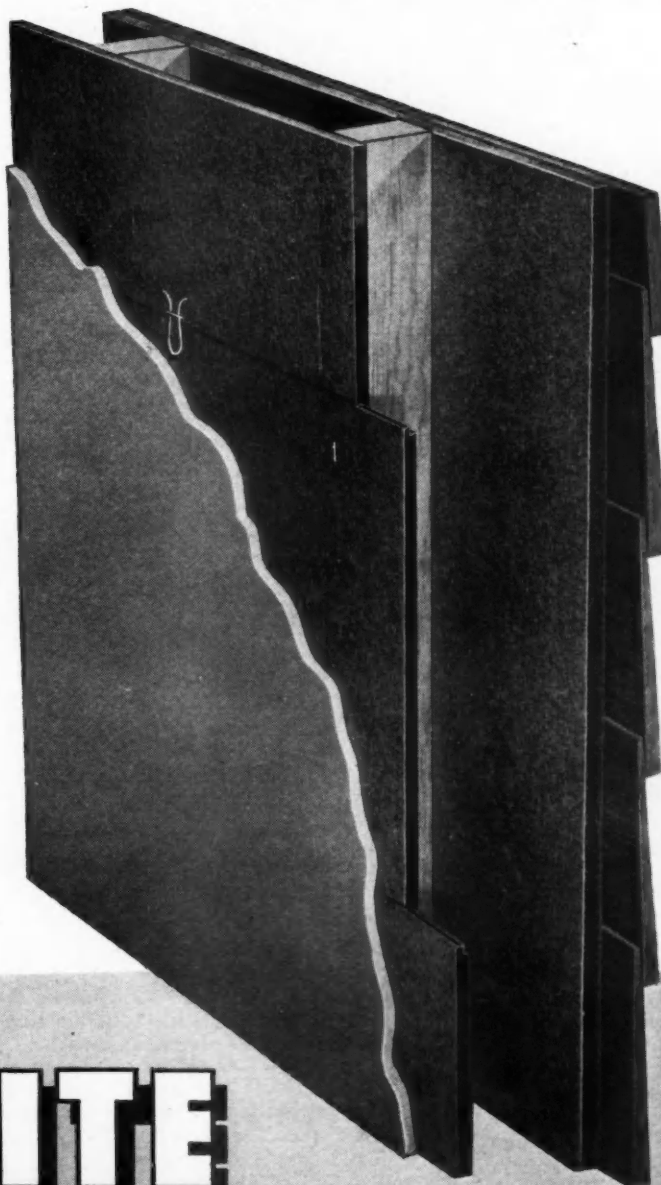
Sealed Graylite Lok-Joint Lath effectively retards vapor travel. The patented "Lok" binds lath units together and reduces plaster cracks.

See Insulite's practical demonstration at National Lumber Dealer conventions.

Insulite
Minneapolis,
Minnesota



Division of
Minnesota and
Ontario Paper
Company



← **OUTSIDE**

Bildrite Insulating Sheathing permits what little vapor escapes to pass on to the outside air. Bildrite Sheathing is asphalt treated throughout — every fibre protected.

INSULITE

THE ORIGINAL WOOD FIBRE STRUCTURAL INSULATING BOARD

proof
H. K.
order
on
room.
14"

Offered for the First Time!

THIS GREATLY NEEDED

1942

HAND BOOK



30 Pages...
Interior and
terior Views,
loor Plans,
levations,
onstruction
etails...
ize 8 1/4 x 11 1/2

New!

Superb Design
for Economical Construction

WHAT LEADING BUILDERS ARE CREATING TODAY

● These are among the many titles and chapters of home design recommendations and essential building pointers in just one section of DEFENSE HOMES HANDBOOK. For example: "Defense Homes Can Have Glamour and Appeal." How a Texas Builder finds a big demand for glass accented homes. "These Defense Homes Will Still Be Good After the Emergency." Well designed, small homes at Fairfield, Conn. "Good for Defense, Worth Defending." Stamford small home achievements set high standard of design. "Clever Plan With 'No Traffic' Living Room."

● Then there is the "Modern Basementless House" at Gibson, L. I. "St. Petersburg Style" in Florida

bungalows with Midwestern appeal. "The Extensible House" with upstairs to be finished later. "Honeymoon House" built for future expansion. "Blue Ribbon Home," a shingle covered Colonial innovation.

● You will want to study the features of a beautiful Park Ridge, Ill., home "Planned for Low-Cost Livability." And, the "Six Room Model Home Which Attracts Thousands." Take note how four "pet peeves" are eliminated in this Dearborn demonstration.

For WAR-TIME HOME BUILDING

American Builder's new DEFENSE HOMES HANDBOOK is beyond question one of the most timely and important volumes we have ever published. It is the answer to a most vital need among building men today!

Here in this single source, you will find the best in low-cost home design especially suited to today's war-time construction and home demand requirements. They are the homes which have amazed home seekers everywhere and have made them so eager to buy. Once you see them, you will probably have cause to wonder too . . . how such original, high styling and ultra modern conveniences can be offered at prices well within the limits set by Washington. But wait until you see the construction details accompanying these designs. You will see *why* these homes can be built *economically* and *quickly* . . . with a minimum amount of critical materials and labor time. In fact, DEFENSE HOMES HANDBOOK will tell you practically all you need to know to put these remarkable design ideas to your own use.

Guide to Priority Regulations

In this DEFENSE HOMES HANDBOOK, you will also find page after page of remodeling designs and construction pointers. It equips you with the essential, pithy facts on priority regulations. . . . How to get a priority rating in double-quick time . . . Information on "critical materials"—and more. Take a look at the partial contents of this volume, as we have briefly outlined them. See for yourself whether AMERICAN BUILDER'S DEFENSE HOMES HANDBOOK isn't really worth having.

AMERICAN BUILDER

PORTFOLIO OF LOW COST HOMES AND RENTAL HOUSING UNITS

Essential PRIORITY DATA

MODERNIZATION MULTIPLE UNIT HOUSING

● "Pace Setter in Jacksonville." Illustrating how high quality can be achieved at low cost by building 10 to 25 at a time. "Quality Wins at Summit, N. J." A candid account of land planning, production methods and merchandising ideas of two builders whose keynote is the "quality line." "Planning a 'BIG' Small House." A Detroit builder shows how added conveniences can be given a 5-room house without expense of extra cubage. "Good Small Home by a Prize-Winning Builder." "Southern 'Honeymoon House' Built for Future Expansion."

● "Houses We Prefer To Finance." Savings and Loan Ass'n contest shows preference for small, well-insulated, well planned houses, economical to own. "Air-Conditioned Home" at only \$22 a month. Truly an "Idea House" presented in this Minneapolis home project, modern in planning practice, use of materials and equipment. Also "Interiors From the 'Idea House,'" offering modern suggestions for home decoration. "How New Haven Met Shortage." Photos and plans of some 72 homes at New Haven built on standard 24' x 30' foundations. "Western Style Brought Up To Date." Broad roof lines, homey porch and livable plan high-spot this new home built at West Hartford.

● "Interiors of California Model Home." Harmonize with colorful floors. An interesting Ranch type home demonstrated at San Mateo. "Good 5-room House With 24' x 36' Plan." "Chicago Builder Features Economy and Versatility."

● "No Priorities Needed for Most Modernization" is the title of the leading article in this section. You will find a tremendous source of inspiration in "Six Beautiful Photographs Rich in Suggestion" for modernized room interiors, including dining room, living room, basement and recreation room. "Cottage Apartments To Rent," Projects at Hastings, N. Y., have eight 3¼' x 4½' room duplex units.

● "Houston Duplex Offers Three Bedroom Units." Photographs and architect's plans of double house of modern design. "Bungalow Court Type of 9-Units at Portland, Oregon." Another is a "16-Unit Apartment on Old Residential Site." See how a Montgomery, Ala., builder developed a real paying investment. "How a Baltimore Builder Erects Row Houses."

● "Combination of Apartment Building and Store Makes Attractive Income Property." There is great ingenuity in "Garages Modernized into Rent-Paying Modern Dwelling." "Package Job" makes bath remodeling easy. "Salvaged For Defense." Instead of wrecking 40 run-down houses in an Alabama steel town, rehabilitation program provides industrial workers with convenient housing units.

CLIP AND RETURN THIS COUPON NOW!

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

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

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

New

Renewal

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

Name

Street City

State Occupation

This offer is good only in United States, Possessions and Canada
2-42



This wonderfully practical 180 DEFENSE HOMES HANDBOOK can be yours AT NO EXTRA COST, along with your renewal or new subscription for AMERICAN BUILDER. Send in \$2 for one year subscription or \$3 for two years and a copy of DEFENSE HOMES HANDBOOK will be mailed to you post-paid.



The new line of AMERICAN Heating Equipment, two years in the making, meets new requirements with boilers for every fuel, every size of home—handsomely restyled in Canyon Two-Tone Red. With radiators, convectors, accessories, water heaters to fit every type of building, every budget requirement.



SUNBEAM Warm-Air Furnaces and Winter Air Conditioners now featured in a new, restyled line, include new space-saving, quickly installed units designed especially for defense housing. Other models for every size of home, every fuel, hand-fired or automatic. New jackets are colorful Placid Two-Tone Blue.



"Standard" Plumbing Fixtures add beauty to low cost bathrooms and kitchens—without sacrifice of quality or utility. "Standard" baths, lavatories, closets and kitchen sinks are made in a wide price range, in many styles, in white and eleven colors. Remember, these famous fixtures cost no more than others.

Heating and Plumbing to Meet Today's Needs

WHATEVER the specifications—whatever the size or type of home—there are products to meet them in the complete lines of AMERICAN Heating Equipment and "Standard" Plumbing Fixtures.

Count on these names for quality, dependability and low cost. Equally important is the engineering research which for more than half a century has helped builders to create better homes . . . with increasing comforts, new conveniences, lower maintenance, and greater appeal.

For modernization, time payments are available in accordance with U.S. Government regulations.



AMERICAN & **Standard**
RADIATOR & **Sanitary**

New York CORPORATION Pittsburgh

Cast Iron & Steel Boilers & Furnaces for Coal, Oil, Gas • Radiators • Cast Iron Enameled & Vitreous China Plumbing Fixtures & Plumbers' Brass Goods • Winter Air Conditioning Units • Coal & Gas Water Heaters • Oil Burners • Heating Accessories

FOLLOW THE ARROW
for Heating, Winter Air
Conditioning and Plumbing

★ ★ DEFEND OUR COUNTRY. ENLIST NOW IN THE U. S. REGULAR ARMY ★ ★

PROTECT AGAINST AIR RAIDS WITH
BLACKOUT
 MATERIALS PROVED IN ENGLAND

You can be headquarters for installing special blackout products developed by Flintkote's British subsidiary

You can offer *immediate installation* of a complete line of blackout materials, including those listed at right, that have proved effective during the heaviest air raids on England.

All these specialized Flintkote blackout products are needed *now* by owners of public, private and industrial buildings in danger areas near the coasts . . . and particularly by factories working on war orders. Home owners want this protection, too.

Here is one more instance where Flintkote facilities help you make more money by supplying exactly the products the public *wants* and *needs*.

For complete information about these Flintkote Blackout Protective Systems, please get in touch with the Flintkote distributor in your territory or the nearest branch office or use the convenient coupon.

FLINTKOTE Products...Proved and Ready

BLACKOUT STATIC COATING covers windows and skylights with dull, non-reflective black applied quickly by brush or spray and easily removed. Adhesive qualities help protect workers from the danger of flying glass.

BLACKOUT MEMBRANE TREATMENT—a tough membrane embedded in Blackout Static Coating — provides additional shatterproof protection. Especially useful for skylights.

FIRE RETARDENT MASTIC scientifically designed to prevent spread of roof fires caused by incendiary bombs.

BLACKOUT PANELS — easy to remove during daylight. Light-weight, strong and weather-proof. Installed indoors or out. Particularly useful for home protection.

BLACKOUT PAPER — waterproof felt or paper for temporary protection during emergencies.

CAMOUFLAGE PAINTS AND ADHESIVES conforming with Defense agency requirements are available. We are prepared to cooperate on individual concealment problems.

THE

FLINTKOTE

COMPANY

New York . . . Atlanta . . . Boston . . . Chicago Heights
 Detroit . . . Los Angeles . . . New Orleans . . . Waco . . . London

THE FLINTKOTE COMPANY

Building Products Division
 30 Rockefeller Plaza, New York, N. Y.

Please send full particulars regarding Flintkote BLACKOUT Materials and Protective Systems.

Name

Firm Name

Street

AB-2-42

City

State



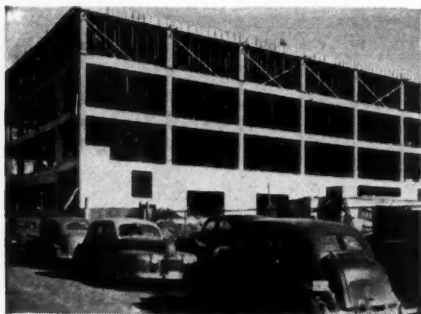
SPEED UP DEFENSE CONSTRUCTION WITH ATLAS HIGH-EARLY CEMENT!

When time must be saved on any construction project, specify Atlas High-Early cement. It's made to order for speeding up construction in winter or summer . . .



SPEED in building cantonments, defense housing, naval bases, roads, runways. Speed in building, converting and repairing defense factories. That's today's "must." And SPEED's the reason builders are specifying Atlas High-Early cement.

Specify it for any type of new



● Atlas High-Early cement saved three to four weeks' time in construction of this Appleton Electric Company building in Chicago. *Architect: Robert C. Ostergren; Engineers: Smith & Brown; Contractor: Carl E. Erickson Co.*

concreting work, for conversion of existing plants, or for quick, lasting repairs. In actual application Atlas High-Early cement is similar to normal portland cement . . . easy to work with, requires no special equipment.

SAVES TIME: *Look what Atlas High-Early cement has done on these typical jobs:*

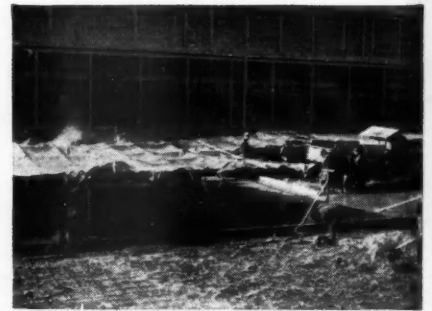
- Saved 72 days on new factory.
- Saved 13 days on machine tool plant addition.
- Saved 12 days on foundations.
- Saved 24 days in winter construction.
- Saved 25 days concreting at freezing temperature.
- Saved one week in finishing factory floor.
- Cut one month off three-month building schedule.
- After 70 hours made concrete strong enough to hold 560 tons of steel.

SAVES MONEY: *On many jobs Atlas High-Early saves money, too. For example:*

- Saved \$1000 in tarpaulin costs.
- Saved \$288 in fuel costs.
- Saved two sets of forms.
- Saved 20,000 ft. of lumber and 20,000 ft. of plywood.

Specify Atlas High-Early cement to speed up defense housing; to speed up new cantonments; to speed up defense industry construction; to speed up construction of administrative buildings, hospitals,

warehouses, roads, runways . . . any kind of concrete work.



● Defense expansion was pushed ahead 13 days with Atlas High-Early cement at the Monarch Machine Tool Company, Sidney, Ohio. *Architect: Schenk & Williams; Contractor: M. C. Ferguson.*

NOW IS THE TIME to speed up rush jobs with Atlas High-Early cement. Specify it for your next job. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

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

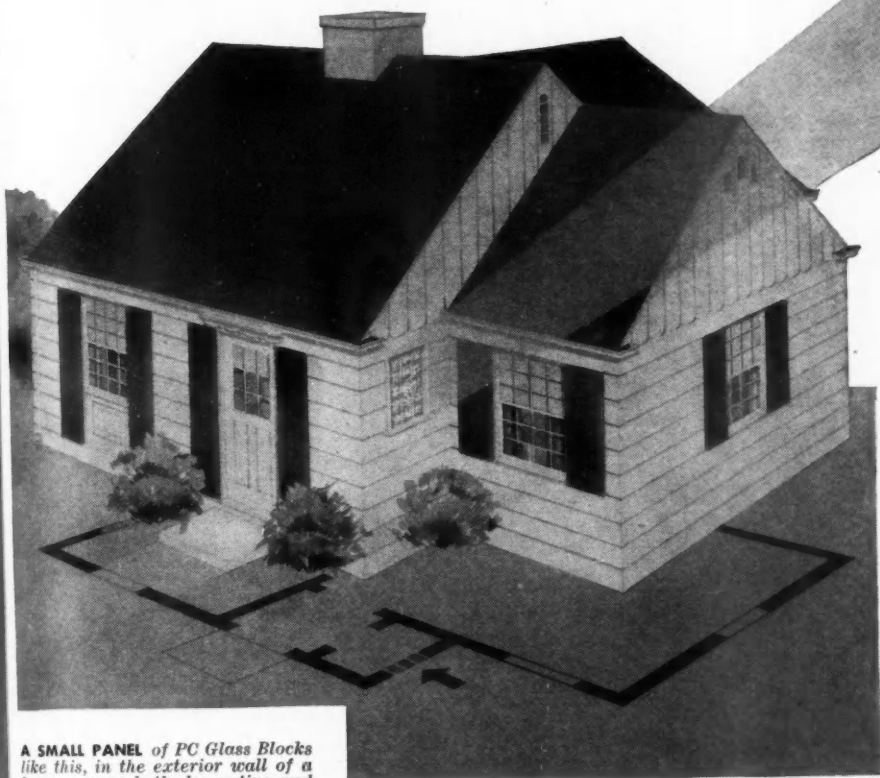
AB-N-43

ATLAS HIGH-EARLY CEMENT

A UNIVERSAL ATLAS PRODUCT



HOW TO USE PC GLASS BLOCKS TO DRESS UP A HOME

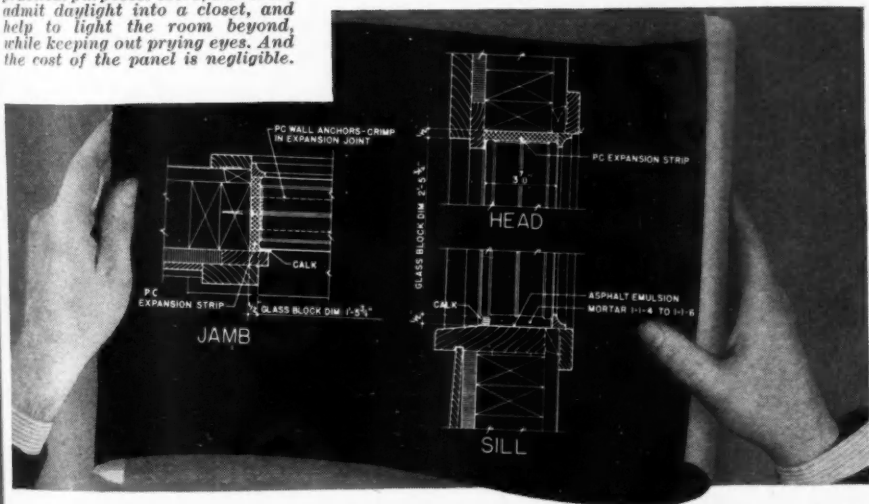


A SMALL PANEL of PC Glass Blocks like this, in the exterior wall of a house, serves both decorative and practical purposes. Here, the blocks admit daylight into a closet, and help to light the room beyond, while keeping out prying eyes. And the cost of the panel is negligible.

IT'S amazing what a little panel of PC Glass Blocks can do to add good looks, smartness and utility to a home . . . whether it's a new, low-cost defense house or an old home you are remodeling.

The suggestion shown here is only one of many inexpensive ways to use PC Glass Blocks with telling effect. These blocks transmit daylight generously, preserve privacy, have high insulation value, are easy to clean and very easy to install. (See details) And the amount of sales appeal they add to any home is far out of proportion to their modest cost.

You have three sizes and eight attractive patterns of PC Glass Blocks to choose from . . . all immediately available. Their installation involves no critical materials. Use PC Glass Blocks in the homes you build . . . and in the remodeling jobs you handle. They more than pay their way! Mail the coupon for free descriptive literature.



"PITTSBURGH"
stands for Quality Glass

Pittsburgh Corning Corporation
2043-2 Grant Building, Pittsburgh, Pa.
Please send me, without obligation, your
free descriptive literature on the use of PC
Glass Blocks in the home.

Name.....
Street.....
City..... State.....



GLASS BLOCKS

Distributed by

PITTSBURGH PLATE GLASS COMPANY

and by W. P. Fuller & Co., on the Pacific Coast



Sometimes it takes a
trio to make a team!



NEW PLANT of Charles Bruning Co., Inc., Chicago • **ARCHITECT:** Victor L. Charn, Chicago
CONTRACTOR: B-W Construction Co., Chicago

This strikingly modern and highly functional building provided plenty of scope for the Lehigh team.

The contractor used Lehigh Normal Cement where normal curing time was fast enough; he used Lehigh Early Strength Cement in the floor slabs to get quick strength so that other trades might proceed without delay, and to cut down heat-protection costs; he employed Lehigh Mortar

Cement with the brick and tile, knowing its all-round masonry reputation.

Let this reliable Lehigh trio perform for you. Especially, give Lehigh Early Strength Cement a chance to make for you the savings in time and money that 3 to 5 times faster curing effects. The Lehigh Service Department will gladly answer questions on the use, properties and merits of these Lehigh products.

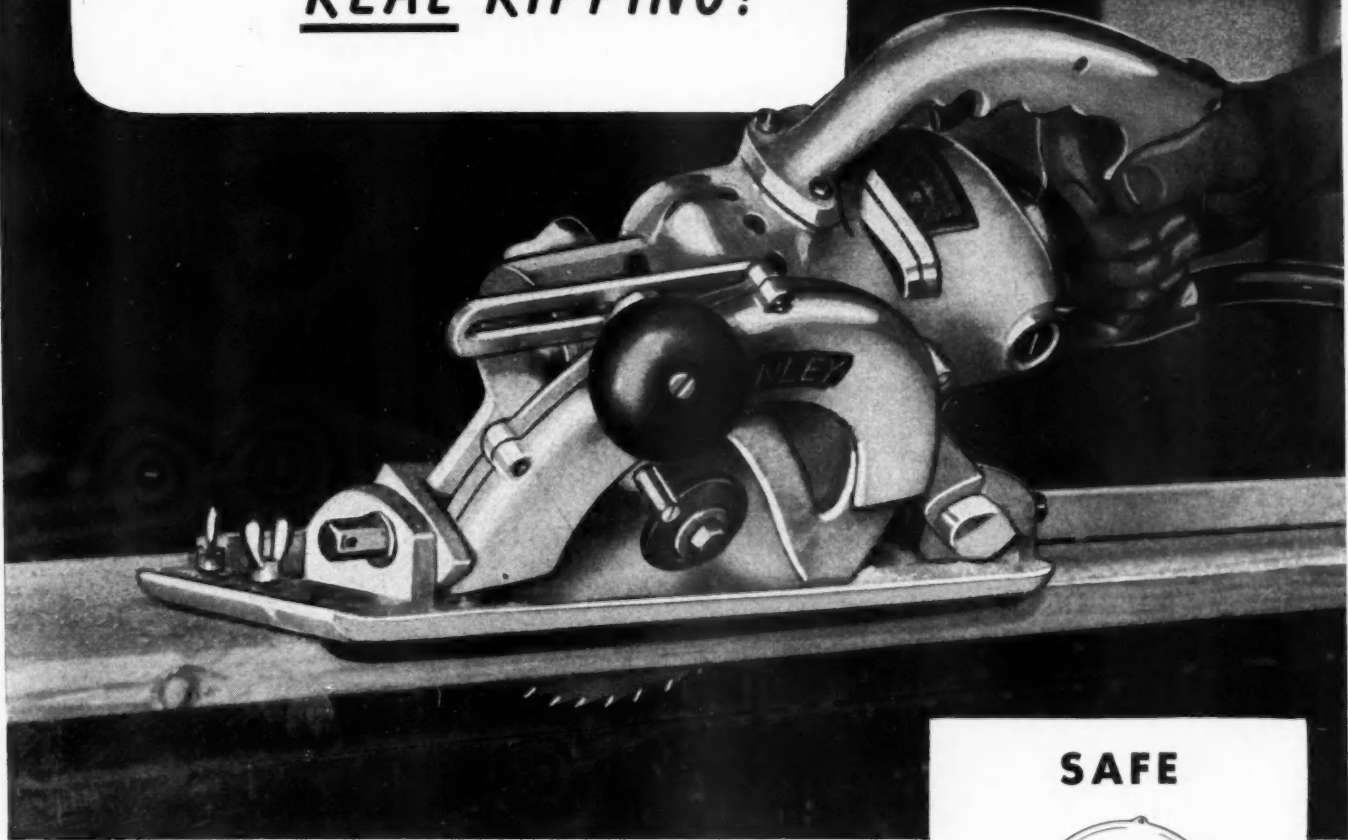
Lehigh

EARLY STRENGTH CEMENT

for service-strength cement in a hurry!

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

**"THAT'S WHAT I CALL
REAL RIPPING!"**



**Cross Cuts, Bevel Cuts, Deep Cuts, too
10 Times as Fast with Stanley Electric Saws**

Whatever the job, from light framing to railroad and dock timber sawing, there's a Stanley Safety Saw to do it faster, and save you money. Ask your Stanley Distributor for a demonstration on the job, or write us for literature. See for yourself the Stanley "extras" that assure dependable performance, faster work, and long, carefree service. Stanley Electric Tool Division, The Stanley Works, 133 Elm Street, New Britain, Connecticut.



W7
2 1/2" capacity



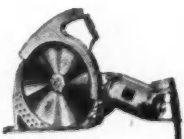
W8
2 3/4" capacity



W9
3 1/4" capacity

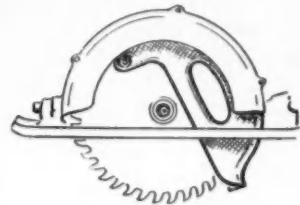


CC12
4" capacity



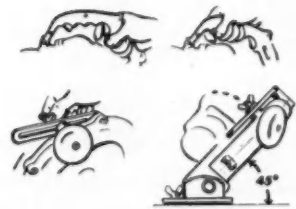
CC16
6" capacity

SAFE



Approved Stanley Safety Guards keep cutting edge covered at all times, regardless of the position of the saw.

HANDY



Duplex Handles give two gripping positions. Two switch triggers, for easy operation in any position. Simple depth adjustment. Base tilts 45° for bevel cuts.

STANLEY SAFETY SAWS



Why your Red Cross urgently needs

FIFTY MILLION DOLLARS, NOW

How the fund is allocated . . .

What it does in service

Every dollar that you give now to your Red Cross marches into the thick of things where humanitarian help is needed most—up to the fronts and battle stations where the fighting is heaviest. Into the Red Cross hospitals and First Aid units where prompt medical attention and supplies may save innumerable lives. And throughout our broad land to train and equip volunteers to meet any emergency that may strike.

How the \$50,000,000

War Fund Is Used

SERVICE TO THE ARMED FORCES \$25,000,000

Provides for the care, welfare and morale of the Army and Navy, including services to men in hospitals and during convalescence. • Provides an important link between the service men and their families; keeps the families from breaking up, supplies food, shelter, medicine, and even jobs where necessary. • Provides essential medical and other supplies outside of standard Government equipment. • Operates Red Cross headquarters at camps and naval stations. • Enrolls blood donors and medical technologists for Army and Navy needs. • Provides millions of surgical dressings, sweaters, socks, etc., through volunteer workers.

DISASTER AND CIVILIAN EMERGENCY RELIEF . . . \$ 10,000,000

Supplies emergency needs for food, clothing, shelter and medical attention for disaster victims. • Assists stricken families in repair of homes and other adjustments; provides minimum reserves of essential relief supplies to prevent unnecessary delays.

CIVILIAN DEFENSE SERVICES \$ 5,000,000

Trains volunteers for home nursing and nurses' aides. • Trains nurses, men and women, for active duty with the Army and Navy. • Trains volunteers in First Aid and accident prevention. • Trains volunteers for work in Motor Corps, Canteen and Production. • Instructs men, women and children in preparedness against explosive and incendiary bombs. • Organizes for evacuation of children and their families from stricken areas. • Assists Red Cross Chapters in establishing effective coordination of emergency relief with local and State defense authorities.

SERVICE AND ASSISTANCE THROUGH CHAPTERS. \$ 4,000,000

Gives assistance and service to the 3,740 Red Cross Chapters with their 6,131 Branches responsible for local Red Cross activities, particularly welfare work among the service men and their families.

OTHER ACTIVITIES AND CONTINGENCIES . . . \$ 6,000,000

Provides for unforeseen expansions in program and for new activities made necessary by unexpected developments.

TOTAL \$50,000,000

THE AMERICAN RED CROSS \$50,000,000 WAR FUND

Note to Red Cross Canvassers: The above material can be used to better inform contributors how their donations are being expended.

Never before has FIRE-PROTECTION been so important!



Johns-Manville Asbestos Shingles for roofs and sidewalls are FIREPROOF . . . cost less in the long run . . . Why gamble?

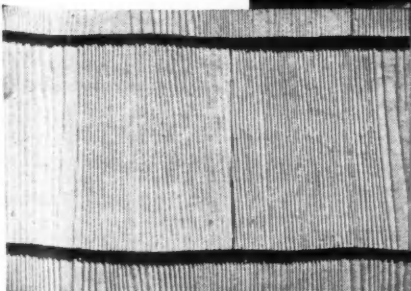
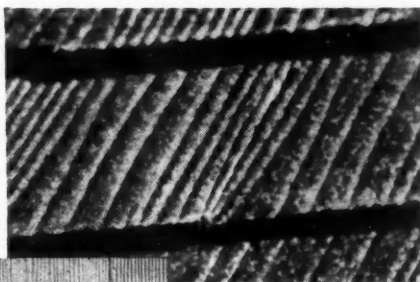
Every builder can help eliminate fire hazard by using J-M Asbestos Shingles. Made of asbestos and cement, they simply cannot burn!

For roofs, the new J-M American Colonials provide American Method beauty, the texture of weathered wood, handsome color blends, freedom from rot and decay. Any carpenter can apply them. *And the finished roof costs but little more than roofs of far less lasting materials.* In fact, based on their life expectancy* the cost per year of a J-M Asbestos Shingle roof is, we believe, less than for any other roof.

For sidewalls, J-M Asbestos Siding Shingles offer equal protection against fire, weather, wear. Never require preservative treatment.

For details, just mail the coupon.

***BUILT TO LAST 30 YEARS PLUS**, the new J-M American Colonial Roof Shingles combine beauty, firesafety, low upkeep. *30 years is underestimating their life. Thousands of the very first J-M Asbestos Shingles are still going strong after more than 30 years.



BEAUTIFUL J-M Cedargrain Textured Siding Shingles faithfully reproduce the pleasing grain of sawed wood. Fireproof and rot-proof, they assure permanently low maintenance. Never need preservative treatment. Unusually economical and easy to apply.



JOHNS-MANVILLE

Asbestos Shingles

JOHNS-MANVILLE, Dept. AB-2
22 East 40th Street, New York, N. Y.

Please send me your latest brochures on J-M Asbestos Roofing and Siding Shingles.

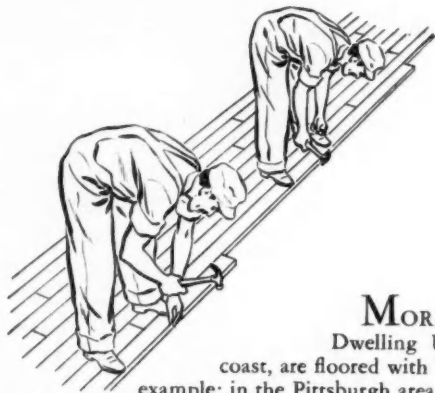
Name _____

Address _____

74

BIG DEFENSE HOUSING PROJECTS ARE USING BRUCE STREAMLINE FLOORING

To Save Time . . . Save Money . . . Get Better Floors!



MORE than 20,000 Defense Dwelling Units, from coast to coast, are floored with Bruce Streamline. For example: in the Pittsburgh area—8 out of 13 Projects have Streamline Floors . . . over one million feet used in Corpus Christi and Orange, Texas . . . in the Washington area, more than 4,000 units floored with Streamline. Low cost, dependable source of supply, saving of precious days—these are the features that have made Streamline Flooring the first choice of Defense Housing Contractors. The proof: See the partial list below of Defense Projects (with names of contractors) in which Bruce Streamline Flooring has been used.

- ★ Sheffield, Ala. (TVA)
- ★ Florence, Ala. (TVA)
- ★ Mare Island, Cal. (NAVY)
- ★ Little Rock, Ark. (USHA)
- ★ Panama City, Fla. (PBA)
- ★ Charlestown, Ind. (PBA)
- ★ Connersville, Ind. (PBA)
- ★ Knox, Ind. (OADH)
- ★ Jeffersonville, Ind. (PBA)
- ★ Walkerton, Ind. (OADH)
- ★ New Albany, Ind. (PBA)
- ★ Versailles, Ind. (PBA)
- ★ South Bend, Ind. (PBA)
- ★ Des Moines, Ia. (FHA)
- ★ Louisville, Ky. (PBA)
- ★ Louisville, Ky. (PBA)
- ★ Alexandria, La. (FHA)
- ★ Bath, Me. (PBA)
- ★ Aberdeen, Md. (PBA)
- ★ Forest Glen, Md. (PBA)
- ★ Greenbelt, Md. (FSA)
- ★ Indianhead, Md. (PBA)
- ★ Indianhead, Md. (PBA)
- ★ Pope's Creek, Md. (NAVY)
- ★ Riverdale, Md. (FHA)
- ★ Biloxi, Miss. (FHA)
- ★ Ft. Leonard Wood, Mo. (PBA)
- ★ Clark Twp., N. J. (OAMO)
- ★ Dravosburg, Pa. (OADH)
- ★ Etna, Pa. (OADH)
- ★ Mifflin Twp., Pa. (OADH)
- ★ Philadelphia, Pa. (FHA)
- ★ Pittsburgh, Pa. (OADH)
- ★ Rankin, Pa. (USHA)
- ★ Scott Twp., Pa. (OADH)
- ★ Stowe Twp., Pa. (OADH)
- ★ Titusville, Pa. (PBA)
- ★ Charleston, S. C. (DHC)
- ★ Alcoa, Tenn. (OAMO)
- ★ Jackson, Tenn. (OADH)
- ★ Milan-Humboldt, Tenn. (OADH)
- ★ Corpus Christi, Tex. (USHA)
- ★ Corpus Christi, Tex. (USHA)
- ★ Corpus Christi, Tex. (USHA)
- ★ Dallas, Tex. (OAMO)
- ★ Orange, Tex. (USHA) (NAVY)
- ★ Orange, Tex. (NAVY)
- ★ Newport News, Va. (FHA)
- ★ Norfolk, Va. (NAVY)
- ★ Arlington, Va. (FHA)
- ★ Wheeling, W. Va. (USHA)
- ★ Star City, W. Va. (DHC)
- ★ Anacostia, D. C. (ADA)
- ★ Anacostia, D. C. (ADA)
- ★ Bellevue, D. C. (NAVY)
- ★ Washington, D. C. (ADA)
- ★ Washington, D. C. (ADA)

- Pine Camp, N. Y. (PBA)
- Port Clinton, O. (OADH)
- Barberton, O. (USHA)
- Canton, O. (PBA)
- Dayton, O. (USHA)
- Massillon, O. (PBA)
- Massillon, O. (DHC)
- Columbus, O. (FHA)
- Clairton, Pa. (OADH)

- David T. Raffle
- Dawson Eng. Co.
- A. H. Whisman Co.
- Algernon Blair
- Algernon Blair
- Tbos. Bate & Sons
- C. L. Browning, Jr.
- Hinchberger Const. Co.
- Central Const. Co.
- H. E. White
- Brown-Lane Co. and Central Const. Co.
- Geo. F. Christen
- Byrn Const. Co.
- Geran Const. Co.
- Don Byrum, Inc.
- Don Byrum, Inc.
- Victor R. Beauchamp
- Jeffress-Dyer, Inc.
- Wm. P. Lipscomb Co., Inc.
- Jeffress-Dyer, Inc.
- Baben & Wright, Inc.



- Sberrry-Richards Co.
- Madsen Const. Co.
- Lloyds Builders, Inc.
- Nelson-Pedley Co.
- Michael Pontarelli & Sons
- Henry Busse
- Geo. Dreyman, Inc.
- Mellon-Stuart Co.

Send for this Free Book on Floors for Defense Housing!



STREAMLINE
Trade Mark Reg. U. S. Pat. Off.
FACTORY-FINISHED
FLOORING
 FLOOR FINISHES • TERMINIX • LUMBER PRODUCTS

E. L. BRUCE CO., 1488 Thomas St., Memphis, Tenn. Please send me a copy of your new book—"Low Cost Floors for Defense Housing."

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

(A Simmons-Boardman Publication)

AMERICAN BUILDER

and Building Age

CONTENTS FOR FEBRUARY, 1942

Publisher's Page—Business During and After the War— by Samuel O. Dunn.....	43
Editorial—Go Easy on the Metals.....	45
War Production Chief Nelson Plans "Metals Limitation," Not "Stop Building" Order	
On & Off the Record.....	46
News, Views and Comments; Washington Developments	
Low Cost—High Style in Front Cover Home.....	47
Homes Fit for Free Men.....	48
Can Women Build Better Homes?.....	50
How to Change a Plan for "Extensibility".....	53
More War Homes Under FHA Title VI.....	54
"Forget Valuations—Get Houses Built," OPM Tells FHA. New Liberalized Terms Will Speed Work by Private Builders	
Shops on Wheels Speed Tobin's Defense Homes— by Robert B. Konikow.....	56
Brookline, Mass., Builder Brings Cost Down by Extensive Use of Power Equipment. Woodworking and Sheet Metal Shops Moved from Job to Job	
Government Revises Its Estimates for 1942 Defense and Non- Defense Construction.....	59
Four Large Apartments Now Twelve Small Ones.....	60
Tomorrow's Greatest Educational Need!—by Arthur A. Hood.....	61
Formal Training for Building Industry Careers	
Extra Bath Gives Extra Room to Rent.....	65
Advantages of Florida Apartment Colony Type of Planning Demonstrated.....	65A
News of the Month.....	66
Builder's Quiz—How Do You Stand?.....	68
Service to Readers.....	70
Practical Job Pointers and Building Data.....	77
Letters from Readers.....	82
Trends in Home Equipment and Building Materials.....	84
Producers Tell Us—.....	90
Advertisers' Index.....	110



64th Year Vol. 64, No. 2

AMERICAN BUILDER and BUILDING AGE, with which are incorporated National Builder, Permanent Builder and the Builder's Journal, is published on the first day of each month by the

SIMMONS-BOARDMAN PUBLISHING CORPORATION, 105 West Adams Street, Chicago, Illinois. New York Office: 30 Church Street

WASHINGTON, D. C. National Press Building

CLEVELAND, OHIO Terminal Tower

SEATTLE, WASH. 1038 Henry Building

SAN FRANCISCO, CAL. 550 Montgomery Street

LOS ANGELES, CAL. 530 West Sixth Street

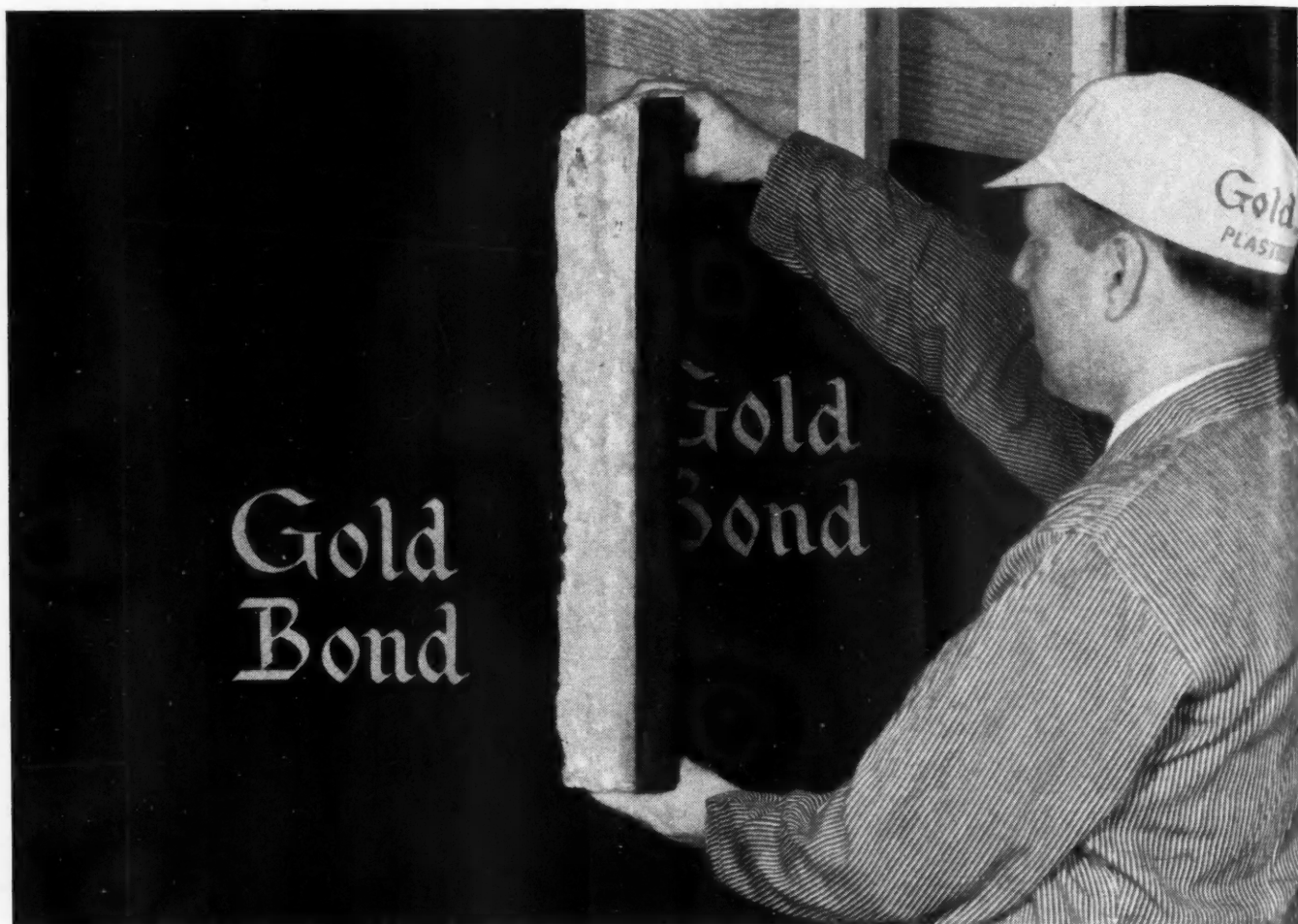
Samuel O. Dunn, Chairman of Board; Henry Lee, President; Bernard L. Johnson, Robert H. Morris, Vice-Presidents; J. S. Crane, Eastern Manager; Roy V. Wright, Secretary; Elmer T. Howson, Assistant Secretary; John T. DeMott, Treasurer.

Subscription price in the United States and 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 each. Address H. E. McCandless, Circulation Manager, 30 Church Street, New York, N. Y.

Member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulation (A. B. C.) PRINTED IN U.S.A.

JOSEPH B. MASON Eastern Editor	BERNARD L. JOHNSON Editor	JOE SANDERS Marketing Editor
R. E. SANGSTER Managing Editor	ROBERT H. MORRIS Business Manager	LYMAN M. FORBES Research Editor
DOLA PARR Associate Editor		L. E. ARENT Art Editor
Advertising: F. A. CLARK, W. F. COLEMAN, L. B. CONAWAY, J. S. CRANE, J. C. JONES, C. E. PAULSON, E. J. REICH, C. J. WAGEMAN.		
Field Staff: C. L. CONLEY, J. H. FREE, CHARLES R. HARTUNG, JACK HUMAN, WOODROW JAMES, WILLIAM L. TAYLOR, DICK WHITTINGTON		

When Skilled Workmen are Scarce...



Use this insulation that requires no fastening

EVEN when good workmen are hard to find, owners still want costs kept down and jobs finished on time. That's one reason why more and more builders today are using Gold Bond semi-rigid rock wool batts for insulating. This improved insulation requires no nails, staples, wiring, or other fasteners. It fits snugly between studs without fastening—lets you do the job in half the time. It's *better* insulation, too. Gold Bond semi-rigid batts are backed with a moisture-resistant fibre-skin liner, and they're fireproof, verminproof, light in weight. Their permanent resilience prevents the settling often caused by age and vibration—and their high insulating efficiency is guaranteed by uniform density, weight and thickness.

Gold Bond Sets the Pace

This new better-for-less insulation is only one example of how Gold Bond sets the pace for the wall and ceiling industry. Consistent production of new and finer materials is responsible for the growth of National Gypsum from a company with a mill 16 years ago to a leader operating 21 modern, strategically-located plants today. Gold Bond research has developed more than 150 better products for every type interior—and right now is busy perfecting ideas for tomorrow's markets. 10,000 dependable dealers and 300 trained representatives are at your service. And when you use Gold Bond products exclusively, there's no buck passing. The responsibility for *all* materials is centered with a

single reliable manufacturer. Write today for free wall chart showing exact heat savings of Gold Bond rock wool in various types of construction. National Gypsum Company, Buffalo, New York.



Producing units at:

NEW YORK, N. Y. . . . CLARENCE CENTER, N. Y. . . . AKRON, N. Y. . . . PORTSMOUTH, N. H. . . . NATIONAL CITY, MICH. . . . FORT DODGE, IA.
 MEDICINE LODGE, KAN. . . . ROTAN, TEX. . . . SAVANNAH, GA. . . . LUCKEY, O. . . . BELLEFONTE, PA. . . . YORK, PA. . . . ORANDA, VA.
 SALTVILLE, VA. . . . NILES, O. . . . MOBILE, ALA. . . . NEWBURGH, N. Y. . . . ALEXANDRIA, IND. . . . DUBUQUE, IA. . . . DOVER, N. J.

PUBLISHER'S PAGE

Business During and After the War

MOST persons tend to believe that whatever is occurring will continue; that if business is bad, it will stay bad; that if peace or war conditions exist, those same conditions will continue indefinitely. But nothing is so certain as *change*; and men become and remain successful because they foresee changes and prepare for them.

We are now in the midst of war conditions and their effects—one effect being changes in building and in where building is done. But the war will not last many years; and wise men, while adjusting to its conditions, will plan for peace and the changes peace will cause.

BEFORE becoming too pessimistic, let us recall what occurred in building during and following the last war. Expenditures for non-farm residential construction in the twelve years 1916-1927, inclusive, were as follows:

1916 \$1,108,000,000	1922 \$ 2,833,000,000
1917 943,000,000	1923 3,757,000,000
1918 717,000,000	1924 4,300,000,000
1919 1,599,000,000	1925 4,584,000,000
1920 1,609,000,000	1926 4,591,000,000
1921 1,759,000,000	1927 4,289,000,000
<u>\$7,735,000,000</u>	<u>\$24,354,000,000</u>
	7,735,000,000
Twelve-year total.....	\$32,089,000,000

The figures show that during the war years residential building declined; but that for eight years afterward it increased, and in the six years 1922-1927, inclusive, was three times as large as in the six years 1916-1921, inclusive, which included the war period.

Now look at the following figures for the next twelve years:

1928 \$ 3,961,000,000	1934 \$ 272,000,000
1929 3,424,000,000	1935 523,000,000
1930 2,195,000,000	1936 1,101,000,000
1931 1,396,000,000	1937 1,530,000,000
1932 641,000,000	1938 1,515,000,000
1933 314,000,000	1939 1,860,000,000
<u>\$11,931,000,000</u>	<u>\$ 6,801,000,000</u>
	11,931,000,000
Twelve-year total.....	\$18,732,000,000

In the years 1916-1927, inclusive, which included the war period, total residential building was \$32 billion; in 1928-1939, inclusive, which included the depression period, less than \$19 billion. In the first period home building averaged about \$6.84 per family; in the second period, only about \$3.60 per family.

THESE figures emphasize three important facts. First, the last war was speedily followed by a very great increase of building. Second, the war caused a very much smaller reduction of building than the depression. Third, building since the bottom of the depression has been nowhere near large enough adequately to house the American people. Add estimates for 1940 and 1941, and they show total home building during the last fourteen years 30 per cent smaller than in the preceding fourteen years for a 16 per cent larger average population.

The job of housing America after the depression was only well started when we entered this war. No future thing can be more certain than that after it—that is, within a few years—there will be another big increase in home building. So, whatever painful adjustments the building industry must make at present, everybody in it—contractors, dealers, manufacturers—to be successful after the war, should so manage and plan as to *keep prepared* for getting and handling a much larger business after the war.

Those who thus manage and plan *now* will get the business *then*. Those who do not thus manage and plan now will not get the business—and, no doubt, as such people usually do, they will blame the war, their bad luck or the methods of their competitors.

Samuel O. Dunn,

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

NO WINTER LET-DOWN ON VITAL DEFENSE JOBS

USE 'INCOR'—

- ✓ **AVOID FREEZING RISKS**
- ✓ **CUT HEAT-PROTECTION COSTS BY TWO-THIRDS**
- ✓ **CUT FORM COSTS IN HALF**
- ✓ **MAINTAIN HIGH-SPEED SCHEDULES**



FULL-SPEED ahead this Winter... don't let cold weather slow vital defense construction. Use 'Incor' 24-Hour Cement for high speed at less cost.

'Incor' is service strong in one-third the usual time... saves 2 to 3 days' heat protection on each pour... cuts heating costs two-thirds... assures fast stripping schedules with safety, even in sub-freezing weather. One form set with 'Incor' produces the same job speed as two form sets with ordinary cement—*top-speed schedules with half as many forms.*

Use 'Incor'* for buildings, heavy-duty floors, machinery foundations, watertight concrete. Write for copy of "Cold-Weather Concreting." Address Lone Star Cement Corporation, Room 2230, 342 Madison Avenue, New York. *Reg. U. S. Pat. Off.

SPEED DEFENSE CONSTRUCTION WITH 'INCOR'

LONE STAR CEMENT CORPORATION

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

AMERICAN BUILDER

AND BUILDING AGE

Go Easy on the Metals

War Production Chief Nelson Plans "Metals Limitation," not "Stop Building" Order

THE BUILDING industry must prepare itself for an early announcement from the War Production Board setting certain specific limitations on all construction involving the use of metals, except defense housing and other direct war construction. Non-defense public and civilian construction will be affected regardless of whether metal materials are available in stock or not.

On January 13 *American Builder* wired Donald M. Nelson, then executive director of the Supply Priorities and Allocation Board, and now, chairman of the all powerful War Production Board, asking him to clarify the government's attitude on private building. We wired him as follows:

"Can you confirm or explain statement attributed to Sullivan Jones (of the OPM staff) in Los Angeles Sunday (Jan. 12), as widely quoted in yesterday's newspapers, to the effect that 'orders halting new home construction by private citizens for the war's duration probably will be issued shortly'? Should not any new construction industry regulation rather be in the nature of a 'metal limitation order' than a 'stop building order,' thereby permitting the well known resourcefulness and ingenuity of the wide-flung building industry to be exercised for the benefit of the public, yet with very little use of critical list materials?"

On January 16 Chairman Nelson replied to our telegram as follows:

"An order prohibiting the use of iron, steel and other critical metals in all non-essential construction is being drafted and will be issued very shortly. As you suggest, it will take the form of a metal limitations order rather than a flat 'stop building' order."

THE PRESENT expanded war program, calling for vastly increased military efforts, has naturally resulted in conferences to determine the scope and degree of the "metals restriction order" in construction as well as in other industries. The proposed order is expected to cover all construction in all areas, except that which (a) operates under direct priority assistance, such as plant expansions, cantonments, etc., and (b) defense housing. In other words, the conferences have covered all non-defense public and civilian building, including residential and farm building not in the defense category.

The intent of the proposed new order evidently is to make existing supplies of critical metals in the hands of jobbers, dealers, and builders go farther, to stretch them out over a greater multitude of smaller jobs necessary



DONALD M. NELSON

Chairman, War Production Board

proposes continuation of building but builders must limit use of metals.

for public health and welfare. It defines the maximum amount of metals that may be used in terms of total poundage and is in effect a "metals restriction" and not a "stop building" order, as Chairman Nelson states.

This advance information is given for the purpose of enabling the building industry to prepare itself for this new order and of advising manufacturers and local building groups against resorting to panicky decisions that might otherwise be reached should the order be publicized without proper explanation. There are many rumors, the majority unfounded, being circulated to the effect that the government is about to stop all building. Public utterances of certain non-policymaking officials are also to this effect. So far as this publication can determine they have no basis in actual present day fact.

Confusion among government agencies has increased enormously since Pearl Harbor. Considerable time must elapse to iron out the details of many programs that directly conflict with orders already issued. Rumors should be dismissed, public statements and speeches by non-policymaking officials discounted, and all official orders, instructions, etc., studied carefully with a view to avoiding hasty and ill-considered judgment. This is no time for the building industry to embrace pessimism. Any industry that could survive the beating of the depression years and come back with the strength, vigor, ingenuity and inventiveness that the building industry has demonstrated can be depended upon to find ways and means to keep going without interference with the war effort, which, after all, is our first concern.

ON & OFF the RECORD

News, Views and Comments
Washington Developments

by *Structor*

VALUATION—FHA's stubborn, persistent refusal to recognize present building costs finally brought on the crisis to be expected. Private builders of homes were stymied at a time when a pressing need exists for war worker houses. It took direct pressure from Palmer's office and OPM to convince lawyer Ferguson that an emergency exists.

"Forget valuations and get houses built under Title VI," is in effect what FHA was finally told.

WHY NOT?—Since war worker houses by private builders are desperately needed, why not make it possible for builders to function? Title VI is an emergency measure with a reserve fund backed by \$10 million from Jesse Jones. Emergency risks are to be expected. Private builders cannot be expected to "subsidize the government" by assuming risks that are the direct result of the war emergency.

95 PER CENT LOANS—Private builders will produce the needed war houses fast—if a few changes are made in Title VI. First in importance, of course, is recognition of full local costs. Then if the down payment is reduced to 5 per cent, the length of the mortgage extended to 25 years, and the amount of the mortgage increased to \$5,400, things will hum. That's the way to get houses built when and where they are needed.

FREEZE AND UNFREEZE—We hope and trust Sullivan Jones of OPM is not as irresponsible and irrational as he sounds in the newspapers. His remark in Los Angeles that "orders halting new home construction by private citizens for the war's duration will be issued," caused widespread consternation. Did he really mean that? A few days later in Washington, Kent J. Owens, his assistant, told a group of builders that Jones had been misunderstood or misquoted.

"If you have materials—go ahead and build—we don't care," he said. He stated he knew of no "freezing order" on materials in prospect.

METALS LIMITATION—Even so, it has been known for some time that OPM is trying to work out a plan to limit use of metals in construction. It might not be described as a "freezing order" but as discussed by OPM officials it would drastically limit the use of iron, steel or any other metal, except for small jobs, necessary repairs and possibly small houses.

SOLDIERS' MORTGAGES—The Philadelphia Home Builders Association has proposed legislation to suspend war-time payments by soldiers on home mortgages. The idea is to have RFC set up a national mortgage fund to continue the payments of men in the armed services. The term of the mortgage would be extended and the draftee or selectee would ultimately reimburse the Federal government. It sounds like a good proposal.

HBI AND HBA—Much credit should go to K. D. Mann and J. A. Sargent, of the Truscon Steel Company, for their attempt in Washington recently to bring the two

national home builders' groups together. A dinner was held to which prominent members of Home Builders Institute (affiliated with National Association of Real Estate Boards) and National Home Builders Association (representing associations from Detroit, Philadelphia and several other cities) were invited.

Since neither group would give up its own identity, a plan was offered to set up a super organization—a National Home Builders Industries Council. Five members from each would serve, and also five producers and suppliers. Strong representation in Washington would be provided if the plan should go through as its probably-too-hopeful backers propose.

UNIONS VS. BUILDERS—We note that while the two principal organizations representing home builders are having great difficulty raising a few thousand dollars to establish and run a national organization, the Bricklayers Union has purchased \$150,000 worth of defense bonds. This is in addition to earlier reported purchases by this Union of some \$1,600,000 in government securities. These purchases are highly commendable, and we take our hats off to the union for them. But the illustration does give a picture of the comparable strength and stability of unions vs. employers in the building industry.

HELPING PRIVATE BUILDERS—Co-ordinator Palmer has assigned to young, alert Frank A. Vanderlip the job of assisting private home builders. He knows the building industry and also the government side. He points out that the priorities quota in one city may be practically used up, while nearby another town may have a large unused quota. If builders will get in touch with him, they will be told where housing is needed and what the quotas are. (Housing Co-ordinator's office: 1600 Eye St., Washington, D. C.)

If builders can't get materials in a given defense area, Palmer's office will take steps to reroute supplies.

ICE BOXES—Spokesmen for the electric refrigerator industry are pessimistic, saying that under present allotments they will be able to build practically no refrigerators next year. Looks as though we'll be building defense houses with ice boxes—or how about the English system of a "cold closet" with a stone at the base resting on the earth?

ARNA VALLEY—A Title VI rental housing project worth looking at is Arna Valley in Arlington, near Washington, built by Paul T. Stone. These are rectangular four-family units placed back to back—about 700 units in all. FHA says they are a good example of low-cost rental housing possible under Title VI.

42,000 DEMOUNTABLES—Federal Works Administrator Fleming has put steam behind public war housing. He has directed Baird Snyder and Rufe B. Newman to step up the building of prefabricated demountable houses. The first batch of 42,000 has been authorized.

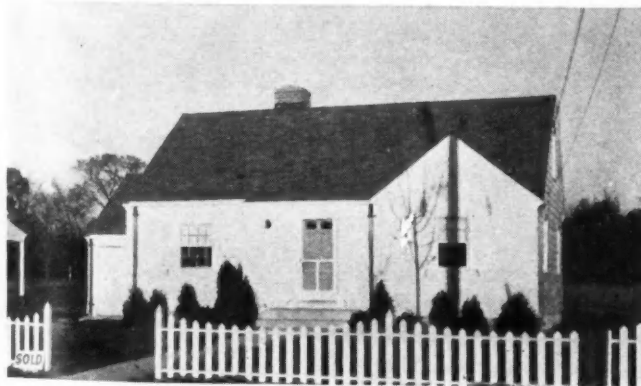
According to Snyder, private builders, including small contractors and operative builders, will be invited to build the houses. The prefabricated sections will be built in local shops.

HOUSING MONEY—While Congressmen were arguing over the Lanham Act, and Nathan Straus was first resigning and then not resigning, a \$300 million fund for temporary emergency housing slipped through like greased lightning, as part of the War and Navy Bill passed a few days after Pearl Harbor.

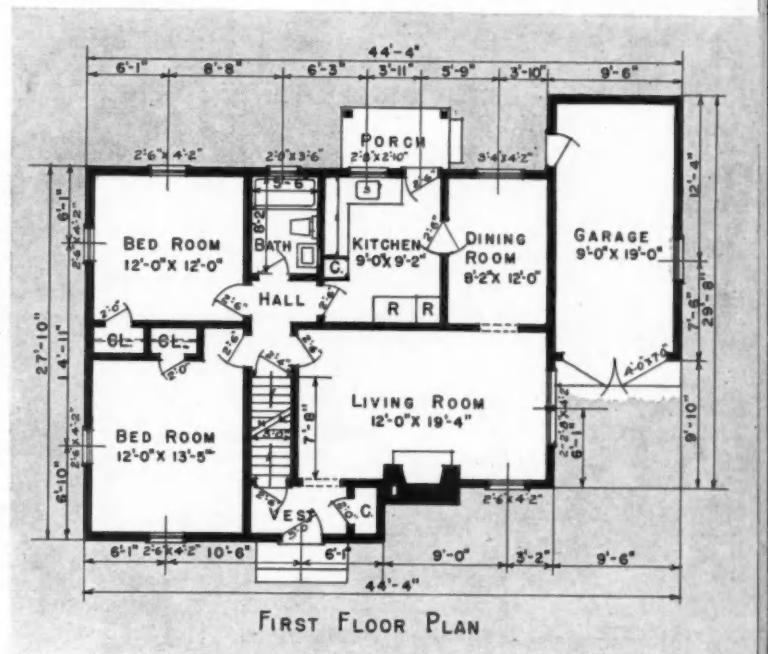
(Continued to page 96)



FRONT COVER war-worker home has fine architectural appeal and practical plan, as shown below. Main foundation is 34'-10" x 27'-10". Vestibule-stair arrangement good. Keith Sellers Heine, architect.



VARIATION IN EXTERIOR—see floor plan next page.



FIRST FLOOR PLAN

Low Cost—High Style In Front Cover Home

BY placing the chimney at the front and tying it in nicely with the attractive entrance, Builder J. M. Howard gave special appeal to this little West Hartford, Conn., house. Treatment of the front vestibule, stairs and center hall arrangement is fine.

House is insulated, has hot water heat, full basement. Rooms are large and well arranged considering over-all basement size of only 34' 10" x 27' 10". Variations of this plan are shown on next page. The architect is Keith Sellers Heine, Hartford, Conn.

Fit For Free Men

A "VICTORY MEDAL" ought to be awarded Community Builders and Architect Keith Sellers Heine, of Hartford, Conn., for the charming style and practical plan of these little war-time houses. They are the kind that are fit for free men and their families to own and live in.

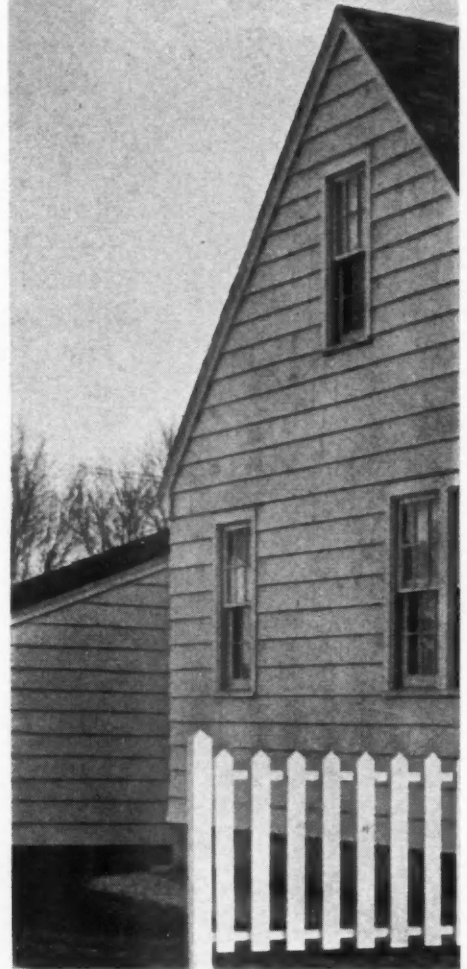
Incidentally, these houses are the practical result of long years of experience. Builder J. M. Howard has been in the business since 1916, and has been a reader of *American Builder* for more than 20 years.

The basic plan below is similar to the front cover home shown on the preceding page (reversed) and has been extensively used with minor variations by Community Builders.

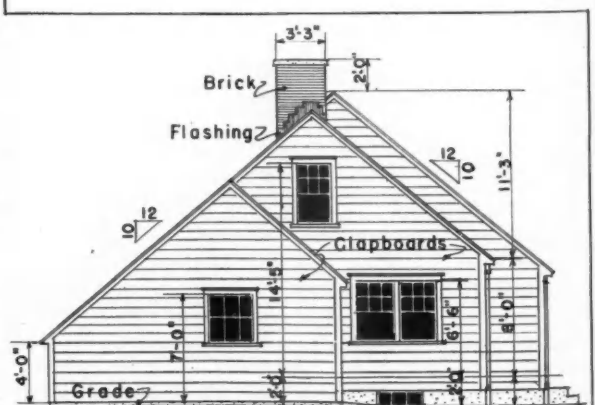
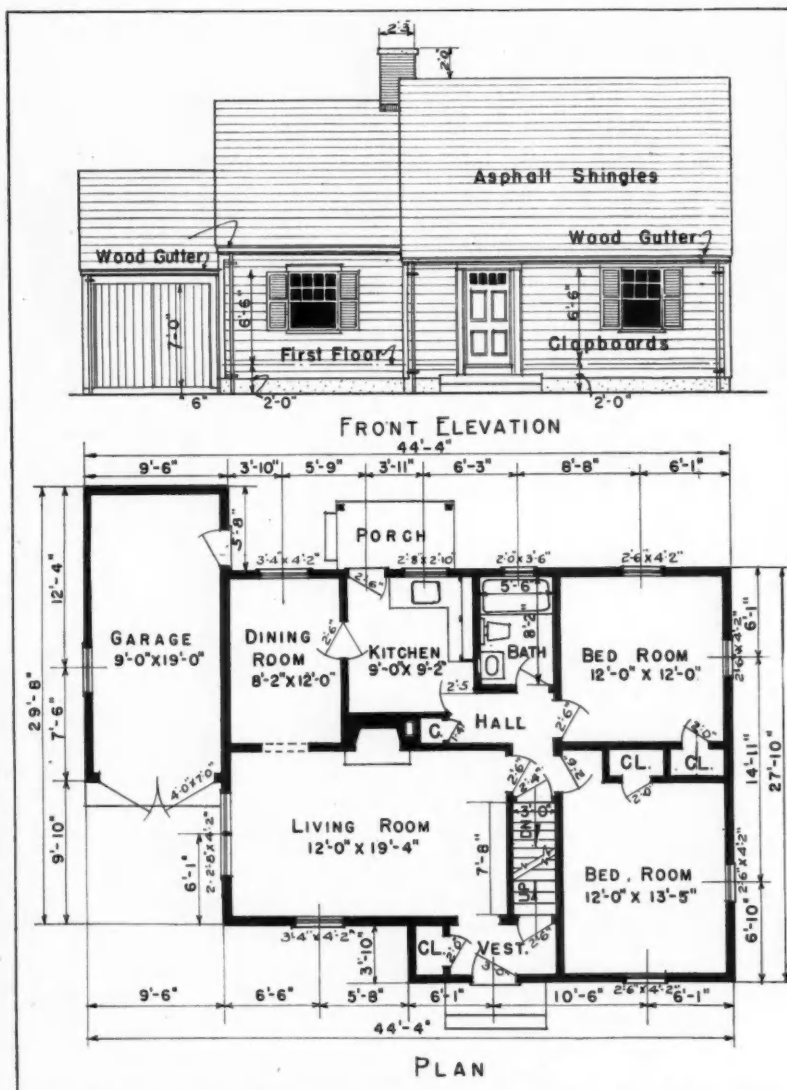
This plan is worth studying for it has everything a small home needs. By carrying the roof line over the front vestibule, space is provided for the coat closet so necessary in cold climates. This also permits working the stairs far forward and leaves a good hall arrangement.

Commendable also is Architect Heine's proportioning of the gables. The detailed plans below show a well designed garage addition which is not included in the house pictured above.

The kitchen-bath arrangement cuts plumbing materials to the bone. There is space for additional rooms upstairs.



WORKING DRAWINGS for this West Hartford home show a nicely detailed example of authentic early American style design.

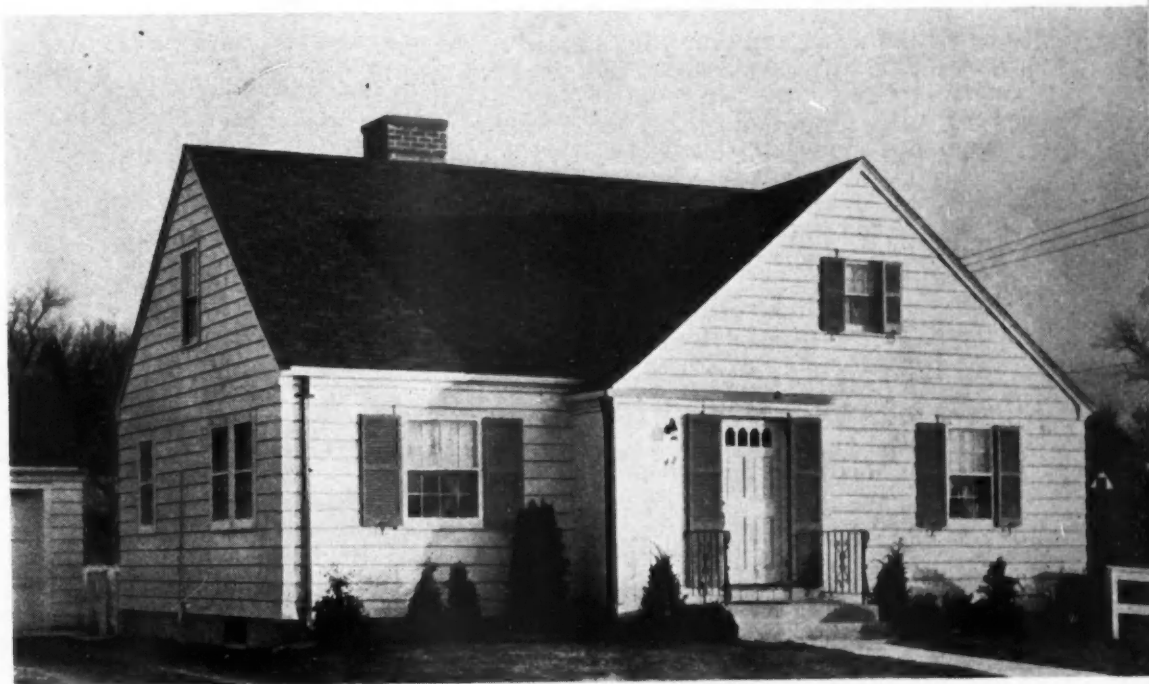


W
HO
sa
th
an
bet
ran
sh
fro
DE
left
goo
ent
Kit
is
an
Bas
x
lers



WAR WORKERS like this well designed, skillfully planned little house at West Hartford, Conn., built by Community Builders.

HOUSE at right has same floor plan, although it looks bigger and has a somewhat better second floor arrangement. Full length shutters beautify the front entrance detail.



DETAILED PLANS at left show remarkably good handling of front entrance and stairs. Kitchen-bath plumbing is economically placed and rooms are spacious. Basement size is 34' 10" x 27' 10". Keith Sellers Heine, architect.



Photos by Sickles Photo Reporting Service

Can Women BUILD Better Homes?

Men, look to your laurels; here's proof that the little lady who buys, furnishes and makes a home can also build one

IN these days of war and the consequences of mobilization of manpower and industry, when man's job is to fight and produce, what of the women folk? Of course we hear about them in factories and on the farm, with rumors of them taking up where the men leave off. There also have been instances where the ladies have successfully entered the professions in years past. But here in this article will be told how one of the gentler sex has in the last four years tackled one of the toughest jobs in man's domain—and done it *successfully*.

Believe it or not, this person is not a rolling-pin swinging heavyweight who could, when necessary, browbeat a group of bucking "subs" into line, but the cheerful little lady pictured on the job below—Mrs. Pauline Heidelberger of Dayton, O. She has completed fifteen houses in the above average bracket, doing about four a year, the last having been Number 15—not bad, gentlemen, for a part time job. Some study of the two typical designs shown here may make you slightly envious—they are well planned, attractive and well built and they sold like hot cakes, as did the others offered.

Before letting Mrs. Heidelberger tell her own story, one clue as to her background may make it more credible—she remembers that when a young girl back in New Prague, Minn., her father was an *American Builder* subscriber.

In explaining how she got started, Mrs. Heidelberger says, "Here are the facts of my *Adventure* into the game which rightfully belongs to man. I say it belongs to man, because I believe the male of the human species is better able to 'take such punishment'. At least, the men builders do not let trifles worry them so much as they worry me. They seem more easily to take for granted

that a perfect house never was nor ever will be built. After four years of building houses, I have very reluctantly come to the conclusion that I will never construct what I had started out to construct—'A Perfect House'.

"The ambition to build a perfect house for my husband and myself to occupy was the immediate cause of jumping into a sea about which I knew absolutely nothing. Once in it, I had to learn to swim in order to survive. I am still swimming, at the time this is written, in the midst of the fifteenth house.

"The ambition to build more than one house came before I ever started construction on the first—when I found myself unable to decide what features I thought worthy of putting into the plan of that perfect house. There were so many desirable arrangements, so many lines of beauty and charm, in fact so much *stuff* to



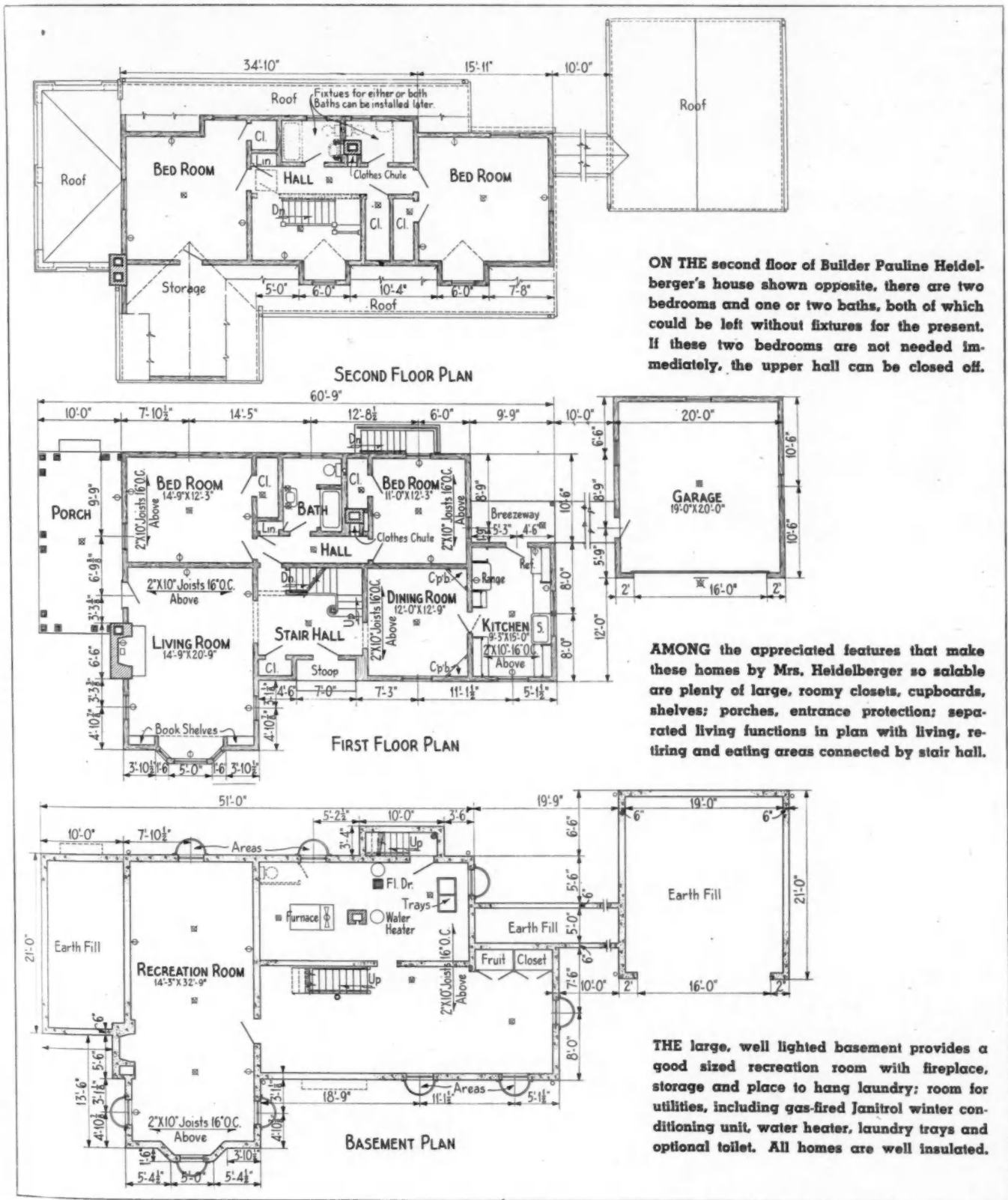
THE charming little lady in the picture is Mrs. Pauline Heidelberger: BUILDER on the job. Undoubtedly the smile has a great deal to do with her success; one of her Dayton, O., houses is shown above with plans on the opposite page.

choose from, how was I to know where to start from? I scanned every book of plans I was able to get my hands on, and looked inside and out of every new house being built in Dayton at that time. The more I searched, the more bewildered I became. In a few weeks of searching I became acquainted with so many lovely things that belong in a house, that one house could not possibly contain them all. I looked over plans and more plans but not one of them quite suited, not one seemed sufficient or nice enough to build as is.

"The next step was to change the plans I found in

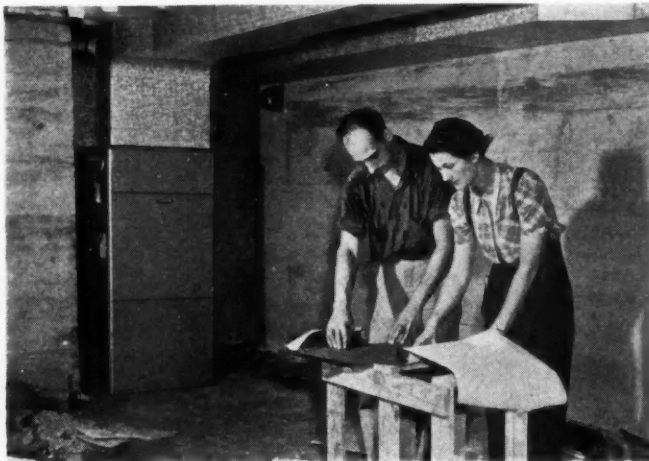
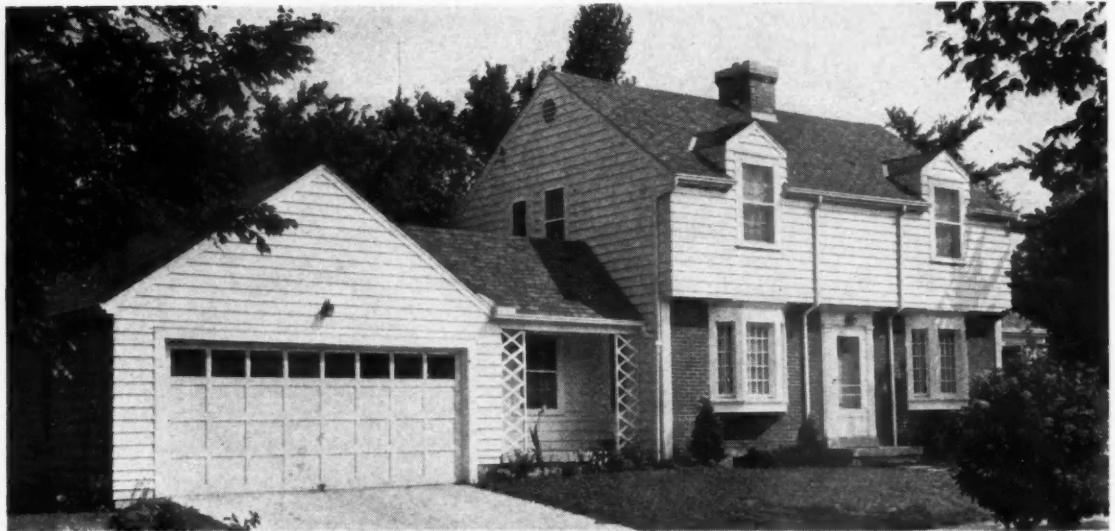
books. This ended in the realization that to add certain features to a plan, meant doing away with other features which were equally desirable. I liked too many things about houses, too many types of houses, so the only way to satisfy the desire to build the perfect house was to build several houses, each of which I would build for us to live in.

"The first house was ready for plastering when the second was started. When the first was completed we moved in, while the second was in progress. However this expensive hobby could not go on forever, without enor-



BUILT FOR THE LADIES BY A LADY BUILDER

ANOTHER attractive Dayton, O., home built by Mrs. Pauline Heidelberger who is shown below inspecting details of installing Janitrol heating unit.



mous funds to carry on, so before the third venture was undertaken, one of the first two had to furnish the money for the new undertaking. Consequently, one of the beloved ones had to go to market.

"I could not decide which one I'd rather keep, so we let the buyers choose. The real estate man held open house in the newest one upon completion. A very much interested buyer came over to our home to make us an offer, but when he saw our home (the one we were living in) and the real estate man informed him it was also for sale, the buyer liked it so well, that he bought it instead. So we moved again, across the street into the new one. Moving is no treat for anyone, but it was fun for me, because it meant the third house could be started.

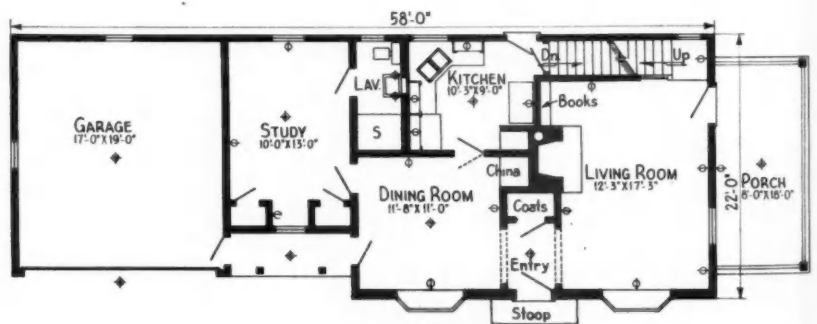
"One week after we moved in, the real estate man called for an appointment to show the new house to an admirer. We asked them to wait until we were better settled. In another week they came, and shortly after that they bought the house. However, we did not have to move for a

couple of months anyway, so I had the pleasure of planting many flowers all around the Cape Cod, and it looked lovely when we moved out.

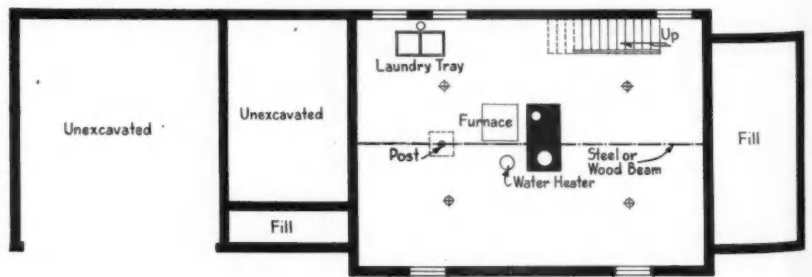
"House No. 3 followed speedily, and before house No. 4 was planned even Mr. Heidelberger caught some of the fever which brought about the first three. Although he is employed as an electrical engineer, and is a busy
(Continued to page 98)



SECOND FLOOR PLAN



FIRST FLOOR PLAN



BASEMENT PLAN

FLOOR PLANS of above design provide unusual six-room layout which can be made "extensible" as indicated on the opposite page; notice excellent closet and storage space on second floor.

How to Change a Plan for "Extensibility"

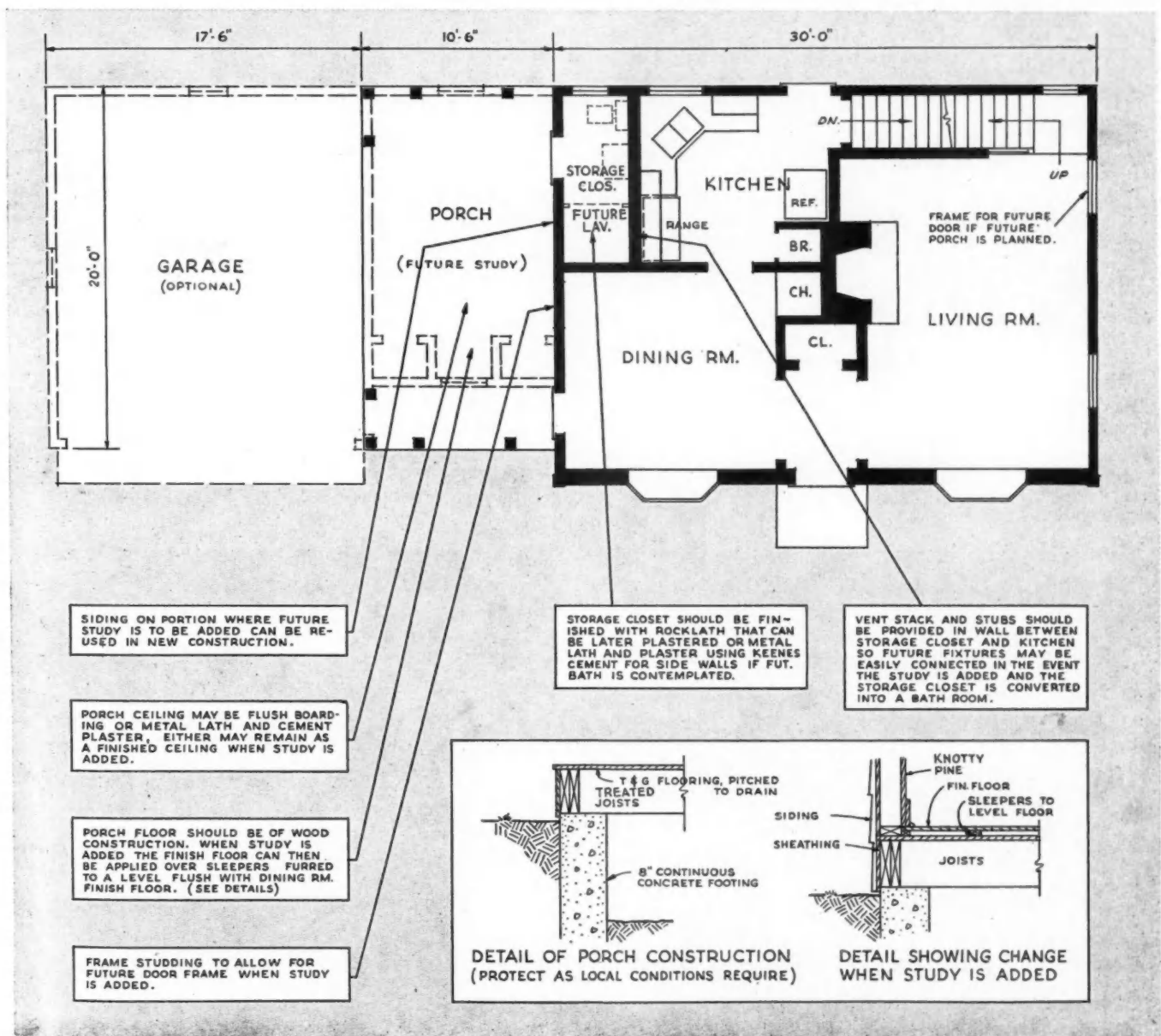
Another example of American Builder's planning technique that provides for later refinements and extra facilities while offering adequate living under present conditions

TO demonstrate the replanning technique that changes a livable, larger sized design into one that offers adequate housing today while requiring no more critical material than some minimum houses being built, and still offering a house that will later be "extensible," the plan below is presented. Architect Elmer Gylleck of Chicago was commissioned by *American Builder* to redesign the attractive Heidelberger house shown opposite as a smaller version that would retain as many of its good features as possible while providing a plan that later can be completed with a minimum of change. Here is how today's necessities can be met and still provide a hedge against thousands of cramped,

poorly built "dog houses" which will be thrown on the market when the war is over—all without waste of material and labor.

It will be noted that the two-story section of the house on the opposite page is as compact as could be desired—no waste hall area, stairs at end of living room and all corners and space around dormers used as storage. This section alone provides a good five-room design. The problem then is to eliminate temporarily the porch and garage and change the present study into a porch.

The only major change within the body of the house is the conversion of the first floor lavatory into a handy
(Continued to page 97)



←THE design opposite is adapted to today's market but planned for future changes; drawn by the Architectural Drafting Service, Chicago.

More WAR Homes Under FHA Title VI

"FORGET VALUATIONS—get houses built," OPM tells FHA. New liberalized terms will speed work by private builders.

5% DOWN PAYMENTS URGED. New FHA Title VII a possibility to stimulate privately built homes for rent.

AUTO FINANCE COMPANIES asked to use idle millions to finance down payments

By Joseph B. Mason

UNDER the pressure of the war emergency, sharp and drastic changes in FHA operations are under way or will shortly be made.

Most important is that from now on emphasis will be placed on Title VI defense housing with a great increase in the number of homes built for rent or to be sold on a rental-purchase plan.

So strong is the pressure for war-time housing under Title VI that Title II operations of FHA are expected to taper off sharply.

The bulk of private building, government officials are insisting, must be done through Title VI—and done fast.

In fact, OPM and the Housing Co-ordinator's office are said to have told FHA to get real action by private builders under Title VI, and get a sizable volume of houses built by the end of June, or else—!

"Forget valuations and get houses built," is what FHA has been told.

Since FHA's failure to recognize the increased cost of construction in house valuations has been the principal stumbling block to getting more homes built, this matter is of the highest importance.

Will FHA fully recognize local increases in building

costs? Time alone will tell. If it does not it is obvious that private builders cannot function under Title VI.

On January 9, Abner H. Ferguson, FHA Administrator, announced that "adjustments are being made immediately in FHA construction cost estimates in local areas, in relation to actual building costs, where increases in costs are stabilized and adjustments are justified." This legalistic and obscure phrasing left private builders somewhat in doubt, and later it began to appear that what FHA had in mind was an allowance of 5 per cent increase. Such an allowance would be of small value to builders in many areas where their actual costs have increased from 10 to 20 per cent.

The only recourse private builders in defense areas can have—if the local FHA office does not recognize actual local building costs—is to take their complaint direct to Charles F. Palmer's Housing Co-ordinator's office. Complaints properly backed by full statistical support should be addressed to Frank A. Vanderlip, whose job it is to stimulate privately built war homes. His address is Division of Defense Housing Co-ordination, 1600 Eye St., Washington, D.C.

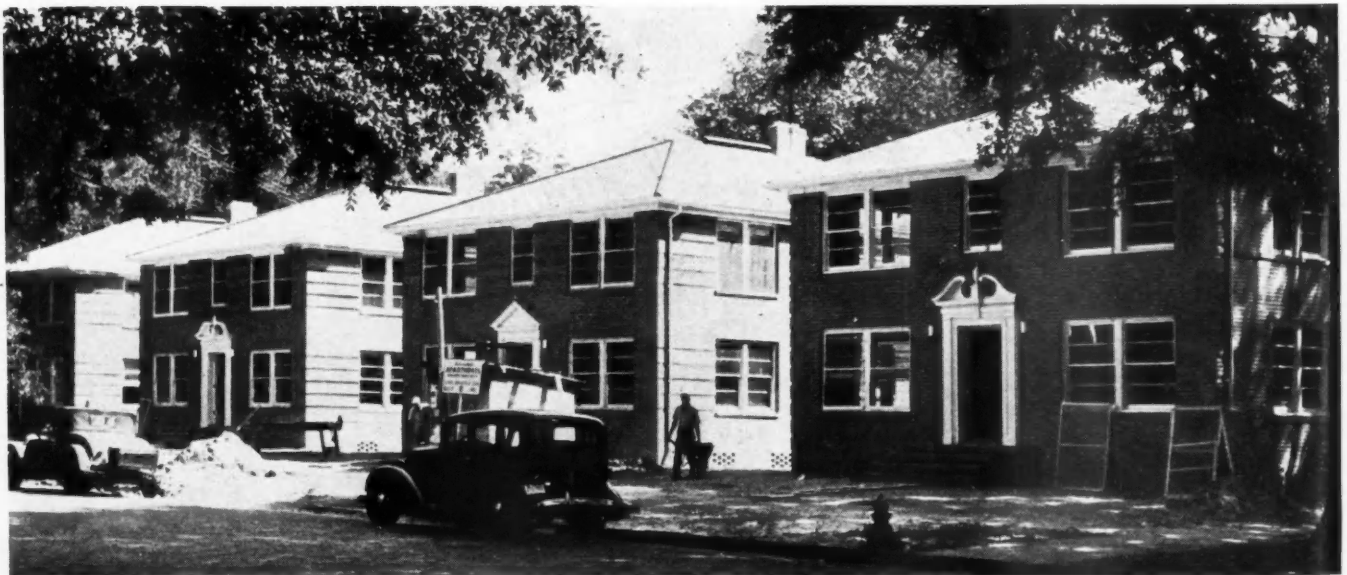
To further stimulate construction of war houses by private builders, further drastic liberalizations are probable. These would include lower down payments, lower interest rates, a 25-year amortization period and an increase in mortgage loans permitted under Title VI from \$4,000 to \$5,400.

A new Title VII has also been discussed which would embody these provisions. The above changes or a new Title VII would, of course, require Congressional action. However, if Co-ordinator Palmer and FHA Administrator Ferguson agree, and get OPM's approval, such changes could be put through Congress in short order.

Title VI Changes Already Announced

On January 9, Administrator Ferguson announced several highly important changes in Title VI to step up private war home building as follows:

1. Adjustments in FHA construction cost estimates to conform to present building costs.



RENTAL HOUSES by private builders expected to increase under liberalized FHA Title VI plan. Shown above are McCall Apartments in Jacksonville, Fla., consisting of ten 4-house units built under Title VI. Rents are \$42.50 per month.

2. Elimination of accelerated amortization provision of Title VI during first five years. This change has the effect of reducing monthly payments during the first five years by about 11 per cent.

3. Extension to 30 months of the period in which builder can turn mortgage over to an approved borrower without re-examination. This means the builder has 30 months instead of 18 to collect the down payment, and permits him at the end of 30 months to get his name off his firm commitment.

4. Change local FHA construction requirements to permit use of alternate materials in place of those not available.

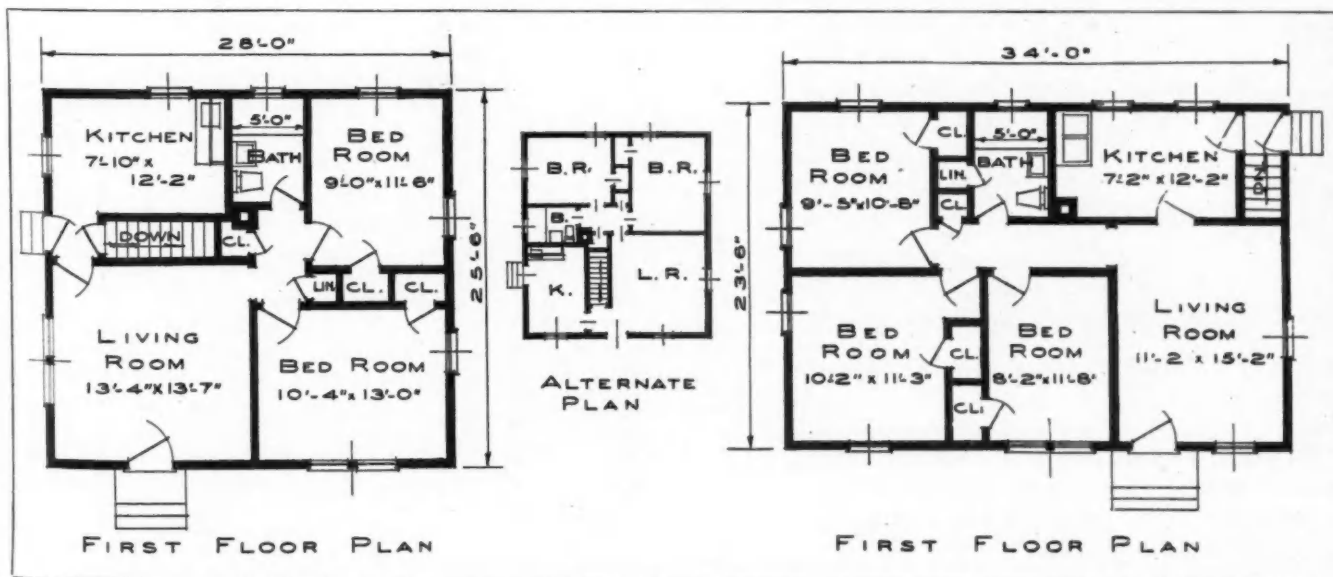
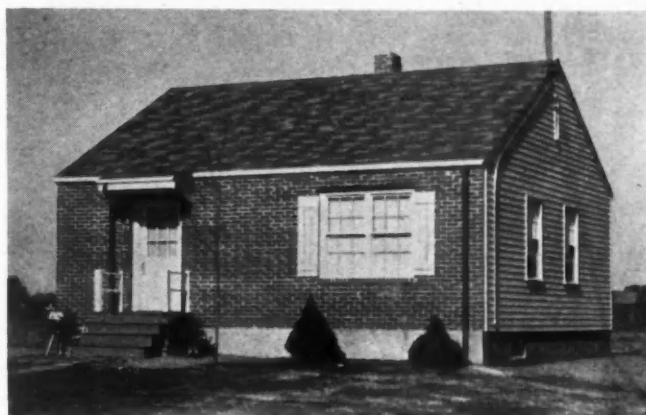
What MAY Be Done

1. Raise Title VI mortgage ceiling from \$4,000 to \$5,400.
2. Twenty-five year amortization of Title VI loans.
3. Lower interest rates.
4. Down payments reduced to 5 per cent.

As this issue goes to press there is no certainty as to how many of the above provisions may be put into effect. An act of Congress is required, but the emergency is so great that unusual speed may be expected, providing Palmer and Ferguson take the initiative. FHA's Title VI as now set up operates under a separate mortgage insurance fund, backed by \$10 million advanced by RFC. Thus, any losses that might result from the emergency housing built under it would not affect the main FHA mutual mortgage system reserves.

Private builders point out that when houses are needed, this is the way to get them built, and without delay. However, FHA's whole concept of mortgage operations would have to change, since the emphasis has been—and rightly so—on long-term security. The
(Continued to page 74)

TYPICAL Title VI houses built by Campagna Sons in Milbrook Park, East Hartford, Conn., for war workers. They are sold on a rental-purchase plan with very low down payment. Two hundred are nearing completion; 1,000 more are planned.

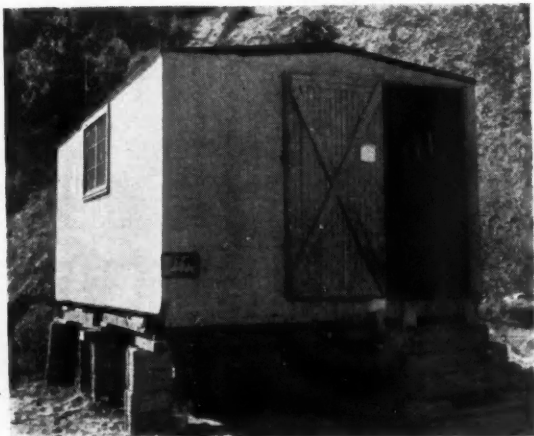


TWO BASIC PLANS by Architect Louis Kurtz serve entire Milbrook Park Title VI job with minor variations. By reversing and facing towards street some variety is achieved. Plan at right may also be turned long way to street.

TOBIN'S PORTABLE wood-working shop, showing planer, bandsaw, grinder, workbench. Shop is mounted on old truck wheels and is hauled from job to job. Trim, millwork and special home details are done here.



BUILDER HERBERT TOBIN on the job in front of portable three-room office at site of development.



PORTABLE TOOL SHED showing chassis of old truck wheels.

"No trouble whatsoever in getting home materials and equipment here," says Herbert Tobin. "We have a priority rating, but we don't need it."

How ingenuity and smart ideas get results in 72-home project for war industry workers.

Shops on Wheels Speed Tobin's Defense Homes

Brookline, Mass., builder brings cost down by extensive use of power equipment. Woodworking and sheet metal shops moved from job to job

By Robert B. Konikow

IN THE Boston area a smart father-and-son building team is erecting and selling small houses to meet the demands of war industry workers.

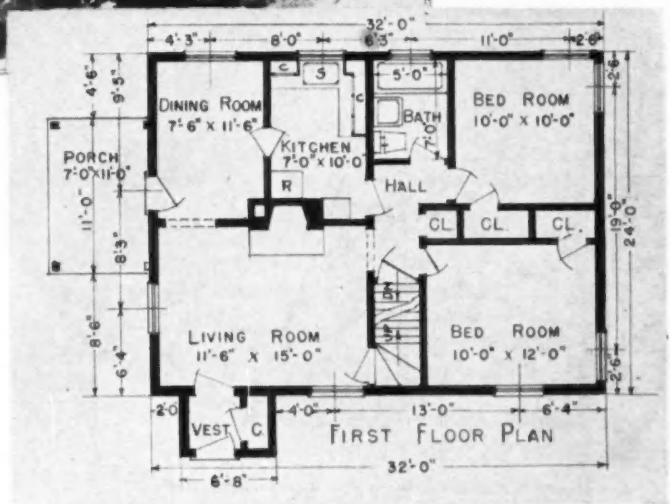
In doing so, they are employing new ideas, methods and equipment that are attracting much attention.

Father Frank Tobin was originally trained as a lawyer and has charge of the financial, legal and selling end of the business. Son Herbert Tobin is a Harvard graduate with a flair for practical planning and hard work. He has charge of the actual construction.

Having completed and sold out their 16-house Belmore Park project late in 1941, they immediately started work on a lower cost defense housing job in Waltham, where they have lots and options to take care of 72 houses. According to Herbert Tobin, the war had had little effect on their material supplies as late as the middle of January. "We have had no trouble whatsoever in getting materials and equipment here," he said. "We have a



SKETCH AND FLOOR PLAN of Tobin's newest model home for war industry's workers in Waltham, Mass., area. Many new ideas contribute to lower costs, quick erection.



priority rating, but we don't need it."

The Tobins are bringing to their new defense housing the ingenious methods they perfected in Belmore Park, including the use of "motorized" workshops, offices and tool sheds. They use a "stagger" system of crew control that is unique and effective. This enables them to keep a crew of 28 men busy all year round.

Briefly, the stagger system sets up a work schedule so that crews follow each other from house to house in a well planned sequence, each crew specially trained in special operations at which they are most capable.

The entire frame of a Tobin house is cut in the shop and on the ground, and when the Tobins say "entire" that's just what they mean. Every piece, including the headers and stools for the windows and doors, is cut to length before the framing is started. The roughing gang consists of seven men. These are able to erect the frame and have it completely boarded in within two days and two hours working time. The wood has been cut so carefully and completely that they hardly touch a saw. Laborers bring in the lumber, apprentices put the pieces in position, the boss carpenter checks the work, and the nails go in. The crew then goes on to the next house and cuts another frame.

Two of this roughing crew on the Belmore houses were specialists on garage doors. Laminated, upward-acting doors were used. Only the hardware was bought. The doors themselves were made on the lot from rough stock lumber. When the frame was up, these two specialists stayed behind to build and hang the door, a job that took them just one day. They then rejoined the framing crew.

Only four subcontractors are used by the Tobins—plumber, electrician, lather and plasterer. All the other work from the first excavating to the final landscaping is done by their own men. Their outfit is almost entirely self-sufficient.

Their self-sufficiency revolves around four portable buildings. Each is 14' x 28', and built so that they can ride on a chassis made of old truck wheels. The bulldozer

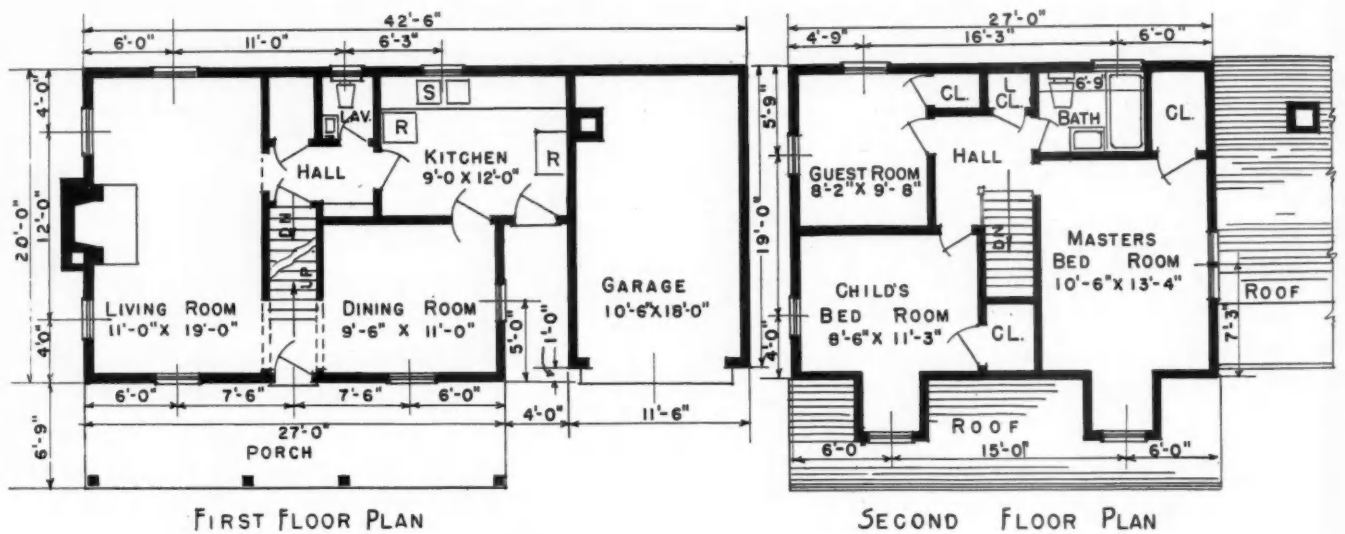
can pull them, one at a time, through the streets from one job to the next, although a special permit is needed, due to their size. On the job, they are placed where most convenient, and can easily be moved along as work progresses. One is a general tool shed, illustrated, while a second is a three room office.

The other two are practical workshops, one in wood and the other in sheet metal. The woodworking shop, the interior of which is shown in the accompanying picture, handles all inside work in the houses. An expert woodworker has been placed on the full time payroll, and he makes all the cabinets, as well as mouldings, stair stock, mantelpieces, and other interior finish. By care in the selection of designs, almost any of their jobs can be handled with this limited amount of machinery. As a matter of fact, the photograph shows all the machinery in the shop with the single exception of a vertical power drill used for mortising. Thus, buying only rough stock, they can have variety in design without an undue amount of waste.

The sheet metal shop has been equipped similarly to handle their requirements. It has a 36" shears, a 30" folder, an 8' steel brake, a crimper, a beader, and a spot welder. This enables them to do all the sheet metal work needed, including even the duct work. As an example of the savings possible, the Tobins make all their own timber hangers from strips of sheet metal. They esti-



MODERATE PRICED HOME in Tobin's Belmore Park project near Boston, which was completely sold out at end of last year. Garage doors, shutters, trim and decorative details were built in "shop" on wheels" on job.



mate the cost of these as 10c each against 40c when bought ready made.

A great deal of linoleum is used throughout their houses: on kitchen counters and floors and bathroom floors and walls. One man specializes in laying this linoleum. This takes up most of his time, and he helps out wherever needed for the rest of it. The payroll includes other specialists as well. One man directs the landscaping. Another is a mason, and there are painters, a cabinet maker, bulldozer operator, and others.

Matching this skilled labor is the modern equipment used throughout. Well-known materials, with familiar trade names, not only have proven their quality and reliability, but help to sell the houses by impressing upon prospective buyers the value built in. DuPont DuLux paint is used inside, with 50-50 White Paste outside. Standard plumbing fixtures, Hardwick stoves and Forest Fleece insulation have been selected.

A prospective home owner is always interested in heating methods and cost, and the Tobins are able to put forward an unusual guarantee. Written into the sales contract is a clause to the effect that heating costs will not

exceed the official estimate of the Gas Company. The model used is an AGP gas-fired forced air heating unit, Model HL-80, with filters of spun glass. Careful construction assures low heating costs. Experience has shown that actual costs drop below the estimate. One Belmore house of 18,400 cubic content had an estimated fuel charge of \$135. The actual bill for the first year was only \$112, and this will probably drop to \$90 the second winter.

Since they do so much of their own work on the lot, the Tobins have acquired a good deal of equipment. In addition to the tools in the two portable shops, they

(Continued to page 74)

LAWYER-TRAINED FATHER and Harvard-educated son team up to bring ingenious construction system to low-cost home field. Crew kept constantly employed through "stagger" system. All materials pre-cut. Sheet metal shop on job greatly reduces cost of duct work.

Government Revises Its Estimates for 1942 Defense and Non-Defense Construction

CONSIDERABLE revision of building program and figures for this year's construction job has been made by federal authorities and statisticians in Washington following the declaration of war on December 8. The revised estimates, showing a considerable shrinkage in residential building and a very large increase in military, naval and industrial construction, as compared with 1941 figures, were revealed on January 14 by S. Morris Livingston, Chief, Construction Unit, Dept. of Commerce, in addressing the Associated Equipment Distributors at their Chicago convention.

He said:

Like everybody else, the producers and distributors of construction equipment are going to have plenty of problems in 1942, but the war is not going to drive them out of business.

In spite of a drastic curtailment of some types of projects, total construction in 1942 will approximate the 1941 level. The general direction of the changes will be toward projects which require more rather than less equipment.

Residential Building

The total volume of residential construction in 1942 will depend largely on government policy with respect to allocation of critical materials for this purpose. Housing priorities have been limited to 200,000 privately owned plus 100,000 publicly owned dwelling units. This limit, however, was not applied to any specific period of time and there has been a general understanding that when these quotas are exhausted, consideration will be given to the desirability of raising them.

By the end of 1941 applications had been approved for priority on all of the public and about one-half of the private quota. At the rate applications are being received most of the balance will be exhausted before the end of the first quarter. By that time a decision should be reached as to the housing requirements in critical areas and their urgency relative to the other needs for the essential critical materials.

In considering the possibility of curtailment from the 1941 level of residential construction we need to bear in mind that activity last year was at a relatively high level and that several influences are at work which make this curtailment easier.

The high marriage rate, which has been induced by favorable economic factors and by the war, may continue in 1942 but war service will hold the increase in *housekeeping* families to well under the level reached in each of the last two years. Of the other sources of demand for housing, the large migration to war production areas will continue but "undoubling," where two families were living in one dwelling unit, will be less important than in 1941.

To meet these smaller housing requirements, there will be even

NEW CONSTRUCTION ACTIVITY: ESTIMATES FOR CONTINENTAL UNITED STATES (in millions of dollars)

	1940	1941	Forecast 1942
Total New Construction.....	\$7,268	\$11,000	\$10,700
Total private	4,551	5,430	2,800
Residential building (non-farm)....	2,472	2,800	1,200
Non-residential building	966	1,190	450
Commercial	353	330	150
Industrial	428	600	200
All other	185	260	100
Farm	468	540	500
Public Utility	645	900	650
Total public	2,717	5,570	7,900
Residential building	207	500	600
Non-residential building	503	1,670	2,550
Industrial	129	1,300	2,300
All other	374	370	250
Military and Naval	450	1,700	3,500
Highway	945	1,000	700
Other public works	612	700	550

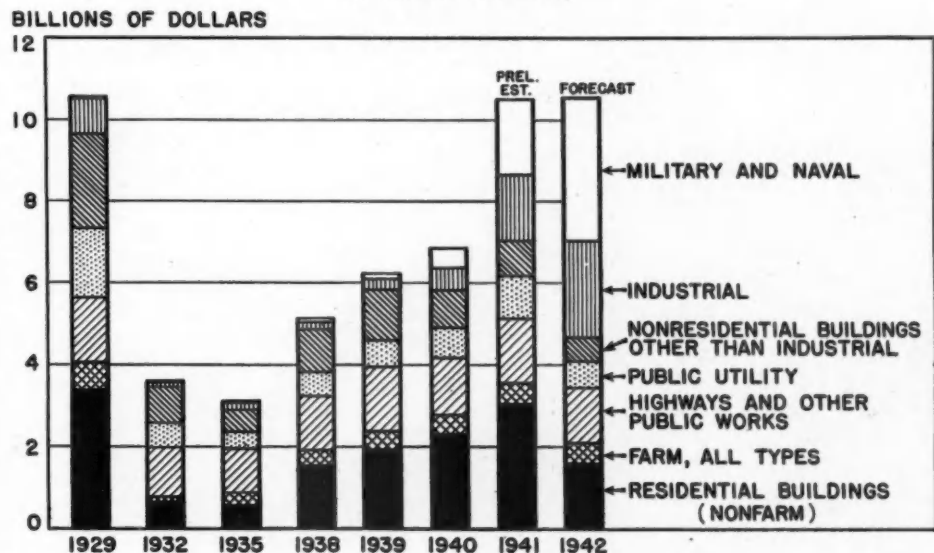
Bureau of Foreign and Domestic Commerce, 1/12/42

more conversion and rehabilitation of existing structures than in 1941, a greater use of light housekeeping units, trailers and other alternatives to new construction. There is room for some further decline in the number of vacant dwelling units. Taking all these factors into consideration, new residential construction could be held to the neighborhood of 60% of the number of units built in 1941 or somewhere between 400,000 and 500,000 units without creating a degree of hardship which is out of line with the war effort. Probably 500,000 units, as against 700,000 in 1941, is the most that we can expect. If there is no addition to the priorities quotas the total might be less than 300,000 units, with a sharp decline in activity in the last half of the year.

(Continued to page 98)

ESTIMATED VALUE OF CONSTRUCTION ACTIVITY BY TYPES IN CONTINENTAL UNITED STATES

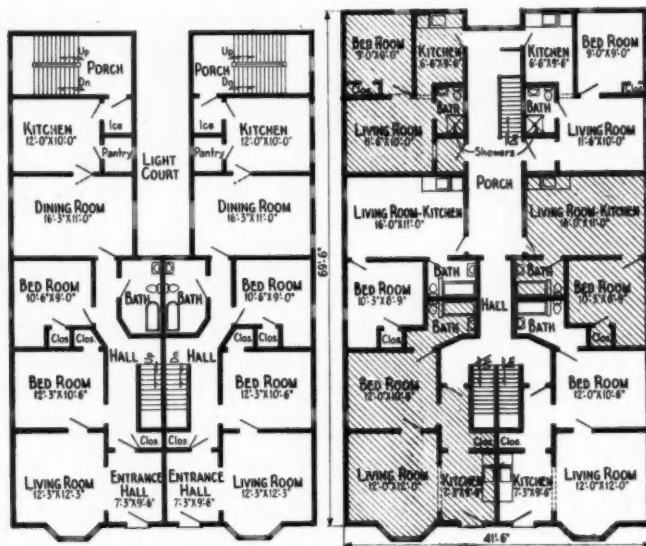
(U. S. DEPARTMENT OF COMMERCE)



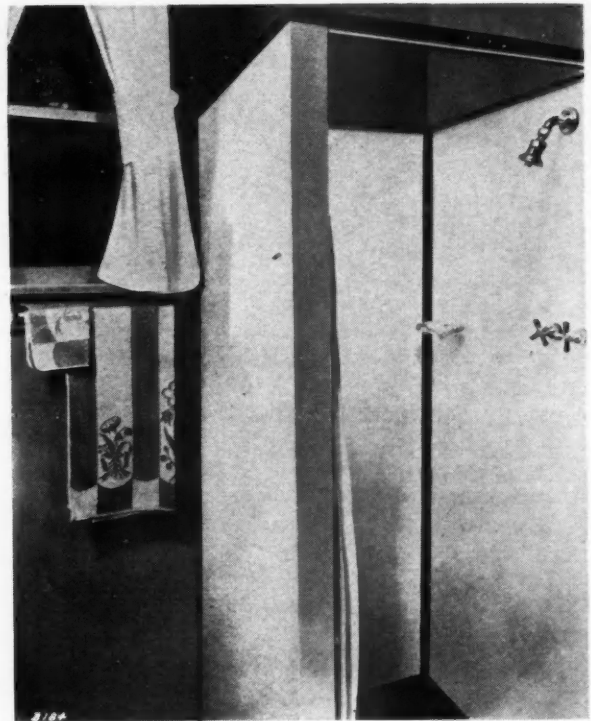
Four Large Apartments Now Twelve Small Ones

WASHINGTON housing authorities estimate that during 1941 a total of 135,000 housing units were added to the nation's supply for war industry workers by converting and remodeling old homes and apartments into smaller family units. More are asked for 1942.

A very good example of this type of work is the Mulberry Apartments in Toledo, O., which were recently modernized under the direction of the Boatfield Real Estate Corp. This old, two-story, four-apartment building was habitually only partially occupied and not able to make its taxes and operating expenses. By adding three feet to the back of the building and changing the light court to a commodious inside back porch, giving access to the rear apartments, this building has been changed into a paying proposition. The changeover of partitions from the old arrangement to the new involved surpris-



SECOND floor layouts show old arrangement (left) with two large apartments on each floor and (right) the new layout of six small apartments, each with private bath.



SHOWER BATH cabinet needing a space only three feet square solves the problem of new bathroom in limited space.

ingly little change. The old six-room units were easily re-divided into three units, two of them having three rooms and bath, the other, two rooms and bath.

Bathroom modernizing is usually one of the key features to successful conversion jobs. The bathroom handling here is particularly interesting in the way the two old bathrooms and two inside halls were changed into four bathrooms with one hall. Then for the rear apartments the very compact shower bath type of bathroom was installed, utilizing the Weisway shower cabinets which are a complete, self-contained and leakproof unit, going into space only three feet square or less. In reporting on this job the builder states that these shower cabinets were easily installed with no underpanning required, no double drainage drain or no special

treatment of building walls or floor. They make a fine appearance as shown in the photograph and the tenants seem to prefer them. In fact, the rental agent reports that these shower-equipped units were the first ones rented.



MULBERRY Apartments, Toledo, O., remodeled to make twelve small modern family units out of four large old ones. New apartments in demand by war industry workers.

Tomorrow's Greatest Educational Need!

Formal Training for Building Industry Careers

By Arthur A. Hood

Dealer Relations Director, Johns-Manville Corp.

ONE OUT OF EVERY FIVE male babies who enters this modern world will eventually earn his livelihood from some phase of the wide flung shelter industry.

Another in each four or five will find a career in the production and distribution of food.

The latter as he grows to manhood will find awaiting him in every state and Canadian Province specialized college training in agriculture just as his father and grandfather were afforded.

The former may find it necessary to acquire the techniques of shelter production and distribution largely in the school of experience as his father does today.

And yet, because the potential human consumption of food (our largest industry) is limited, while that of housing is unlimited, the field of shelter presents career opportunities far exceeding any non-professional vocation—*providing the technical skills essential to success are acquired.*

This proviso presents simultaneously to education its greatest unfilled need, and to educators their greatest unrealized opportunity.

The purposes of this paper are: To detail the need; to portray for educators this specific opportunity; and to project certain steps to fulfillment.

A SPECIFIC MANPOWER SHORTAGE

There is a demonstrable existing unfilled demand in the housing industry for at least 100,000 properly trained marketing employees and another 10,000 properly trained sales executives. This shortage has existed since the beginning of the great depression and will continue to exist until the formal educational facilities of the country undertake to meet this great problem and need.

If our colleges and universities will graduate young men and women with the proper mental equipment for building industry careers there are actually thousands of jobs waiting for them at starting salaries averaging \$125 per month and with excellent opportunities for rapid growth in incomes.

The pre-defense decade witnessed thousands of young people graduating from our schools who could not find placement and who were added to the ever growing ranks of the unemployed.

When peace again comes, this unemployment condition will be greatly aggravated. What room will there be for the inexperienced college graduate of the classes of '44, '45, '46, '47 and later?

Yet in these very years of the immediate post war period the need for trained building industry personnel will be greater than ever.

It would seem, therefore, that our leading educators should analyze most thoroughly this great need, and prepare to supply it, for five reasons:

A. Because the basic motive of education is to train minds for maximum service to their and future generations.

B. Because of the moral duty of universities to meet the need for trained manpower in a field which can be supplied only by a college education.

C. Because of the obligation of a school to find placement, whenever possible and practical, for its graduates.

D. Because of the fact that the professional type of training required by the building industry cannot be adequately covered by any other than a college program of study.

E. Because of the exceptional opportunity to be of service to the youth of this generation, to education, to the free enterprise system and to Democracy.

To anyone studying this problem, the question naturally arises, "Why does the building industry present this unusual manpower shortage and exceptional opportunity?"

THE VITAL IMPORTANCE OF THE BUILDING INDUSTRY IN OUR ECONOMIC LIFE

There is one thing upon which all economists—public, private and academic—agree, i.e., that the basic hope for a solution of the major unemployment problem we will face at the end of the war is to be found in a widespread expansion of the building industry.

The way events are now shaping up, it appears that the emergency of peace-time readjustment will be even greater than the present unlimited emergency of war.

War is a *production* emergency and we have shown that we *know* how to produce.

Peace is a *distribution* emergency, and, with all of our progress, we have not as yet learned how to distribute the plenty that we can produce—as witnessed by the pre-war chronic unemployment problem of some 11 to 13 million idle employables!

After the war, with the dawn of peace we will be faced with the necessity of transferring some 23 million men engaged in the war industries from war production employment to peace time production and distribution employment.

The solution of that problem may become the greatest single crisis our peoples will have to face in all history.

The economists tell us that—if we could fit into individually owned homes, with garden plots, the 15 million families in the United States who do not own their own homes; if we could rehabilitate and improve the 100 million existing structures of all kinds in our country; and if we could develop our farm building program, which is but 25% efficient, to top efficiency—we could probably solve this promised post-war unemployment crisis.

If we can solve unemployment and provide a proper basis for a balanced budget in a profit economy, we can preserve private business enterprise and our American democracy.

On the other hand, if private enterprise cannot solve the unemployment problem without inflationary government subsidies, the bureaucrats will take over.

The American people are determined that we are not going into another depression nosedive caused by, and contributing to, unemployment at the end of this war.

We can solve unemployment in a profit economy by the production of more at less cost to the consumer if we can

provide at the same time higher wages and fair profit; and by dynamic distribution through more creative merchandising.

We can simultaneously balance the budget, production and consumption, and solve the unemployment problem if we can develop a non-subsidized consumption continuously equivalent to the total cash savings which are not currently finding productive investment.

The building industry can provide that non-subsidized consumption and it is therefore more specifically challenged to provide adequate and effective distribution, planning, action and results than any other industry.

Economists right and left for a score of years have pegged the building industry as the key log in the unemployment jam;—even Mr. Hitler has announced home building as his first-line plan for the translation to a peace economy after an imagined victory.

We cannot deny that there is a definite relationship between unemployment and unused cash savings and credit.

It is equally true that continuous use of our accumulations of cash savings and credit potentials in labor-creating and wealth-creating consumption would bring full employment to employables.

Nature has provided an element which disproves the old saying "you cannot lift yourself by your own bootstraps" nor "eat your cake and have it too."

Radium gives off energy and benefits mankind with but infinitesimal losses to its structure.

The building industry—especially the field of home building and other small construction—can do the same thing for our economic structure.

For when you build a home or make a needed structural improvement, you haven't spent your money in the ordinary sense; you have simply changed the form of your wealth, and at the same time have benefited the national economy by the employment created as a result of your investment.

DYNAMIC, WEALTH CREATING ACTIVITY

Dynamic distribution of individually owned housing is a form of capitalized consumption—labor creating investment in tangible wealth.

There are no known limits to human wants—to the craving for a higher standard of living—and therefore there are no limits to the public capacity to absorb improved housing. This is a dynamic wealth-creating factor which, when properly organized, could continuously utilize all surplus employables.

If by any chance we could create an *additional* two billions of dollars in small construction sales annually (contracts ranging from \$1.00 to \$20,000 in the fields of home building, structural improvements, and farm building), and utilize uninvested cash for this purpose, we would benefit our economy without depleting our savings or diverting consumption from competitive industries (thus eating our cake and having it too).

Like radium, individual home construction for private owners gives off the beneficial rays of expanded purchasing power without depleting existing wealth.

No other industry could therefore possibly contribute as much to the solution of our post-war unemployment problem as the small construction industry.

A group of economists recently expressed this idea in specific terms by stating that, if the building industry could be built to peak of efficiency in the post-war period, the difference between the normal functioning of the building industry and such peak efficiency would mean the employment of 1,600,000 additional men for a period of ten years.

EFFECTIVELY TRAINED MANPOWER THE BARRIER!

The existing shortage of trained marketing manpower and womanpower in the distribution channels through which this volume of labor and materials must flow is the barrier to the accomplishment of this vital objective.

The products of the small construction industry consist of hundreds of small packages of building material and labor, wrapped into consumer-service units such as houses, barns or structural improvement jobs.

These packages are distributed to six major markets (with a total annual sales potential of at least seven billions of dollars): the custom-built new home market, the ready-for-sale house market, the home improvement market, the farm market, the commercial improvement market, and the miscellaneous housing merchandise market.

The housing industry is securing less than half of its potential in distribution because it is reaching (generally speaking) but one class of consumer sales in most of our 3000 counties—the *walk-in* business. Why?

It is generating insufficient *creative* sales because it has no scientific national package sales planning, no scientific market analysis, no package sales quotas, few package sales display rooms, little package advertising and promotion, and no package identification or responsibility.

The few exceptions do not materially affect the *picture* except to indicate what might be done if we had adequate and properly trained personnel. Hence, education is the first step in solving the problem.

Our economists tell us that 41c of our consumer dollar is paid to production, and 59c to distribution; and yet our distribution is inadequate to move what we can produce into consumption and solve our unemployment problem. As long as this condition remains, our most important business problem will be *retailing*. And it is in effective retailing that the building industry is weakest.

We have too few competent retail merchandising establishments, no uniform consumer merchandising practices, no adequate sales and promotional equipment, and must contend with auctioning of local supplies and services, frozen distribution channels, pressure on price because of obvious wastes, pressure on quality because of pressure on price, jerry-building, insufficient volume, and unsatisfied consumers.

Generally speaking, our small construction packages are manufactured by an under-financed carpenter-turned-contractor who has few efficient manufacturing facilities and few tools, and who will seldom take advantage of scientific design and construction standards. He in turn usually has to contend with inefficient sub-contractors, uncoordinated fabricating and assembly procedures, inefficient estimating and specification writing, half-capacity operation, inter-union difficulties, archaic building codes, spasmodic employment and day labor competition which puts a premium on unscrupulous practices.

Even if he can overcome these drawbacks, he has no way to identify the quality of either his materials or his workmanship.

Because we have had no central integrating force in the industry, we have been unable to secure the benefits of nationally coordinated design, correlated engineering, streamlined production and distribution, and the invaluable asset of research in local package production and distribution.

The inadequacies of our executive and employee manpower are no fault of the individual—they are the result of an educational system which has grievously neglected the basic field of shelter.

The individual has no place to go to get comprehensive training in the design, production, distribution, fabrica-

tion, assembly and consumer sales of the products and services of the building industry in *either* material or package form!

There is no academic source of adequate training for management, salesmen or package-building mechanics in the shelter industries.

THE NEEDED ADDITIONAL CONSUMPTION WILL NOT BE SELF-GENERATING

Under these conditions, but few of the 15 million families who do not own their own homes are going to knock on the doors of the industry and voluntarily request to have homes sold and delivered to them.

The property owner whose property could use a modernization program is not going to make other than vitally necessary repairs without being educated to his need and the advantages to him in improving his property. Likewise the farmer is not going to approach the building industry voluntarily and say, "Fit my farm with the logical number of adequate buildings to bring it to top efficiency" without someone handling the educational program farm by farm.

The problem is basically a distribution problem, and such a distribution achievement is a long process of consumer education by adequately trained merchandising personnel who do not exist in sufficient numbers at the present time.

Distribution may be defined as creating consumption, as selling, as merchandising, as marketing and as consumer education.

The meanings of all of these are very similar. What is needed is trained building industry marketing people who may be called salesmen, salesmanagers, merchants, merchandisers or distribution engineers. Adequate numbers of such people can only be had through an extensive and comprehensive education and training program.

The educational qualifications for a man and a woman to effectively handle the consumer contact work in the fields of new home building, structural improvements and farm building are so wide and so detailed that they are essentially professional in scope. They include understanding of the fields of architecture, real estate, materials and their utilization, marketing techniques, construction mechanics, business laws and finance.

The detailed program of study necessary would include scores of items as will be shown later.

Until recently the necessary informative material had never been accumulated in one place.

The whole building industry educational process has been haphazard, a matter of chance and completely inefficient. Men and women have spent half a lifetime acquiring knowledge as a by-product to earning a livelihood—knowledge that could be implanted in a few years of college work. The screening process under this condition has been terrific; 19 out of 20 who have started to make a career in the building industry have fallen by the wayside because they lacked proper educational assistance or were unable or unwilling to make the necessary sacrifices to organize and acquire the needed knowledge for themselves after their formal education was completed.

The industry is not only seriously short of manpower, but its existing manpower is sadly undertrained.

A TRAGIC SHORTAGE OF EDUCATIONAL FACILITIES

Even the most clear-sighted economists have apparently failed to recognize the basic reason why the small construction industry has not done the job for the country that it should. The reason is to be found in the

education required, and the lack of facilities for acquiring it.

The typical college or university graduate, no matter what his educational background and scholastic honors might be, is of little value in building distribution, and the process of training these post graduates in the building industry is long, arduous and often futile.

The difficulty is of course that the building industry is a highly technical vocation to master, and the average college graduate, in an understandable belief that he has received an education which fits him for life, strongly resists the necessity of acquiring the tremendously detailed technical knowledge of the building industry as a by-product to the daily post-graduate stint of earning a living.

This fundamental condition has caused an existing shortage of at least 10,000 capable small construction industry executives, and at least 100,000 capable small construction industry salesmen. This situation not only presents a challenge to the small construction industry leaders, but it is also a definite challenge to the educators of this country. (A similar and proportionately aggravated condition exists in Canada.)

THE ESSENTIAL DIFFERENCE BETWEEN BUILDING AND OTHER INDUSTRIES

To acquire a basic understanding of the educational problem involved, one must understand the essential difference between the building industry and other industries.

The average industry produces its products in central manufacturing plants serving an entire country or large areas of it. It prepares its packages complete, ready for delivery, within its four walls, and distributes the completed package through its channels of distribution throughout the length and breadth of the country.

In local retail stores consumers can buy the packages of most industries, manufactured elsewhere, right off the shelf.

What a totally different picture the building industry presents! In spite of two decades of research and expenditures of millions of dollars in attempts to centralize the manufacture of homes and other housing packages, there is no "Detroit" of housing. As yet there is no economic way to prefabricate homes and other buildings within the four walls of a factory and have them drop off the end of a production chain ready for distribution, occupancy and use.

Probably our generation will not witness the practical development of this pre-fabricated housing concept. It follows then that **THE BUILDING INDUSTRY IS PRIMARILY A LOCAL INDUSTRY**. This is the most important limiting factor connected with this problem because this basic condition governs all other considerations.

All business improvement comes from more effective organization—from coordination, integration and streamlining.

These are much easier to accomplish in a centralized national industry—the greater the centralization, the easier the control.

Next to agriculture, the building industry is the most *decentralized* of industries. The small construction industry is in no sense a national (centralized) industry—it is primarily a local (decentralized) industry—its consumption-package-manufacturing process is entirely local.

The organization genius and national business leadership which developed the production line and other basic economics, and which is so evident in most national industries, is therefore limited in the shelter industries.

The building industry is fundamentally a local industry of small proprietorships, and these are the very essence of the free enterprise system!

If college training has special meaning, outside of the professions, it should be to prepare graduates for small proprietorships through which they could get the greatest freedom and the finest opportunity for self-expression.

This makes preparation for building industry careers a logical objective for our educators and should generate universal enthusiasm among educational leaders for building an adequate program of study to solve this crucial problem.

The fact that the building industry is primarily a local industry means that not only the retailing of new homes, structural improvements and farm building must be done by local personnel, but the actual assembly, fabrication, construction and delivery of the home and other building packages is also a local production process.

For efficiency, the retailing and local manufacture of building industry packages should be centered in one management.

This local proprietor of the building industry must therefore be more than an ordinary retailer. He must have the capacity of a production executive as well. Here again is a condition requiring exceptionally thorough educational treatment.

To be successful this local building industry proprietor must master not only the attributes of a good merchant but those of a factory manager, financing expert, labor coordinator and teacher as well. He must organize locally all of the factors that contribute to the home package—the architect, the contractor, the sub-contractor, the building mechanics, the real estate and financial people concerned with small construction.

Further, our building industry merchant must be an educator because his employees, both men and women, are required to possess a high degree of unusual technical knowledge. The local salesman, for example, must know, in addition to all the things that any salesman must know to be successful, the following things:

- How to appraise real property
- How to analyze structures for improvement possibilities
- How to uncover necessary repairs
- How to sketch and measure improvements and repairs
- How to estimate building package selling prices
- How to visualize for the consumer who needs them building packages yet to be built
- How to write specifications
- How to sell on installment payments
- How to supervise construction jobs

Only through organized education and training can such capabilities be developed. Here then is the basic reason for the tremendous and crucial shortage of effective man and woman power in the building industry.

WHY SHOULD OUR COLLEGES AND UNIVERSITIES ORGANIZE EDUCATION AND TRAINING FOR THE HOUSING INDUSTRY?

First, because the small construction industry is second only to agriculture in its capacity to utilize the product of our educational system—the man or woman with a diploma in hand.

While the statistics available are not conclusive, it is probable that one college graduate out of every four outside of the professions will eventually earn his livelihood from some tangent of the building industry. This estimate is based on the Department of Commerce statistics that 7% of all employables are engaged in construction activities and that these do not include employees in the

manufacture and distribution of building materials.

When it is considered that there are 88 types of manufacturers in the building industry including such commodities as lumber, millwork, cement, brick and clay products, plaster, asbestos, glass, paint, insulation, hardware, flooring, etc., and that several of these types have thousands of manufacturing units, it is evident that another large percentage of our workers are in the field of building material production.

To these should be added all of those engaged in the distribution of building materials both wholesale and retail and those tens of thousands in the production and distribution of equipment items such as plumbing, heating, electrical materials and the various appliances that go into the field of housing.

In reality the building industry and its related industries in the shelter group, embracing the housing of humans, livestock, produce, machinery, business and culture, and incorporating the construction, operating and cultural areas of all of these structures, is probably our broadest basic industrial structure. It, potentially at least, exceeds even agriculture as an employment outlet!

Practically every state in the union has an agricultural college training people specifically for agriculture.

There is today an even greater need and an even greater justification for specific training in the field of shelter.

The second reason why our colleges should tackle this problem is because of the type of training required. While grade and high schools, in their manual training and business educational curricula, could approach the problem, it is only in the college area where the facilities exist to do the overall job. The curriculum required to train people for the building industry adequately is essentially a college problem, and no lesser school is equipped at the present time to adequately cope with it.

The tremendous and fascinating research possibilities in the building industry literally stagger the imagination. In the complexities and inefficiencies of the shelter industries material is afforded for a thousand research projects.

Because of the necessity of coordinating various independent and competitive groups in such research projects, it is highly probable that they will not be started until our universities undertake them.

In the third place the very preservation of our private enterprise system is dependent on our solving the unemployment problem at the end of the war, and as we have said before, all economists agree that an efficient building industry holds the hope of a permanent solution of this problem. We cannot have that efficient building industry unless our colleges and universities act. Therefore it is the patriotic duty of our educational leaders to take constructive action.

Furthermore, university people should tackle this problem in self-defense! If they do not do so, and we have more and more governmental control of our economy, the extension of this control to our educational processes will be inevitable.

The George-Deen Act and its present development indicates what *might* happen. Several thousand local teachers are conducting local schools of distributive education under government auspices and subsidized by the Government because both our industrial and educational leaders have defaulted in the past in providing the vitally needed education in selling, marketing and distribution. Continued default by industrial and educational leaders in this vitally important construction field may lead to further extension of this program.

But the clinching reason why our universities should embrace this problem is because of—

(Continued to page 100)

Modernization Tip— Extra Bath Gives Extra Room to Rent

An Easy Home Remodeling Project

"PRIVATE ROOM with bath" is sure to bring a quick response and a worthwhile increase in the family income in these days of housing shortage in the defense areas.

The modern bath is essential and here is a plan for creating a complete, compact bathroom in what would otherwise be wasted space. It utilizes the new Weisway "In-a-Wall" style cabinet shower, projecting it, along with the flanking linen closet, out into the garage space.

The job illustrated is in the home of Frank Maley, Goshen, Ind. The wall between bath room and garage was cut through and a platform was built up to the level of the bathroom floor to take the shower bath receptacle and complete bath cabinet assembly.

The inside finish of this bathroom is Marlite in plain color. The floor is linoleum and the In-a-Wall shower bath has a glass door. The built-in linen closet with four drawers and commodious shelf section is well handled. A venetian blind completes the modernizing job.

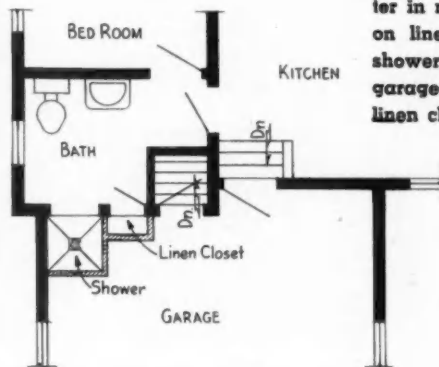
There are a good many houses that are not well equipped with bathrooms, even for the regular family needs. Many of these could make use of this In-a-Wall type of shower, even without the garage, by the simple expedient of projecting the shower cabinet out through any outside wall and adding necessary insulation materials to give the projecting structure proper protection from the outside cold.



PHOTO above shows carpenter in new bathroom working on linen closet alongside of shower. Photo below shows garage with shower stall and linen closet projecting.



NEW bathroom showing "In-a-Wall" style of installation of cabinet shower, which is growing rapidly in popularity.



NEW "In-a-Wall" shower cabinet projects out into garage space, thus taking advantage of this commodious unused area.

Advantages of Florida Apartment Colony Type of Planning Demonstrated

**Units within such groups as the Riviera Park, Jacksonville, Fla.,
laid out for privacy, coolness, light and view across water**

THE ten 4-unit apartment buildings comprising the Riviera Park apartment colony in Jacksonville, Fla., have proved very popular with the renting public, and I. Edelstein, owner-developer who pioneered in this type of apartment construction in the Jacksonville area, believes that the colony plan has a better future than most other kinds of large-scale rental housing in that area as well as in many other sections.

There are definite reasons for the public acceptance given the Riviera colony. For example, special care was given to the problem of coolness in summer and warmth in winter. All bedrooms are corner rooms, with windows on at least two sides. In many cases the bedrooms have windows on three sides, as indicated in the accompanying typical plans, thus assuring a maximum of cross circulation of air. The Miami plan of inter-room circulation has been followed whenever possible with respect to both bedrooms and living room-dining room combinations, and the larger units permit a complete flow of air through the living and dining room space.

Construction is of brick veneer and stone for summer coolness and winter warmth. A central heating plant in each building takes care of the winter heat problem as well as the year-round hot water needs. Full 9-foot ceilings in all rooms make for greater summer coolness, as does the intensive landscaping on all four sides of the buildings.

Another factor making for coolness is the distance between the buildings—at least 50 feet in each instance. This also makes for greater privacy—one of the cardinal aims pursued by the builder inside as well as out. This point will be gone into later.

The colony plan, believes Edelstein, is good almost anywhere, but is at its best where water frontage is available. The Riviera Park apartments are built five deep facing the St. Johns River, which at this point has a width of about four miles. This feature makes for cool nights as well as attractive surroundings, and Architect A. C. Hopkins, who designed the ten buildings in the project, made

sure that a view of the river could be obtained from the living room in each family unit.

Wherever possible, absolute privacy was assured in all the units. This objective has been achieved in all except a few of the 4-room units where it has been sacrificed because of closet space or cross-circulation needs. In about 80 per cent of the units, it is possible to enter through the rear and go to any part of the house without going through the living room.

The privacy angle has been stressed for the colony as a whole. Thus, each of the ten buildings has an entrance—either side or front—on a private street free from city traffic. This street leads to the river, and ends in a circular, well-landscaped turning park with a pier and pavilion at the end. Benches and playing space for children make the most of this private-park feature.

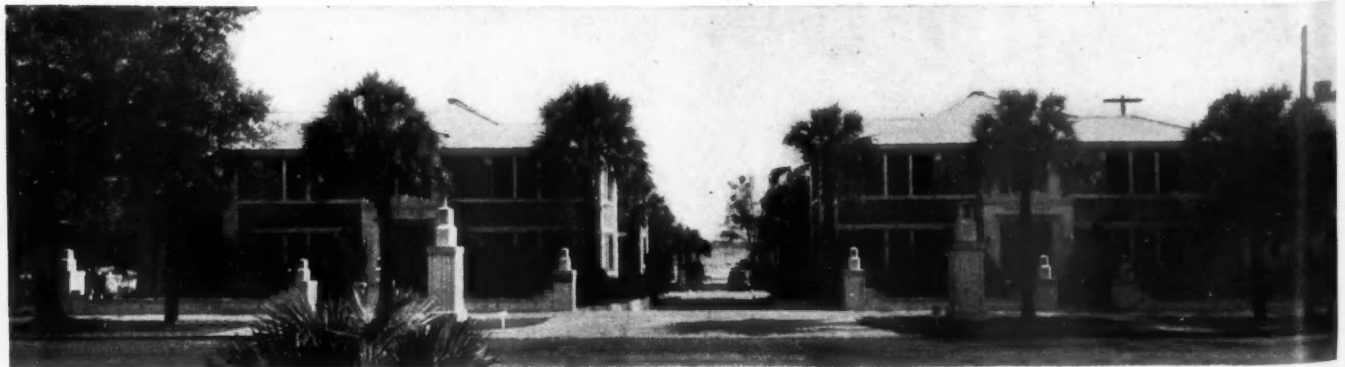
Waste Space Cut—Closets and Storage Increased

The buildings have been designed with a minimum of hall space, since this is usually dead space in a family-unit apartment building. On the other hand, care was exercised to see that each unit was fitted out with four or five closets, as lack of sufficient closet space is one of the commonest causes of dissatisfaction with apartment dwellers.

The garages are all separate from the main buildings but are easily available. A built-in four-car garage for each building would have penalized the dwellers in the lower units, hence the separate garages which give privacy and convenience to all alike.

There are no odds and ends among the 40 units comprising the Riviera Park colony—that is, no second-floor apartments put together because some extra space happened to be there. First and second floors are identical within the limits of building possibilities, and ceiling heights are the same for both floors.

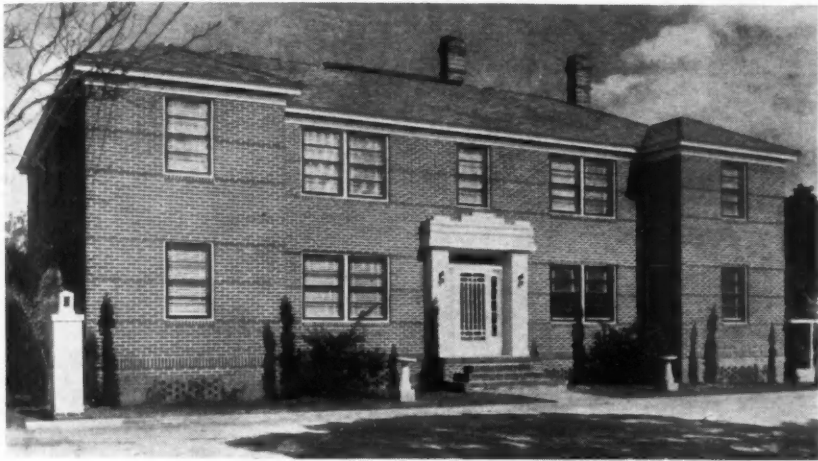
Beauty as well as utility has been sought in all ten of the buildings. Thus, modern designs in stone have been



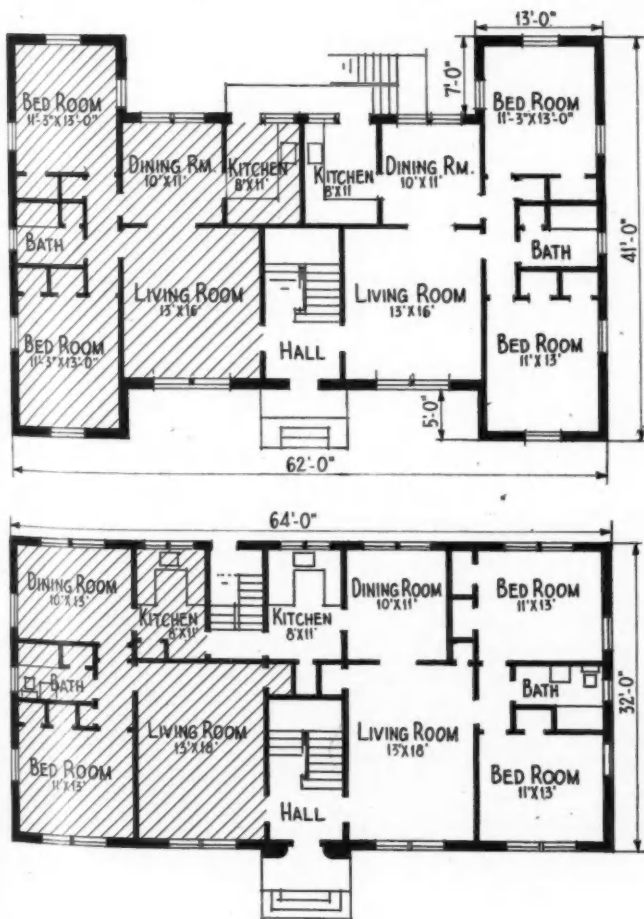
FRONT VIEW of the Riviera Park apartment colony in Jacksonville, Fla., developed and owned by I. Edelstein; in the background is the St. Johns River. The relation of the units can be seen here, individual buildings having been erected at various times.



LEFT: Typical four-apartment building, each with four rooms, having a plan similar to the one at the bottom of the page in Riviera Park Colony.



THE five-room four-apartment buildings like the one at the left have extending wings to give exceptionally good ventilation, with three windows.



THIS floor plan for the Jacksonville, Fla., apartment building shown directly above has five closets per unit, arranged around the bath. Architect A. C. Hopkins designed ten of these apartment units.

used for the front of each building, and distinctive pillars along streets and walks carry out the colony idea.

Modern mirrors were used throughout, and the hallways were furnished with pleasing mural decorations by an expert in this field.

The finishing touches in adornment were added by carefully selected lamps and interior hardware, grillwork doors, permanent harmonizing roofs and Venetian blinds.

No stinting was done on the interior, as all units have oak floors, tile baths and modern plaster work.

I. Edelstein built 25 apartment buildings in Jacksonville before embarking on the Riviera colony, which represents the largest venture of its kind in this area. He has been successful in his past enterprises, and brings an abundance of experiences in the development field to this new venture.

A. C. Hopkins is an established Florida architect with many outstanding buildings and developments to his credit. He has collaborated with Mr. Edelstein for quite a number of years, and has done much to improve apartment building standards in Jacksonville. N. M. Shepherd, artist and architect, drew the plans for the Riviera Park buildings.

PLAN for combination four- and five-room apartments is somewhat similar to the one directly above it, except that rear stairway is within the building. N. M. Shepherd drew the plans for Riviera Park.

NEWS of the MONTH

Builders Urged to Speed Housing

Washington Meeting of National Association Given Official Stimulus

TALKS by Raymond T. Cahill, of FHA; Frank A. Vanderlip, of the Housing Co-ordinator's office; and Kent J. Owens, of OPM Priorities, highlighted the meeting in Washington last month of the National Home Builders Association.

All of these men emphasized the important part private builders are expected to play in providing needed houses for war workers, and predicted liberalization of FHA restrictions and priority aid to help them get houses built quickly. The meeting was attended by representatives of home builder associations from Detroit, Philadelphia, Pittsburg, Harrisburg, Rochester, Boston, Indianapolis, and other cities.

During the three-day session the builders discussed priorities, home valuations, Title VI changes and called on government officials to take necessary steps to encourage private building.

Philadelphia was selected for the next meeting to be held March 24-27, and the Philadelphia Home Builders Association promised a fund of \$1,000 for entertaining those in attendance and providing free hotel accommodations.

Objectives Outlined

Principal Washington objectives of the National Home Builders meeting, as outlined by Edmund Kuhlman, who presided, were:

1. Recognition of current building costs by FHA.
2. Raise Title VI mortgage ceiling to \$5,400.
3. Increase Title VI amortization to 25 years.
4. No government housing in any area where organized local builders show they are capable of doing job.
5. Legislation to protect equity of men called into armed services.

Cahill on Costs

Raymond T. Cahill, First Assistant Administrator of FHA, told builders that FHA recognizes an emergency exists and that "stringencies must be diluted." He pointed out that elimination of the accelerated payment provision under Title VI would be of real help to builders by reducing the monthly carrying charges during the first five years. On a \$4,000 mortgage the saving would be \$3.80 a month, he said. He also pointed out the importance of the longer period in which an approved borrower could make his down payment without re-examination. This period has been extended from 18 to 30 months. He said that "sensible appraisals" which would become effective January 15, would release much building. He pointed out that the new Title VI changes can be applied to present jobs by special agreement.

Frank A. Vanderlip, of the Housing Co-ordinator's office, who is charged with stimulating private home building, gave the builders assembled an encouraging picture of the assistance that would be given, and urged them to make every effort to build more homes. He said that only 150,000 of OPM's first quota of 200,000 privately built houses had been used up. The program as originally contemplated was that the 200,000 would be exhausted by March 1, and that at that time an additional 200,000 would be allocated.

He indicated that the Housing Co-ordinator's office was in favor of liberalizing FHA Title VI provisions and that he expected the price ceiling on Title VI mortgages to be raised soon—possibly by February 1.

In discussing priorities, he said that if any builder in a defense area could not get materials, the Housing Co-ordinator's office would assist him to get them and would reroute supplies to that territory.

Vanderlip also said there are many defense areas which have housing quotas which are far from being used, while in others the quota is already exhausted. He suggested that builders get in touch with him to learn of towns where there is a need and an opportunity for building homes. (Vanderlip's address is Housing Co-ordinator's Office, 1600 Eye St., Washington, D. C.)

Concerning location of houses in war industries areas, Vanderlip said that the Co-ordinator's office considered the best spot at least

a mile from any plant that might be a bombing objective, but still within walking distance, if possible. He said also that *driving time* was more important than actual distance, since a worker might be able to drive to work on a wide boulevard in only a few minutes, whereas if he had to go through tortuous traffic it might take hours.

Because of the frank way Vanderlip talked to the builders and answered their questions with an apparent sound knowledge of both private operations and government problems, he made a most favorable impression.

Owens Predicts Title VII

Kent J. Owens, assistant to Sullivan Jones of Housing Priorities, told the builders that he expected extensive liberalization of FHA's Title VI, and possibly a new Title VII which would provide lower interest rates, lower down payments and a longer mortgage period.

"If you are prepared to build a lot of homes in speedy fashion, and with a minimum use of critical materials, we will pave the way," he said.

"Our system enables us to tell how priorities are used, who gets the goods, and how quickly the builders use them. Legitimate builders anxious to do a good job should have no anxieties under the priority system."

Owens denied that a "freezing order" on building materials was contemplated. (He made no mention of a metal limitations order known to be pending—Ed.) He told the builders, "If you have materials, go ahead and build—we don't care. But be sure you have *all* you need to finish—we won't give you more without a priority."

During a protracted question and answer period, Owens said that a license system for priority-approved building projects was being discussed in which each job would be given a license number to be prominently displayed. Eventually no supplier would be allowed to sell to anything but a licensed job, he predicted. He also described a probable revision of home building priority procedure which would require a double-check of all materials by the Federal Housing Administration. Each order would require a separate check. The new system, he pointed out, was made necessary by the imperative importance of seeing that no critical materials went astray or were misused. He said that a few builders had misused their priority orders and were going to get into serious trouble as a result of it.

Blackout Consulting Service

THE FLINTKOTE Company, New York City, through its British subsidiary and its own research laboratories, has developed a group of special products and processes for blackout purposes and protective concealment (camouflage), some of which have been widely used in England under air raid conditions much more severe than can logically be expected in this country. These Flintkote products and specifications for their use are immediately available.

Materials of this type and the methods of application involved have been recommended by defense agencies.

The characteristics of a satisfactory blackout treatment are as follows:

1. It must furnish complete light obscuration.
2. It must be non-reflective.
3. It should make window glass shatterproof.
4. It must be easily applied.
5. It must be easily removed.
6. It should be non-toxic, odorless and non-inflammable.
7. It must be readily available.

Flintkote products developed to meet these requirements include:

Flintkote Blackout Static Coating—a non-inflammable (in liquid form), non-toxic asphalt emulsion for brush or spray application on windows and skylights. Also for roofing, masonry, wood and metal surfaces for complete blacking-out of an entire building.

Flintkote Blackout Membrane Treatment—for more permanent blackout and shatterproofing purposes . . . a tough fabric embedded in and coated with Flintkote Blackout Static Coating.

Flintkote Blackout Panels—strong, light, rigid, weatherproof black sheets for exterior or interior use. Hang like screens or stormsh. Excellent for residential blacking-out or where use of daylight is imperative.

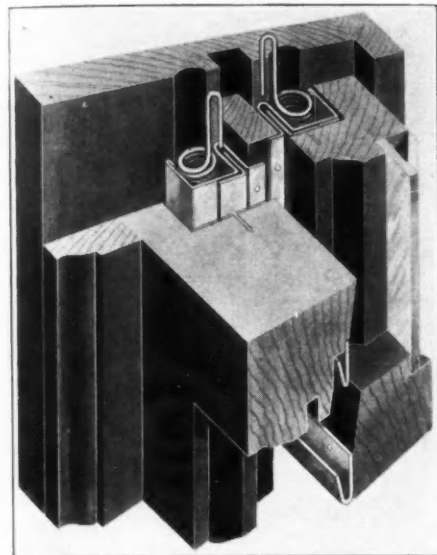
Flintkote Blackout Paper—waterproof paper or felt for temporary, emergency blacking-out.

For protection against incendiary (thermite) bombs, Flintkote has developed a mastic coating for roofs which has been used extensively in England. Experience with Flintkote Fire Retardant Mastic in England indicates that in proper thicknesses it effectively retards the spread of fire from incendiary bombs.

In the field of protective concealment, Flintkote has developed a complete line of camouflage paints and adhesives conforming with defense agency requirements. Since the art of camouflage is often highly specialized, individual problems are involved. Flintkote is prepared to cooperate and offer prompt service.

"Dorbin Weatherpruf" Spring Sash Balance

THE Dorbin Metal Strip Manufacturing Co., 2410 S. Cicero Ave., Chicago, has developed a new "Dorbin Weatherpruf" spring sash balance. It has a spring housing of heavy .018 zinc.



MEMBERS cut away show Dorbin equipment.

The springs are completely covered and protected from the weather, assuring less danger of rust and longer life. Most of the jamb and all of the parting bead is zinc covered, so no painting is necessary and no hard running, paint stuck sash develop. The housing interlocks with the sash member forming a perfect interlocking weatherstrip. No special grooving tools are needed to install. Sash raise and lower easily and will not rattle.

Recreation Room for Huttig Employees

EMPLOYEES of the Huttig Manufacturing Co., Muscatine, Ia., are enjoying the benefits of a new recreation room recently opened and outfitted by the management. The accompanying photograph, taken by a staff photographer of the local newspaper, "Muscatine Journal and News Tribune," shows a typical noon hour crowd of workmen off duty playing ping-pon, reading, resting and chatting. Inter-factory athletic activities are popular in the Muscatine area and the Huttig teams find this recreation center a great help in getting organized and keeping the interest going.

Huttig workmen have long been known for their ability to turn out "woodwork of merit." Their satisfactory output is the result of efficient machinery operated by contented workmen of experience, who are proud of the business and take personal interest in maintaining the quality of the output. Enlightened attention by the management has created this happy result.

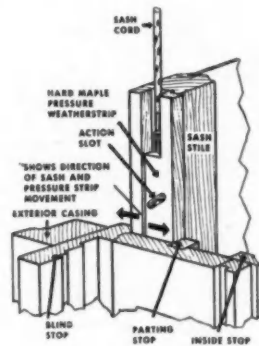


NEW recreation room at Huttig's is a center for noon hour relaxation.

Andersen Announces New Pressure-Sealed Victory Window for Low Cost Housing

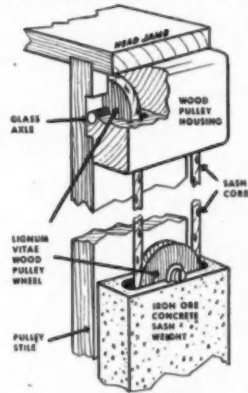
"CRITICAL materials have been practically eliminated from the new Unit," says Fred C. Andersen, President of Andersen Corporation, Bayport, Minn., in announcing the new pressure-sealed "Victory Window;" "yet the window is effectively weather-stripped and true weight counter-balancing has been retained to insure a lifetime of satisfactory and trouble-free operation.

"The new Pressure-Sealed VICTORY Window is Andersen's answer to the present need for a low cost complete window unit of



PRESSURE WEATHERSTRIP DETAIL

Pressure strip, attached to sash stile through diagonal slot, moves sideways under pull of sash weight. This action causes constant pressure of the sash against the stop and effectively checks air leakage. Sash is free from rattling and moves easily at all times.



COUNTERBALANCING DETAIL

A highly satisfactory true weight counterbalancing system is provided with critical materials practically eliminated. Pulley wheels are self-lubricating lignum vitae wood with heat treated "Pyrex" glass axles mounted in a wood housing. The counterbalancing weight is made of an iron ore concrete and one weight with pulley wheel replaces two ordinary sash weights. High grade sash cord used in place of chain.

Detail of New "Less Metal" Window

high quality throughout but with critical materials eliminated to the extent that adequate production is assured. An entirely new weatherstripping method has been worked out employing a pressure strip made of treated hard maple that provides a tight seal yet assures easy sash operation under all conditions. The sash pulleys are made of Lignum Vitae wood with heat treated glass axles mounted in a chemically treated wood housing. Sash weights are made of a concrete using iron ore aggregate in place of sand and a high grade sash cord is supplied in place of sash chain."

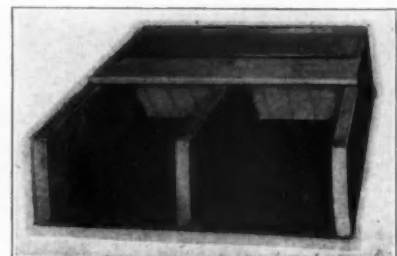
Creo-Dipt Offers Design Portfolios

THE WELL remembered portfolios of photographs of the Creo-Dipt Co., Inc., North Tonawanda, N. Y., have been revived by the present management and restyled to the needs of the present year. "The 1942 Portfolio of Modern Small Homes" is a collection of 12 black and white photographic sheets on heavy paper; size 8½ by 11½ plus 2 sheets in full color. These show excellent examples of small homes with Creo-Dipt stained shingles for side walls and roofs in attractive effects.

A price of 10 cents has been put on this portfolio to cover cost of packing and mailing. A companion portfolio, also priced at 10 cents, carries numerous remodeled homes suggestions. It is entitled "New Portfolio of Re-Beautified and Remodeled Homes." It contains 12 of the heavy paper photographic-type illustrations. Each group is presented in a heavy craft envelope folder.

Zim Air Filters

THE R. F. ZIMMERMAN Co., Cincinnati, O., has developed the Zim air filters which are cleaned merely by tapping them against the floor. They are efficient for at least an entire heating season; may be used much longer if desired. As they are merely placed in the cold air duct below the cold air return register, there is no installation expense. Zim air filters do the air cleaning job you want done, and without lessening the efficiency of the heating system.



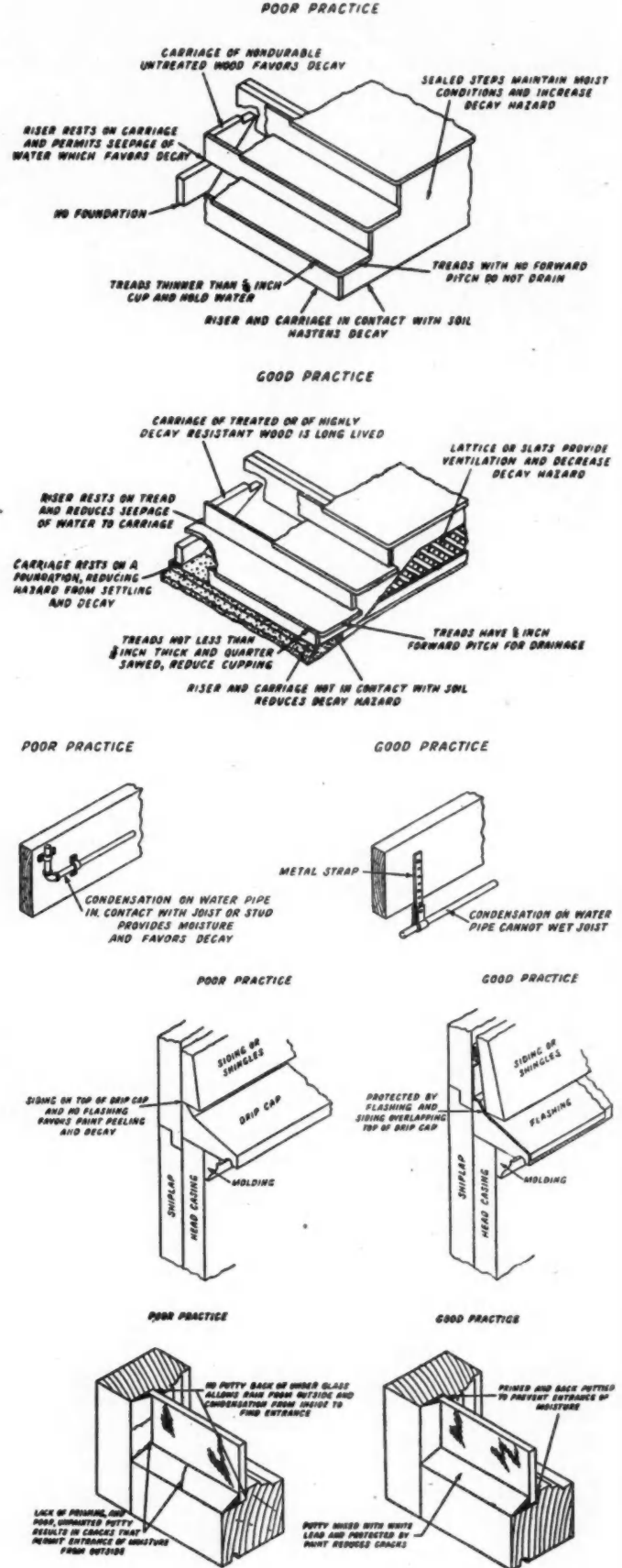
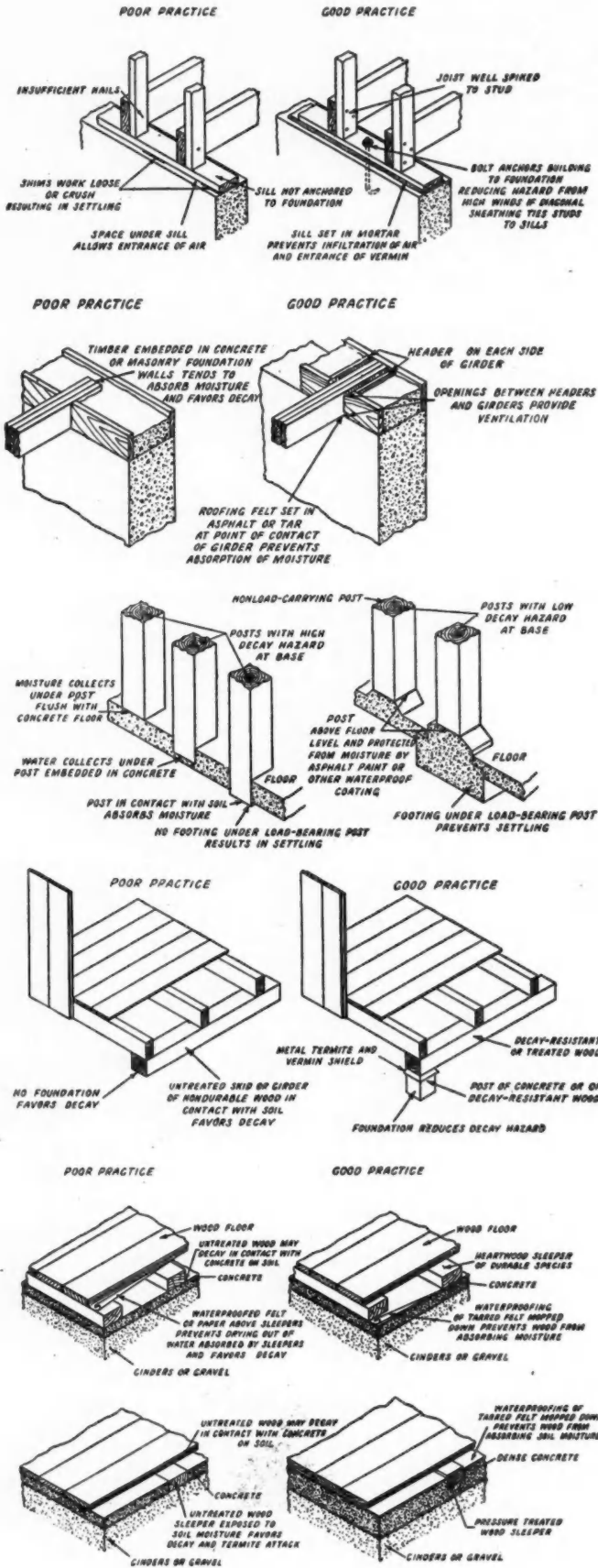
ZIM filters installed.

Builder's Quiz—How Do You Stand?

OF course we all know the right and wrong methods as to the more common details of building—or do we? A trip through any section of the country where there is building will show plenty of spots in which local practice is at variance with

good construction details. Here in these columns will be found 13 details which, if not handled properly, will cause the owner plenty of unnecessary grief in the years to come. Check up on yourself by listing 13 numbers on a piece of paper, and then see how many times you can credit yourself with following the "good practice" sketch shown.

If you care to follow through further, other construction de-



tails will be found in the U. S. Department of Agriculture Miscellaneous Publication No. 358, "Use and Abuse of Wood in House Construction," which can be obtained from the Superintendent of Documents, Washington, D.C., at ten cents per copy. If you didn't come out so well, in this test, it will probably be worth your while to check up on your other methods.

Income Tax Filing Simplified

THE CORRECT preparation and early filing of Federal income tax returns are always important. This year, more than ever before, the necessity for prompt attention to this matter is apparent to everyone. Approximately 22,000,000 income tax returns are due to be filed before midnight of March 16, 1942. Of this number it is estimated that 7,000,000 persons will file income tax returns for the first time.

To assist taxpayers in the preparation of their income tax returns the Treasury Department has issued a folder entitled "How to File Your Income Tax Return the Simple Way." It contains a facsimile of the simplified Form 1040A and illustrates the six steps required to prepare the return. Form 1040A may be used by persons who are required to file returns but who have gross incomes of not more than \$3,000 from salaries, wages, compensation for personal services, dividends, interest, rent, annuities, and royalties only.

For taxpayers not eligible to use Form 1040A or those not choosing to use it, Form 1040 should be filed. The last page of the folder contains a table showing the individual income tax on 1941 net income before deductions of personal exemptions and credit for dependents from salaries and wages of selected sizes if Form 1040 is used.

Individuals, and corporations desiring the folder for distribution to employees, may secure copies from the nearest Collector of Internal Revenue.

Power and Durability Keynote Stake Unit

WITH a new front end design that expresses the rugged power under the hood, this 134-inch Ford stake truck is ready for almost any kind of hauling task. It's one of seven stake units in the 1942 Ford line, all of which can be converted to platform types in a few minutes. This unit, with 106 by 82 inches of load space, is available with either a 90 or 100-horsepower V-8 engine, or with the new 90-horsepower six-cylinder motor.

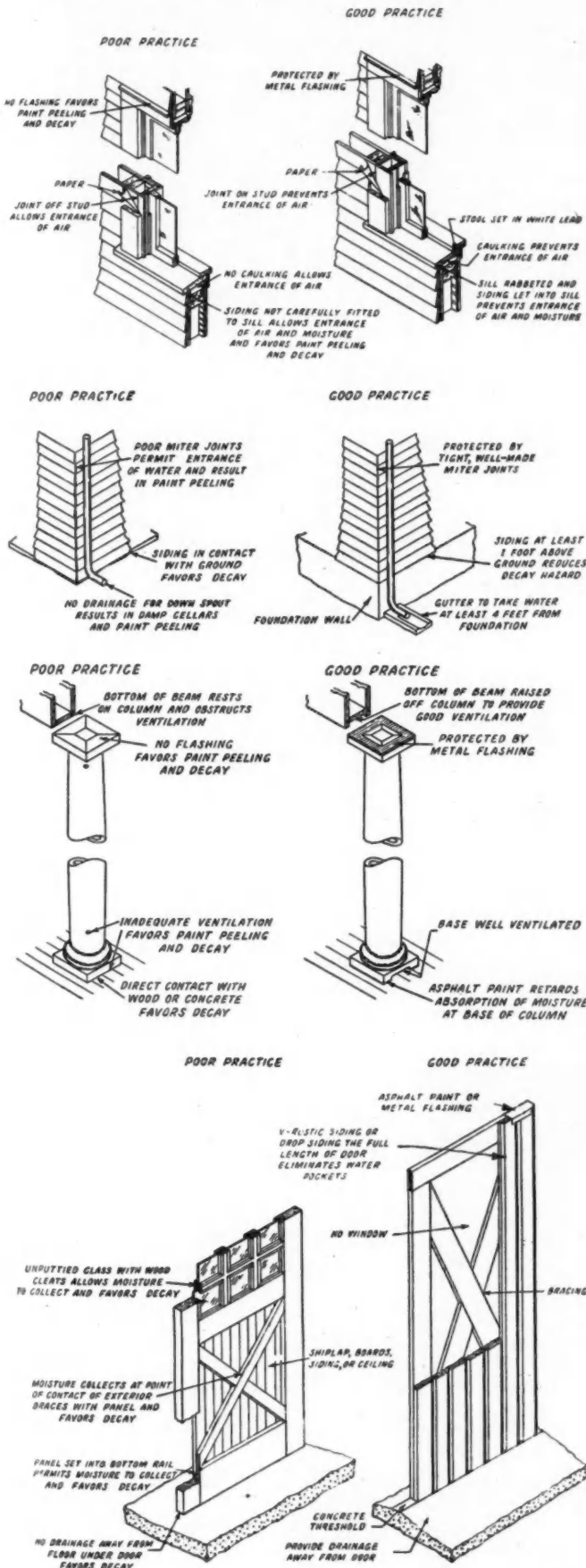


FORD stake truck which can be easily and quickly converted to platform type.

Bruce Features Prefinished Flooring

REALIZING that a big part of the retail dealer's business for 1942 must be in remodeling, E. L. Bruce Co., Memphis, Tenn., is keying its consumer advertising campaign and dealer help program to this theme. Bruce intends to do all it can to help its dealers get a full share of this profitable business.

Promotion is largely concentrated on one Bruce product which is ideally suited for the creation of remodeling sales. This is Streamline, a new type of hardwood flooring which is completely finished and waxed at the factory, and is ready to use as soon as it is laid, no sanding or finishing on the job being necessary. In addition to the regular 25/32" thickness, Streamline Flooring is available in two thin sizes: 1/2" and 3/8", which make it particularly suitable for nailing over old wood floors.



SERVICE TO READERS

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

NEW TOOLS, MATERIALS AND EQUIPMENT

AB828 Lockwood Hardware Mfg. Co., Fitchburg, Mass., has developed "Unifast," a distinct improvement in hardware trim to go with a mortise door lock. The rose and key plate are joined by a slender band through which a single recessed head machine screw passes to engage a tapped hole in the mortise lock casing. This provides a firm, permanent anchorage without wood screws. This saves time and there are only two machine screws to trim both sides of the door as against the usual ten wood screws.



ONE screw does it.

AB829 "New Jobs in Our Town That Can Best Be Built of Wood" is a valuable new handbook of 20 pages from the Timber Engineering Co., 1337 Connecticut Ave., N. W., Washington, D. C. With numerous photographs and working details, it shows how to build many popular non-residential structures with Teco connected timbers; very important in these days of scarce steel.

AB830 "Highway Structures of Douglas Fir" is a new portfolio of 40 pages and covers from the West Coast Lumbermen's Assn., Stuart Bldg., Seattle, Wash. It presents practical engineering and design data for heavy timber bridges and other highway structures for which wood is now favored.

AB831 "Barber Genasco Products" is a brightly illustrated color catalog of 16 pages from Barber Asphalt Corp., Barber, N. J. It presents the new Barber line of asphalt shingles and roll roofings.

AB832 "Hard Maple Flooring" is a new service folder for architects, contractors and dealers, prepared by the Maple Flooring Manufacturers Assn., McCormick Bldg., Chicago. It gives a photographic grading rule for MFMA tongued and grooved hard maple flooring.

AB833 "Ready-Built Carrara Glass Panels for Bathtub Recesses and Kitchen Stove Backings" is a 4-page data sheet from the Pittsburgh Plate Glass Co., Pittsburgh, Pa. The four simple steps for installing these ready-built glass panels are illustrated and described.

AB834 "Beauty . . . Founded on Rock" is an exceptionally beautiful 32-page and covers brochure on sheet rock and fireproof wallboard from the United States Gypsum Co., Chicago. Living rooms, dining rooms, kitchens, bedrooms, bathrooms, basements, etc., illustrated in full color, present numerous intriguing decorative schemes.

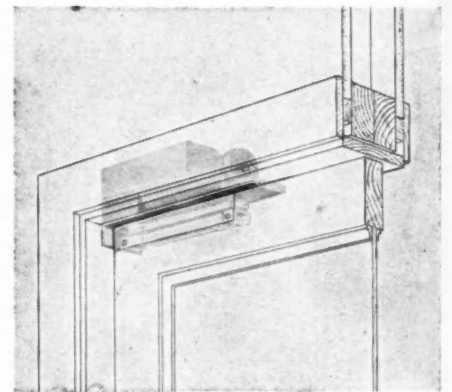
AB835 Barclay tileboard and panelboard for home interiors and for modern commercial uses are illustrated in a 12-page brochure from Barclay Mfg. Co., Inc., 385 Gerard Ave.,

Bronx, N. Y. These pre-finished surfacing materials for decorative walls and ceilings come in 12 or more sprightly colors and combinations.

AB836 "Practical Plans for Modern Farm Buildings" is a new plan book portfolio and catalog from the Continental Steel Corp., Kokomo, Ind., showing practical farm building ideas that utilize Continental's certified quality steel roofing and siding. More than 18 different farm buildings are planned and detailed.

AB837 Ford roll brick siding and Ford V-Neer are attractively presented in two new envelope size color folders. The roll brick siding is known for its quick, easy application and the Ford V-Neer panel, 1/2 inch thick of insulation board, asphalt and mineral surface, goes on over the old siding in ship-lap panel units.

AB838 The Norton Lasier Co., 466 W. Superior St., Chicago, has developed a new overhead, concealed, double-acting control for kitchen-dining room two-way doors. It is known as the LCN "422." Located in the head



CONCEALED, overhead, double-acting door closer developed by Norton Lasier Co.

frame it greatly simplifies mounting of the door. Also, being on top of the door it is away from floor dirt, out of sight, out of mind. This double-acting overhead concealed door closer meets the need for positive continuous control of lightweight doors. Complete installation details are available.

AB839 "Sav-A-Space, the Modern Sliding Door," is the title of a new 8-page, 2-color data sheet from the Fir Door Institute, Tacoma, Wash., presenting and explaining its effective, low cost sliding door units.

AB840 "Skilsaw Tools for Defense of America" is the title of new catalog No. 43 from Skilsaw, Inc., 5033 Elston Ave., Chicago. It is a complete line catalog of 48 pages.

AB841 "Healthful Air for Modern Homes" is a new ventilator catalog of Victor Electric Products, Inc., Cincinnati, Ohio. It is an impressive data sheet of 8 pages covering the complete Victor line of ventilators.

CLIP AND MAIL TO CHICAGO

Readers Service Department

(Feb. 1942)

American Builder,
105 W. Adams St., Chicago, Ill.

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

Numbers

.....

Name

Street

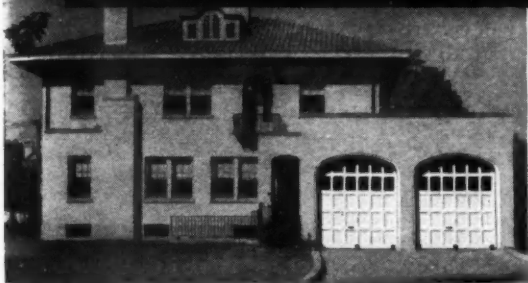
City State

OCCUPATION*

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

The Springs
are
* "POWER-
METERED"
on Every RoWay Door

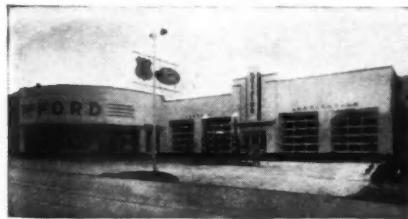
* First, each Ro-Way Door is weighed . . . then the springs are manufactured in our own plant for each particular door and carefully "metered" to insure the correct POWER for most perfect door operation



Ro-Way Garage Doors with curved top section, with interesting glass arrangement.



Garage of U. S. Government Marine Hospital, New Orleans La.



Ro-Way Industrial Garage Doors are widely used



Modern Residence with attached Garage, equipped with Ro-Way "Two-Car" Overhead Type Door.

No "Stock Springs" Used

Ro-Way brings to Garage Door operation a new measure of lasting satisfaction. By developing a method of "power-metering" the springs for each Ro-Way Door, we are able to apply to each Door the power best suited to its weight. Each Ro-Way Door is weighed . . . then the springs are manufactured in our own plant for use on a particular door, to insure absolutely correct spring balance. This is just one of the engineering refinements available to you without any extra cost when you specify . . .

Ro-Way OVERHEAD TYPE DOORS

Four other worth while advantages developed by Ro-Way add immeasurably to overhead type door performance, ease of operation, and lasting "good looks." These are . . .

"Crow's Foot" Outer Bearing Support

Rigidly holds the chain sheave wheel in permanent alignment. No twist . . . no sag to cause friction.

"Ro-To Live" Spring

A powerful *Floating* Torsion Spring (used on some models) gives perfect balanced lifting power, and ends side-drift and binding.

"Zip-Lock" Adjustment

Used on Ro-Way Doors having Twin Torsion Spring Power. Permits instant easy adjustment of spring tension.

Parkerized and Painted Hardware

Ro-Way Hardware and Tracks are given finest known protection against rust and corrosion . . . same method as used on fine motor cars, refrigerators, etc. Parkerizing and Painting process occurs AFTER all forming and/or other machine operations have been completed.

Ro-Way Service is Nationwide

Sales offices, with competent installation engineers, are located in principal cities. Write for name of one nearest you, or ask us for Free Ro-Way Door Folders, prices and complete information.

ROWE MANUFACTURING COMPANY
713 Holton Street, Galesburg, Ill., U. S. A.

There's a RoWay for every Door way!

Prefabricated Houses Grow in Number

THE REMARKABLE extent to which prefabricated house construction is being utilized in the Government's present emergency housing program is revealed by official reports from the Federal Works Agency. In its Defense Housing Construction Bulletin of January 9, 1942, the current program of prefabricated house projects is detailed, not including the new allotment of 42,000 "demountable houses" called for in the stepped-up program since Pearl Harbor. A total of 12,262 dwelling units is called for, and of these, 3,000 are already completed and available for occupancy. These projects are located in 39 localities, and the work is being handled by 31 fabricating and construction companies. For the most part, these prefabricated house projects are under the supervision of the Division of Defense Housing, office of Federal Works Administrator. A few, however, are under the Public Buildings Administration or the United States Housing Authority.

Project Location and Name	Type of Defense Area	No. of Dwelling Units	Contractor and Address	Amount of Constr. Contract	Cost per Unit
ALABAMA					
Childersburg	Ordnance Plant	100	Algernon Blair, Montgomery, Ala.	\$ 283,423	\$2,634
Coosa Court					
Tuskegee	Army Air Base	30			
ARIZONA					
Litchfield Park	Advanced Flying School	100	E. W. Duhamel, Phoenix	237,990	2,380
CALIFORNIA					
Benicia	Arsenal	100	Herbert Mayson, Los Angeles, Calif.	273,550	2,736
Jefferson Davis Hts.					
Campo	Camp Lockett	30			
Sacramento	Army Air Base	125			
San Diego	Aircraft Plant	1,000	Fred J. Early, Jr., San Francisco, 590 DU	1,393,500	2,787
Bayview Terrace			Myers Bros., Los Angeles, 300 DU	838,400	2,788
			Wesco Const. Co., Los Angeles, 200 DU	555,400	2,777
San Diego	Aircraft Plant	500	R. E. Campbell, Los Angeles, Calif.	1,632,000	3,264
Torrey Pines	Camp Callan	75	Herbert Mayson, Los Angeles	202,163	2,696
Torrey Pines Homes					
Vallejo	Navy Yard	542	Engineers Ltd., San Francisco		
Federal Ter.					
Vallejo	Navy Yard	1,692	Barrett & Hill, San Francisco, 692 DU	2,790,496	2,813
Carquinez Hts.			Robert McCarthy, San Francisco, 700 DU	2,025,100	2,893
CONNECTICUT					
Groton	Elec. Boat Co.	200	F. A. MacShaffray Co., Boston, Mass.	595,600	2,978
FLORIDA					
Banana River	Naval Air Station	90			
Sebring	Army Flying School	193			
GEORGIA					
Hinesville	Camp Stewart	100	Green Lumber Co., Laurel, Miss.	280,000	2,800
Oakdale					
Macon	Camp Wheeler	115	McCowan Aldred Co., Macon, Ga.	320,505	2,787
Lanier Heights					
ILLINOIS					
East Alton	Defense Industries	200			
INDIANA					
Knox	Defense Industries	200	National Homes Corp., Lafayette, Ind., and Kuhne Simmons Con. Asso., Rantoul, Ill.	541,267	2,707
Parkview Hts.					
LAPORTE					
Maple Terrace	Ordnance Plant	200	Green Lumber Co., Laurel, Miss.	575,400	2,877
Walkerton	Defense Industries	200	National Homes Corp., Lafayette, Ind., and Kuhne Simmons Con. Asso., Rantoul, Ill.	542,584	2,713
W. York Homes					
KANSAS					
Wichita	Defense Industries	600	Southern Mill & Mfg. Co., Tulsa, Okla.	1,510,904	2,518
Hilltop Manor					
LOUISIANA					
Shreveport	Defense Industries	200			
Minden					
MARYLAND					
Elkton	Defense Industries	200			
Indian Head	Powder Plant	650	E. F. Hauserman Co., Cleveland, O., 20 DU	61,752	3,088
Potomac Hts.			Standard Houses Corp., Chicago, Ill., 57 DU	161,367	2,831
			Allied Housing Asso. Inc., Langhorne, Pa., 77 DU	205,610	2,670
			Home Building Corp., Kansas City, Mo., 50 DU	127,000	2,540
			National Homes Corp., Lafayette, Ind., 63 DU	187,608	2,978
			General Fabricators, Inc., Washington, D. C., 61 DU	173,240	2,840
			Tenn. Coal, Iron & R. R. Co., Birmingham, Ala., 58 DU	161,908	2,792
			Lockwall House, Inc., New York, N. Y., 65 DU	191,750	2,950
			T. Calvin Owens, Bethesda, Md., 85 DU	194,350	2,990
			Harwood Nobel Co., Washington, D. C., 70 DU	204,760	2,925
			64 DU Suspended		

Project Location and Name	Type of Defense Area	No. of Dwelling Units	Contractor and Address	Amount of Constr. Contract	Cost per Unit
MISSISSIPPI					
Jackson Flora	Defense Industries	350			
MISSOURI					
Fort Leonard Wood	Fort Leonard Wood	500	Barrett & Hill, San Francisco, Calif.	1,465,500	2,931
NEW YORK					
Fishers Island	Fl. H. G. Wright	20	Tremaglio Bros., Waterbury, Conn.	100,000	5,000
GREENPORT NO. CAROLINA					
Wilmington	Defense Industries	50			
Lake Village	Ship Yard	475	Green Lumber Co., Laurel, Miss.	1,350,900	2,844
OHIO					
Dayton	Defense Industries	750			
Newton Falls	Army Ordnance Pl.	350	Lockwall House Inc., Akron, Ohio	957,750	2,736
Eastriver Gardens					
Port Clinton	Erie Prov. Grnds.	100	National Homes Corp., Lafayette, Ind., and Kuhne Simmons Con. Asso., Rantoul, Ill.	281,400	2,814
Erie Gardens					
SPRINGFIELD					
	Defense Industries, Wright & Patterson Fields	250			
SO. CAROLINA					
Charleston	Army Ordnance Depot	350	L. D. Long Const. Co., Charleston, S. C.	719,965	2,057
John C. Calhoun Homes					
TENNESSEE					
Jackson	Defense Industries	200	Algernon Blair, Montgomery, Ala.	533,990	2,670
Westwood Gdns.					
Milan	Defense Industries	100	Algernon Blair, Montgomery, Ala.	252,635	2,523
Humboldt					
Milan	Ordnance Plant	200			
Humboldt					
Trenton					
TEXAS					
Mineral Wells	Camp Wolters	100	Houston Ready Cut Co., Houston, Texas	238,388	2,384
Elmhurst Pk. Huachuca Pl.					
VIRGINIA					
Fort Eustis	Fort Eustis	75	Allied Housing Asso. Inc., Langhorne, Pa.	214,583	2,861
QUANTICO WASHINGTON					
Marine Base	Marine Base	250			
Bremerton	Navy Yard	230	Macrie Bros. & S. S. Mullen, Inc., Seattle	691,635	3,007
Eastpark					
Bremerton	Navy Yard	70	Lease & Loigland, Great Falls, Mont.	205,500	2,936
Eastpark					
WISCONSIN					
Manitowec	Ship Yards	400	Kroening Engineering Corp., Milwaukee, Wis.	1,198,000	2,99
Custerdale					

More Demountable Houses Authorized

TO SPEED up the construction of war housing, the Federal Works Agency launched a program on January 8 for immediate erection of 42,000 demountable houses, with two-shift operation and a seven-day working week. Standard designs, simple construction and mass purchasing of equipment will be initiated to save construction time and to cut costs. The demountable-house program, involving an estimated outlay of \$153,000,000, will be in charge of Rufe B. Newman, Jr., who has been chief of construction of the Defense Housing Division of the FWA.

In the mass purchasing, nearly all types of household equipment required for FWA war houses will be bought through the Procurement Division of the United States Treasury.

The projects listed below, it is expected, will be among the first to be built under the new demountable-house program. (In some of these localities, however, it is possible that housing of a more permanent nature will be built with Lanham Act funds.)

Locality	Number of Units	Locality	Number of Units
Alton-E. Alton, Ill.	200	Springfield, Ohio	250
Campo, Calif.	30	Buffalo (Cheektowaga) N. Y.	1,050
Dayton, Ohio	750	Buffalo (Lackawanna), N. Y.	400
Elkton, Md.	350	Mobile, Ala. (Brookley Field)	1,060
Greenport, L. I.	50	Morgantown, W. Va.	150
Jackson-Flora, Miss.	350	Muscle Shoals, Ala.	100
Jackson-Milan-Humboldt, Tenn.	200	Orange-Beaumont-Port Arthur, Texas	300
Keypoint, Wash.	125	Philadelphia (Bristol)	200
Quantico, Va.	250	Seattle, Wash.	100
Sacramento, Calif.	125		
Sebring, Fla.	193		
Shreveport-Minden, La.	200		

A second group of projects was announced Jan. 13, as follows: Bremerton, Wash., 1,000; Burlington, Iowa, 400; Crab Orchard, Ill., 400; Joliet, Ill., 500; Mineral Wells, Tex., 100; Norfolk (including Portsmouth), Va., 11,500; Ogden, Utah, 2,000; Radford-Pulaski, Va., 500; Rockford, Ill., 200; Sandusky, Ohio, 200; Sturgeon Bay, Wis., 100; Weldon Springs, Mo., 300; Whidbey Island, Wash., 100.



**Remodel with
MENDEL
FLUSH
DOORS!**

● New paint, new paper, *new Mengel Flush Doors*—that's a prescription for complete rejuvenation at *very low cost!* For, believe it or not, you can now buy Mengel Flush Doors for *approximately the same price as panel doors!*

How can Mengel do it, you ask? First, Mengel is America's largest producer of hardwood products. From forest to final shipping room, Mengel Flush Doors are made in our own plants, from our own virgin timber, our own lumber, our own veneers. . . . That is one reason. The other is that Mengel *knows how* to produce top-quality merchandise on a real mass-production basis. That's the *only* way we could

have built our present \$20,000,000 annual business!

Mengel Doors are *better* flush doors. Ask your dealer to show you these beautiful, sturdy products. *Let him quote you!* Or, if your dealer is not yet prepared to serve you, mail the coupon below!

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

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

Name _____

Address _____

City _____ State _____



STREET of Title VI houses in Milbrook Park, East Hartford, sold on very low down payments on rental-purchase plan.

More FHA Title VI Homes

(Continued from page 55)

war emergency changes things, and houses to be erected under Title VI must, of necessity, involve a higher risk. Even if some losses occur later on, they would be small in relation to the comparable cost of government-built housing.

It should be pointed out that under Title VI the builder has a firm commitment and can either rent or sell his houses, or sell them on a rental-purchase plan. Experience has shown that even where such houses have been erected on a rental basis, a high percentage have subsequently been purchased by the renters.

To further stimulate private building, it is suggested that finance companies that have been engaged in the business of handling installment purchases of automobiles be encouraged to enter the building loan field. Their millions of dollars of money formerly used in other fields must find new outlets or lie idle. Under Title VI these companies could advance loans to finance down payments over a period of several years. With such an arrangement war workers could move into a house with practically no down payment. Their total payments would be no higher than they would have to pay for rent, and yet they would actually be on the way to home ownership.

Plans similar to this are already in use by private builders operating under Title VI, except that in most cases the builder himself takes a note for the down payment.

A prominent builder who is operating in this fashion is the firm of Campagna Sons, who at present are rapidly completing a 200-home Title VI project, Milbrook Park, at East Hartford, Conn.

Under the rent-purchase plan used by these builders, they will accept a cash payment of \$150 or less and will take a note for the balance to be amortized by the buyer over a period of 30 months or in some cases longer. The note is paid off in monthly installments added to the other FHA payments.

Campagna's rent-purchase plan has worked so well that a new 1,000-home project is now being planned in which still lower down payments and a longer period of amortization of the down payment will be allowed. It is said that cash payments as low as \$50 or \$75 will be possible, with the balance



78-TON, 3-bin batcher used at Milbrook Park. Three ready-mix trucks deliver transit-mixed concrete to houses.

of the down payment amortized over five years. Thus, the war worker who buys such a house will start out with a monthly payment, including all taxes, interest and amortization charges, of in the neighborhood of \$45. At the end of five years the monthly payments will drop to \$32.

Campagna Sons have established some new highs for speed in low-cost war housing. Their 200-home Milbrook Park job was completed in less than six months. An interesting feature of the job was the building of a 78-ton, 3-bin Erie concrete batcher on the job. Three mixer trucks were employed to carry the concrete to the individual foundations.

Two basic plans drawn by Architect Louis Kurtz, of 15 West 44th St., New York City, were used with a variety of exteriors secured by reversing the plans and turning them with both long and narrow exposures to the street.

Specifications of the Campagna built houses include the following:

FOUNDATION—1:3:5 concrete footings on solid bed. Poured concrete foundation walls 10" thick.

SHEATHING— $\frac{1}{2}$ " Gypsum fireproof, Gold Bond, National Gypsum Co. or U. S. Gypsum Co.

SIDE WALLS—Beveled wood siding.

FLOORING—Diagonally laid underflooring—finished floor of No. 1 common oak, scraped, sanded and finished.

SASH AND FRAMES—White pine. Curtis millwork throughout, including double hung sash, frames and mitred trim.

WEATHERSTRIPS—Front and kitchen doors to have approved metal weatherstripping. Curtis Silentite weatherstripping on windows.

FLASHING—16 oz. copper over all windows, around chimney and as required.

ROOFING—Asphalt shingles, 210 lb. per square.

PLUMBING—Complete kitchen unit and bath, including built-in tub, shower, accessories, built-in medicine cabinet.

HEATING—Guaranteed one-pipe steam system. Year-round domestic hot water.

INSULATION—Flintkote insulation over all ceilings.

LATH AND PLASTER—National or U. S. Gypsum Co. rocklath, metal cornerites, metal corner beads. All walls and ceilings 3-coat plastered with smooth white finish.

LINOLEUM—Armstrong on bathroom floor. Linowall wainscoting in the bathroom around tub.

KITCHEN CABINETS—Scientifically planned, manufactured and painted by Kitchen Maid.

Shops on Wheels

(Continued from page 58)

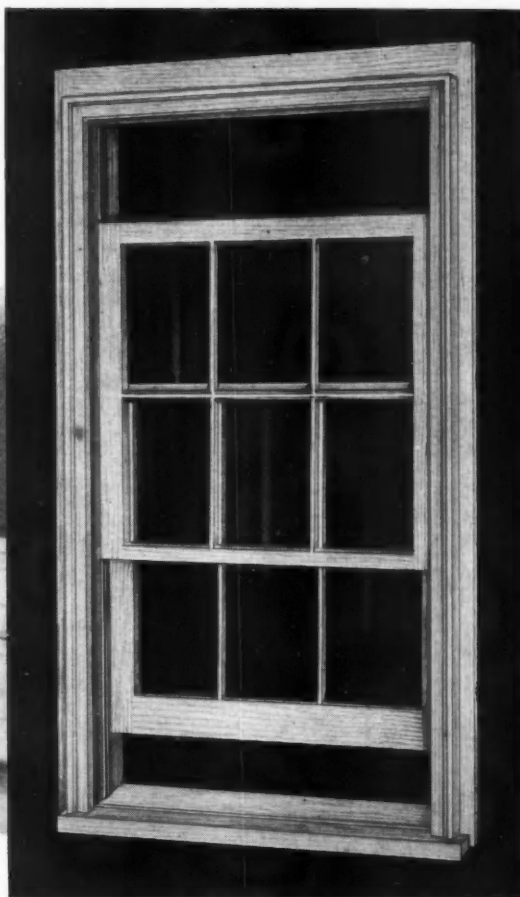
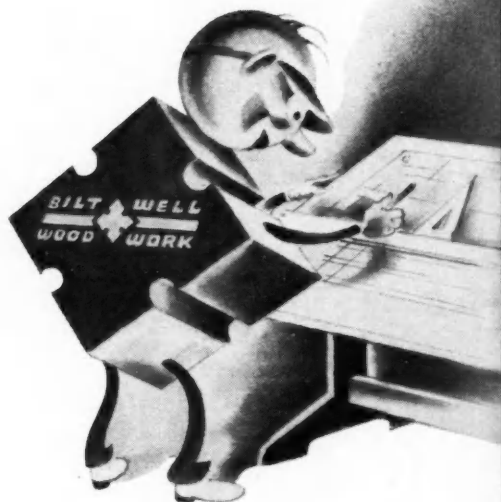
have a combination bulldozer and power shovel, known as a Hough Loader, one of their most useful pieces. It is a 36 HP Allis Chalmers Tractor, equipped with a $7\frac{1}{2}$ -foot hydraulic hoist. This carries either a one-half yard bucket with trip-lever arrangement, or a 6 foot bulldozer blade. The change from one to the other can be made in about five minutes. Eighty per cent of the hauling is done with their own Dodge truck, two ton, with a $4\frac{1}{2}$ yard body. They use Skilsaws for framing and other similar work, and they mix their own concrete.

The houses are designed by the Tobins, father and son, who often draw the blueprints, although sometimes a draftsman is called in for the final work. They have never found it necessary to have their prints completed to the last detail. Their experienced workmen, who use the prints, have been with them long enough to know how the Tobins work, and how they want details carried out. If there is ever any question, Herb Tobin is on the spot. One blueprint serves for many houses, and if an improvement is discovered early in the series, it will be maintained throughout all the houses. Then too, the blueprint is considered merely a basic pattern, with each house having its own variations from the pattern. A memo explaining the variation for a particular house can be made out for each crew, and they don't have to have complete blueprints just to make these variations.

Final variety is lent to the development by using a wide selection of finishing materials. Basically, wood frames are used throughout, but the outside surface may be shingles, clapboards, or even natural cedar. Others may be faced with brick or natural stone. Definite changes are made in roof lines and the handling of gables. Shutter trimmings and hardware are selected to harmonize with the finish used. Thus no two houses in any development are alike.

"Bill Twell" goes "all out"

to give you America's
outstanding value in
unit wood windows



THE BILT-WELL SUPERIOR

UNIT WOOD WINDOW



COLONIAL MANTELS



COLONIAL ENTRANCES



NU-STYLE CABINETS



BILT-WELL STAIR PARTS

Completely chatter-proof, rattle-proof, weather-proof and leak-proof

Bilt-Well Superior unit windows are built to meet the most rigid demands of builders, architects, and home owners.

Superior windows slide easily and smoothly. Sticking, leaking and rattling are eliminated by the exclusively designed weatherstripped frame. This special feature compensates for maximum swelling or shrinking in either

width or thickness, and insures a smooth, easy sliding window at all times.

For greater customer satisfaction, sell Bilt-Well Superior Windows. They eliminate annoyance for home owners, and cut building costs for builders. Superior windows are attractively priced to create



greater volume for you without sacrificing your normal profit.

CARR, ADAMS & COLLIER COMPANY, Dubuque, Iowa



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

CARR, ADAMS & COLLIER CO., Dept. 2AB, Dubuque, Iowa
Please send me free complete information on all Bilt-Well Wood Products without cost or obligations.

NAME _____
CITY _____ STATE _____

Galley and Kitchen Designers Wanted

AMONG the unusual types of persons the Government is trying to find now are those who are qualified to design galleys on ships, and kitchen and cafeteria spaces and equipment in buildings. A four-year college course leading to a bachelor's degree in engineering or architecture is required plus important experience in design, layout, and specification of space arrangements and equipment for galleys of large ships, or for kitchens and cafeterias for large institutions. The amount of experience required increases with the grade of the position. Experience, above the amount required, may be substituted for the college work.

Applicants must not have passed their 60th birthday unless they are entitled to veteran preference. Persons over the age limit may apply, although they can not be certified for permanent appointment. Their names will be listed, if they meet all except the age requirements, for possible use in meeting defense needs which can not be met through the usual means.

Persons who can qualify are urged to apply at once. Application

forms, with Announcement No. 190 giving further information, may be obtained from the Secretary, Board of U. S. Civil Service Examiners at any first- or second-class post office, or the United States Civil Service Commission, Washington, D. C.

Applications must be on file at the Washington office of the Commission not later than March 2, 1942.

Home Building Codes Being Relaxed

AN EXAMPLE of the present nation wide move to modify local city building codes in the interest of faster and lower cost war industry housing is the Chicago situation. A proposal to amend Chicago's building code—by adding the Federal Housing Administration's minimum construction requirements to the code for the duration of the war—is gaining favor in local business and building circles. It is felt that such action would open up worth-while opportunities for the construction of privately financed defense homes within the city limits by reducing building costs.

Because the idea is being accepted so favorably in various quarters, it is possible that a special committee of the Chicago Association of Commerce may approve a resolution urging Mayor Kelly and the city council to adopt the FHA's "MCR's." The program already has been approved by the Metropolitan Chicago Home Builders Association and is favored by the Chicago Building Congress.

By adding these minimum construction requirements to the code for the war period and six months thereafter, no laborious piecemeal revision of the present code would be necessary, according to Gael Sullivan, FHA director for Illinois.

Adoption of the "MCR's" would permit the following:

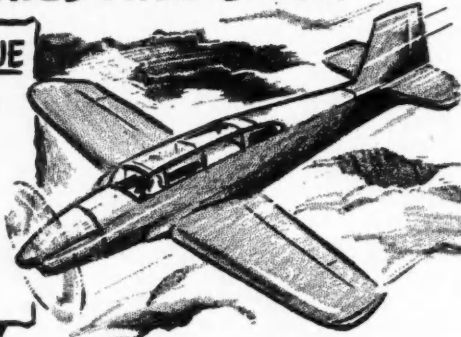
1. Reduction in ceiling heights from 8 feet to 7 feet 6 inches.
2. Inclusion of glass and ventilating areas in a door as part of a room's required glass or ventilating areas, provided the room has at least one window. To qualify, the door must be at least 10 per cent glass.
3. Wooden gutters and downspouts.
4. Frame dormers exceeding 50 per cent of the length of the house. Masonry now is required.
5. Plastering direct to exterior walls where such walls provide adequate protection against moisture and condensation.
6. Dry-wall construction for ceilings, partitions and exterior walls.
7. Second-floor construction of two-flats supported on wood-stud partition instead of steel or masonry.
8. Hollow concrete blocks for foundation walls where drainage condition is satisfactory.
9. Eight-inch party walls for two-story row houses instead of 12-inch, as now required.
10. Headers every seventh course or one through header in every 240 square inches of wall surface. Present requirements are headers every eighth course, or one header for every 72 square inches.
11. Elimination of steel joist anchors for first floor joists.
12. Back-plastered chases in 8-inch walls, subject to limitation as to length.
13. Wood lintels over windows and doors, in lieu of steel angles.
14. Elimination of gutters and connections to sewers where lot size is sufficient for natural drainage. Would also permit gutters and down spouts with splash blocks, instead of connections to sewers.
15. Elimination of requirements for electric outlet in each clothes closet.

BUILDING "BELIEVE-ITS"

STRANGE STORIES THAT STICK

AIRPLANES TOO, FROM GLUE

THE MORROW AIRCRAFT CO. LOS ANGELES, CALIF. HAS RECENTLY COMPLETED A GOVERNMENT APPROVED PLYWOOD AND GLUE CONSTRUCTED AIRPLANE, USING LAUCKS GLUES....



KING SOLOMON KNEW WATER-RESISTANT GLUE!

GLUE WAS USED IN THE BUILDING OF KING SOLOMON'S TEMPLE BECAUSE OF ITS STRENGTH AND THE BEAUTY OF THE COMPLETED CONSTRUCTION —

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 studdings, joists, etc., by contractors and prefabricators . . . in making laminated arches and beams for factories, barns, hangars, churches . . . for innumerable "glue-welding" jobs.

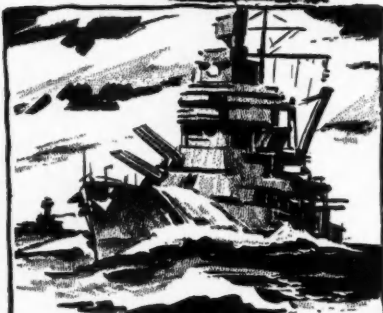
Why have Laucks CONSTRUCTION GLUES been selected almost exclusively for this work? Because they are formulated especially for this use. They are . . .

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 GLUES MEET RIGID SPECIFICATION 52 G 8b OF THE UNITED STATES NAVY -

I. F. LAUCKS, Inc.

MANUFACTURING CHEMISTS
"Leadership through Research"

Seattle - 911 Western Ave.
Chicago - 6 North Michigan Blvd.
Los Angeles - 859 E. 60th Street
Vancouver, B. C. - Granville Island
Portsmouth, Va. - Commerce and Broad Sts.

LAUCKS CONSTRUCTION GLUES

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.

Flame-Straightened I-Beams

Bent Structural Members Are Reclaimed By Alternate Heating and Cooling

THE intense, localized heat of the oxy-acetylene flame was recently employed to straighten two steel I-beams, 38 in. wide and 32 ft. long which had been bent approximately 6 in. out of line at their center, reports the Linde Air Products Co., New York City. It took one oxy-acetylene operator only 4 hours to straighten both I-beams by repeated applications of heat on localized areas, alternating with periods of cooling.

A heavy-duty oxy-acetylene welding blowpipe was used in the heating operation. The large flame provided by this blowpipe made available the highly concentrated heat needed in the flame-straightening operation, to heat a comparatively small area rapidly, without affecting the surrounding metal to any marked degree.

In preparation for heating, the I-beam was first laid on its side with the bend extending downwards. The beam was held in this position by two supporting members, one placed under the far end of the beam and the other placed a little to that side of the apex, or extreme point, of the bend. This arrangement left an unsupported end of considerable length, as shown in Fig. 1, whose weight would assist in upsetting the heated metal.

The operator then heated a triangular-shaped area on one

(Continued to page 78)

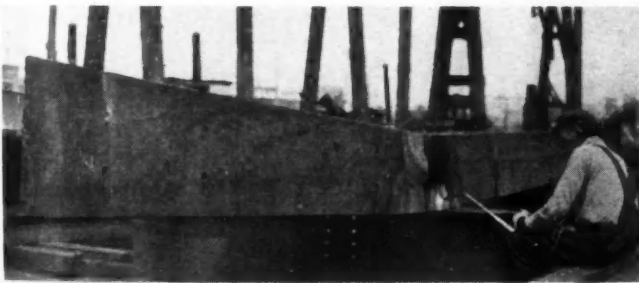


Fig. 1—The operator is shown heating a triangular shaped section at the apex of the bend with a heavy-duty welding blowpipe. When this section was brought to a red heat, it was then allowed to cool while a corresponding area on the opposite flange of the beam was heated. The process was then repeated.

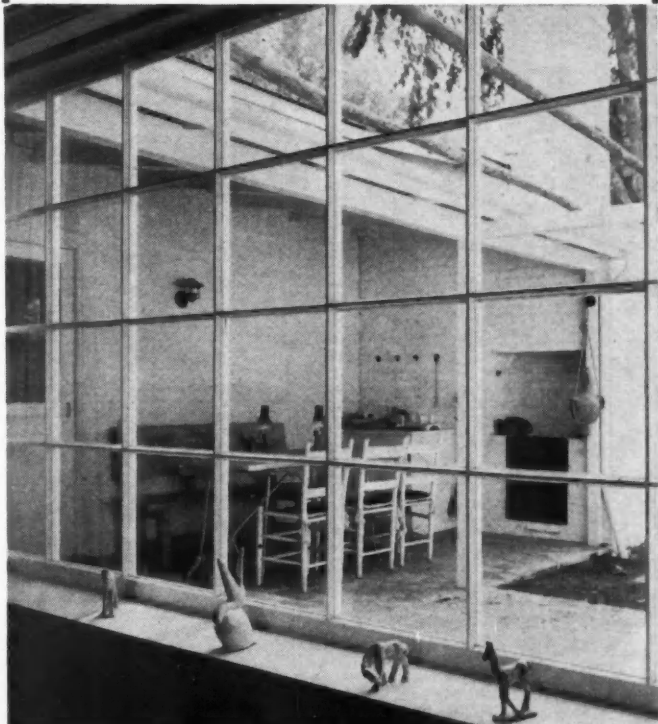


Fig. 2—The I-beam, which originally had been bent sideways 6 in. out of line, is shown here after it had been straightened by repeated applications of heat, followed by cooling. Total time for straightening was only 2 hrs. A second I-beam, similarly damaged, was straightened in the same manner.

The fine and precise milling qualities of Western Pines* make them ideal for

WINDOWS and FRAMES

And there are no Defense restrictions on production



Millwork manufacturers offer builders everywhere a wide variety of stock patterns and sizes—prefit windows and frames—and KD frames.

Windows and frames of Western Pines are non-slivering and light weight. Windows fit snugly, yet are easy to open and close. Ideal for small as well as large homes and commercial buildings.

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

Western Pine Association

Yoon Building



Portland, Oregon

*IDAHO WHITE PINE

*PONDEROSA PINE

*SUGAR PINE

—THESE ARE THE WESTERN PINES—

Practical Job Pointers

(Continued from page 77)

flange at the apex of the bend. As soon as the metal in this area had reached a red heat, he moved to the corresponding point on the opposite flange and repeated this application of heat. By the time the second section had been heated, the first section had cooled and was ready for reheating. This process of alternately heating the same sections and allowing them to cool and to upset gradually drew the beams back into a straight line. Fig. 2 shows one of the straightened I-beams set on its end after flame-straightening.

**Peace-Time Building Aids
Bombing Construction**

JUST as the lessons learned in manufacturing interstate heavy-duty trucks are being applied to making Army motor

transports, so is the building industry applying to defense work many tried and proven principles of construction.

Methods used in earthquake-construction, for example, are being applied to bomb-construction. The reason is found in certain underlying principles of force which are common to both. Four distinct forces are unleashed by the dropping of bombs. They are: 1, Blast wave. 2, Earth shock. 3, Direct hit impact. 4, After effect.

Of these four, it is estimated that the second and fourth forces are most destructive to property. Both of these—earth shock and after effect—are prevalent in earthquakes. A shock impulse may travel to distant points through the earth. It not only weakens and separates structural members of a building; it sometimes completely demolishes them.

Maximum destruction often results from the after-effect force. Fires usually follow. Weakened structures collapse. Fallen debris adds weight to over-burdened members and they give way.

Lessons learned during and after explosions are also valuable to bombing construction. The blast wave, earth shock, and after-effect are found in both. The pressure of a blast wave moves with lightning-speed—first outward, and then inward (the latter is due to the suction created by the former). A blast wave moves so quickly that it has been known to tear a swinging door off its hinges, instead of moving the door!

It was during the great San Francisco earthquake of 1906, and the ensuing terrible fire, that the use of metal lath reinforced construction came into national prominence. Inspecting engineers emphasized the resistance to shocks and fire, reporting "There does not appear to be a safer or more satisfactory protection than that involving use of metal lath."

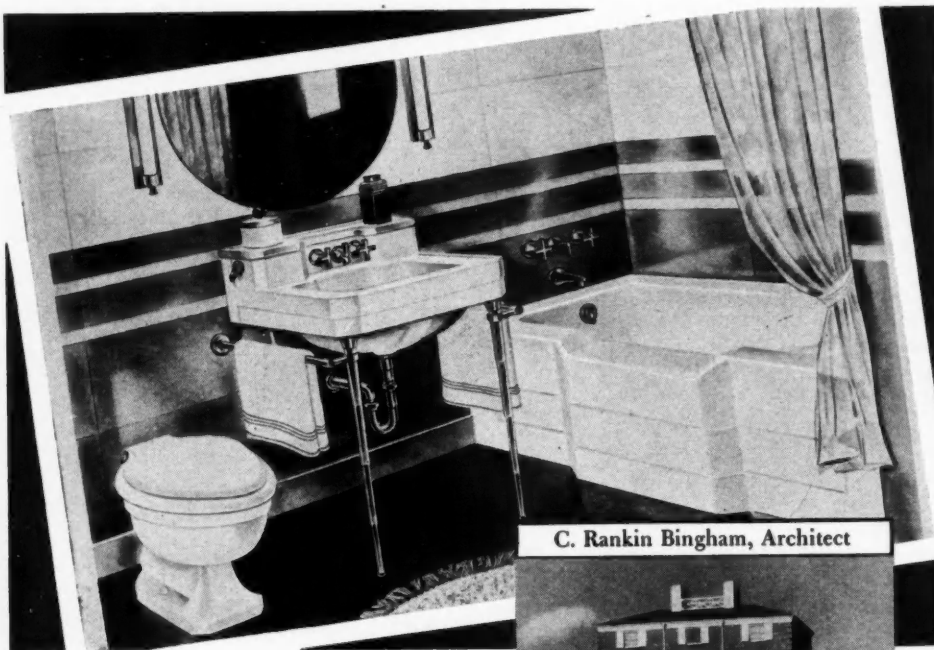
When metal lath is combined with plaster (or stucco), it creates a principle of construction which provides both strength and resiliency. The strength comes from the reinforced steel ribbons which are interwoven through the plaster as the latter is pressed through the mesh of metal lath. (There are about 1400 openings to a square foot.)

A wall or ceiling constructed in this manner is known as earthquake-construction. It has the strength to resist the stress and strain of earth shock. The plaster, united with thousands of steel bands, absorbs the motions without disintegrating. Both plaster and steel are not combustible, providing a barrier to fire.

Public records during the past half-century show that this type of construction has saved thousands of lives and millions of dollars worth of property. For the national defense program it is used in many different buildings in behalf of the U. S. army, navy and marine corps—as well as in defense manufacturing plants and housing projects for civilian defense workers.

**Steel Scaffolding Loaded to
700 Lbs. Per Sq. Ft.**

MECCHANICAL Handling Systems, Inc., Detroit, Mich., scaffolding manufacturer has recently introduced its new mason type safety steel scaffolding—built specially for the building industry which requires a strong scaffold capable of carrying heavy loadings. On thoroughly authenticated tests it has withstood loadings of 700 lbs. per sq. ft. without failure—about four times the capacity of a normal



IN THIS BEAUTIFUL RESIDENCE
NEAR PITTSBURGH.

3 Bathrooms by ELJER



Modern styling and perfectly matched color make Eljer fixtures the choice of critical people.

Throughout this very complete line, your clients will see the design leadership of Eljer, in the seat-ledge bathtub, the concealed lavatory overflow, the integral china overflow in the closet, and many other important developments.

To assure your clients of lasting pride and satisfaction with their bathrooms, be sure they see Eljer ware before you close the specifications.

ELJER CO. FORD CITY, PA.

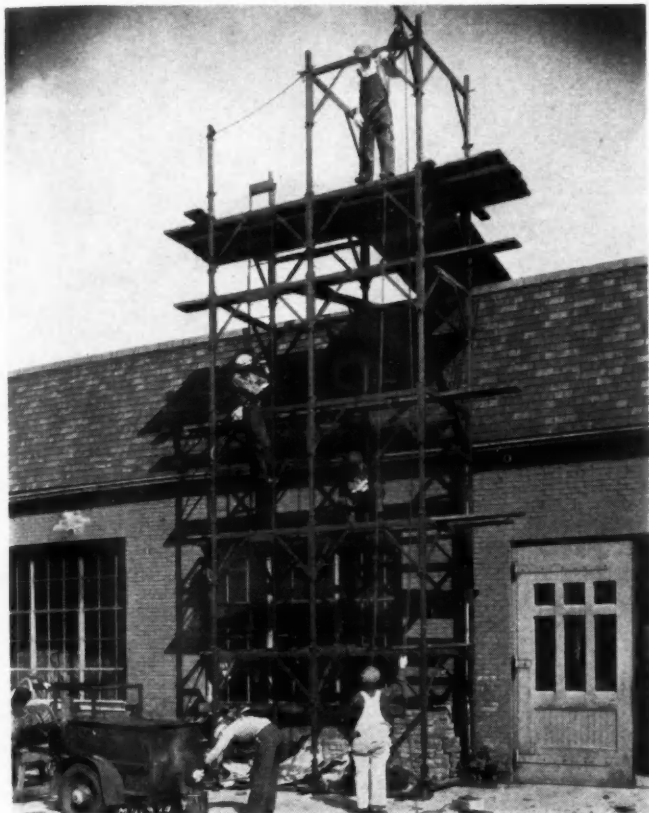
Write for our Condensed Catalog

THERE ARE OVER 5 MILLION ELJER FIXTURES IN USE

building and has been awarded the Seal of Approval for Safety by Underwriters Laboratories, Inc.

The scaffolding is assembled to any height, either as a single tower or a gallery, and can be mounted on casters for portability. It can be built to bridge over a doorway—or with openings for trucks to pass through. The scaffolding assembles to standard 5 ft. lifts, but any brace can be removed from any level of the structure to give free and unobstructed working space from any side.

Due to its great strength, towers built of this scaffolding are ideally suited for use as material lifts,—one size being proportioned for use with Thomas twin hoist equipment.



STEEL scaffolding is erected in 5 foot lifts.

More Light and Ventilation with This Wire Glass Skylight

DARK and heated kitchens, unlighted closets, gloomy bedrooms can all be made refreshing and cheerful with a skylight. Putting one in through the roof is not necessarily a complicated job if care is exercised in cutting through a plastered ceiling. Usually the span of three ceiling beams is a satisfactory length for the skylight opening, and this entails cutting away the middle beam. To do this without damage to the plaster beneath, first screw a two-by-three ("A,A" in the perspective cutaway drawing) across the three joists and a few inches away from where the middle one is to be cut off. Object of using screws instead of nails is to eliminate hammer blows which might loosen old plaster on the ceiling beneath. Now saw out the rectangle of plaster to be removed, doing this from below so as not to fracture the edges any more than necessary. After the cut is made return to the attic and saw off the middle joist and install the header "B." Of course where there is no plaster, one need not be so gentle. The roof is handled in the same manner, shingles being removed around the edges of the opening to permit putting the flashings on, the shingles then being relaid over the edges of the latter. A sturdy sash of standard construction and about one inch larger all around than the skylight well, so that it overlaps, is covered on the top side with wire glass (like Cel-O-Glass), the edges bent over, tacked down and covered with moulding strip. This latter must not extend above the surface of the wire glass. Fit a rod for opening the skylight, and holding the sash in that position.

(Continued to page 80)

Veteran of Every War Since 1816.

LAWSON
Enlists Again.

FOR the fifth time in the 126 years of our existence we of The F. H. Lawson Company have pledged our cooperation to an American Victory program. We are doing our part to see that this war is won just as we did in the Civil War, the Spanish War, the Mexican War and World War I.

In order that we may cooperate to the fullest extent with our government's program for saving metals in our all-out war effort, we have temporarily simplified all of our lines including Bathroom Cabinets.

However, as long as materials are available, we will continue to manufacture a sufficiently diversified line of Lawson Bathroom Cabinets to provide the cabinets most essential to civilian needs.

Write today for our revised price list showing all of the Lawson Bathroom Cabinets now available.

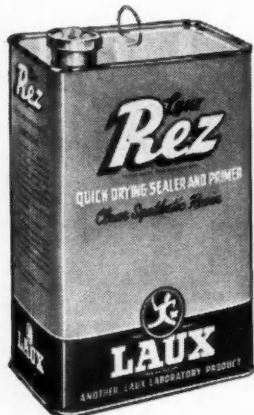
THE F. H. LAWSON CO.
Bathroom Cabinet Division
CINCINNATI, OHIO



SOLD EXCLUSIVELY THROUGH WHOLESALE OUTLETS



**Prevent
"Building Bulge"
with
Laux
REZ**



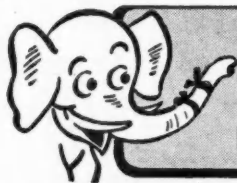
TRADE MARK REG. U. S. PAT. OFF.

AVOID destructive moisture absorption, costly vexatious swelling, binding, shrinking, grain raising, loss of dimension in sash, doors, mill work, plywood, etc. . . . by first applying Laux REZ, the scientific sealer and preservative.

This unique synthetic resin penetrates into wood fibre, leaves a tough water-repellent barrier on cell walls . . . locks in natural moisture, locks out external moisture.

Dry rot, fungus, decay, stain are also controlled because Laux REZ contains a potent, approved toxic.

Applied by brush, spray, in dip tank at the plant, or on the job, Laux REZ gives positive low-cost protection to any wood product, anywhere. Millions of gallons of REZ and other Laucks wood preservatives have given years of lasting protection to construction. Paint, hardware or lumber dealers can supply REZ, or write your nearest Laucks office for complete information.



Don't Forget...
REZ is to Wood
as
Rustproofing is to Metal

LAUCKS WOOD PRESERVATIVES

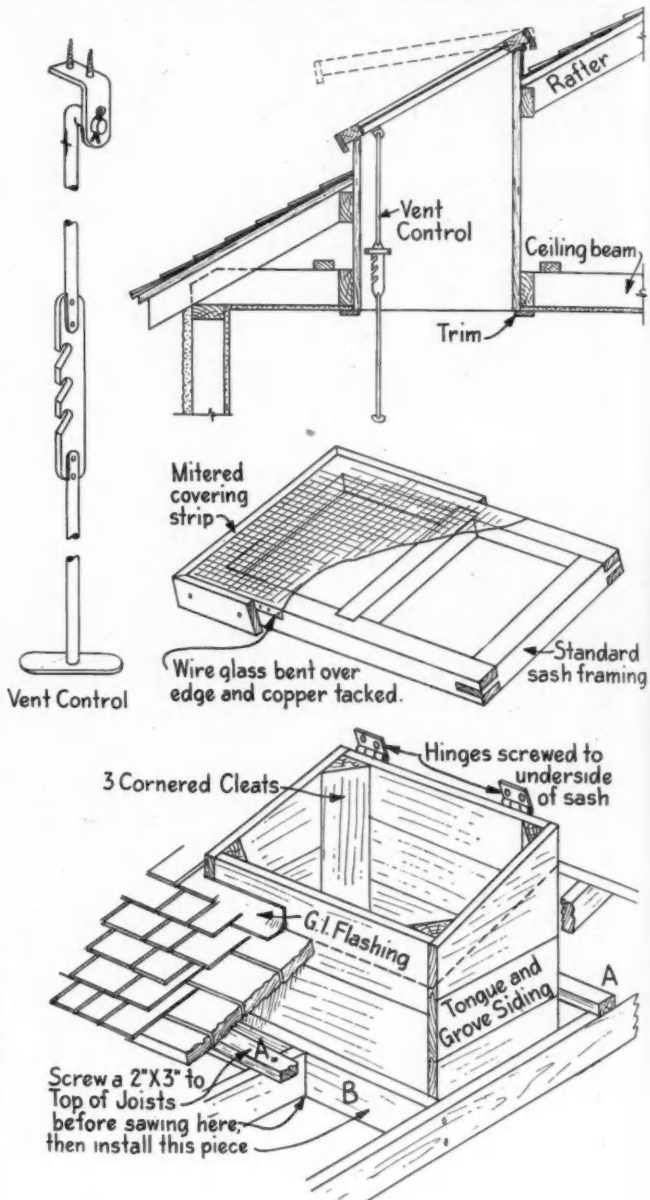
Dry rot, moisture, stain, decay and other types of wood destruction are controlled by a series of Laucks preservatives for use in large-scale industrial application. Each formulation is designed to do a particular toxic or water-repellent job on siding, plywood, etc. Many meet N.D.M.A. or Western Pine Association requirements. Write today for FREE descriptive brochure.

I. F. LAUCKS, Inc.

Seattle, 911 Western Ave., Div. B Los Angeles, 859 E. 60th St., Div. B
Chicago, 6 N. Michigan Blvd., Div. B
Portsmouth, Va., Commerce and Broad Sts., Div. B
Vancouver, B. C., Granville Island, Div. B

Practical Job Pointers (Continued from page 79)

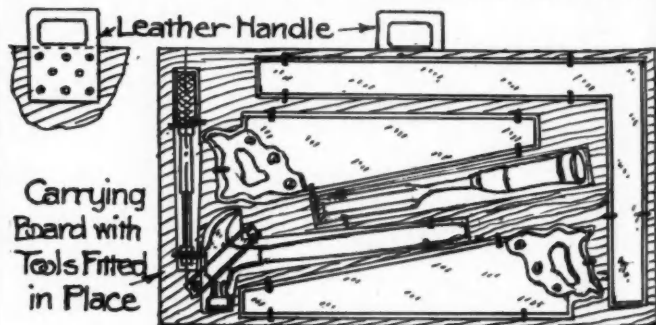
The jagged edges of the plaster ceiling are covered with wood moulding, making a neat job and a great improvement to the room. It is especially useful in the poorly lighted and ventilated kitchens of old structures.—HI SIBLEY, Pasadena, Calif.



CONSTRUCTION details for the simple installation of a skylight.

Carrying Board for Tools

FREQUENTLY the carpenter or woodworker needs only a few basic tools and does not wish to carry these in his hand; nor does he wish to take the whole chest. For such circumstances, make yourself a carrying board. Take a big piece of clear lumber, full 1 inch thick, lay what you consider the most necessary tools



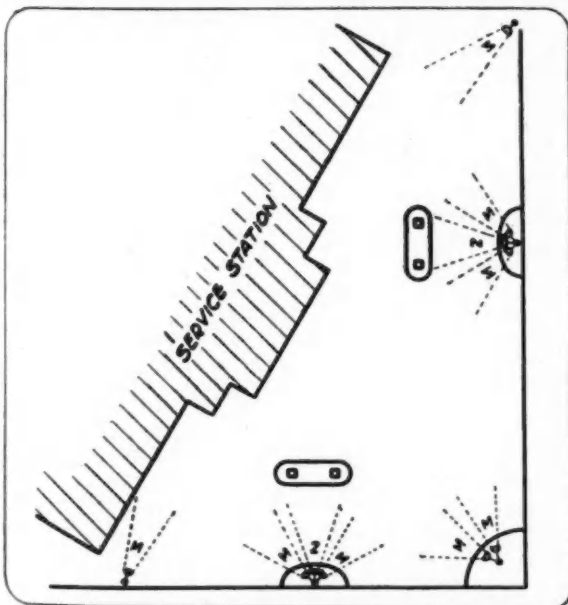
Carrying Board with Tools Fitted in Place

on it, mark around these, then gouge out about 1/4-inch in depth, (deeper for round or thick tools) making a shallow depression into which each of the tools chosen fits somewhat snugly. Make a handle out of a good sized piece of leather nailed on the back. The tools are held in place by L-shaped brass screw-pins, two to four to each. For a few which have no thin flat parts a leather thong with a fastening button might be needed, as for a hammer. This permits carrying enough tools for all ordinary work in one hand very conveniently.—MORRIS A. HALL, White Plains, N.Y.

Modern Lighting Makes Station Stand Out

LIGHTING designed for the job makes this Cleveland service station of the Socony Vacuum Oil Company a real night attraction to passing motorists. The lighting is attractive because it is correctly distributed. Ten Westinghouse service station floodlights, eight employing 400-watt mercury lamps and two using 500-watt incandescents, produce a lighting intensity of 36 footcandles on the important working areas around the pumps.

The floodlights produce a light pattern especially designed for service station illumination, by means of a dual beam. Each has a reflector whose bottom half has a polished surface, with the upper half having a diffused surface. Result is a beam whose lower half is a wide shaft of light having a top horizontal cut-off, for yard illumination, and with a narrow upper beam for building highlighting. The floodlights are mounted 16 feet above ground level, on steel poles. Total floodlighting load is only 4.2 kilowatts.



MODERN floodlighting has made this Cleveland service station a real night time attraction to passing motorists. Installation diagram shows the approximate beam directions of the floodlights. Units marked "M" employ 400-watt mercury lamps; those marked "Z" use 500-watt incandescent lamps. Total floodlighting load 4.2 kilowatts.

Here are 2 sound building practices:

1 Use Douglas Fir stock entrance and interior doors in every structure.

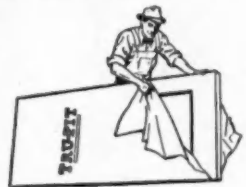
2 Order these doors pre-fitted at the mill.



Every Tru-Fit Douglas Fir Entrance Door comes pre-fitted, ready to hang in exact size openings.

● Douglas Fir stock doors are quality doors in every respect. Made in strict accordance with U. S. Commercial Standard CS73-38, you and your clients are assured of a well-made, well-finished stock door of durable Douglas fir, unsurpassed in service and satisfaction. Only because they are manufactured by mass-production methods are they priced the same as ordinary doors. It is wise to order them pre-fitted (*the extra cost is slight*) and grade-marked.

Tru-Fit Durable Douglas Fir Entrance Doors also have a Commercial Standard, CS91-41. They are made only of all-heartwood, vertical-grain, old-growth Douglas fir in 27 architecturally correct designs. They come factory-fitted, ready to hang in exact size openings. This saves many builders as much as \$1.50 per opening. Scuff strips and protective wrapping assure the delivery of a Tru-Fit Entrance Door to your job in the same perfect condition it leaves the mill. Tru-Fit Entrance Doors cost you no more than other good doors . . . save you time and money . . . assure the user of lasting satisfaction and beauty. Available at all lumber dealers.



Every Tru-Fit Entrance Door is individually wrapped and scuff-stripped. Tru-Fit trade-mark is your guarantee of a door unsurpassed in material, workmanship, construction, design.

Look for these grade-marks on all stock fir doors:

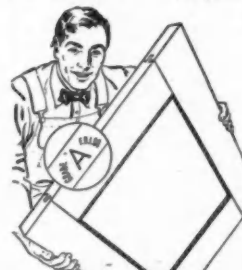


A-grade doors are recommended for ALL finishes.

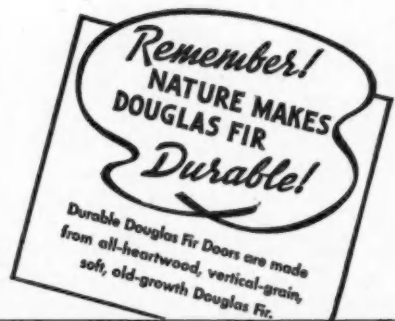
B-grade: recommended primarily for paint finish.

ONLY paint finishes are recommended for C-grade Douglas fir stock doors.

MR-grade doors are made in 1 1/2" thickness only; combine materials from A, B and C grades.



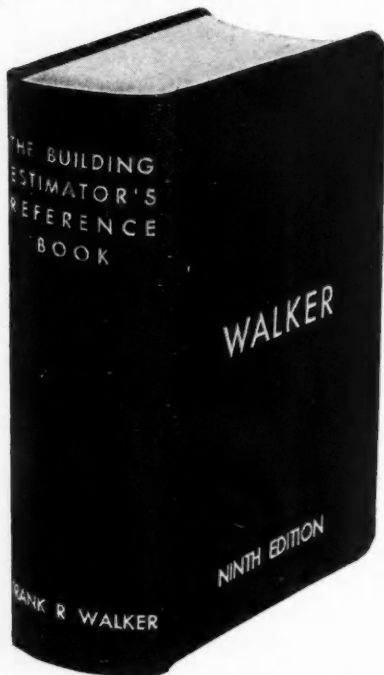
FREE CATALOG!
Send now for free color catalog showing both stock fir door and Tru-Fit designs. Fir Door Institute, Tacoma, Washington.



The Building Estimator's Reference Book

Will Help You

1. Increase Your Profits
2. Stop Your Losses
3. Prepare More Accurate Estimates
4. Save Your Estimator's Time
5. Perform Your Work at the Lowest Possible Cost



This New Guide contains just the information you need to prepare your estimates quickly and accurately. It gives the correct method of measuring and listing quantities from the plans, together with accurate material quantities and the labor hours necessary to complete any class of work.

Regardless of whether you do alteration, remodeling or repair work; or whether you build houses, apartments, commercial or industrial buildings—large or small—it contains just the information you require to prepare money-making estimates in the shortest possible time and with the least possible effort.

1,678 pages, illustrated, index, 4½ x 6½, flexible, \$10.00.

Vest-Pocket Estimator

Size 2½ x 5 Inches—Flexibly Bound

FREE



This popular little book (not sold separately) contains 220 pages of up-to-the-minute estimating and cost data in condensed tabular form for ready reference. Fits right in the vest pocket and is always with you on the job or in the office ready to help you with your daily problems: Worth its weight in gold to every contractor and estimator.

Send for Your Copy Today!

You take no chances in sending for these new guides. Try them out for 5 DAYS FREE on your own work or when preparing your own estimates. If they don't more than prove their value to you, return them and the purchase price will be refunded at once.

Book Service Department

AMERICAN BUILDER and BUILDING AGE

30 Church Street,

New York, N. Y.

LETTERS from Readers on All Subjects

Facts, Opinion and Advice Welcomed Here

Urges Clay Pipe Instead of Cast Iron for Drain Lines and Stacks

Pittsburgh, Pa.

To the Editor:

In some localities local building codes insist upon the use of metal pipes for connections between buildings and public sewers, for soil and drain lines beneath cellar floors and for plumbing stacks and vents, even though alternate materials, for fully satisfactory construction of each of these items, have been long available. The essential purpose of each of such pipe lines is to convey domestic wastes from the point of origin to a public sewer or to local disposal facilities. It is noteworthy that public sewers into which such wastes discharge for transmission to a central treatment and disposal works are rarely constructed of metal even though the quantity of liquid to be carried is many times that flowing in a single house connection or soil pipe line.

To safeguard public health, building codes frequently prescribe test measures to insure water tightness. The prevalent test is that of maintaining internal pressure equivalent to 10 feet water column. It is still permissible, in some places, to use materials other than metal pipe for main plumbing, subject to meeting the prescribed tightness tests. In other cases, all materials excepting only metal are prohibited.

In time of stress and metal shortages, it appears wise to investigate the relative advantages and disadvantages of all pipe materials available for such construction. Metal pipes, offhand, seem to possess the advantages of tightness and permanence. Since the plumbing installation as a whole must be, in a great majority of cases, installed by a licensed plumber, it follows naturally that such pipe and sewer work as is included in plumbing installations usually calls for materials and construction naturally suited to the plumber. Being experienced in the handling of lead, plumbers naturally prefer to work with iron pipes and lead joints.

However, iron pipe plumbing is not necessarily either the best or lowest in cost. It has been thoroughly demonstrated that the life of clay pipe exceeds even that of iron and that, presuming careful workmanship and inspection, a completed line of clay pipe can meet all of the tightness tests prescribed for iron construction. In many locations the current shortage of metal has caused passage of emergency legislation giving outright permission to substitute clay pipe even though local codes insist upon the use of iron.

To the builder, the use of clay is an advantage; both material and labor costs are lower and the finished work longer lasting. Clay bell and spigot pipe may be used even as rain water conductors. One might very well ask how such conductors, and plumbing stacks and vents also, can be protected against accidental fracture. The answer is a simple one. When installing vertical lines of clay, the pipe should be assembled inside a light form. The pipe can be then enclosed in a cement concrete encasement which is later incorporated in the structural design of the building. No special attention need be given the joints of the pipe upon assembly, the concrete providing all necessary reinforcement against leakage.

Substitution of clay for iron in this manner would save for normal small house construction from 10 to 15 pounds of metal per foot of sewer, stack and vent, the total for a small house normally amounting to from one-half to three-quarters of a ton. Obviously the amount of metal which can be released by this device might run, at even a very conservative estimate, to many thousands of tons for even a curtailed building program during the coming year.

Such a saving is important not only because the iron is urgently needed for military purposes but also because it tends to permit much needed housing which might otherwise be prohibited if metal pipe construction were to be insisted upon in every case. As a general rule, the purpose of all building codes is to protect public health and safety by prescribing minimum standards of construction. So long as the objects of health and safety are attained,

there is no sufficient reason for restricting any construction to particular materials or methods, and certainly during times of emergency, there is every reason for making whatever code modifications or changes may be necessary to permit the use of non-strategic materials. The building industry can make a great contribution to the country by fostering the use of clay pipe construction for interior plumbing lines of the type named. It is not necessary to eliminate all metals from new plumbing work. This, perhaps, may never be possible but it is both possible and practical to reduce materially the amount of metals currently used. The extent of metal saving is dependent only upon the willingness of the building industry to open its own mind and the minds of inspection departments. The reward is continued work in the building field. The penalty for failure may be complete prohibition of new construction.

BENJAMIN EISNER,
Chief Engineer, Clay Sewer Pipe Assn., Inc.

Handy Paint Brush Cabinet

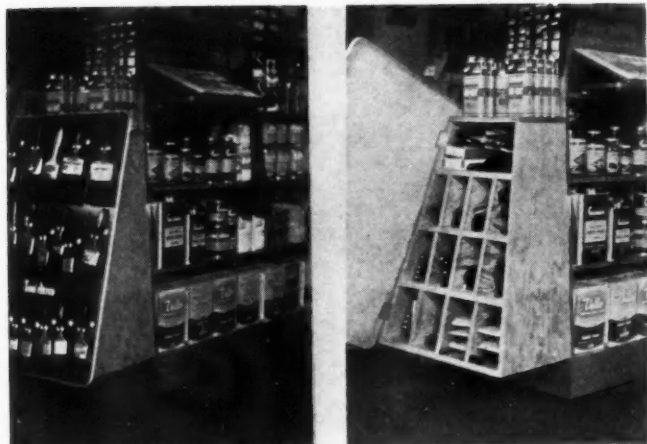
Denver, Colo.

To the Editor:

Utilizing a paint brush display board, Mr. George Patterson, owner of Rugby Lumber Co., Rugby, N. D., built a cabinet on one end of a paint display island.

I am submitting two prints showing the cabinet open and closed.

OWEN G. MCKINNEY, Sales Representative,
Johns-Manville Sales Corp.



Has Stopped Pricing Per M

Valley Station, Ky.

To the Editor:

I have just been reading the experience of one of your subscribers in quoting insulation per M, which reminds me of a similar instance that occurred here and from which I learned a lesson that might be profitable to some of your other readers.

Some time ago a prospect dropped in and began asking prices per thousand on different items of lumber, all of which sounded like a lot of money and he walked out with the remark that everything was high. It occurred to me, just as he went out the door, that my quotations might have confused him; so I caught up with him and asked what he was planning. After he told me it was a one car garage, I suggested he let me list all the material he would need and price the lot, as the job total was all he was interested in any way. He came in and gave me the dimensions, etc.; and it turned out he needed only about \$60 worth of material. This satisfied him, with the result I got the order, instead of a "walk-out."

Since then, unless I know a customer is actually interested in the per M price, I do not price lumber this way. I find it better to quote by the hundred, or lin. ft., or by the job. It sounds better to price quarter round at 1 cent per foot rather than \$10 per thousand, or moulded YP casing at 5 cents per foot rather than \$150 per thousand BM, or 2x4-8' at 23 cents each rather than \$45 per M.

The *American Builder* is an interesting magazine and the arrangement for sending it to our friends is appreciated very much.

F. L. WILKERSON,
Wilkerson Coal & Lumber Co.

TO OUR FRIENDS

A STATEMENT FROM THE PRESIDENT OF VICTOR ELECTRIC PRODUCTS, INC.

★ ★ ★

As manufacturers of Victor In-Bilt Ventilators for homes, our production for 1942, in common with all products using metal, will be subject to restrictions arising from the emergency. At present, however, we are still prepared to ship all 1942 models of In-Bilt Ventilators and we will continue to supply our customers with these items as long as it is possible to produce them.

★

Our facilities are now partially engaged in war production. This will increase. Such work will have the right of way to the limit of our productive facilities and the demands of the U. S. A.

★

While production of In-Bilt Ventilators is temporarily restricted, post war planning will go steadily forward. When the crisis is over, we will offer a better product than ever for the homes that will need to be built and remodeled after the war. Meanwhile, we advise architects, builders and home owners to consult with their local electrical supply and building material dealers for In-Bilts which may still be available for present needs, or write us for the names of such dealers.

★

Remember, In-Bilt Ventilators can still be had for approved defense housing, or for non-defense public housing already under construction. On such projects we are ready to extend every possible cooperation to supply In-Bilt Ventilators.

C. L. Harrison President

Victor Electric Products, Inc.

CINCINNATI, OHIO



BUY DEFENSE BONDS. Average purchases of Victor employees to date are \$100 worth of Bonds each.

TRENDS in Home Equipment and Building Materials

New Magic Chef All-American Range

NEWEST development in gas range design is the new "All-American" model Magic Chef gas range, embodying request-features that combine the majority opinions of 615 home economists, according to Stanley H. Little, vice president in charge of sales of American Stove Company, Cleveland.

"Specifications for the new 'All-American,'" said Mr. Little, "were based on a survey of 88 questions, sent to outstanding home economists throughout the country. These women represent home economics instructors in high schools and colleges, home service women in public utilities, home economists in food companies and other business fields, women who contact approximately a million and a quarter homemakers and students annually.

In response to majority requests, the new range has more top area, larger oven and broiler, with over-all size of 42" x 26½". The oven is large enough to accommodate a 25 to 30 pound turkey, with plenty of air-circulation space on all sides; it is admirably adapted for cooking complete oven dinners or for large quantity baking, with dimensions of 18" wide, 14" high, 20" deep.

The popular "swing-out broiler" has been made with considerably larger broiler pan area, and is of unusual depth so that it may be used for broiling a whole chicken, or barbecue-type cooking of meats. This new broiler section also gives the additional advantage of an auxiliary oven, as it may be used for baking many types of meats, heating casseroles, etc.

Extra area is provided between top burners, on the modern divided cooking top. Thus four large utensils, as much as 12" in diameter, may be used simultaneously, without any pans being crowded off-center on the burner. cooking grates are made flush



NEW model Magic Chef range.

with the range top, so that heavy pans may be slid off the burner without lifting or danger of spilling. Folding coveralls on each side also fit down flush with the top, giving a smooth table-top surface.

Crawford Offers "Junior" Door

FOR SOME YEARS upward acting garage doors have been considered an essential feature of fine homes, and as the price has been lowered, there has arisen an increasing demand for them in the less costly types of dwelling. The Crawford Door Co., Detroit, Mich., has recently announced the Crawford "Junior" door, designed for low cost residences.



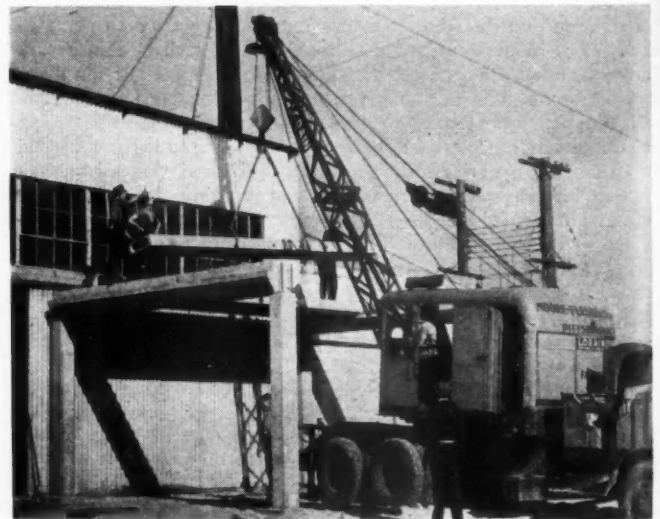
CRAWFORD "Junior" door is smart in appearance.

One of its features is the long, continuous spring which contains 2,550 coils, over which the balancing load is distributed to afford ease in operation. Various features of the more expensive Crawford door have been retained in the Junior model, including the patented weathertight joint which runs the full width of the door. The Junior door is made in two sizes only: 8 by 6 feet 6 inches and 8 by 7 feet. One of the advantages of this model is that, owing to the simplicity of the equipment, the installation of the hardware is accomplished with remarkable ease. The company considers the installation so simple that it distributes the doors in many territories uninstalled and permits the local carpenter to perform the operation himself.


Assemble Concrete Units for Factory

A REVOLUTIONARY new prefabricated concrete construction system designed to smash all records in high speed defense plant construction and described as utilizing a minimum of vital materials has been announced by W. P. Witherow, Jr., president of The Cemenstone Company, Pittsburgh. The system developed involves specially engineered columns, girders, long or short span floor or roof slabs, and wall panels. These individual units are made of pre-cast reinforced concrete. With a minimum of effort and expense, plants thus erected can be made larger or smaller.

"Defense necessity was the mother of our invention," said Mr. Witherow. "There is an urgent need for structures which use a minimum of critical materials and which can be erected with ease and speed even in the dead of winter. We set out to solve the problem and we now believe we have the answer."



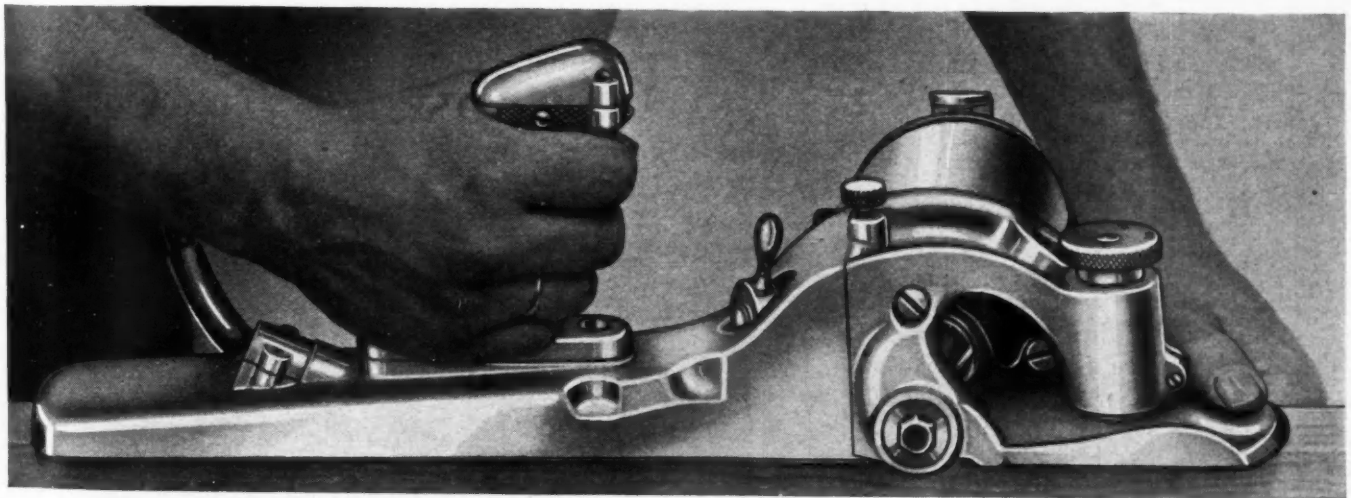
SPECIAL speed trial of new defense plant construction system being conducted at Cemenstone Company's Pittsburgh plant.



Symbols of Quality
QUALITY

There are no finer finishing limes than the original "Ohio" and its famous twin, "Hawk Spread". Made from the world's purest deposit of dolomitic limestone, both are always fresh, work cool, spread far. For your protection both brands are always packed in distinctively marked Red Zig Zag Bags.

For literature describing our complete line of Ohio Lime Products write to:
The Ohio Hydrate & Supply Co.
Woodville, Ohio



Fit 3 to 5 times as many doors per day

Yes, you can do it with a Carter J-5 Electric Plane. Doors, Sash, Screens, Storm Windows, Transoms—any job of planing quickly and smoothly to size is a "natural" for this biggest of all Portable Electric Planes, and here's why . . .

- ★ Planes surfaces up to 2-1/2 inches wide
- ★ Quickly set for any depth to 3/16 inches

- ★ Spiral cutter turns 18,000 R.P.M.
- ★ Leaves smooth, true surface
- ★ Makes straight or bevel cuts to 45°

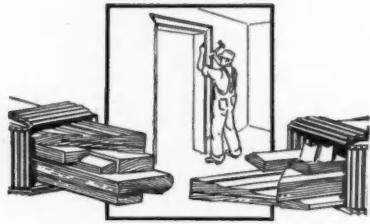
Get this money-maker. You can save enough on one big job to pay for it. Write now for literature and demonstration.
R. L. Carter Division, The Stanley Works,
133 Elm Street, New Britain, Connecticut.

A HIGH SPEED JOINTER, TOO!

Set up the J-5 with the Bench Bracket furnished, and you have a handy jointer, for inside trim, and other light shaping jobs.



CARTER MONEY-MAKING TOOLS



TRIMPAK SAVES LABOR FOR DEFENSE

Right now when labor saving is more important than ever before TRIMPAK helps you release 40% of labor for defense work. Trimpak saves transportation, too, by leaving the waste trim at the mill. And there's no critical equipment involved in Trimpak.

Trimpak—the ultimate in trim—is America's finest quality, packaged window and door trim. Trimpak is precision cut, perfectly manufactured and delivered to the job in strong cartons ready for installation.

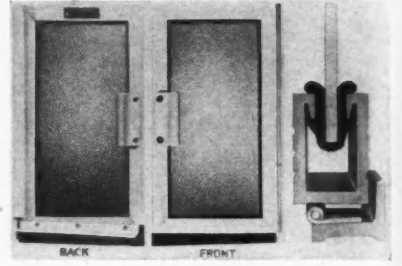
Investigate Trimpak today. Have your local lumber dealer show you the new patented lock-joint mitred trim that saves 44% installation time and assures perfect joint. For literature and full information write direct to Dept. AB-2, Trimpak Corporation, 44 Whitehall Street, New York, N.Y.

TRIMPAK

"THE ULTIMATE IN TRIM"

A Shower Door—From New Plastic

WITH STRENGTH of steel and working qualities of aluminum, a new extruded plastic has been produced. At present its use is confined to shower doors and enclosures. These are being manufactured by the American Shower Door Company, Los Angeles, under the trade name of "American Maid." All glass is pressure-set in rubber which gives protection against breakage and insures a tight fit. Door can be made to roll away or to open in or out. Special anti-drip deflects water into trough and prevents door from leaking when open. The doors are supported their entire length with piano hinges, giving a sturdy non-sagging door which will not warp. With aluminum off the market this new plastic door gives the trade something that will last and retain its fine appearance. A catalog showing styles is available. Doors can be made to any size and the cost is extremely low.



NEW plastic frame shower door.

New Low Cost Kohler Fixtures

AS ONE ANSWER to the need for low-cost plumbing for defense housing, Kohler Co., Kohler, Wis., is announcing the Freeport matched set, featuring two new fixtures and a matching closet. This "minimum budget" bath consists of an improved and modernized single-shell tub, the Potomac, a new enameled cast iron shelf lavatory, the Delton, and the Trylon close-coupled washdown closet.

The Potomac is an enameled cast iron recess wing bath, enameled inside only. It has low sides and a flat bottom. The compact built-in mixer fitting has an anti-siphon feature—an overrim spout. There are two integral soap-dishes. The tub measures 5', its over-all width is 30". The rim is 3½", depth inside is 15½".

The Delton is a modern staple shelf lavatory with built-in mixer fitting. Though small in size for economy of space, it has a large water area, a capacity of 1½ gallons. The outside dimensions of the lavatory are only 18x15". The basin, an attractive modified "D" shape, is 14x10".



NEW Kohler "minimum budget" matched bath set.

Masonry Waterproofer Developed

ANNOUNCEMENT comes from the American Fluresit Co., Inc., Cincinnati, O., of the development of Lapidensin, which waterproofs and dampproofs exterior masonry walls above grade.



Its purpose is to prevent dampness and rain from penetrating through porous surface of the average masonry wall as shown in the illustration of a house which has not been water-proofed.

STAINED masonry walls could have been prevented by use of waterproofer.

Lapidensin will water-proof without changing the color or the appearance of the surface, and if this building had been treated, these damp spots would not have appeared. The material penetrates deeply into the masonry and permanently waterproofs the surface by changing the capillary attraction in stucco, brick or mortar to a condition where dampness and rain are actively repelled from the surface. Lapidensin comes packed in one, five, thirty and fifty-five gallon drums and is moderately priced.

Barclay Board Has Resin Plastic Surface

A NEW catalog from the Barclay Mfg. Co., 385 Gerard Ave., Bronx, N. Y., presents all necessary facts concerning Barclay wallboard. The new feature of Barclay Board is a heat-treated phenyl-resin plastic surface fused to the wallboard by heat treatment. This plastic-coated surface gives a beautiful, lustrous finish which is extremely durable.



BARCLAY tileboard used for these bathroom walls of beauty.

Barclay is fabricated in large wall-size sheets, 5/32" thick, that can be applied over old or new walls and ceilings with a minimum of effort by any competent carpenter. Three standard surface design patterns and a wide selection of color combinations offer limitless possibilities for decorative schemes.

Tileboard—material for walls where tile is desired. It provides a wall surface of gleaming

"tile"—a smart, striking decoration at a fraction of the cost of ceramic tile. Tileboard sheets have scored joint markings forming 4" squares, giving the effect of 4" tile set in cement. The "mortar" lines are in contrastingly distinctive colors.

Panelboard—large color panels made in the same wide range of colors as Barclay tileboard, but having no score markings. These lustrous panels create an effect of colorful spaciousness particularly desirable in modern interior decoration.

Streamlined—designed especially for harmonizing with contemporary interior styling. Streamlined sheets are scored with horizontal "mortar" lines, spaced 4" or 8" apart, running the entire length of the panel. An infinite variety of decorative efforts is obtainable by installing these sheets horizontally or vertically, and in contrasting combinations with tileboard or panelboard.

RYBOLT



Series DH-70S
Steel Coal-Fired
Winter Air Conditioner

Low-Priced RYBOLT Heating Units for WAR-TIME HOUSING

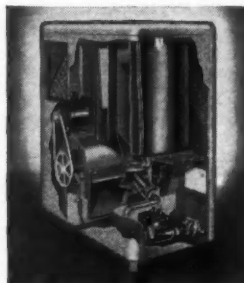


• The RYBOLT complete line for 1942 includes a number of units especially adapted to meet the exacting requirements of War-Time Housing. Particular attention is directed to Series

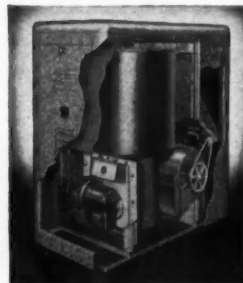
DH-70S for coal firing, Series RS gas-fired unit and Series RO oil-fired unit, all fully equipped Winter Air Conditioners which are compactly designed to fit in small space. They are highly efficient, yet low in price.

For the same purpose, Series 1815, the 18" coal-fired Gravity Furnace will give dependable and economical heating service where a still lower priced unit is indicated.

All of these units are dependable and ideally adapted for Factory Prefabricated or Site Prefabricated houses.



RYBOLT Series RS
Gas-fired Automatic
Heating Unit



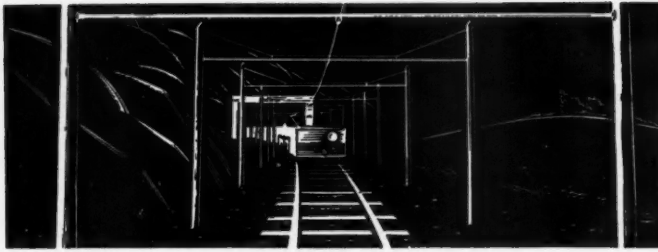
RYBOLT Series RO
Oil-fired Automatic
Heating Unit

Write for Descriptive Folders



THE RYBOLT HEATER CO.

619 MILLER STREET • ASHLAND, OHIO



They Found Something Here You Should Know About

COAL MINES are tough on construction materials. Untreated timbers do well, we're told, if they last more than seven years. So, when you learn that Wolmanized Lumber* is being used where the coal mines class the construction as "permanent," you know they've found something good.

WOLMANIZED LUMBER is ordinary wood that has been made highly resistant to decay and termite attack. Vacuum-pressure impregnation with Wolman Salts* preservative, under exacting technical control, does the trick. Service records covering millions of feet of Wolmanized Lumber are evidence of its durability.

MANY JOBS can be done best with wood; it is light, strong, resilient; it goes up easier and faster, and it costs less. With Wolmanized Lumber, you greatly lengthen the life of the construction. That's why it has been selected for so many of the tough jobs in industry. Wolmanized Lumber is handled just like ordinary wood. It is clean, odorless, and it can be painted.

LET US SEND YOU further data on Wolmanized Lumber and its performance. Write American Lumber & Treating Company, 1645 McCormick Building, Chicago, Ill.

*Registered Trade Mark

WOLMANIZED LUMBER



Merchandising Air Raid Shelters in London, England

SEVERAL folders have been put out by the Dunbrik Limited, London, England, to sell its product especially for air raid shelters. The picture on one of these that has come to the parent company in this country, W. E. Dunn Mfg. Co., Holland, Michigan, shows one built in Trafalgar Square where Nelson's Monument is located.

"These shelters have proven effective even with bombs falling very near, having stood up to the impact and blast, etc., in grand style," states Stanley Robinson, general manager of Dunbrik Limited.

The brick are supplied in choice of several colors and at sixty shillings per thousand, equivalent to approximately \$15.00 in our money. The machinery and complete equipment for these manufacturing brick plants were furnished by the Holland, Michigan, company, several years before hostilities broke out.

How to Analyze Plaster Problems

THE third of a series of three charts which summarize all phases of plaster has just been published by the United States Gypsum Co., Chicago. This third chart classifies troubles, and gives information to help solve practically any type of complaint.

The first chart gives facts to help select the best plaster base for various jobs. It explains the pros and cons of rocklath, metal lath and various systems of application.

The second chart explains the properties and uses of the twelve types of plastering materials and 56 brands of plaster made by the company. A complete glossary of plastering terms is also included in this chart.

Now, with the third chart, almost any question relating to plaster can be answered. Thus, the three charts provide an exceptional reference library on the subject.

Free copies of each chart, or all of them, will be mailed upon request.

Shingle Bureau Holds Annual Meeting

PLEDGING their entire cooperation to the government during the present war emergency and at the same time laying plans to fit the shingle industry into any industrial policy which might be carried forward by the government, several hundred shingle manufacturers met in Seattle on December 19 for the 25th annual meeting of the Red Cedar Shingle Bureau.

The convention came, according to W. W. Woodbridge, Bureau secretary-manager, at the close of record year of shingle production, eclipsing the 1940 mark by over half a million squares. Woodbridge said that this increased demand for red cedar shingles is a continuation of a steady trend which has been felt by the industry during the past decade. Stating that national defense building requirements have called for large quantities of shingles, he graphically characterized the year's shingle production as a continuous trainload 344 miles in length.

The three convention speakers were B. R. Ellis, priorities director of the National Lumber Manufacturers Ass'n., W. C. Bell, managing director of the Western Retail Lumbermen's Ass'n., and Carl Blackstock, president of the National Retail Lumber Dealers Ass'n.

One of the most interesting reports of the convention, which was conducted by Bureau President Paul R. Smith, was that of W. H. McLallen, chairman of the Bureau's advertising and trade promotion committee. McLallen showed that over 70% of the Bureau's funds during the past year were spent directly on advertising and promotion, with an appreciable portion of the remainder also going indirectly into this channel.

A feature of the meeting was the presentation of a citation of service to S. P. Johns, Jr., who had long served on the Bureau's board of trustees. The award was made by A. H. Landram, a friend and fellow shingle manufacturer of long standing.

The annual report of Secretary-Manager W. W. Woodbridge featured the activities of the Bureau's well known staff of traveling fieldmen. In the form of stereopticon slides, the report graphically portrayed the work of the various field representatives, a number of whom came to Seattle for the meeting and were in attendance.

Woodbridge was re-elected secretary-manager, and G. A. Brewer, assistant secretary-manager. Smith was re-elected




A GENERAL reunion and banquet was held by the Red Cedar Shingle Bureau in Seattle on December 18, preceding the 25th annual convention of the association. In attendance at the conclave were a number of the Bureau's staff of traveling fieldmen. Front row, left to right: A. J. Wartes of Seattle, Clark Cross of Kansas City, Paul Plamondon of Philadelphia, R. C. Peach of Houston, George Abendschein of Cleveland, Wm. Hatch of Minneapolis, W. J. Ivey of Los Angeles, F. M. Pratt of Chicago, and V. G.

Bureau president for 1942, as were vice-presidents Ralph Wayland of Seattle and H. V. Whittall of Vancouver, B.C. Other trustees elected were: Jess Schwarz of Kelso, S. B. Lewis of Longview, W. R. Morley of Aberdeen, Dale Craft of Whites, L. A. Lamere

Peterson of Seattle. Back row, left to right, H. C. Brown of Seattle, C. P. Constantine of Botsford, Constantine & Gardner, Seattle, G. S. Raphael, Vancouver, B. C., W. W. Woodbridge, Bureau secretary-manager, Seattle, H. V. Whittall, vice-president, Vancouver, B. C., Paul R. Smith, president, Seattle, Ralph Wayland, vice-president, Seattle, G. A. Brewer, assistant secretary-manager, Seattle, D. M. Botsford of Botsford, Constantine & Gardner, Portland, and W. W. Woodbridge, Jr. of Botsford, Constantine & Gardner, Seattle.

of Olympia, J. A. McEvoy of Seattle, E. R. Scott of Edmonds, P. H. Orwell and Ray Wilde of Everett, W. C. McMaster of Marysville, and Chas. Plant, W. H. McLallen and J. MacKenzie of Vancouver, B.C.



MAKE BIG MONEY with an **AMERICAN FLOOR SANDER**

Be your own boss and make big money with an American floor sanding machine. Hundreds of men are doing it and so can you. With the many outstanding time and money-saving features, American machines for years have been the favorite of floor surfacing men.

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.

AMERICAN FLOOR SURFACING MACHINE COMPANY

511 SO. ST. CLAIR ST. TOLEDO, OHIO

Gentlemen:

Send complete details and prices without cost.

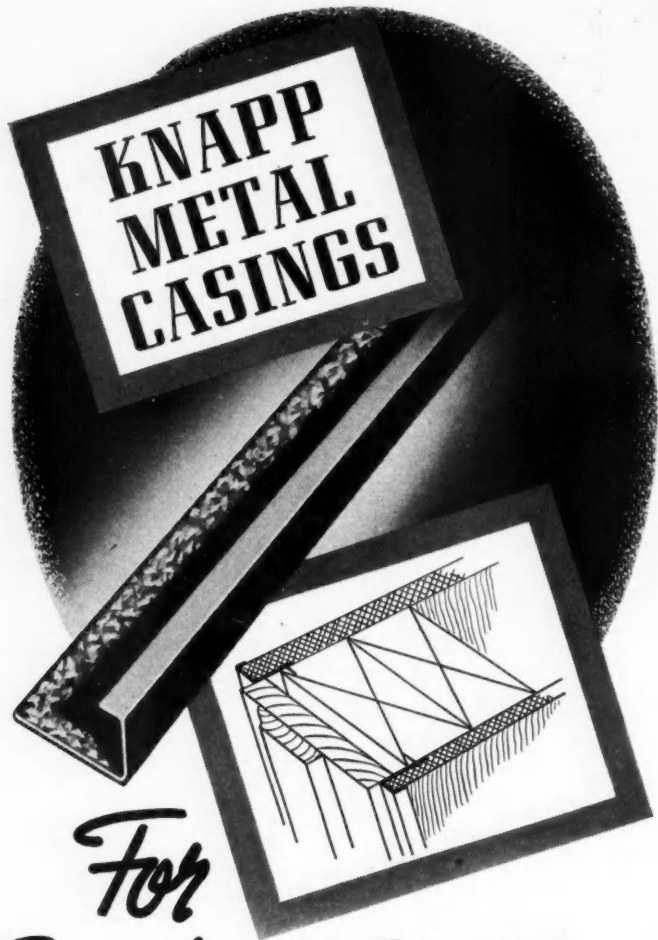
I want to go into floor surfacing business.

I would use sander in my contracting business.

Name _____

Street _____

City _____ State _____



*For
Modern Building
Needs...*

TODAY'S building operations call for speed, economy and durability. Speed in applications, economy in ease of handling and adaptability to various types of construction — durability which by inherently sound design and fabrication will give years of service.

Knapp casing No. 35½ shown above is particularly suited for this simple, speedy type of construction used in defense building and is available in thicknesses and gauges to meet the specifications for any job.

Knapp products have been the standard for comparison in the building field for many years. Ask your building supply dealer for prices and details of the complete line of Knapp products.

Knapp Metal Casings are made by the manufacturers of Knapp Corner Beads.

KNAPP METAL TRIM
KNAPP BROS. MANUFACTURING CO.
GENERAL OFFICES • JOLIET, ILLINOIS

PRODUCERS TELL US—
About Products, Personnel, Plants

Holland Oil Furnace for Small Homes

THE HOLLAND Furnace Co., Holland, Mich., reports that home owners no longer find it extravagant to burn oil if they install this new oil furnace for small homes; with it, builders can be assured of safe, healthful, economical heat without the usual furnace tending drudgery. Provided with automatic thermostat, this equipment supplies the desired degree of temperature and at a very low cost per day.

The Holland oil furnace has a burner of the vaporizing type, with built-in pressure fan. The controls are entirely automatic to insure carefree operation. Sensitive room thermostat maintains desired temperature. This unit has been approved by Underwriters Laboratories and Commercial Standards CS 75-39.

NEW Holland oil furnace for small homes.

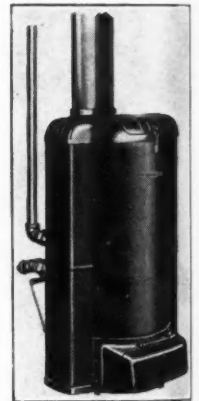


New "Warm Morning" Water Heater

THE LOCKE Stove Co., Kansas City, Mo., offers a new coal burning hot water heater. Model 110, illustrated, will hold approximately 50 pounds of coal at a charge. It is 35" high, 19½" wide and 17½" from front to back. It is thermostatically controlled and employs an entirely new and different construction principle (Pat. Pending). Requires attention only two or three times per week. The jacket is a beautiful green enameled, crinkle finish.

Statistics show that a family of four persons use, on the average, 42 gallons of hot water each 24 hour. Extended tests indicate that this new heater will supply sufficient hot water for the needs of from one to four families at an astounding fuel saving. This heater is connected up with insulated water storage tank of any desired capacity (not shown in illustration).

NEW "Warm Morning" water heater.



Westco Shallow Well Water System

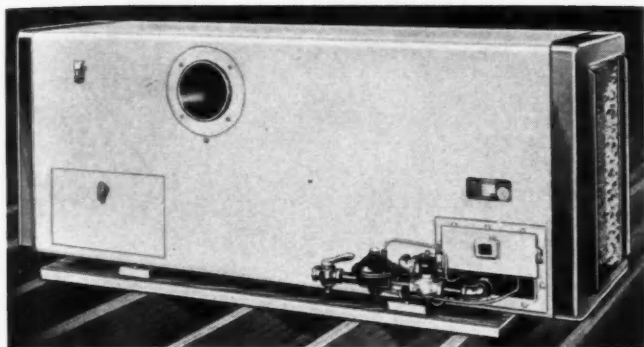
COMPACT, dependable, and easy to install, Westco Water Systems made by Micro-Westco, Inc., Bettendorf, Iowa, meet a wide variety of domestic and industrial applications. Shallow well outfits are fitted with special-construction, turbine-type pumps having only one moving part. All belts, gears, pistons, and leathers are eliminated to insure quiet, trouble-free operation. Pumps have patented, renewable liners which protect casing forever against internal erosion; capacities to 3000 G.P.H. Deep well outfits are of the vertical centrifugal type; they can be installed away from well and have no working parts below ground. Motors are equipped with grease sealed ball bearings; capacities to 2400 G.P.H. All Westco Water Systems are shipped ready to install; connecting piping not included.

WESTCO shallow well water system for country homes.



Low Cost Attic Furnace

THE LENNOX Furnace Co., Marshalltown, Ia., has new heating units designed for defense housing projects. The A1-125-A Stowaway, illustrated, is a self-contained gas winter air conditioning unit which is installed in the attic of a house. Many of these new homes, being built under the defense program, are without basements and a saving of space is an all important requirement. This attic heating plant, in addition to saving space within the living quarters of the house and space required for



LENNOX Stowaway gas winter air conditioning unit. Made in 3 sizes; installs in the attic of a house.

fuel storage, eliminates the need for a brick chimney as a furnace vent through the roof. The piping system required for this furnace is inexpensive and simple, as in the main it consists of small round pipes to the individual rooms with a warm air register located either in the ceiling of the room or in the sidewall at about the level of the top of the door casing. Return air from the living quarters is usually drawn up through closets or through stud spaces to the intake of the unit.

All of these units carry extremely low prices in order to fit into the budget of this type of home construction. These units are available any place in the United States through the Lennox dealer organization.

Radiant Warmth Heating System for Low Cost Homes

THOUSANDS of families who are moving into low cost defense housing will be smiling this winter with enjoyment of comforting warmth. Radiant warmth heating systems will safeguard families of defense workers against the cold attack of winter's fury. A substantial number of houses constructed for defense workers under the Federal Works Agency supervision and heated by radiators have been equipped with National Radiator systems. These systems usually consist of the No. 1 Series heat extractor boilers, slim-tube radiators.



RADIANT smiles from radiant warmth comfort as offered by this system.

these small boilers yields a greater capacity output than would be expected from their appearance. This compact design, however, permits installation in small utility rooms of basementless houses. The wet base feature of the boiler insulates against heat transfer to the floor, thus eliminating the need of a concrete slab under the boiler.



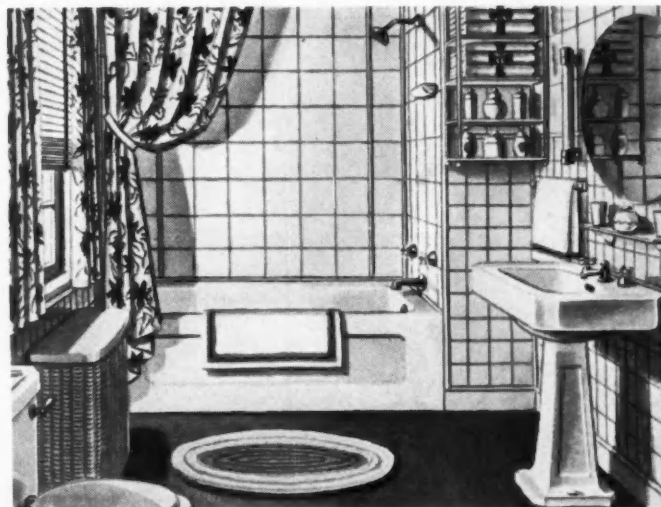
Architects and builders engaged in remodeling homes, office buildings and factories for the Victory program are finding Presdwood Temptrtile*—a Masonite* wood-fibre hardboard—ideal for sanitary tile effects.

These grainless hardboards are available up to 4' x 12', providing sufficient material in a single panel for a 4' wainscot the entire length of an average bathroom or washroom wall.

Installation is quick and easy. Presdwood Temptrtile comes in full-sized boards . . . can be glued or nailed over old plaster or concrete walls. The board can be cut to any size or shape with ordinary wood-working tools. Its marble-smooth surface can be painted or enameled. Masonite mouldings can be used for trim.

Both grainless and moisture-resisting, Presdwood Temptrtile is as permanent as the building in which it is installed. Properly applied, it will not warp, chip, split or crack.

If you are engaged in Victory construction requiring low-cost tile-like walls, mail the coupon for FREE sample and details.



MASONITE PRESDWOOD TEMPTRTILE

THE WONDER WOOD OF A THOUSAND USES
Sold by Lumber Dealers Everywhere



MASONITE CORPORATION, Dept. AB-2
111 W. Washington St., Chicago, Ill.
Please send a FREE sample and more information about Masonite Presdwood Temptrtile.

Name _____
Address _____
City _____ State _____

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

SOMETHING TO TALK ABOUT

LOOK JOE, HOW THEY'VE IMPROVED THE GRAND RAPIDS INVISIBLE

BOSS, THAT'S SOMETHING, THERE'S THE BALANCE I GO FOR!



SIMPLIFIED TOP FASTENER

Easier to install. Permanent rigidity with one screw. Eliminates "play." Smoother, quieter operation.

"SPRING-FLEX" BEARING ARM

Spring steel arm adjusts automatically to different degrees of sash fit. Practically eliminates wood chatter. Always smooth, quiet, snug.

PLAY-PROOF GUIDE BRACKET

Guide bracket opening exact diameter of balance bottom, giving close, chatter-proof fit without binding. Many other important superiorities. Send for new 1942 catalog.

Specify **GRAND RAPIDS Invisible** the Balance that has met Every Test
SASH BALANCE

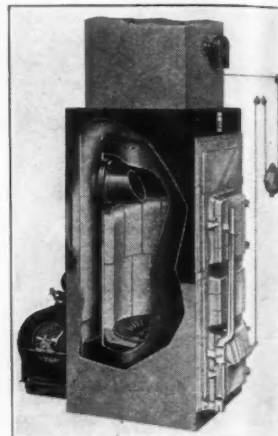
WRITE FOR NEW 1942 CATALOG No. 42-SB-2

GRAND RAPIDS HARDWARE COMPANY
GRAND RAPIDS • MICHIGAN

New "Sunbeam" for Defense Housing

THE AMERICAN Radiator & Standard Sanitary Corp., Pittsburgh, has developed new "Sunbeam" winter air conditioners for small homes. They are the Allerton 5520-X coal-fired winter air conditioner (illustrated) and the Wyandotte SUV-55, a gas-fired winter air conditioner of similar design. These new "Sunbeam" units are styled for the special needs of defense housing, engineered to specifications of various governmental agencies.

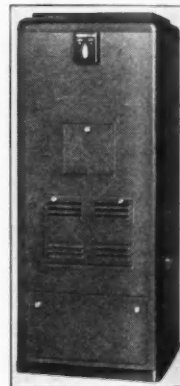
Small in size, big in efficiency, they are for homes with or without basements—easily installed in hall, closet, kitchen or other first floor locations. They are low in cost, designed to conserve fuel and give dependable, efficient service. The coal-fired unit has quiet double inlet type blower, with cabinet and filter optional at slight additional cost. B.t.u. capacity at register—with soft coal 64,700; hard coal or coke 51,800. Width 26", height 59", depth without blower and cabinet 25 1/4"; with blower and cabinet 43 1/4". Smartly styled new jackets bear the new Sunbeam nameplate—assurance of the undivided responsibility of this large heating organization.



NEW Sunbeam coal burner.

"Magic Chef" People Offer House Heater

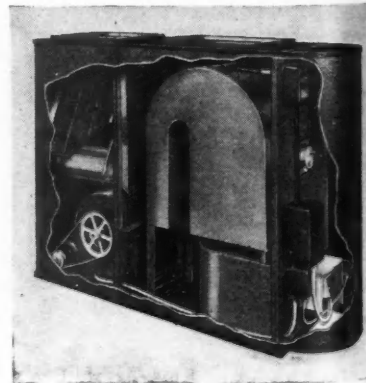
MOST BUILDERS are no doubt familiar with the Magic Chef gas ranges of the American Stove Co., Cleveland, O. In the house heating field, this manufacturer has within the past year and a half designed a series of oil burning units. These carry the trade name, "Quick Heat." The Model No. A65UB, illustrated, is an oil fired winter air conditioning unit for small homes. It is a factory tested and assembled complete packaged unit, fully wired with limit and fan controls in place. Humidifier has tubing and fittings for quick attachment. Flue pipe draft regulator included. Furnace is styled in modern streamlining with rich walnut brown ripple spray enamel finish. All mechanism is concealed yet accessible for adjustments through front panel. Compact design and outstanding performance make "Quick Heat" popular.



QUICK HEAT house heater.

H. C. Little Brings Out Air Conditioner

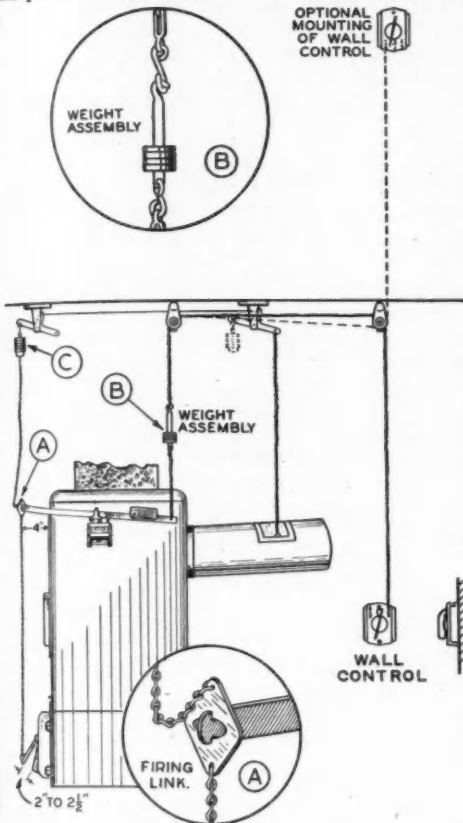
A WINTER air conditioning unit whose low initial cost and low upkeep make it especially suitable for defense homes is being offered by the H. C. Little Burner Co., San Rafael, Calif. This furnace has a 77,000 BTU output at the bonnet and burns No. 3 furnace oil or 27° Diesel. Even circulation of clean, warm air is assured by a quiet multivane blower of 1000 CFM and two large spun glass filters which clean the air before it is heated. The unit is said to be exceptionally economical in operation because of its vaporizing burner, which offers completely intermittent operation with electric ignition. The entire unit is listed by the Underwriters' Laboratories.



H. C. Little size A, type AC winter air conditioning unit.

Metaphram Regulator Offered

TO HELP meet the National Defense Housing requirements for low cost, simple protection for warm air heating plants, Minneapolis-Honeywell has made available the M522 Metaphram Regulator. This device, shown in the illustration, is designed to operate mechanically the draft and check dampers on a hand-fired, gravity or forced, warm-air furnace. The use of bell cranks and weights and a detachable firing link, makes it possible to place both draft and check damper in the closed position when firing, to eliminate smoking in.



A nest of separate "Metaphrams"—circular wafers with a volatile fill—provide the actuating power for operation of the dampers, and an adjustable weight on the lever arm

allows for setting at the desired furnace temperature.

A separate manual wall control can be used with the Metaphram Regulator to give limited manual adjustment of the heat output. Furthermore, the Regulator can be used as a high limit control if a thermostatically controlled damper motor is added to the furnace at a later date.

The regulator can be used with furnaces installed in the basement or in a utility room on the same floor as the living quarters. Installation is simple and complete fittings and instructions for operating and firing are included. The control sells at a normal price.

"Streamaire" Conditioning Units Perfected

AIR CONDITIONING is a universal desire, for there is no locality where temperature and humidity are always uniform. Sudden changes in weather, with air too dry or too moist, not only bring discomfort, but may break down body resistance, contributing to colds and other serious ailments. Outside temperature and humidity cannot be regulated, but with Young Streamaire air conditioning units, developed by Young Radiator Co., Racine, Wis., comfortable temperatures and healthful conditions can now be maintained in offices, homes, etc., all year.



A PHANTOM view of vertical unit equipped with humidifier pan and water coil.

Available in a wide variety of sizes and capacities, Young units are adaptable to any air conditioning requirements—large or small.

Public Buildings Administration Project for Army civilian employes, Burlington, Iowa. 375 family units of concrete masonry. Contractor, Lovring Construction Company of St. Paul, Minn.



*Those who work for victory
need firesafe, thrifty homes
of CONCRETE*

Whatever type of defense housing you are engaged in—individual homes, large groups of homes or apartment type housing—it pays to build with concrete. Concrete costs very little more to build than temporary, short-lived construction.

Concrete homes offer superior resistance to fire, storms and other hazards. They are dry and comfortable winter and summer. They insure low maintenance, low annual cost.

That's why concrete was chosen for walls and floors of over 40,000 new homes in the past four years; why thousands of new defense homes are of concrete.

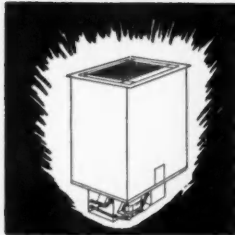
Concrete materials are available in nearly every locality, with least transportation. Write us for information on concrete's use in defense housing.

PORTLAND CEMENT ASSOCIATION
Dept. 2-3, 33 W. Grand Ave., Chicago, Ill.

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

+ Support the Red Cross +

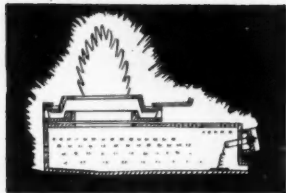
How to Solve the Small-Home Heating Problem



OIL-BURNING FLOOR FURNACE GIVES LOW-COST HEAT!

Here's a very compact and practical oil-burning furnace, completely assembled at the factory, ready to install right in the floor. Saves time, metal and space. NO warm air pipes, NO cold air returns, NO basement needed. Factory guaranteed. Offers

years of trouble-free service. Burns cheap No. 3 furnace oil. NO soot, NO smoke, NO noise. Listed by the Underwriters' Laboratories. Only unit of its kind with Manual Control or Automatic Operation, Electric Ignition and Thermostatic Control.

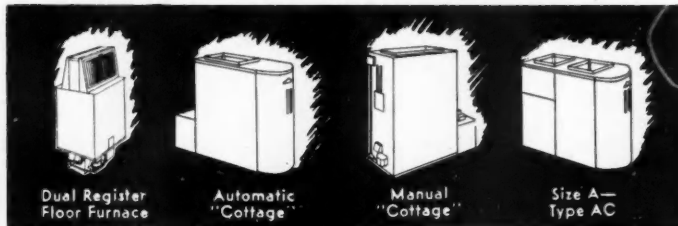


AMAZINGLY SIMPLE BURNER HAS NO MOVING PARTS

All our units have the trouble-free H. C. Little Burner, the only vaporizing burner with fully automatic operation and

electric ignition . . . the ideal burner for small-home use. It's Safe, Silent, Clean and Economical. Operates on patented principle of Progressive Low Temperature Carburetion. Has no pilot light to smoke or go out . . . no moving parts . . . igniter guaranteed for two years. Burns cheap No. 3 furnace oil and is Listed by the Underwriters' Laboratories.

OTHER H. C. LITTLE UNITS for SMALL HOMES



RECENT H. C. LITTLE INSTALLATIONS

- Wills Project, Dundalk, Md. 112 Units
- U. S. Govt., Indian Head, Md. 65 Units
- Siems Drake Puget Sound Co. 109 Units
- U. S. Navy Cont. 20 Units
- Fairchild Addition, Seattle. 22 Units
- U. S. Engineers, Seattle, Wn. 10 Units
- Towers Bldg. Co. Sparrows Pt., Md. 52 Units
- Kelly & Sadtler, Dundalk, Md. 102 Units

H. C. LITTLE Burner Co.
 San Rafael, Calif.
 Warehouse Stocks and Direct Factory Representatives in Boston, Newark, Baltimore, St. Petersburg, Aurora, Ill., Seattle and Portland, Oregon.

Please send me FREE BOOK-LET, "Six Low-Cost Oil Furnaces for Defense Homes".

Name

Address

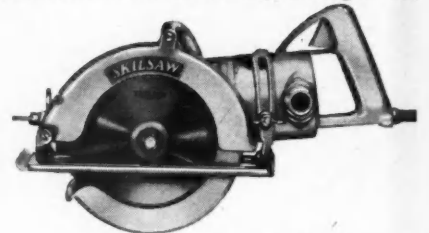
City..... State.....

An Oil Paint for Day-Old Plaster

WITH SPEED and still more speed the keynote of American industry today, an oil paint has been developed in The Wilbur & Williams Co. laboratories, Boston, Mass., which, it is said, will safely paint over brand new damp plaster or brick, concrete or stucco, though only a day old. "Bondlite," as this new paint is called, is not affected by lime or alkali; and, being a "breathing paint," it does not seal in the moisture, but allows it to dry out naturally. This new paint is expected to be very durable; provides a tremendous saving in time, which in turn means a saving in labor.

New 8 1-4 In. Saw Announced by Skilsaw

ANNOUNCEMENT has been made of the addition of a new 8 1/4 inch model to the line of portable electric tools manufactured by Skilsaw, Inc., 5033-43 Elston Avenue, Chicago. The new saw, Model "825," is a fast-cutting tool for all sawing in the framing of houses, schools, churches, factories and similar structures. Excellent for remodeling work, all maintenance sawing, for fastest cutting of



SKILSAW model "825."

wood, steel, lead, copper, aluminum and compositions in production work. It is designed for use with abrasive discs to cut and score stone, tile, concrete and cuts to a depth of 2 3/4 in. in wood, for fast, easy sawing on all 2-in. rough lumber. It bevel-cuts lumber up to 2 1/2 in. thick at 45°; cuts aluminum and copper up to 1/2 in. thick; lead sheets up to 1 in. thick. Blade has a free speed of 3000 R.P.M. and is protected by an automatic telescoping guard that rotates on ball bearings.

Skilsaw Model "825" is 18 inches long and weighs only 18 1/2 lbs. Every moving shaft is mounted on ball bearings for quiet operation and long life. It has a powerful universal motor.

New Porter-Cable Belt Grinder

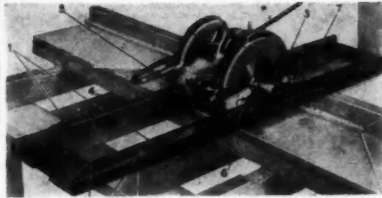
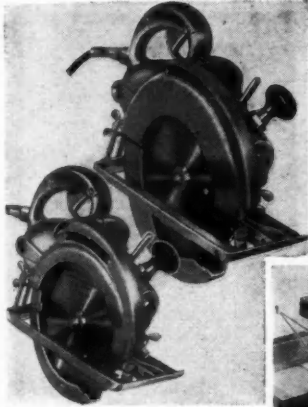
AS A NEW addition to its line of wet and dry abrasive belt grinders, the Porter-Cable Machine Co., Syracuse, N.Y., announces a small abrasive belt sander-grinder using a belt four inches wide by forty-five inches in circumference. This grinder is so equipped that it may be used either with dry belts or with the new type resin-bonded abrasive belts on which water or other coolant is sprayed. A three-quarter horse power, 1725 R.P.M. ball bearing, totally enclosed motor, directly connected to the drive pulley of grinder, gives a belt speed of 3400 surface feet per minute, traveling over a flat backing plate four inches wide by ten inches long, allowing a working surface of forty square inches. Two convenient hand adjustments simplify the application, removal and alignment of abrasive belts. A removable side guard exposes the entire interior. The cast iron pedestal on which the complete unit is mounted is substantial yet light enough to make the machine readily portable. A position change from vertical to horizontal, or even horizontal with the belt underneath, can be quickly made by removing three bolts. The slotted rest table is adjustable up to a forty-five degree angle.



NEW Porter-Cable belt grinder.

Wappat Offers New Saw Equipment

WITH the addition of the new radial saw guide to the line, Fred W. Wappat, 7323 Penn Avenue, Pittsburgh, has ready for customers completely portable equipment for production cutting on the job. The new guide, of finished steel, is designed to accommodate either the Model A-8" or A-9" portable electric hand saw. Guide converts these saws into radial saws by a simple, quick installation. Both saws can be set for desired depth of cut, square or bevel, and the guide unit makes possible all angular and square cutting of material placed beneath it. The improved 1942 electric band saws and the new radial guide are fully described in Bulletin S-6.



L. to R., Model A-8" and Model A-9" saws, and radial saw guide.

C.H.&E. Saw Rig Offered

THE accompanying photo shows the C.H. & E. No. 33 portable saw rig on a large defense job. It is part of the line of the C. H. & E. Manufacturing Co., 3849 No. Palmer St., Milwaukee, Wis. The photo shows the outfit with a 12 horse 4 cylinder air-cooled engine installed, completely housed in back of table. Power is transmitted by multiple V belt drive, with spring tension belt tightener.

The frame is constructed of heavy structurals and steel plates all welded into a rigid box structure. The steel ribbed table top tilts to 45° and is mounted on large diameter half circle segments supported in rigid cradles at each end of the frame.

The steel arbor and the countershaft are mounted on sealed ball bearings and the saw arbor can be raised and lowered to regulate depth of the saw, by means of a large handwheel at the front of the table. The swinging saw arbor travels in a straight line, and can be operated by foot or hand control.

The machine can be furnished with a variety of power units, gasoline engine or electric motor. A twenty inch band saw attachment as well as a six inch jointer attachment can be mounted on this saw rig, making it a complete combination woodworker.



C.H.&E. No. 33 saw rig.

NOW it's the home
that has priority . . .



Luxuries and non-essentials are being swept out. Automatically, the home assumes even greater importance for living and diversion. Outmoded rooms will be remodeled. Attractive homes for defense workers are a "morale" must. Remodeled houses must be made durable and beautiful. New homes must use easily-installed, attractive and cost-saving materials. This puts Barclay right in the front line of defense activities. Wide-awake Architects, Builders and Contractors are sensing the trend; they are building and re-making homes with Barclay Plastic-Coated Panels for walls and ceilings.

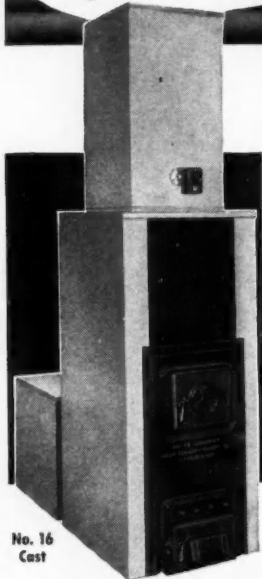
BARCLAY MANUFACTURING CO., BRONX, N. Y.



BARCLAY

PLASTIC-COATED PANELS
FOR WALLS AND CEILINGS

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

FIRST COME—FIRST SERVED

EDWARDS

SHEET METAL BUILDING MATERIALS

Are All Subject to Prior Sale

Because of the demands of defense work we will be unable to secure an additional supply of material. We still have a *limited* supply of stock from which we can supply Ceilings, Shingles, etc. When our present stock is gone we probably will have nothing to offer.

Until then, we offer them for immediate delivery, subject to prior sale.

THE EDWARDS MANUFACTURING CO.

542-562 Eggleston Avenue

Cincinnati, Ohio

ON & OFF THE RECORD

(Continued from page 46)

So now Federal Works Agency has this \$300 million to spend on public war homes, in addition to the \$300 million provided by the Lanham Act. This is enough money to build 125,000 to 150,000 units, of which at least half are expected to be prefabricated demountable units.

PRIORITY ABUSES—Trouble is brewing for the few builders who haven't been honest about priorities. The case of one Southern builder is cited who ordered 200 plumbing items from one firm, then used his same priority to order 200 from another firm, and at the same time industriously picked up 200 locally. Of course, OPM found out, since there is a double-check. It looks like jail. And in my opinion anyone that dumb ought to be put away where he won't further injure the reputation of the building industry.

A Brooklyn supply house has also been cited by OPM for attempting to place an order for brass pipe and tubing with a false statement that the order was entitled to an A-10 rating.

FHA PRIORITIES REVIEW—We are told that OPM will shortly change its housing priorities system to require a more complete review of materials requested under priorities. P 55 orders cannot be extended without review, and in the future, FHA will be required to authenticate *each order* and will double-check amounts of wire, pipe and other critical materials. OPM will pay the FHA field men who do this work. It will provide a good many jobs!

OPM-FHA HATS—According to some official viewpoints, OPM is pretty nearly going to run FHA as far as defense housing is concerned. As one OPM official put it, "You have two hats: one FHA and one OPM. You might as well take off the FHA hat and put on the OPM."

LICENSE PLAN—One idea being considered by OPM to more closely control priority approved defense jobs provides for a license plan. It might be said that the granting of priorities is in itself a license system, but apparently some OPM men feel a closer control is needed. Under this plan every priority approved job would have a license number on a large sign. No supplier would be permitted to sell any critical material to anything but a licensed job. This sounds drastic as well as complicated, and we can only say we hope it will not be done.

FARM EQUIPMENT GETS A-3—That farmers are expected to increase production, and will probably need additional buildings, is indicated by the A-3 rating granted to farm equipment by OPM. OPM was generous to a fault in allocating materials for farm equipment. They allowed 1,793,647 tons of critical materials for new machines, repairs and export. That's a heck of a chunk of metal and includes zinc, copper, lead and, of course, rubber.

It's apparent the farm lobby is able to get a great deal more than any home building group. The program calls for a production rate, compared with 1940, of hay press combines, 353 per cent; peanut pickers, 208 per cent; potato diggers, 100 per cent; power dusters, 103 per cent, among others.

FHA'S YEAR—215,000 dwelling units were started under FHA inspection in 1941—a remarkable achievement. This amounts to 35 per cent of the U. S. total of 615,000 nonfarm homes. New home mortgages insured amount to \$936,000,000, and loans for modernization totaled \$262,000,000.

Still more impressive is the fact that to date FHA has written \$5,260,000,000 insurance. It has 836,600 premium-paying small home mortgages totaling \$3,596,500,000.

This all represents private capital and private taxpaying building activity, and we hope the services of FHA will be continued in the cause of needed war houses.

IN AND OUT WITH STRAUS—Nathan Straus manages to keep his name in the papers. Martyr-like, he was reported on January 4 to have resigned so that Congress would not withhold approval of USHA to spend Lanham Act funds.

Leon Keyserling was to have replaced him at USHA. But

later it appeared that Straus's resignation was being "temporarily withheld."

In the meantime, Federal Works Agency, under General Fleming, is going ahead with its program at a fast clip. Thus far, nothing has been heard publicly about Judge Rosenman's much discussed, oft predicted and long awaited proposal of a reorganization of housing agencies.

FLYING HOUSES—Of all the wild predictions about prefabricated houses, no one really ever seriously suggested that they would be flown to their site. Well, this is what may happen or may already be happening in connection with our world-wide war. Small, light, prefabricated demountable units will be sent to distant lands where Uncle Sam is establishing bases. Some are already said to have been flown to their sites in big bombers. Lumber and building materials are also accumulating at important shipping points to precede our expeditionary forces at some future date. The volume of these supplies is NOT small.

* * *

Changing a Plan for "Extensibility"

(Continued from page 53)

storage closet with access to properly placed stubs to supply pipes and present stack provided in kitchen wall. This closet will be a handy spot for storing porch furniture and garden implements inasmuch as there is little reason at present for building the two-car garage. In fact, the anticipated "family bicycle" might be kept in here.

The porch and future study or bedroom is floored as detailed below, so that the finish floor when applied will be level with balance of first floor. The ceiling is either boarded and finished to harmonize with the future wall paneling or can be plastered and left unfinished. Even the siding material can be salvaged and used on the end walls while the window and frame in the living room opening that will become a door to a porch at that end of the house can be used as one of the two study windows; the temporary window used in the opening to the future second floor sun deck will provide the other study window—thus, 100 per cent salvage.

There is nothing to prevent building the garage immediately if all material and cost requirements can be met; in that case the porch is left open on two ends. In fact, many other changes and combinations are possible, these being only a few suggestions to indicate basic planning that builders will find interesting to adapt to other plans.

* * *

Under-\$6000 House Makes Up 80% of Home Building for Last Six Months

WE HAVE settled down to the under-\$6,000 house. A survey by the National Association of Real Estate Boards just completed covering 248 typical cities shows that in the last six months—which means before the priorities ceiling was imposed—80% of all new home building was in the under \$6,000 class.

We are well on our way to the under-\$3,000 house. The check, made as part of the Association's thirty-eighth semiannual survey of the real estate market, shows that in 8% of our cities—almost one out of every twelve—the under-\$3,000 house is the commonest type now being built. The under-\$3,000 house is eight times as frequent in defense as in non-defense areas.

For the country as a whole, the No. 1 price range at which new home building was going on as the war opened was the \$4,500 to \$6,000 range. Close contender for first honors is the \$3,000 to \$4,500 house. For the country as a whole, 43% of the cities state home building activity is greatest in the \$4,500 to \$6,000 group, but 39% report the \$3,000-\$4,500 group as tops.

Here is the complete line-up as to what type of dwelling construction has been commonest in the surveyed cities in the six months just closed:

- The under-\$3,000 house: Commonest in 8% of the cities
 - The \$3,000-\$4,500 house: Commonest in 39% of the cities
 - The \$4,500-\$6,000 house: Commonest in 43% of the cities
 - The \$6,000-\$8,000 house: Commonest in 7% of the cities
 - The over-\$8,000 house: Commonest in 3% of the cities
- Of all houses built during the last six months in the cities surveyed, 90% were in defense areas.



MONEY-MAKING WONDER TRAILERS!

3½ — 5S SIDE OR END DISCHARGE!

High speed mixing—moving. Profit makers for contractors and builders since the beginning of the Mixer industry. New streamlined models. Full finished roller chain drive. Large, efficient mixing drum. Oversize Timken Bearings. Finger-tip control tilting device.



Wonder End Discharge Tilter in 3½ or 5S sizes. Compact—completely modernized.

CONSTRUCTION MACHINERY CO.
Waterloo, Iowa

MIXERS

BATCHERS

PUMPS

SAW RIGS

HOISTS

CARTS

BARROWS

**GET
FREE
CATALOG**

Majestic

TWO MORE ITEMS IN A POPULAR LINE



MAJESTIC BRICK-SIZE VENTILATORS! The ideal ventilation for attic air spaces, storage rooms, cellars and other enclosed areas. Widely used in modern building! (Large unit, above, is four bricks high.) Screened at back . . . waterdrips at top and bottom . . . formed of highest-quality cast semi-steel . . . **LOW** in cost. They're just *two* of the newer items in Majestic's wide line of popular metal building products! Write for details—ask for catalog!

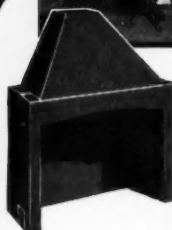
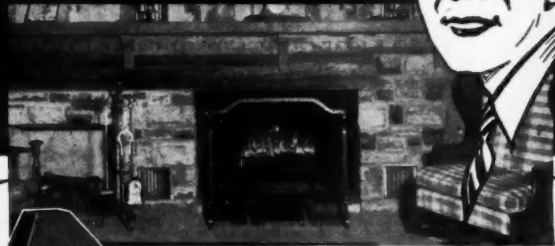


THE MAJESTIC COMPANY
848 Erie Street **Huntington, Ind.**



**Extensive Line of
Quality Building Necessities**

"Sure, it's easy to build
FIREPLACES
that WILL NOT SMOKE..."



"Just build them around the
HEATILATOR!"

The double-walled steel Heatilator serves as a metal form for the masonry . . . makes it easier to build a correctly operating fireplace with any style of mantel. And the Heatilator Fireplace **CIRCULATES HEAT** to every corner of the room.

Get the facts now for your low-cost homes . . . lay plans for your post-war building, too. Just drop a post-card.

HEATILATOR INC.
912 E. Brighton Ave., Syracuse, N. Y.

HEATILATOR Fireplace

THE WALKER-TURNER RADIAL SAW



*has no
slack
season!*

USERS of Walker-Turner Radial Saws have been able to handle a much wider range of work than they had found possible without these machines. This is conclusively shown in reports from many builders. This increased range not only adds greatly to the annual volume of work turned out, but it enables them to keep busy through what were formerly slack seasons. Screens, storm sash, cabinet work and similar activity make profits for own-

ers of Walker-Turner Radial Saws when building construction is slow.

The patented Walker-Turner Geared Motor that gets the shaft down close to the work and permits the use of smaller blades, the ball-bearing sliding ram that permits clear vision, and other features, make this an efficient machine for cross-cutting, ripping, mitering, dadoing, routing and shaping. Send for literature.

WALKER-TURNER CO., INC.

1022 BERCKMAN ST., PLAINFIELD, N. J.

walker-turner WALKER-TURNER WOODWORKING MACHINES
RADIAL SAWS • BAND SAWS
BENCH SAWS • TILTING ARBOR SAWS • JOINTERS • JIG SAWS • SPINDLE SHAPERS • DRILL PRESSES • LATHES

Can Women Build Better Homes

(Continued from page 52)

man, he volunteered to draw up the plans, if I would tell him what I wanted in them. Since then, with the exception of two houses, he has been a faithful partner in the blueprint drawing.

"A plan generally takes us, after I have mapped it out first, from three to four weeks of evenings and Sunday afternoons. It is much better for me to have the plans drawn right at home, and to have them on hand at all time during the drawing, because, so many improvements can be made if I'm on hand when difficulties arise.

"We had to live in rented property while Houses 3 and 4 were built. No. 3 was sold almost instantly upon construction, and we moved into No. 4 shortly after completion. House 5 was then built and sold upon completion. No. 6 was built and offered for sale. Once again history repeated itself; the buyer wanted the house we were living in instead of the empty new one, so we moved again into No. 6, while No. 7 was being built next door.

"When No. 7 was completed, it was offered for sale, and was sold the same week that No. 6 was sold to a looker who looked at it when it was unoccupied, and came back after looking over the Dayton field. He said he had seen every house for sale in Dayton, and decided this one had too much in it for the money to be passed up any longer.

"Once again we were completely sold out, and had to rent a house to live in. By this time I had gotten spoiled completely by living in houses which were my idea of 'The Perfect House'. The rented houses did not have those spacious closets galore, broom closet, plenty of kitchen cupboards, clean gas-fired furnace, insulation, properly put in, wood-burning fireplace, etc. Houses No. 8 and 9 were quickly started, so we might have one of them to live in—whichever one would not be the first to sell. But No. 8 was sold long before completion, and just upon completion.

"So Nos. 10, 11, 12 followed in the same year with 8 and 9. However, I found building five houses in one year too many. I was unable to give each the proper amount of 'Mothering,' and it almost became a grind, a job, and that was not the way I intended it. The enjoyment goes when house building becomes too much 'just business'. This season I have cut down on the number under construction to two at one time only, and the enjoyment has returned.

"We are living in one of my houses, one that has almost everything, and now I'm building one that I believe has it all—by no means, the Perfect House, but lovely to look at in a beautiful setting, and containing as livable an interior as I could hope to design for us."

Government Estimates for 1942

(Continued from page 59)

Restrictions now in effect will tend to limit construction to the critical areas and to the lower price classes. The demand is also being channeled into these same areas through migration of workers' families to war production plants. Thus the shortage of housing in the non-critical areas will be considerably less than would otherwise be created by the virtual elimination of new construction in those localities.

Construction of government owned housing will be at least as large as last year, and about a third of the total residential building in 1942. This means relatively more of the large scale projects which the general contractor is equipped to handle. It also means quite a boost to the prefabricated, demountable house. It looks as though perhaps a couple of hundred million dollars will be spent for this purpose, which is big money for that industry.

Farm Construction

Farm building will be subject to two opposing influences: increased farm income tending to increase the volume above the 1941 level, and priority restrictions on critical materials tending to discourage new building. Farm buildings require far less of the critical materials than urban construction, and with the ingenuity which we may expect from the farm population, the available non-critical materials can be used in larger volume.

The large war demand for agricultural products will require added buildings. The outlook is for a total farm expenditure about equal to 1941.

For convenience, I have lumped the commercial, institutional and public buildings together. This group includes warehouses,

schools, hospitals, government office buildings and similar structures.

Some construction in each of these classifications is clearly necessary for the war effort or for the health and safety of the civilian population. However, the shortage of critical materials dictates strict definition of what is essential. Drastic curtailment from recent levels is to be expected even after allowing for continuation of projects already under way and after allowing for the possibility that controls will not be immediately effective in stopping all unnecessary construction.

Industrial Construction

Construction of factories and other productive facilities has risen from an annual rate of less than 400 million dollars prior to the fall of France to over 2 billion dollars at the present time. This is a phenomenal volume, more than double the 1929 peak and more than double the highest level reached in the last war. Nevertheless there are reasons for expecting that 1942 will exceed 1941.

In the first place commitments are already made which will support this high level of activity in the first few months of 1942, even though most construction of other than war production plants has been eliminated.

The war production program demands further large increases in capacity and judging by past experience it is safe to say that war developments will uncover other urgent requirements that are not now clearly foreseen. These requirements will have to be met through wholesale conversion of existing facilities. Every factory and every machine which is capable of war production must be pressed into service twenty-four hours a day and seven days a week. Somehow we must solve the complex administrative and technical problems of converting from civilian to war production and of utilizing a host of small organizations with unintegrated facilities. It is not possible to build enough new plants in time to do the job.

This does not mean, however, that there will be a decline from the current rate of new plant construction. New construction will continue to play an important role. There will be times when the quickest and easiest method of achieving production of a critical item will be by building a new plant. Furthermore, a large part of the required capacity is for products which could not be made in converted plants. The necessary new steel, aluminum, magnesium, chemical, bomber, ordnance and similar plants justify the assumption that outlays in 1942 will be above rather than below the current rate. The necessary equipment, raw materials, and man power for these new plants will be real problems but they can be made available without sacrificing direct war production.

Military and Naval Construction

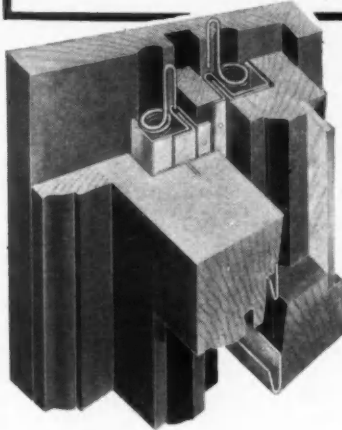
Construction of army and navy housing, aeronautic facilities, navy yards and docks and other military projects, is currently at an annual rate of over 2 billion dollars. Sufficient work was already scheduled before the declaration of war to maintain this high rate at least through the first half of 1942. In addition, there are 18 cantonments for which sites have been selected and some of the preliminary engineering work finished; 1,500 million dollars is a reasonable guess as to their total cost including all of the necessary facilities. Other projects which may be undertaken come under the heading of war secrets. With a full-fledged war on our hands, a forecast of 3,500 million dollars, more than double the 1941 total, may still underestimate rather than overestimate the volume of construction which must be undertaken in 1942. It is about one-third of the total construction activity this year. I suspect that it may be relatively even more important to the construction equipment industry. It does not include a substantial volume of overseas construction which may be of interest to some of you as a market for equipment.

For most purposes the general picture as I have tried to give it to you is more significant as well as more accurate than a lot of figures. This general picture is a total volume of construction about the same as in 1941, but with more military and industrial projects and less of most everything else.

In general, construction will be allowed to continue only as it is deemed essential to the war effort. There will be some exceptions when projects are already under way, when they do not use appreciable quantities of critical materials, or simply because the controls are not perfect.

(Continued to page 106)

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.

16 STROKES
By Hand

1 STROKE
WITH A
Mall Saw
TRADE MARK

8 Inch
BLADE
MODEL 80

TO CUT A 1"x8" WHITE PINE BOARD

● This straight-from-the-shoulder proof that MALLSAWS minimize human effort, conserve time and improve construction resulted from a series of comparative tests by an experienced carpenter. Test after test established that, compared with a handsaw, the MALLSAWS reduce sawing effort 93% . . . cut sawing time 80% and made accurate cuts that assure better fitting and a better building. More than this, MALLSAWS have many other features that protect and help the builder. They are perfectly balanced for safe one hand use . . . eliminate all blade binding near end of each cut . . . can be quickly and easily adjusted for depth and bevel cuts . . . and are easy to use. You can try a MALLSAW on your next job. Write TODAY for full details. Mail coupon below.

MALL TOOL COMPANY 7737 South Chicago Ave. Chicago, Illinois

Please send free folder on MALLSAWS, MALL RADIAL SAW ARM, MALL DOOR MORTISERS, DOOR PLANES and DRILLS A242

Name

Street

City State



You will admit
 This low cost home
 Is like a dream come true—
 It's compact, sturdy,
 beautiful—
 Costs less than 5 grand, too!
 I claim Robert McNair Shingles
 On the sidewalls and the roof
 Added luxury appearance—
 And this picture is the proof!

**Government regulations will virtually limit 1942 home building to low cost houses similar to the "dream house" shown here. McNair cedar shingles may be applied in a variety of styles to give these small homes unusual individuality.
 See advertisement on pages Four and Five

ROBERT McNAIR SHINGLE CO.
 VANCOUVER, BRITISH COLUMBIA
 "OVER 400 DEALERS TO SERVE YOU"

**CONSIDER
 THE
 GIRAFFE**

Nature helped the giraffe to reach things easily — quickly.

We, at the Hotel McAlpin in New York, have taken the tip and built our hotel convenient to everything and everywhere.

Only 1 block from Pennsylvania Station. About 5 minutes from Grand Central Station and to Times Square. Largest department stores across the street. Express subways downstairs. B. & O. Motor Coaches stop at our door. Truly, the McAlpin is "A Great Hotel."

Rooms with private bath
 From \$3.30 single. From \$4.95 double

HOTEL McALPIN
 BROADWAY AT 34TH STREET, NEW YORK

Under KNOTT Management
 JOHN J. WOEFLE, Manager



Government Estimates for 1942

(Continued from page 99)

Aside from the volume of construction there are two or three other phases of the outlook which should be of interest.

There will be a further increase in costs, not only the increases in quoted wage rates and raw materials prices but all of the added expenses of rushing through a large construction program in a war dislocated economy.

By the end of 1942 the labor requirements for war production and for the army will have reduced the total unused labor supply to the point where there will be a premium on labor saving equipment which has not existed since 1929. This should be good news to an industry which for years had to contend with the notion that excavation should be done with teaspoons so as to make more work. It is also a challenge. A challenge to make the most efficient and effective use of the available resources to accomplish your part of the war effort.

Finally, we are entering a period in which the use of critical materials must be budgeted as carefully as the expenditures of dollars. This is a novel situation for the construction industry and one which we are not well prepared to meet.

Construction and its related industries will need to know much more about the quantities of metals going into various types of structures.

In the past, Government and private construction agencies have submitted their estimates to budget officers and have revamped the details of projects to fit the monetary budget. Now they must be prepared further to submit their proposed consumption of materials to the scrutiny of the Government authorities responsible for budgeting our critical materials expenditures and must, if necessary, revamp the plans to bring them within the allowable expenditure of materials.

In conserving the scarce metals, the government can restrict nonessential construction. It can to some extent encourage or force the economical use of these materials. To a large extent, however, the savings through changes in design, through substitution of less critical materials, through elimination of non-essential features will depend on the practical skill and ingenuity of the men in the industry.

THE SPLENDID CAREER OPPORTUNITIES AFFORDED BY THE BUILDING INDUSTRY!

(Continued from page 64)

To exercise the most intelligent possible selection it would seem that young men and women, faced with the selection of an industry in which to carve out a potential career, would set down four criteria for the *best possible choice*:

- First, an industry with a universal demand for its products
- Second, an industry with an unlimited opportunity
- Third, an industry with a minimum of personal competition
- Fourth, an industry which would provide an outstanding background for cultural, ethical and moral development of the individual.

Let us analyze the building industry from the viewpoint of these four criteria.

I. A UNIVERSAL DEMAND

The first and basic necessities of the human race were food, clothing, and shelter. Without the sum of these the race could not have survived.

But it was only with the development of adequate shelter that the background for the scientific growth of the human mind was laid and it is significant that the cultural and operating development of our housing over the centuries has paced the development of the human mind.

Our humblest home of today equipped with normal conveniences would seem luxurious to the very wealthiest people of past generations. Only in package production and marketing techniques has housing lagged.

In the development of civilization, ever growing human

aspirations have called for new industrial efforts to provide necessities, conveniences and luxuries for the people. Civilization and industrial progress have been marked by the steady progression from luxuries to conveniences to necessities. The luxuries of today are the conveniences of tomorrow and the necessities of the day after tomorrow, as witnessed by the automobile, radio, iceless refrigeration, etc., etc.

This is the fundamental proof that the craving for adequate housing is a universal human want—not only from the family viewpoint but from the viewpoint of the housing needs of the farm, of industry, of the professions, and of cultural institutions.

The dentist dreams of adequate office facilities, the farmer of adequate housing for his livestock and machinery, the industrialist of an efficient factory structure, and the actor of a theatre suitable for his talents.

The field of housing is a demonstrable universal demand inherent in every generation of the human race and there is every reason to believe that this will be true for generations to come.

II. AN UNLIMITED OPPORTUNITY

Other industrial fields meet the criteria of a universal demand. For example, everyone demands salt, but certainly the salt industry would not provide an unlimited opportunity. With housing, however, human wants have no limitations. It is estimated that one fourth of our national income—25c out of every consumer dollar—is spent for housing and shelter requirements and facilities.

This in itself presents the greatest single field of opportunity in all industry—but it is in its *potential* that the shelter industry meets the criterion of unlimited opportunity. If we agree that there are no limits to the possible growth in the standard of living of the human race and if we admit that our shelter refinements have paced the growth in our standard of living, the point of unlimited opportunity is proved.

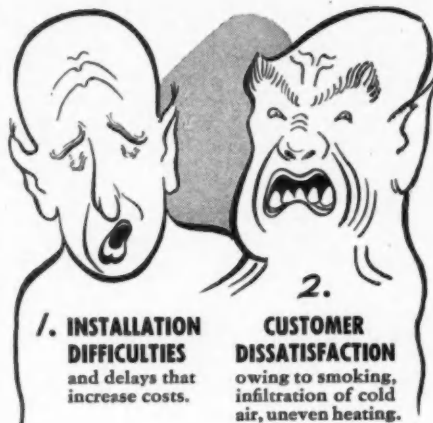
However, this can be demonstrated in another way. There are certainly limits (somewhere under three tons a year) to the food consuming capacity of the average family. It is equally true that there are limits to the clothing potentiality in family life—even for the distaff side—but there really are no limits to the dreams of a home and a garden.

The lifetime opportunities facing the young man or woman college graduate trained for a building industry career are immeasurable. As has been stated before, millions of families are without homes and gardens of their own; scores of millions of standing structures of all kinds need continuous repair, expansion, modernization and improvement; the farms of our country are, structurally, but 25% efficient.

There are 30,000 parts to a single home and each one of these parts can be improved, developed and constructively changed. There are over 600 packages of labor and material which the construction industries have to sell to the consumer. Sixty of these packages sell for \$100 or more and 30 of them from \$500, up to many times that figure.

To picture the scope of such an opportunity one needs only to compare the shelter industry with the notions business.

A man by the name of Woolworth found practically unlimited opportunity in the Five and Ten Cent business. Starting with a capital of \$500 which he had saved from working for a dollar a day on a farm, Frank Woolworth, in 32 years, built a business in notions to a total annual volume of 353 million dollars; and his was just one of the chains of variety stores. If such an opportunity exists
(Continued to page 102)



Construction
Supplies

HOW TO LICK THESE FIREPLACE BOGIES ON UNITS AND CONSTRUCTION SUPPLIES

Every year, more contractors are solving these annoying problems (and increasing profits) by standardizing on BENNETT Products.

BENNETT FIREPLACE COMPANY

242 MARKET ST., NORWICH, N. Y.

SEND FOR complete Bennett catalog. It has the answers!

3 1/2-S TILTING KWIX-MIX



End discharge
Air-cooled engine
Light weight
Welded construction

Anti-friction bearings
Spring mounting
High speed trailing

Write for Bulletin AB

KWIX-MIX CONCRETE MIXER CO.
PORT WASHINGTON WISCONSIN



All-out Victory Production demands that builders *get things done*. And the men who use Speedmatics are those that accomplish the most.

Speedmatic owners have the advantage of a high-quality product backed by a nation-wide organization . . . a service organization that helps users keep their saws running at peak efficiency day after day . . . local representatives whose personal interest is to see that you get maximum benefits from Speedmatic operation.

A more powerful, faster, easier handled, longer lasting saw *plus* close cooperation between company and user—these two fundamentals of Porter-Cable policy explain the spectacular growth in preference for Speedmatics everywhere.

Ask your Porter-Cable representative (name in phone book) for a free demonstration. Learn why Speedmatic is the first choice on so many "beat the date" War jobs. And for a free copy of descriptive bulletin drop a post card direct to the factory TODAY.

PORTER-CABLE
MACHINE CO.
1721-2 N. SALINA ST., SYRACUSE, N.Y.
Representatives in Principal Cities in U.S.A.



Give Them
Modern Garage Doors
on Small Homes, too—only \$25 extra

Old-fashioned sag, warp, and drag garage doors are getting harder to sell every day to the average prospect, because he has already seen a Stanley "Roll-Up" Door and how easily it works. Why not give him what he wants, when it costs only \$25 more? Even on the smallest homes, the buyer

is glad to pay the extra for this easy-operating, smart-looking, trouble-free door.

It is easy to install in any type garage. Ask your dealer for details, or write for an illustrated folder describing Stanley "Roll-Up" Garage Doors. The Stanley Works, New Britain, Connecticut.

STANLEY
TRADE MARK
HARDWARE FOR CAREFREE DOORS

Training for Building Industry Careers

(Continued from page 101)

in the Five and Ten business, it is certainly no exaggeration to say that there is unlimited opportunity in the enormous field of housing for the trained young man or woman who has the ability to imagine, initiate, organize, deputize, supervise and expand.

As compared with the creative marketing efficiency of our department stores, our drug stores and our chain stores, the building industry is still in its infancy. Truly the opportunity is unlimited.

III. A MINIMUM OF PERSONAL COMPETITION

It has been shown that, in the pre-defense decade, graduates of our colleges, seeking a start in their chosen careers, were faced with such terrific competition that thousands were unable to secure starting positions and were added to the ranks of the unemployed. There is no such probability for the properly trained young man or woman in the building industry today because *such adequately trained people do not now exist in the building industry outside of a limited number in executive positions*. At least 100,000 junior executives, sales and promotional workers are needed right now in the field of shelter marketing to qualify eventually for executive positions and local proprietorships.

Manufacturers are seeking such trained personnel, wholesalers need them, retailers are looking for them, there are openings in architects' offices, mortgage banks, building and loan offices, contractor offices, department stores, government housing agencies, research laboratories, utilities, real estate offices, decorative salons, hardware, plumbing, paint, electrical shops, etc., etc.

The first graduates from an adequate building marketing course will have no competition and those who follow will have only the competition of those trained graduates who have preceded them up the ladder.

Women graduates are needed by hundreds, if not thousands, in just the one sphere of home analysis—the counselling of American housewives in a better standard of housing; and there are many other sectors in the housing field into which trained college women will fit admirably.

If such trained women were available each local proprietorship in the building industry could set up an institute for better living and send these trained experts to analyze the better housing needs of each family in the community.

They would cultivate that sense of environmental beauty which is dormant in every woman and thus take the "sting" out of selling a better standard of living.

Every branch of the extended shelter industries has a call for such adequately trained personnel, both men and women, and the competition is practically nil.

IV. THE ETHICAL SIDE OF THE BUILDING INDUSTRY CAREER

Outside of the spheres of sociology, pathology and religion the home building industry affords the best opportunity for the student who aspires to the betterment of human welfare.

An industry which develops profit through enterprise and still provides a cultural and ethical benefit to its customers is certain to develop an exceptionally high morale among its workers.

Proper family environment and proper housing are inseparable. It has been demonstrated that if we can improve the housing standards of families, almost without exception their whole moral, social and political outlook is improved. A nation of home owners is a stable nation.

A family that owns its own home and garden is not addicted to "isms."

The building industry worker who provides, sells and delivers better homes to the public occupies the highest level to which commercial pursuits can aspire. The careerist who sets forth to earn an ever growing livelihood and achievement in the building industry is certain of satisfactions that go beyond the successes and profits in the ordinary business. The public's attitude toward home ownership has probably never been better expressed than by the letters of three American women on the subject of "What the word home means to me."

These are the two letters:

"Being a housewife, my Social Security Number is not recorded in Washington, BUT I HAVE ONE. It is the number on the front door of my very own home. That is what HOME means to me—SECURITY.

"When one buys a home he plants his roots deeply and that blessed feeling of solidity is well worth the sacrifice it may cost."

* * *

"My home is as a fortress, defying the forces of inflations and deflations, depressions and recessions. True, the market value is affected but the HOME value is always 100 cents on the dollar, with a generous dividend of security."

* * *

"Home—a place of contentment and cheer, sometimes laughter, sometimes just silence. Pepper catnapping on his pillow, an ashtray and a pipe, an easy chair and a footstool too. Children's voices, the family singing old-time songs. The darning basket, the Bible on the table, a clock that strikes, and flowers on the window sill. The spicy smell of pumpkin pie and fruit cake at Thanksgiving time. And at Christmas the stockings hanging in a row. All these little, simple, homely things mean HOME to me."

A nation made up of people who feel like that about their homes will stand forever; and the young men and women who build such a democracy through effective careers in the building industry will have made a major contribution through having lived.

It is easy enough to talk about the glories and the satisfactions in a building industry career but between the individual and those satisfactions lies an arduous course of most intensive and detailed study involving the understanding and mastery of many techniques.

This mastery may be acquired in two ways: through the long, hard way of working up step by step from an apprenticeship in the industry through the various types of jobs to an executive position or a local proprietorship; or through the provision by our colleges and universities of adequate curricula to prepare young men and women students for advantageous building industry positions upon their securement of their diploma from such building industry courses.

Experience has shown that through the latter method only can the basic problem of generating widespread efficiency in the building industry be solved.

What programs, then, are needed within a college or university to meet this problem squarely?

CURRICULA NEEDED

The problem of building an adequate program of study to provide educationally for the varied career opportunities in the building industry is as involved as the field of agriculture or any one of the professions.

Housing is concerned with environment and environment embraces every phase of living.

Preparation for careers in the shelter industries therefore would call for studies in fields as wide apart as aesthetic design and sewage disposal, as concrete mixing and the psychology of human relations.

(Continued to page 104)

YOU WILL FIND PECORA CALKING COMPOUND CHEAPEST IN THE END

Quality counts now more than ever. This is no time for compromise with doubtful substitutes. You can do a better job with Pecora Calking Compound. Easy to handle and absolutely dependable. Pecora is made to the same exacting formula which earned its reputation in the past. Experienced calking men prefer it to any other compound. Cheapest in the end because when properly applied it will not crack, chip or dry out. Use Pecora on your very next job —for best results.



Write for Folder



Use This Gun

With 3 Nozzles and 4 Cartridges of approx. 1 qt. each

Shipped Express Collect for \$7.00

Terms: 2% disc. net cash with order. To approved credits 2% 10 days. 30 days net. F. O. B. Philadelphia, Pa.

Pecora Paint Company, Inc.

Member of Producers' Council, Inc.
Established 1862 by Smith Bowen

Fourth St. & Reading R. R. Philadelphia



ALSO MORTAR STAINS • SASH PUTTIES • ROOF COATING
• PECOMASTICS FOR STRUCTURAL GLASS INSTALLATION

Only Mule-Hide Cor-Du-Roy

GIVES YOU THESE PROVABLE EXTRA VALUES

★ Cor-Du-Roy gives you ENGI-NEERED EXPANSION JOINTS that prevent checks and cracks thru years of weathering.

★ Cellulose Fibre Backing keeps colors crisp and clean—helps speed butt-sealing on roof.

★ Extra Waterproofing Asphalt—your scales will prove it.

★ Speedier Drainage, Less repairs, Faster Application, Less Nails.

WRITE FOR FREE DEMONSTRATION KIT

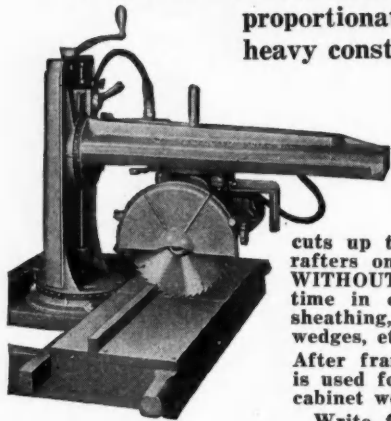
THE LEHON COMPANY
4425 SOUTH OAKLEY AVENUE
CHICAGO • ILLINOIS

ASPHALT • ROOFING • WATERPROOFING • ROOF COATINGS • BUILT UP
SHINGLES • ROOFING • SPECIALTIES • COATINGS • ROOFS

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.

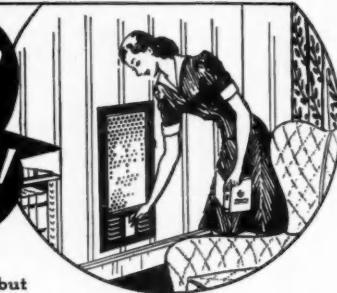


THE WALLACE NO. 1 RADIAL SAW

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.

DON'T PUT ON A WRAP ... FLIP THAT SWITCH!



When it's too cool for comfort, but not cool enough to light the furnace, don't sit around "all bundled up". Flip the switch on the built-in

QUIKHETER

and — presto! — There is quick, safe heat! You don't have to wait — it's fully hot the minute the switch is turned on.

Saves coal bills — adds to comfort — helps protect the family's health. And it's an item the contractor can consistently recommend to the owner.

In New Construction and in Modernization the built-in QUIKHETER should be included in the plans. Bedrooms — bathrooms — children's playrooms — all are made more livable by this efficient, auxiliary heater.

There is a Wholesaler Near You who carries the QUIKHETER in stock for quick delivery — in 1,000, 1,250 or 1,500 watts. Write today for his name — and for Bulletin 84.

Frank Adam
ELECTRIC COMPANY
ST. LOUIS

Training for Building Industry Careers

(Continued from page 103)

In the future, various specialized curricula will undoubtedly evolve, designed to prepare varied groups of students for specialized vocations within the building industry, but, for the post-war emergency, it would seem logical to start preparing men and women for the most obvious vocational need, i.e., marketing personnel whose career goal is a local proprietorship in the industry.

Suggested subjects for such a curriculum might fall into these groups:

- | | | |
|---|---|--|
| <p>ESSENTIALS</p> <ol style="list-style-type: none"> 1. Accounting, statistics & Budgeting practices* 2. Economic Principles 3. Business organization & management* 4. House and Farm Architecture 5. Real Property analysis & structural surveying* 6. Home and Farm Construction Practices* 7. Analysis of Small Construction Markets* 8. Material uses, application fabrication & assembly* 9. Interior Decorating 10. Drawing & sketching 11. Blueprint reading & quantity surveys 12. Specification writing* 13. Estimating* 14. Salesmanship* 15. Logic & Creative Thinking 16. Credits, Collections & Time Payment Selling 17. Business mathematics 18. Public speaking | <p>DESIRABLES</p> <ol style="list-style-type: none"> 19. Psychology & Adv. 20. Leadership techniques 21. Office procedures and Management* 22. Contracts, Documents, Reports and Business law 23. Sales management* 24. Retailing and Marketing principles* 25. Construction supervision & danger points* 26. Commercial Arts and Display techniques 27. Home economics 28. Home & garden arts 29. Personality development 30. Grammar and composition 31. Mortgage Practices* 32. Materials Identification & grading* 33. Principles of Real Estate Appraisal* | <p>REFINEMENTS</p> <ol style="list-style-type: none"> 34. Architectural taste in small const. 35. Telephone Merchandising techniques 36. Money, Finance & Banking 37. Landscape Architecture, design and material 38. Philosophy & Ethics 39. Sociology 40. Teaching techniques* 41. Zoning, Codes & City Planning 42. Machine Age Economics 43. Foremanship techniques 44. Taxation, Welfare & compensation laws 45. Introduction to the sciences 46. Industrial Relations 47. Public Relations 48. Government & business 49. Research techniques 50. Pre-fabrication techniques* |
|---|---|--|

*Industrial textbooks available from manufacturing and retail sources.

A study of these subjects proves the point that only in a college or university is to be found the versatile teaching background for such a varied requirement.

This diversity of the knowledge required for the career of a local building industry proprietorship also explains why capable local building industry leaders are so rare today and why there is such a tremendous shortage of capable man and woman power in the industry.

It is also evident why only the most persistent and determined college graduate has stayed with the problem of acquiring this knowledge after graduation, as a by-product to earning a livelihood.

A logical question is whether or not it would be possible to impart this knowledge to the average high school graduate in a four year period of college work.

An equally logical answer would be that if a nineteen year old boy can be effectively taught aerial navigation and how to run a modern bombing plane with its Norden bomb sight, teaching a reasonably efficient mastery of the above techniques would seem a not-too-difficult simple task.

The final answer would rest, however, with the ability of college executives to organize adequate courses to cover all of the above essential subjects and the bulk of the desirable and refining ones.

If this is done the student could concentrate in four years' college work the acquiring of knowledge that ordinarily would consume a life-time of study and practice as a by-product to living.

A study of college curricula indicates that many colleges and universities are now teaching a considerable number of the above subjects in various departments and that a beginning could be had on this problem by combining in a new "small construction engineering and marketing course" the indicated subjects now being taught.

Following this, additional subjects could be added from time to time until gradually a complete educational answer to the problem would evolve.

SOME PROBLEMS IN ORGANIZING AN ADEQUATE BUILDING INDUSTRY CURRICULUM

In approaching this need certain principles seem apparent.

First, that the industry is important enough, the field broad enough, the knowledge required sufficiently involved, the duration of the training period obviously long enough, to warrant a special degree. (Not to speak of the constructive psychological effect on the student himself, which will have an important bearing on the number of students attracted to such courses.)

Suggested degrees include one or more of the following:

- Bachelor of Housing Arts
- Bachelor of Housing Engineering and Marketing
- Bachelor of Small Construction Engineering
- Bachelor of Building Industry Sciences
- Bachelor of Building Industry Marketing, etc.

Second, while it is obvious that several departments of a university would have to contribute courses and instructors to such a curriculum the building industry course should eventually be centered in a college department of its own (College of Housing Arts) or as a major division of one of the following departments:

1. Engineering
2. Business Administration
3. Forestry
4. Liberal Arts
5. Economics

This work should have special appeal to the directors of engineering courses because of the relationship of the unsolved problem of distribution to engineering.

Our democracies must find a solution to the problem of distributing the plenty we can produce (thanks to the sciences of Production Engineering and the work of our universities in this field) and the solution of the distribution problem will certainly follow the principles of engineering.

Distribution engineering will be one of the great engineering sciences of the future if we are to perpetuate the free enterprise system, and if our engineering educators embrace the subject.

There is no better way to get into the field of Distribution Engineering than by tackling the building industry—the most crucial, the most inefficient, and the toughest distribution problem of all.

If Distribution Engineering can provide an antidote to this war's projected depression by bringing efficiency to the building industry it is highly probable that any other problem in the Distribution of Plenty can be solved by the same or quite similar methods.

Such action by our colleges and universities would constitute the most significant development in education since the advent of our agricultural schools.

Third, while many of the above courses are being taught in most universities today, the instructors teaching them would probably adapt certain lectures under the broad subject to the specific needs of the building industry careerist.

In this connection it should be especially noted that a mastery of the subjects described above would not only adequately prepare for a successful career the one out of the four non-professional graduates who will eventually earn his or her livelihood in some branch of the building industry, but it would provide the other three out of four going into non-professional activities as effective, if not a better, scholastic background for successful living than any "general" course.

Such a course would provide an intensely practical approach to a higher culture.

(Continued to page 106)



"Automatic" CONCRETE CURING

"On jobs like this — or a small basement floor!"

On ANY job, thorough curing under waterproof SISALKRAFT assures maximum hardness, density and strength. This method is simple, positive and economical. Once the paper is laid over a freshly finished slab, no further attention is required. No sand, bur-lap or sprinkling. No human element. SISALKRAFT for concrete curing is becoming the standard specification.

Rolls, covers, blankets of any size. Write for details.

The SISALKRAFT Co.
205 W. WACKER DRIVE • CHICAGO, ILLINOIS
NEW YORK SAN FRANCISCO



HERE'S WHY

"Pullman Balanced" IS THE BEST SPECIFICATION FOR 1942



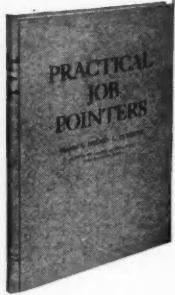
- 1 **A SAVING OF IRON AND STEEL**
Pullman Balances for average small homes weigh 334 pounds less than weights, chains and pulleys. You save critical material the Pullman Way.
- 2 **FASTEST CONSTRUCTION**
Simple plank frame (no weight box). Pullman Balances installed in an instant. Lowest material cost, lowest labor cost, quickest construction.
- 3 **SIZES FOR ALL DOUBLE-HUNG WINDOWS**
Nine series of models to balance sash 4 to 105 pounds. Uniform mortise size for all sizes in each series.
- 4 **SUPERIOR CONSTRUCTION**
True counterbalancing principle assures smooth-running operation. Lifetime guarantee. Elimination of weight boxes permits narrow mullions, narrow trim, true weather-tight construction.

PULLMAN MANUFACTURING CORP., ROCHESTER, N. Y.

Specify Window Units with
PULLMAN Sash Balances

New Second Edition

PRACTICAL JOB POINTERS



Compiled by
NELSON L. BURBANK
Author of *Carpentry and Joinery Work*

Six hundred kinks, short cuts and new methods of handling all kinds of work which were published in *American Builder and Building Age* during the past seven years in the "Job Pointers" section, have been brought together and indexed in this new book. Each is accompanied by a scale drawing or photograph.

Contents

Use and Care of Tools—Workbenches and Attachments—Portable Equipment—Excavations; Foundations; Forms—Sills; Girders; Joists; Sub-Flooring—Exterior Wall Construction; Inside Wall Framing—Exterior Wall Covering—Roof Construction; Bay Construction; Roofing—Cornices and Porches—Interior Wall Covering; Interior Trim—Steps; Stair Construction—Windows—Doors—Closets; Shelves; Built-in Equipment—Finished Flooring—Painting; Finishing—Screen Repairing; Screens—Sanitary Equipment—Electrical Wiring—Scaffolds; Ladders; Hoists—Garage Doors—Short Cuts in Laying Out Work.

130 pages, 600 illus., 9 x 12, cloth, \$2.00

Book Department

AMERICAN BUILDER and BUILDING AGE

38 Church Street

New York, N. Y.

Want Smart
quickly-erected
**WALLS and
CEILINGS**
at low cost?
•
Send for
**FREE
BOOK!**

ARMSTRONG CORK COMPANY
Building Materials Division
979 Concord St., Lancaster, Pa.

Please send me a free copy of your Monowall booklet telling all about Armstrong's fast-installation hardened wood-fibre board available in four pleasing design types and in 33 lustrous colors.

Name.....
Street.....
City..... State.....

ARMSTRONG'S MONOWALL

BIG OPPORTUNITY Stucco Spraying



Present day construction needs better and faster finishing methods. Plastic COLORCRETE is waterproofed. It can be used on new or old buildings. It fuses with any masonry surface. Fills cracks and checks. Can be applied in any thickness and in 30 beautiful colors and shades.

Fully proven by over 14 years actual use under all climatic conditions. Offers big earnings. With this machine you can supply the big waiting market at amazingly low cost. Present operators report costs of 2c and up per sq. ft. and sell up to 7c. Some have paid for their equipment from first few jobs. Machine capacity up to 1,000 sq. ft. per hour.

Get the facts. Send for free book "Proven Business Opportunity." Write today.

COLORCRETE INDUSTRIES, INC.
500 Ottawa Ave., Holland, Mich.

Training for Building Industry Careers

(Continued from page 105)

In teaching men and women how to provide and build better homes and housing environment for American families, the student acquires as a by-product the technique of securing and enjoying for himself a higher standard of living and a deeper understanding of the democratic processes by which they are attained.

Because the fields of housing and home environment embrace most of the humanities and the larger values and problems of life, their study will develop in the student a well-rounded ability to contribute to, and enjoy, life even though he might eventually choose some other than a building industry career.

Fourth, it would be highly desirable for the student to secure practical working experience in the building industry while acquiring this formal building industry education. This could be had in several ways:

After hours employment

Week end employment

Vacation employment

Alternate periods of college and industry work

This would combine education and practical training. It is not knowledge alone that is power; power is the ability to utilize knowledge. If education is the technique of acquiring knowledge, training and practice would develop the technique of using knowledge and the latter is fully as important as the former.

An excellent rule might be added that no matriculant should receive his or her final degree until he or she could show at least six months of practical field experience in the industry.

Fifth, in planning such building industry courses, a certain amount of flexibility would give distinct advantages. For example, in the engineering school, it is reported that very often, at the end of the second year, the dean or the professors will find that certain students are not mentally or vocationally fitted for the type of engineering that they have chosen for a career. This building industry course would provide a perfect outlet, and their previous two years of training would not be wasted.

Such students could be given inspirational, vocational guidance and directed for their last two years of work either to a special building industry department set up in the school of engineering concerned, or to a special department which might be in the School of Business Administration, or in a College of Housing Arts, or in the Department of Forestry, etc.

Another situation might involve the Forestry Department of a school. Aside from the fact that there are 10 openings for forestry graduates in the field of marketing forest products for each one that is available in the forests and sawmills, there are certain types of minds in each forestry student group that would be logically fitted for the merchandising of forest products while other types would be more logically suited to the mechanical phases of forestry.

These two groups could be segregated through aptitude testing and that group which should logically enter the merchandising field could also in turn (by inspirational, vocational guidance) be directed into building industry careers. This same principle could be applied to the unqualified student in the professional courses or in any other department of the college or university.

Sixth, in organizing the details of the curricula, it might be well to segregate into four groups the required subjects for a thorough building industry course:

1. The subjects which are now being taught in a manner and with textbooks which are suited to building industry techniques.

2. Subjects which are now being taught but which would require text and lecture adaption to building industry needs.

3. Subjects which are not being taught at the present time but which could be handled by existing teaching personnel; and

4. Subjects which would require outside or additional teaching personnel.

In meeting the problems which these segregations would bring to light, the building industry can be of much help.

WHAT THE BUILDING INDUSTRY CAN DO TO HELP

One manufacturer in the building industry, the Johns-Manville Corporation, over a period of eight years, has invested more than a million dollars in developing the necessary organized knowledge and operating techniques to cover those of the above subjects which are not generally found in college curricula. The stars shown opposite the items in the needed curricula above indicate the subjects which are treated in the Johns-Manville textbooks.

This training course is known as the National Housing Guild System and embraces such items as:

1. A Management Handbook which treats every phase of the operating and sales management of the local building industry proprietorship. It includes budget forms, a complete accounting system and every printed operating tool necessary to do an effective management job. It covers a complete explanation of each phase of operations together with a complete schedule of lecturing charts and texts.
2. A complete Estimating System covering all phases of small construction estimating in the new home field, the structural improvement field and the farm building field.
3. Completely standardized specifications embracing every phase of small construction activity and including all of the needed contract, financing and legal documents.
4. A salesman's operating manual and several textbooks covering all phases of consumer selling in the building industry.
5. A teacher's manual to be used by the local building industry proprietor in training men and women in his local establishment.

Johns-Manville personnel can be of particular help and counsel in the preparing of lectures on those subjects which are not being taught at the present time. A set of these textbooks is offered without charge by the Johns-Manville Company to any university undertaking a building industry course, copyrights will be waived to such colleges and universities, and there is no obligation whatever entailed in the use of this material by such schools.

Other manufacturers could undoubtedly provide engineering data books covering the use, application, fabrication and assembly of their various materials.

Any and all manufacturers in the building industry would be glad to provide:

- Consultants
- Inspirational vocational speakers
- Special product lectures and literature
- Film libraries
- Engineering material and data books
- Employment interviews

Local industry factors would cooperate with the colleges in building model houses to be displayed and sold; in equipping a local model farm with its full complement of efficient buildings; or in conducting a research remodelling job.

The local and state retail organizations in the building industry in the city where the college or university concerned might be located could provide:

(Continued to page 108)

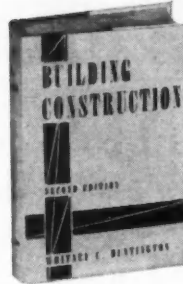
There is no "IF" in building when you know your materials and methods

Learn what is being done in the field today. Read

BUILDING CONSTRUCTION

By WHITNEY C. HUNTINGTON, Professor of Civil Engineering, and Head of the Department, University of Illinois

A complete, up-to-date, and practical treatment of types of construction used for the various parts of buildings, and the materials used in building construction.



674 pages
6 by 9
\$6.00

What do you need to know about:

- FOUNDATIONS—types, bearing power, settlement, drainage, waterproofing and damp-proofing?
 - MASONRY—brick, stone, tile, terra cotta, glass block, concrete, etc.?
 - WOOD, STEEL AND REINFORCED-CONCRETE CONSTRUCTION—columns, beams, girders, trusses, arches, frames?
 - FLOORS—construction, surfaces, coverings?
 - ROOFS—construction, use of shingles, tile, slate, and other materials?
 - HEAT INSULATION AND ACOUSTICS—principles and methods?
 - DOORS AND WINDOWS—wood, hollow-metal, metal-covered, etc.?
 - STAIRS—wood, concrete, steel and cast iron, stone and brick?
 - PAINTS AND OTHER PROTECTIVE COATINGS—varnish, enamel, lacquer, stains and water paints, etc.?
- All these subjects, and others, are covered fully in this book, in descriptive fashion.

Send for an on-approval copy

JOHN WILEY & SONS, Inc., 440 4th Ave., New York

Something New For '42


NEW JOBS IN OUR TOWN
that can Best be built of
WOOD

YOUR USUAL RETAIL STOCKS AND LOCAL LABOR CAN DO THESE JOBS
This new book shows how! What others have done your builders can do — Mail coupon today!

TIMBER ENGINEERING COMPANY, Inc., Dept. H-2
1337 Connecticut Avenue, Washington, D. C.

Individual: _____
Firm: _____
City: _____

Gentlemen: Please send me your FREE BOOK, "New Jobs In Our Town That Can Best Be Built of Wood."



Compact
3 1/2 H.P. Air-
Cooled Engine

**30% to 40% MORE
CONCRETE with
this MIXER!**

Load the Measuring Batch Hopper (12" lower) while you mix and discharge — fast as power loader. Criss-Cross "Re"-Mix Drum, Accurate Measuring Tank (siphon type). End discharge design. Get catalog, prices. The Jaeger Machine Co., 521 Dublin Ave., Columbus, Ohio.

Springs and Timken Bearings

JAEGER 3 1/2 SPEEDLINE



Gets MORE Done!

8 machines in one . . . each full-sized . . . each independently operated. Does the complete job. Write!

NEW MODEL "A" PLANING MILL SPECIAL

22" band saw, 12" jointer, tenoner, hollow chisel, mortiser and borer, rip and crosscut saw, cut-off saw and reversible spindle shaper and sand disc. Send for catalog.

Complete line of individual and combination machines
Good Woodworking Machines Since 1887

THE PARKS WOODWORKING MACHINE CO.
Dept. BL-2 1524 Knowlton St., Cincinnati, Ohio

QUALITYBILT DISAPPEARING STAIRWAY



Here's the stairway to sell. Every home owner wants a Qualitybilt Attic Stairway! For new homes or old, easily installed, easily operated. Strong, rigid, safe—perfectly balanced. Adds many times its cost to value of the home.

QUALITYBILT PRODUCTS
Sash—Doors—Blinds—Frames
Screens—Mouldings—Cabinets
—Stairs—Ask Your Dealer or
Address Dept. AB-242

GET DETAILS Today

FARLEY & LOETSCHER MFG. CO.
DUBUQUE, IOWA

Training for Building Industry Careers

(Continued from page 107)

- Consultation personnel
- Inspirational speakers
- Specialized lectures
- Part time or seasonal employment
- Permanent employment

Sampling surveys conducted by Professors Lynch of Denver University, Baker of Michigan State College, Kaufert of the University of Minnesota, Hartman of Iowa State College and Canfield and Horner of Babson Institute among several hundred lumber dealers demonstrated that this type of building industry retailer would employ an average of 2.3 each accredited graduates of such building industry courses at starting salaries averaging \$25.00 per week.

The same surveys indicated that within three years such graduates would be earning an average of \$46.00 per week and such jobs as auditor, accountant, supervisor, assistant manager, branch manager, secretary, sales manager, department head, superintendent, and sales promotion manager would be open to them.

When it is considered that there are 25,000 lumber dealers in the U. S. and that this is but one branch of the many-sided building industry, it is evident that the stated need for 100,000 additional properly trained men and women in the building industry was conservative indeed!

All national building industry associations would support the work in every way possible, and the wideflung building industry trade press would give continuous publicity to the news features and items of the schools working with the building industry.

The entire industry would organize to supply students from two basic sources:

- A. From within the industry.
With one family in every four, outside of the professions and the field of agriculture, earning its livelihood from some branch of the shelter industry, thousands of students annually, from sons and daughters of present building industry people, could be directed into colleges training people for building industry careers.
- B. From without the industry.
Every building industrialist conscious of the need for trained manpower would urge that son or daughter of the friend or relative, in whom he is especially interested, to choose the building industry as a career.
The industry would provide speakers to inspire high school graduating classes with a vision of the opportunities for success and service in the shelter industries.

Whether you are building new homes in the popular-price field or remodeling, here are three known wood products that will prove extremely practical in your plans—products that permit you to work well within established cost budgets. Investigate these products thoroughly. Literature obtainable on request.

WALLWOOD 3-PLY PANEL

—the stock all-wood panel that works magic on walls, beautifies rooms and reduces upkeep cost:

Send for the Free Illustrated Booklets

NEW LONDONER HOLLOW-CORE FLUSH DOORS

—the doors that have made such remarkable service records everywhere:

AMERICAN FLUSH CUPBOARD DOORS

—the doors that help fill the need for more cupboard space —an essential in every new or remodeled house.

AMERICAN PLYWOOD CORPORATION
NEW LONDON, WISCONSIN

It is said that 87% of high school graduates are unable to go to college. The opportunity to train for waiting building industry careers coupled with the advantage of being able to fully or partly earn their way while learning should tap another segment of recruits for freshman classes among this group.

These two sources combined with the directional, vocational guidance and other efforts by the schools themselves should assure large classes for these building industry courses. It is highly probable that in the evolution of this movement important individual manufacturers would provide research projects, scholarships and fellowships to be awarded in the usual way.

With the establishment of such college courses the entire industry would rise to the opportunity to secure effectively trained personnel and unite in the obligation to thoroughly organize the process of absorbing students immediately upon their graduation.

ADULT EDUCATION

The colleges and universities undertaking this work should set up ultimately a post graduate school for the benefit of building industry graduates who wish to return and qualify for higher degrees as well as for progressive adults who are interested in improving their status in the building industry. A considerable attendance of such adults would be assured if it were generally known that such an opportunity existed.

The building industry presents a splendid background for short courses, seminars, refreshment courses, summer schools, evening classes and other forms of college extension activities.

In conclusion, this is not a selfish appeal from an industry seeking outside help to do a job it should do itself; but on the contrary is an urgent supplication to college people to do a job which is peculiarly fitted to their talents which they alone can do and which will remain undone until they do it.

It is hoped that this program will not falter until there is an adequate housing curriculum in at least one college or university in every state in the U. S. and each province in Canada.

It should be emphasized that there is very little danger of any oversupply of educational facilities because the need for trained manpower in the industry is so great that, conservatively, it will be two decades before there is any possibility of the formal educational facilities catching up with the manpower demand.

Summarizing, our colleges and universities could do nothing more important in perpetuating the democratic system than to undertake immediately the solution of this great educational problem.

Because of the importance of the building industry in our post-war economy and its need for formal education, no other group could possibly contribute as much in a single activity to the peace-time welfare of the U. S. A. and Canada as the educational directors in our colleges and universities who will tackle this problem.

ARTHUR A. HOOD,

Director of Dealer Relations, Johns-Manville Sales Corporation, 22 East 40th Street, New York, N.Y.

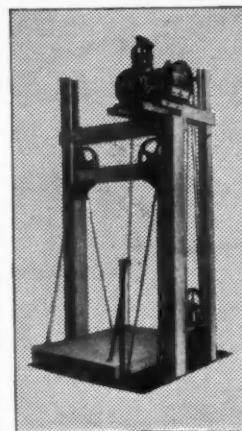


AN EYEFUL For a Trifle!

BREINIG BROTHERS' **SATIN-LAC** for New Light Finishes - It's **WATERWHITE**

There are many ways of protecting wood. But what about eye appeal? You get a full measure of both with SATIN-LAC. This new transparent, waterwhite specialty produces soft, satiny finishes. Thoroughly protects wood without veneer or "builtup" effect. Produces a close, "woody" appearance. Economical—truly an eyeful for a trifle! Mail this ad with your letterhead for sample panel and complete details.

BREINIG BROTHERS
WOOD FINISHES INCORPORATED HOBOKEN, N. J.



KIMBALL LIGHT ELECTRIC ELEVATORS

A line of powerful light electric elevators built for every purpose. Sawed, drilled and fitted for rapid assembly—strong—efficient and easy to install. Cost little to operate.

FREE Engineering Data

Present your elevator problem to us and let our engineers help. Descriptive literature on request.

KIMBALL BROS. CO.
915-989 Ninth St., Council Bluffs, Ia.

The No. 760 **\$5.75** 1000 Staples FREE

USE A **Crofoot** Streamlined **SCREEN TACKER!**

The Crofoot Screen Tacker with patented Reversible claws, is absolutely the last word in making or repairing window screens. Speedy, efficient, durable, this tacker is built for a specific job and does it to perfection, and it's backed by an unconditional guarantee.

Write today for a 5-day free trial.

J.B. CROFOOT CO.
217 Evergreen Avenue
Mt. Prospect, Ill.

Wire stretching claws Reversed for use with rabbeted screen frames.

We ship postpaid if C. O. D. or when check is sent with order.

MODINE convectors
WILL GIVE YOUR HOMES GREATER SALABILITY, TOO

MODINE MANUFACTURING COMPANY, 1701 RACINE STREET, RACINE, WISCONSIN

4 Coats of Paint **BAKED ON FABRIC**

OLD TIME FAVORITE MEETS TODAY'S HOUSING NEEDS

Famous for 40 years because of its SUPER-washability and wearability, SANITAS provides an AVAILABLE, efficient method for resurfacing and decorating old walls in conversion or remodeling jobs. For Defense Housing, SANITAS is ideal in both plaster and dry wall construction. Write today for the Sanitas X-Ray, and samples of this famous washable DECORATOR-STYLED fabric wall covering.

Standard Coated Products Corporation, Dept. AB 2-42 40 Worth St., New York

does a wallpaper job without using wallpaper

does a paint job without using paint

SANITAS X-RAY

See how 5 successive processing steps... (1) start with a strong cotton fabric base; (2) impregnate it; (3) coat it to render it stain-proof; (4) strengthen it... and (5) finally give it the decorative character that makes everyone agree "SANITAS is winning a new name for itself."

Sanitas
FABRIC WALL COVERING

See this X-RAY

PAINÉ
Self-Locking
TOGGLE
BOLTS



Fig. 123

SAVE TIME
And TEMPER

When work must be fastened to Lath and Plaster, Sheet Rock, Tile, Machalite, Gypsum, Insulation Board and other Hollow material, you can do it faster and eliminate all of the headaches by using PAINÉ Spring Wing Toggle Bolts. These permanent fastenings will outlast the material in which they are used. When tightened wing edges engage bolt thread preventing bolt from working loose. Your Hardware Dealer can supply you. Catalog free upon request.

THE PAINE CO.

2959 CARROLL AVE. CHICAGO, ILL.
New York Warehouse & Sales: 48 Warren St.

Set of **BLUE PRINTS**
and
Free BOOK
"HOW TO
READ BLUE PRINTS"



This Free Trial Lesson on "HOW TO READ BLUE PRINTS," and a set of blue prints plans—sent to show you how this 37-year-old School for Builders makes it easy for men in the building industry to lay out and run jobs, read blue prints, estimate costs, superintend construction, etc. Drawing of plans included if wanted.

LEARN AT HOME IN SPARE TIME

Men with this training are needed now to handle expanding business in building construction. This knowledge leads to promotion. Building contractors urge employees to get this training. For Free Trial Lesson address:

CHICAGO TECH COLLEGE

B-125 Tech Building 2000 S. Michigan Ave., Chicago, Ill.

SIMPLIFIED
CARPENTRY ESTIMATING

By **J. Douglas Wilson**

Head of the Building Trades Department, Frank Wiggins Trade School, Los Angeles, California

and **Clell M. Rogers**

Mathematics Instructor, Venice High School, Venice, California



Based on a series of articles by Mr. Wilson entitled *How to Estimate Accurately*, which appeared in *American Builder and Building Age* last year, the material has been revised and expanded into this book. Many of the original illustrations have been changed and the number of helpful tables and mathematical short cuts have been increased by Mr. Rogers.

This new book clearly explains the "taking-off" of a bill of materials required for the construction of a house and the rules and methods of making an accurate estimate of costs. The constructional order of quantity survey is used. Many skilled carpenters who have taken Mr. Wilson's evening school courses in estimating have helped in making the explanations given in this book clear and practical.

210 pages, 71 illus., 36 tables, 5 x 7, cloth, \$2.50.

Book Department

AMERICAN BUILDER and BUILDING AGE
30 Church Street New York, N. Y.

INDEX TO
ADVERTISERS
FEBRUARY, 1942

A

Adam Electric Company, Frank.....	104
American Builder.....	26-30-31-82-106-110
American Floor Surfacing Machine Company.....	89
American Lumber & Treating Co.....	88
American Plywood Corporation.....	108
American Radiator & Standard Sanitary Corp.....	32
American Red Cross.....	38
Andersen Corporation.....	20-21
Armstrong Cork Company.....	106

B

Barclay Mfg. Co., Inc.....	95
Bennett Fireplace Co.....	101
Black & Decker Mfg. Co., The.....	11
Bradley Lumber Company of Arkansas.....	7
Breinig Brothers, Inc.....	109
Bruce Co., E. L.....	40

C

Carey Mfg. Company, The Philip.....	24-27
Carr, Adams Collier Co.....	75
Carter Division, R. L.....	85
Celotex Corporation, The.....	2
Chevrolet Motors Division.....	12
Chicago Tech. College.....	110
Colorcrete Industries, Inc.....	106
Congoleum-Nairn, Inc.....	28
Construction Machinery Co.....	97
Crane Co.....	8
Crofoot Co., J. B.....	109

D

Detroit Steel Products Company.....	3
Dorbin Metal Strip Mfg. Co.....	99
Douglas Fir Plywood Association.....	23
Dunn Mfg. Co., W. E.....	111

E

Edwards Manufacturing Co., The.....	96
Eljer Co.....	78

F

Farley & Loetscher Mfg. Co.....	108
Fir Door Institute.....	22-81
Flintkote Company, The.....	33

G

General Electric Home Bureau.....	6
General Motors Corporation.....	12
Grand Rapids Hardware Co.....	92
Great Lakes Steel Corporation.....	19

H

Heatilator, Inc.....	98
Henry Furnace & Foundry Co., The.....	96
Howell Manufacturing Co.....	110

I

Insulite Company, The.....	29
----------------------------	----

J

Jaeger Machine Co., The.....	108-111
Johns-Manville.....	39

K

Kawneer Company, The.....	9
Kimball Bros. Co.....	109

Kinnear Manufacturing Company, The.....	111
Knapp Bros. Manufacturing Co.....	90
Kwik-Mix Concrete Mixer Co.....	101

L

Laucks, Inc., I. F.....	76-80
Lawson Company, The F. H.....	79
Lehigh Portland Cement Company.....	36
Lehon Co.....	103
Libbey-Owens-Ford Glass Company.....	14
Little Burner Co., H. C.....	94
Lone Star Cement Corporation.....	44

M

Majestic Company, The.....	97
Mall Tool Company.....	99
Masonite Corporation.....	91
McAlpin Hotel.....	100
McNair Shingle Co., Robert.....	100
Mengel Company, Incorporated, The.....	73
Mesker Brothers.....	25
Miami Cabinet Division.....	24
Modine Manufacturing Co.....	109
Mueller Furnace Company, L. J.....	13

N

National Gypsum Company.....	42
National Manufacturing Company.....	4th Cover
National Steel Corporation.....	19

O

Ohio Hydrate & Supply Co., The.....	85
Overhead Door Corporation.....	3rd Cover

P

Paine Co., The.....	110
Parks Woodworking Machine Co., The.....	108
Pecora Paint Company, Inc.....	103
Pittsburgh Plate Glass Company.....	18-35
Pittsburgh Corning Corporation.....	35
Porter-Cable Machine Co.....	102
Portland Cement Association.....	93
Pullman Mfg. Corp.....	105

R

Red Cedar Shingle Bureau.....	4-5
Rowe Manufacturing Co.....	71
Rybolt Heater Co.....	87

S

Sisalkraft Co., The.....	105
Skilsaw, Inc.....	15
Standard Coated Products Corporation.....	109
Stanley Electric Tools Division.....	37
Stanley Works, The.....	10-102
Stran-Steel Division.....	19

T

Timber Engineering Company, Inc.....	107
Trimpak Corporation.....	86

U

United States Gypsum Company.....	16-17
United States Steel Corporation Subsidiaries.....	34
Universal Atlas Cement Co.....	34

V

Victor Electric Products, Inc.....	83
------------------------------------	----

W

Walker-Turner Co., Inc.....	98
Wallace & Co., J. D.....	104
Western Pine Association.....	77
White Co., David.....	111
Wiley & Sons, Inc., John.....	107
Wood Conversion Company.....	112

JAEGER 3 1/2 S MIXER

Faster on the Road and on Your Job!



Get double the mixing action with Jaeger patented "V" Bottom Drum—get unlimited trailing speed with Pneumatic Tires, Timkens, spring shock absorbers—get longer life, lowest upkeep cost of any mixer you ever owned. Write for new Mixer Catalog, prices.

THE JAEGER MACHINE COMPANY
521 Dublin Avenue Columbus, Ohio

Tilters, Non-Tilt, 3 1/2 S to 56S Sizes.

SECTIONAL, GALVANIZED STEEL DOORS

RESIDENTIAL or COMMERCIAL



You'll win all-out approval from every client by installing this all-steel galvanized upward-acting door. It cannot warp, sag, split, or pull apart! It is weatherproof . . . repels fire . . . defies intruders and troublemakers! Smooth, easy, spring-counterbalanced operation. Built any size, with any number of light sections, and with motor, mechanical, or manual operation! Easy installation is a feature! WRITE FOR DETAILS ON THE KINNEAR STEEL RoL-TOP TODAY! NO OBLIGATION!

KINNEAR RoL-TOP

The **KINNEAR MFG. CO.** 1560-80 Fields Ave. COLUMBUS, OHIO

Solve SHORTAGES-HIGH PRICES




In essential materials used in tremendous volume by the building industry. WE EQUIP YOU with special line production machinery—using local low-cost raw materials—only modest investment required—balance easy monthly payments. SCORES OF ESTABLISHED MANUFACTURERS have proven the quality and salability of products, as well as the earning power and stability of this business (Names on request). THIS OPPORTUNITY IS EXCLUSIVE and is based on the manufacture and sale of proven low-cost materials. (Samples furnished) ACT NOW while your territory is still open. Write or wire for Free Books.

W. E. DUNN MFG. CO.
450 W. 24th St. Holland, Michigan

QUICK CHANGE from Level to Transit

Try it FREE



Two motions shift it from level to transit. One-piece standard casting gives great rigidity and strength. Built especially for contractors.

Try the Universal Avoid Costly Errors

\$10 brings you the "Universal" Level-Transit. One hour teaches you how to accurately check up surveys, avoid costly errors. Money-back guarantee.

Easy Payments. Use instrument. If not satisfied, return and your money is refunded. Or keep on easy monthly payments. Particulars on request.

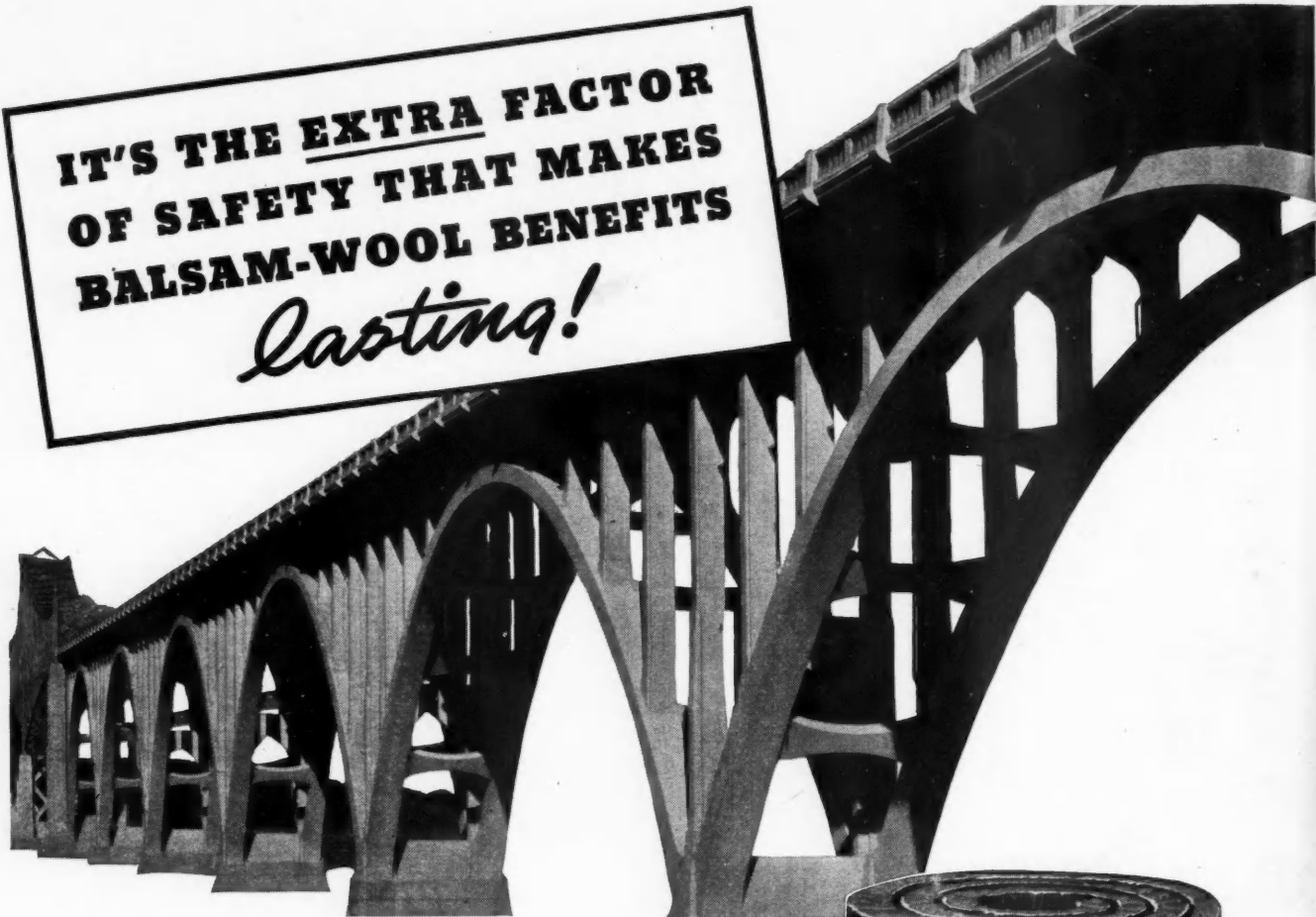
Ask for FREE booklet "How to lay out building lots"
DAVID WHITE CO.
311 W. Court Street, Milwaukee, Wis.

We Do Expert Repairing

Tapes Rods Supplies

Only \$10 Down

**IT'S THE EXTRA FACTOR
OF SAFETY THAT MAKES
BALSAM-WOOL BENEFITS**
Lasting!



IN A BRIDGE—in a house—in all building materials—builders demand an extra factor of safety, an extra reassurance that the structure or material will withstand the most rigorous conditions of use.

Balsam-Wool Double Value insulation contains this extra factor of safety. That is why Balsam-Wool is able to produce—*permanently*—the comfort and fuel-savings expected. That is why Balsam-Wool has, for more than 20 years, retained its place as the aristocrat of insulations—while hundreds of different types and brands of insulation have come and gone.

To make insulation benefits SURE, get complete information about Balsam-Wool. Just mail the coupon!

EXTRA SAFETY—two or more Moisture Barriers, each one more than sufficient to withstand the load imposed on it.

EXTRA SAFETY—two or more Wind Barriers . . . reinforced and stiffened flange to give extra support and to assure tight application.

EXTRA SAFETY—the highly efficient insulation mat is Double Sealed against those elements which might reduce its effectiveness.

EXTRA SAFETY—the fire and termite resistant mat is cemented to both Liners, front and back—resulting in



toughness which withstands rough handling on the job.

EXTRA SAFETY—Balsam-Wool is fastened in place with nails or staples driven into framing members at Both Sides and at Top and Bottom. Even constant vibration cannot shake the mat loose.

BALSAM-WOOL
BALSAM-WOOL • NU-WOOD
Products of Weyerhaeuser

WOOD CONVERSION COMPANY
Dept. 119-2, First National Bank Bldg., St. Paul, Minnesota
Gentlemen: Please send me complete information about Balsam-Wool DOUBLE VALUE Insulation.

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



FOR HOMES

In Defense Areas!

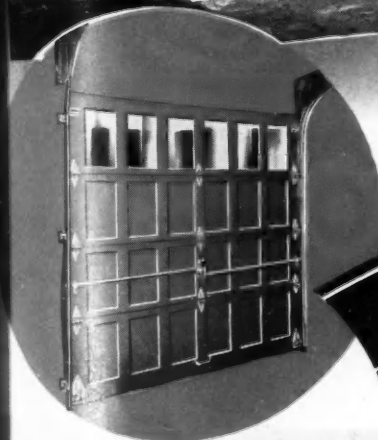
Specify The "OVERHEAD DOOR" with the Miracle Wedge. More than a million users testify to its easy operation and lasting service!

With tracks and hardware of Salt Spray Steel, stiles and rails of clear, edge-grained Sitka Spruce, The "OVERHEAD DOOR" is accepted as the standard for quality and reliable performance.

The "OVERHEAD DOOR" is used extensively for Army, Navy and Marine buildings, depots, warehouses, and in defense industrial construction.

**SOLD INSTALLED BY A NATION-WIDE
SALES-INSTALLATION-SERVICE!**

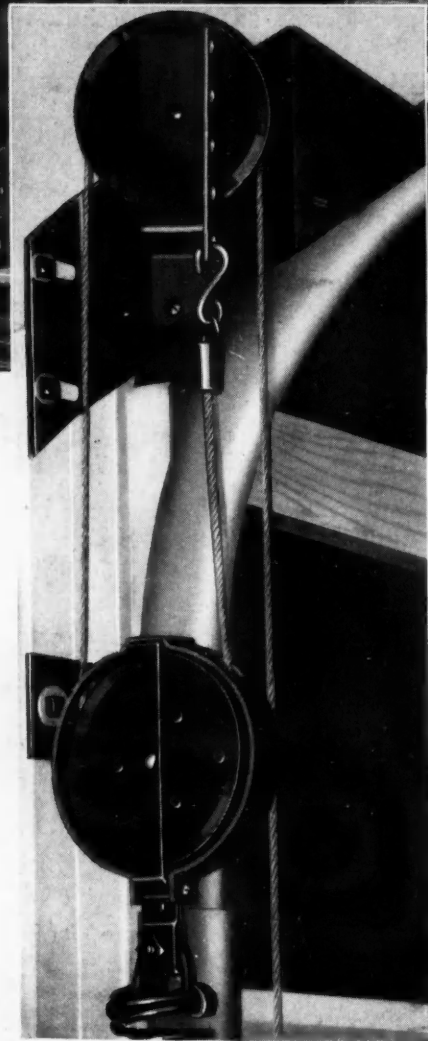
COPYRIGHT 1942, BY OVERHEAD DOOR CORPORATION



The
"OVERHEAD DOOR"
TRADE MARK
WITH THE
MIRACLE WEDGE

OVERHEAD DOOR CORPORATION
HARTFORD CITY, INDIANA, U. S. A.

STAR PERFORMANCE



**National
No 900**

For many years the stellar performance of National upward-acting garage doors has substantially increased profits for contractors and builders and given complete satisfaction to thousands of home owners.

Exclusive built-in features that make for speedy installation and easy operation are—strong vertical coil springs that act as a perfect counter-balance for the weight of the door. These springs function with steel cables that operate easily over large enclosed pulleys with hardened roller bearings. The doors come cut to size, hardware attached, fully glazed. A standard set can be installed in three hours time. Each set comes packed complete—there is nothing else to buy.

GO TO YOUR DEALER'S TODAY

Inspect the *complete* line of National Hardware. You will find a National Hardware item for every building requirement.

Write for descriptive literature.

**NATIONAL
MANUFACTURING CO.
STERLING ILLINOIS**

A NATIONAL HANGER FOR *Every* TYPE OF DOOR