

PHOTOLOGY DEPT:

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FEBRUARY, 1944

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WORLD'S GREATEST  
BUILDING PAPER

# BUILDER

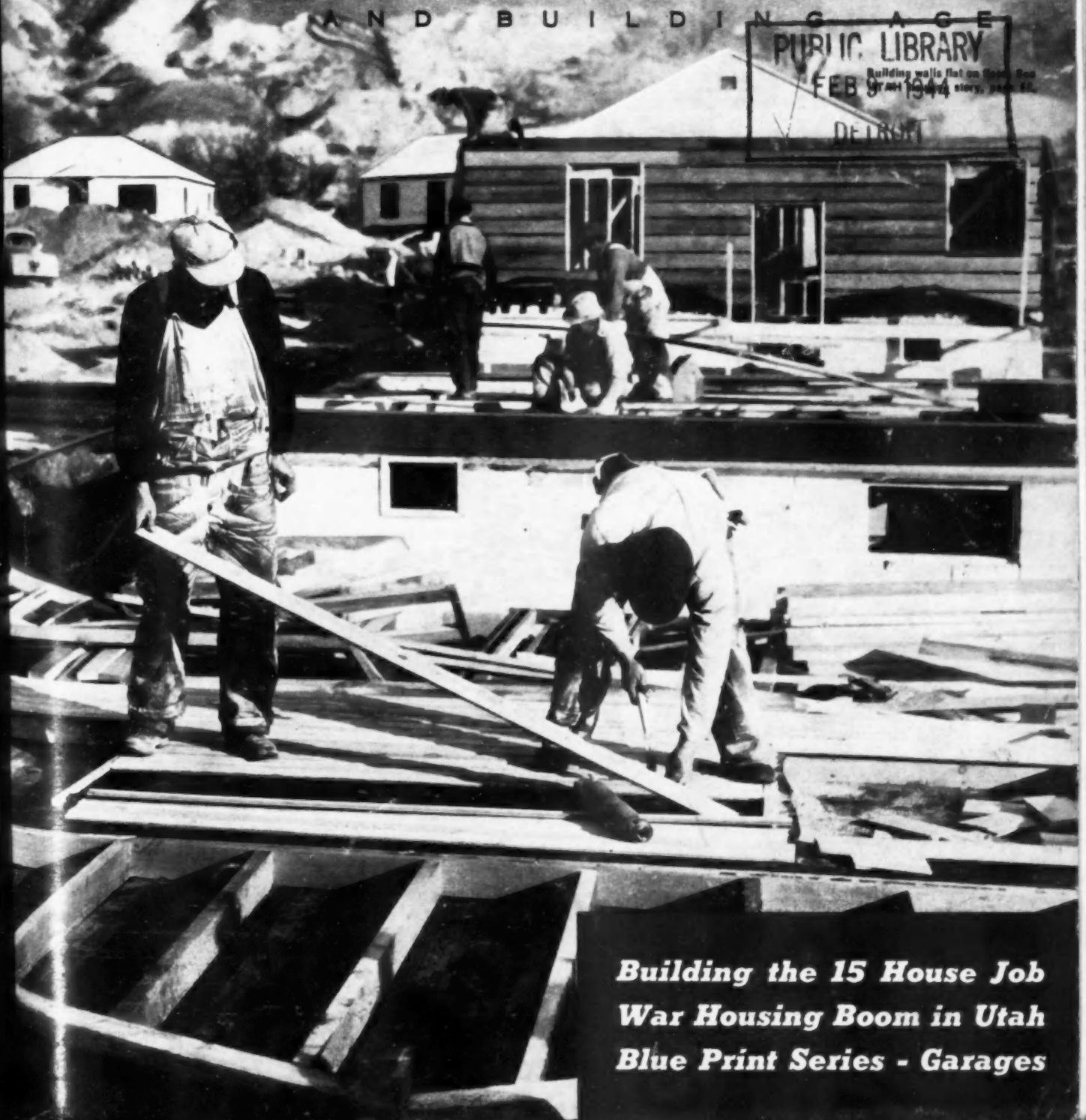
AND BUILDING GAZETTE

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Building walls flat on floor. See  
plans 1st story, page 22.

DELRONT



*Building the 15 House Job  
War Housing Boom in Utah  
Blue Print Series - Garages*

From Blueprint to Completion

Days Faster!



Because **CELO-SIDING**  
TRADE MARK  
Does 3 Jobs!

SHEATHING!

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INSULATION!

**Get the Jobs You Want Today with CELO-SIDING**  
**The Multiple-Function Building Material**

**It's Now Available!** Scores of military and industrial building projects have been completed. That now makes Celotex available for general building purposes.

**Ideal for Every Climate!** Millions of square feet of Celotex have been used in every type of climate with outstanding results. Due to its strength, resistance to the elements and insulating qualities, Celotex is ideal for small houses, farm buildings, machine shops, factories, warehouses and small general buildings of every type.

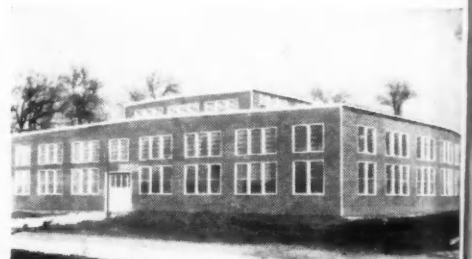
**What Celotex Is.** It is a multiple-function material . . . siding, sheathing and insulation in one quickly applied material. The board is composed of cane fibre, coated on all sides with an asphalt compound.

An extra coating is applied to the weather surface and crushed mineral granules are pressed in to provide a durable, good appearing exterior finish. Applied direct to studding, Celotex saves critical lumber, time and labor.

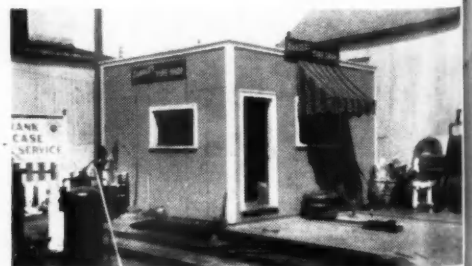
**Specifications.** Celotex is available in buff or green. Units are 7/8" thick and 2' x 8' or 4' x 8' and 10'. The small board has T&G joints on long edges. The big board has square edges all around. Each is suitable for vertical or horizontal construction—joints sealed with caulking compound.

**Your Celotex Dealer** is ready now to fill your needs for Celotex. Talk with him today about prices and the many applications of Celotex . . . the building material that does 3 jobs.

Typical House in Bill Holt FPHA Project at Great Falls, Mont., showing wall constructed with Celotex.



Here is how Celotex is used in wall construction of factories, machine shops and warehouses.



A Minnesota auto service man is proud of this small building. Walls constructed with Celotex.

**CELOTEX**  
REG. U.S. PAT. OFF.  
**BUILDING PRODUCTS**

THE CELOTEX CORPORATION, Dept. AB 2-44  
Chicago 3, Illinois

Please send me complete information on Celotex, the multiple-function building material.

Name \_\_\_\_\_

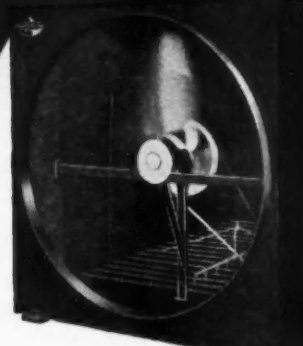
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Capacities up to 20,000 CFM.



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In drawing "After Victory" plans, specify Emerson-Electric Home Cooler Fans... Turned on after sundown, these powerful, quiet coolers expel excessively hot air trapped in living quarters and attic, drawing cooler outside air into and *through* the house from open windows and doors. This vital circulation assures comfortable evenings and nights of sleep.

Write for full information concerning the complete line of Emerson-Electric Home Cooler Fans and Kitchen Ventilators, available again "After Victory" in the same dependable quality characterizing all Emerson-Electric products for over 53 years.

THE EMERSON ELECTRIC MFG. CO., ST. LOUIS, MO.  
Branches: New York • Chicago • Detroit • Los Angeles • Davenport

Now 100% War Production



### KITCHEN VENTILATOR FANS

A "must" in all postwar homes! The ruggedness, long life and operating efficiency of Emerson-Electric Kitchen Ventilators have been proved in thousands of homes across the country... 9-inch, 10-inch and 12-inch sizes.

# EMERSON ELECTRIC

HOME COOLER FANS • • KITCHEN VENTILATORS



A clerk in Milwaukee asks:

**Is the production of bituminous coal keeping pace with America's war needs?**

The answer is truly inspiring! In 1943 our mines produced 585,000,000 tons of bituminous coal — the greatest amount of coal ever mined in one single year in the United States or any other country.

The only year that approached it was 1942, and 1943 beat that by more than 5,000,000 tons.

This showing is all the more remarkable when you consider that more than 70,000 trained mine workers are in the armed services or in other war-essential industries — and that, during the year production of more than 65,000,000 tons was lost because of strikes, slowdowns and unwarranted absenteeism.

One thing that made this vast volume of production possible was the investment of \$400,000,000 in mechanical safety and operating equipment during the past twenty years. This investment was made, for the most part, in the depression years. The foresight of the bituminous producers in making so heavy an investment in new equipment at a time so critical is now finding its reward in today's production records.

Nearly everybody has ideas and opinions about bituminous coal and the men who mine it. Doubtless many have questions they'd like to ask about the industry.

We are eager to answer such questions, because we are glad to tell you about our industry. Its practices and policies are an open book.

You will find, as we answer your questions, that the operators are taking their responsibilities seriously,

We welcome your  
**QUESTIONS**  
*about our*  
**Industry**



A merchant in Baltimore asks:

**Can miners' children get a good education?**

They certainly can. Miners' children have as good a chance to acquire an education as have children anywhere in the United States. State school laws and Federal child labor laws apply equally to all children of school age. In fact, and recreational advantages above the average. Many mine companies encourage and support playgrounds, summer camps, libraries, elementary schools, training schools, child-care and home guidance programs. When a miner's children grow up they are as free and well-qualified as any other children to choose their own occupations. Thousands of miners' children go on to college and technical institutions or take extension courses offered by State Universities.

and that the men who work in the mines live pretty much the same kind of lives as workmen everywhere.

The bituminous producers gladly accept this assignment to keep you informed and up to date on their business. They consider it a part of their duty as good citizens, good employers, and producers of America's No. 1 source of heat and energy.

BUY MORE WAR BONDS

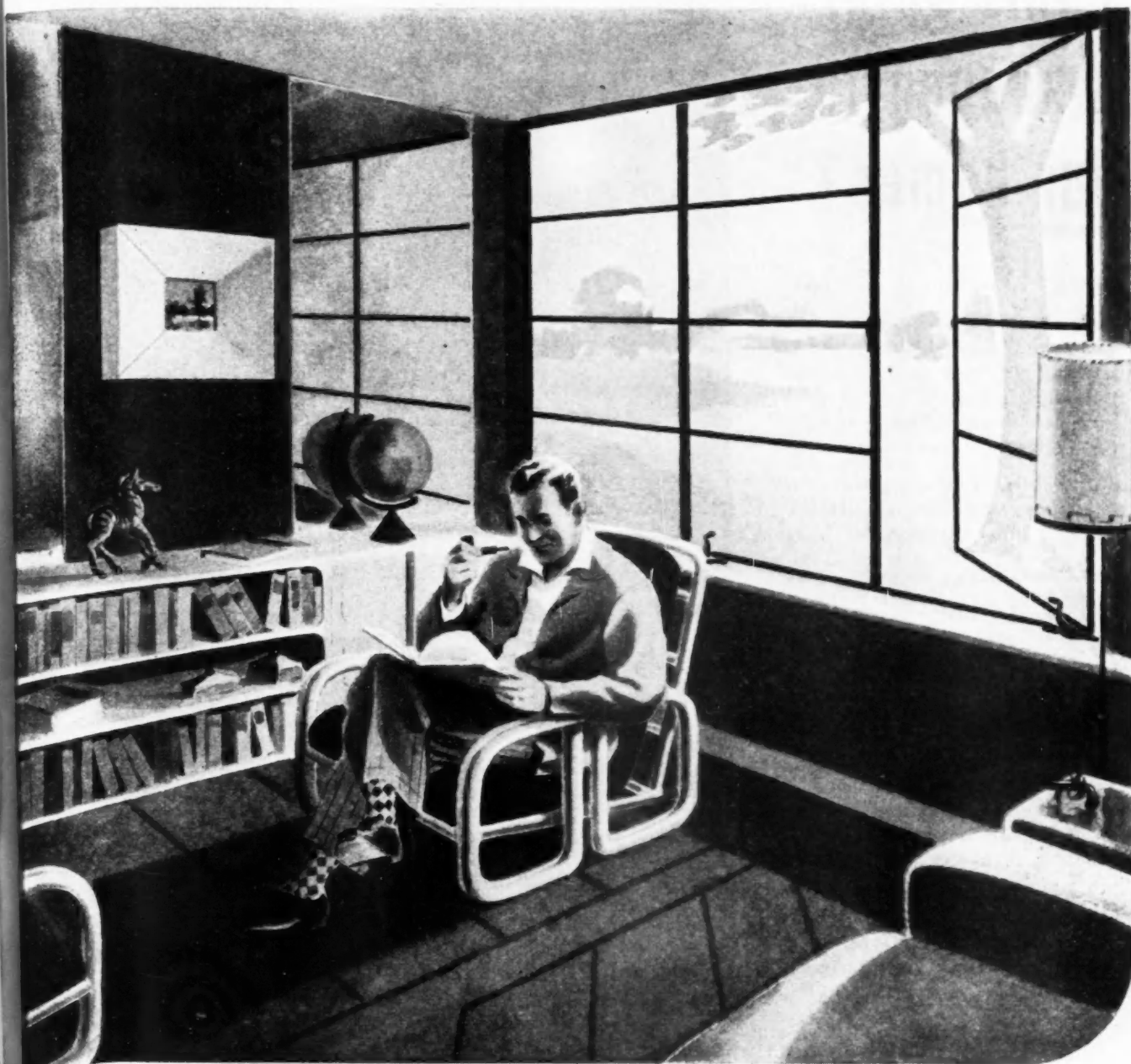
**BITUMINOUS COAL**  
*Institute*

60 East 42nd Street, New York 17, N. Y.

CECO WA  
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Maritime  
CECO PE  
Casement  
Accessory  
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*Sunshine and fresh air for tomorrow's better living*



**What Is "Custom" Today  
Will Be "Standard" Tomorrow**



More and more have the architects and builders of America endeavored to supply homes that were different . . . better! And what makes a home better? It's the introduction of new ideas, new comfort, new conveniences . . . without the burden of extra cost. And that is what will make miracle homes of America's post-war homes! The war is developing even greater ingenuity and resourcefulness among architects and builders. It is also developing facilities and initiative in such plants as the Ceco Manufacturing Division. When you return to peacetime building, Ceco will return with you . . . offering innovation after innovation in finer, more beautiful Ceco Residential Casements!

**CECO WARTIME PRODUCTS:** Landing Mats • Portable Panel Bridges • V-Type Trestles • Screw Posts • Glider Sub-Assemblies • Ship Parts for Navy and Maritime Commission.

**CECO PEACETIME PRODUCTS:** Commercial, Industrial, Casement & Basement Windows • Metal Lath and Accessories • Welded Fabric • Column Clamps • Adjustable Shores • Meyer Steelforms • Concrete Reinforcing Bars • Metal Frame Screens • Metal Weatherstrip • Steel Joists • Steel Roof Deck.

**Ceco STEEL Windows**

CECO STEEL PRODUCTS CORPORATION, MFG. DIVISION, 5701 W. 26TH ST., CHICAGO



# Is this going to happen in your homes?

"Never again," many builders are saying.

For beautified ceilings and dry-built full-wall construction have ended the necessity for using materials which often crack, even before woodwork is applied . . . and which can be an endless source of annoyance and expense to builder and home owner alike.

Strong-Bilt Panels in full-wall size have solved the problem which has puzzled thinking architects and contractors for years.

**FIRST**—by eliminating joints.

**SECOND**—by making available a strong, rigid, crackproof material, with a beautifully pebbled surface.

**THIRD**—by providing a method of application employing Upson Floating Fasteners which anchor the panels securely from the back and compensate for normal structural settlement.

Highly successful use in over 50,000 homes, and endorsement by prominent builders attest the value of dry-built full-wall construction.

Strong-Bilt Panels are available now only for housing jobs carrying priority ratings. For booklets and detailed information, phone, wire or write The Upson Company, Lockport, New York.

Upson Quality Products Are Easily Identified  
By The Famous Blue-Center



**UPSON  
STRONG-BILT  
PANELS**

**THE CRACKPROOF BEAUTY SURFACE  
WITH EFFICIENT INSULATING VALUE**

**Cuts Down Construction Time!** One Panel covers entire wall of average size room. Applied with Upson Floating Fasteners which anchor panels securely from the back and compensate for normal structural settlement. No face nailing. No joints. No time-consuming system of filling and taping. No nails to countersink. No nail holes to fill.

**Moisture Troubles Licked!** Entirely dry-built. No waiting for plaster to dry. Eliminates the 1000 pounds of water which may be used in plastering a 6-room house.

**Efficient Insulating Value!** Up to 3½ times that of plaster.

**Crackproof!** Positively will not crack, splinter or chip. Does away with annoying and costly repairs.

**Tough and Strong!** Withstands impact up to 6 times heavier than needed to shatter boards with a brittle core.

**Finest Painting Surface On Any Wall Material!** Pebbled and presized at the factory. No fuzziness. Can be painted immediately after application.

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## Letters

### Aussies and war babies

*To the Editor:* Private building in Australia has been stopped, and as many as three families are living in one small three-bedroom house.

Our Government will soon have to lift restrictions, otherwise we will be unable to house the young mothers and children of the American Army men!

A lot of your boys will bring home Australian wives. It is my privilege to have some of your boys visit me here at my house. They are fine fellows; they talk a bit strange, but look, act and think like us Aussies.—E. W. ROSE, Reservoir, Victoria, Australia.

### Congressman endorses FHA

*To the Editor:* As president of a small building corporation—both public and private housing, and as an attorney handling financing and closing of many FHA cases, I have become familiar with housing policies, both public and private.

Your recommendations on a national housing policy are very well outlined. I concur with the four important points which you have emphasized. I believe that the FHA should be continued as an independent post-war agency.

FHA should be in an excellent position to assist private builders to resume building activities when restrictions are lifted. FHA has been a tremendous incentive in encouraging private home ownership, and I am a firm believer in that.—LAVERN R. DILWEG, M.C., Washington, D.C.

### Nichols urges better building

*To the Editor:* At the recent builders' and realtors' meeting I was terribly disturbed to note the little thought given to our responsibility for building more durable homes, and to create more permanent neighborhoods with adequate relation to the city plan of their communities.

If private housing is to continue in America, we as realtors and builders must achieve a fine, constructive job. Upon us rests the job of producing more durable homes to serve generations to come; upon us rests the responsibility of creating neighborhoods which will retain fine char-

(Continued to page 85)

# New! Improved!

## FACTRI-FIT

### DOUGLAS FIR DOORS

Improved appearance! Modern and beautiful, these NEW Douglas Fir Interior Doors feature basic 3-panel designs that home owners will applaud.

Improved features! FACTRI-FIT doors are PRE-FIT at the factory—trimmed—ready to hang. Scuff-stripped, too, for protection in handling.

If desired, FACTRI-FIT Interior Doors may be specified COMPLETELY machined—gained and mortised by high-speed precision tools that assure a correctly fitted door. Savings on the job more than offset the slight additional cost.

Both Douglas Fir FACTRI-FIT Interior Doors and durable, beautiful TRU-FIT\* Entrance Doors are built to save you time and money—savings proven on hundreds of war housing jobs where these doors were used.

\*TRU-FIT Entrance Doors are available in 27 distinctive designs. Write for catalog showing TRU-FIT doors and complete line of FACTRI-FIT Interior Doors.

#### OLD

Yesterday's doors had to be trimmed to size on the job with slow hand tools. Jobs were costly, often unsightly. How different it is today!



#### NEW

Today's FACTRI-FIT doors are prefit, may be ordered mortised for locks and gained for hinges as well. Save time and money on every installation.



No sawing to length. FACTRI-FIT doors are precision-squared by high-speed saws in the door factory. Quick and easy to hang.

Every FACTRI-FIT door comes with scuff-stripping for complete handling protection. Strips are easily removed by carpenter when hanging door.

**FIR DOOR INSTITUTE**  
Tacoma Building, Tacoma, Wash.

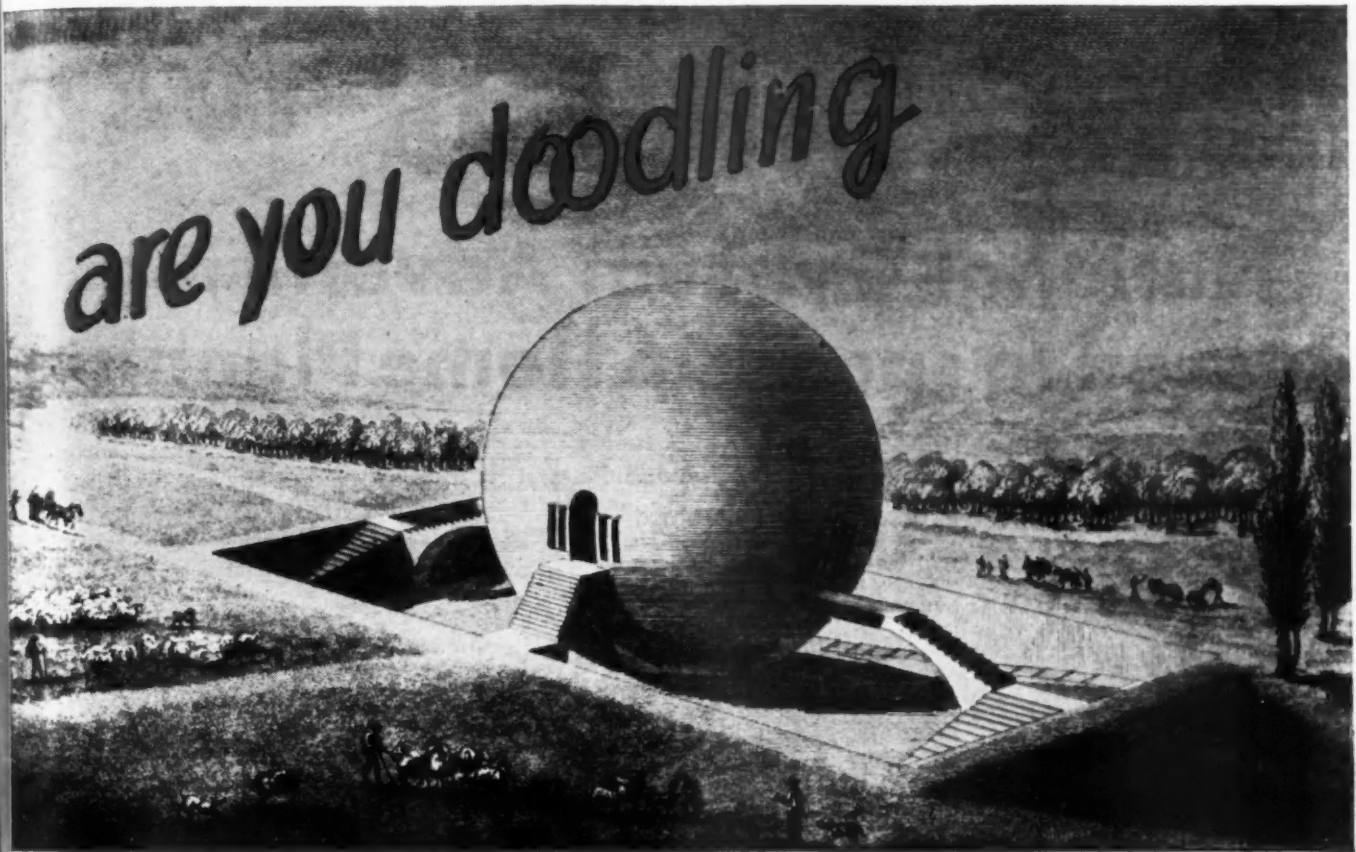
Remember!  
NATURE MAKES  
DOUGLAS FIR  
Durable!

Durable Douglas Fir Doors are made from all heartwood, vertical-grain, soft, old-growth Douglas Fir.



**DOODLED IN 1847.** How the farmer got into this farmhouse after dark without breaking his neck, was one of the many problems its designer, M. Le Doux, left unsolved. Bigger problem was how to get this

doodle down on a farm—to set this ball rolling off the blueprints into actual construction. M. Le Doux never solved that one either—so his golf-ball chalet for gentlemen farmers never got built.



## or planning for that building boom?

**I**N 1918 A LOT OF MEN in the building industry were dreaming beautiful dreams about a postwar industrial building boom. You heard statements like "More than 50% of our prewar plants are obsolete and need replacement"—"Hundreds of new products are clamoring for plants in which they can be made economically."

Well—here we are again. Nowadays many builders are echoing the words of 1918.

And maybe they're right. Maybe there *will* be a boom after this war. But *somebody has to break ground for*

*it—start the ball rolling.*

**How? One way is to show executives that the building industry can now have plants which will produce so much more efficiently and economically than outmoded ones that business simply can't afford not to build them.**

And the most economical and effective way to tell this story to business is through the pages of **TIME**—the first-choice magazine of business executives, plant owners, and managers—the maga-

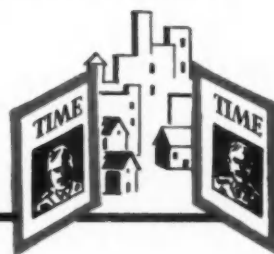
zine they turn to for *information to help them think ahead and plan ahead and see the shape of things to come* . . . the magazine the employers of America believe in and vote their favorite over all the others they read\*.

*What's more, TIME is the magazine in which business and industry prefer to tell their own product stories!*

\*Among the subscribers to **TIME** (who altogether employ 33,000,000 people), are executives and engineers, Government officials, mayors, bankers, architects, and 22 other groups of leaders—all of whom recently voted "**TIME** is America's most important magazine."

# TIME

THE GATEWAY



TO THE BUILDING MARKET

# ANNOUNCING NEW PLAN FOR 1944

## National Gypsum Advertising geared to speed up Home Planning

ONE million new homes per year will be needed for the first ten years after the war. And this building can get under way the moment that building restrictions are lifted . . . If! If we will all pull together now—architects, builders, dealers, manufacturers—and curb the loose talk and wild predictions of what the post-war home will be like.

Fantastic and wholly impractical designs by artists who are in no way connected with building, plus promises of all kinds of doodads to revolutionize living have so completely confused prospective home builders that they don't know what to believe. Accordingly, post-war planning has been held to a standstill.

To make it clear just what are real post-war possibilities and what are vague dreams, National Gypsum is running a new series of ads in 1944. People are told they can expect more house for their money than ever before, as a result of new methods and materials—products that can be specified *now* because they will be available as soon as building resumes. Also, they are urged to do their planning now if they want their new home soon after the war. And they are told to go to the Gold Bond Dealer and to their local builder and architect for help in getting started the minute the whistles blow. To get the details . . .

*See Your Gold Bond Dealer*

### These are the ADS

**Will your Post-War House have Hot and Cold Folding Doors?**

**THE golden rule of the post-war home** is to get the most for your money. That means you must plan your house now. . . .

**NEW BUILDING MATERIALS** are being developed that will give you more house for your money than ever before. . . .

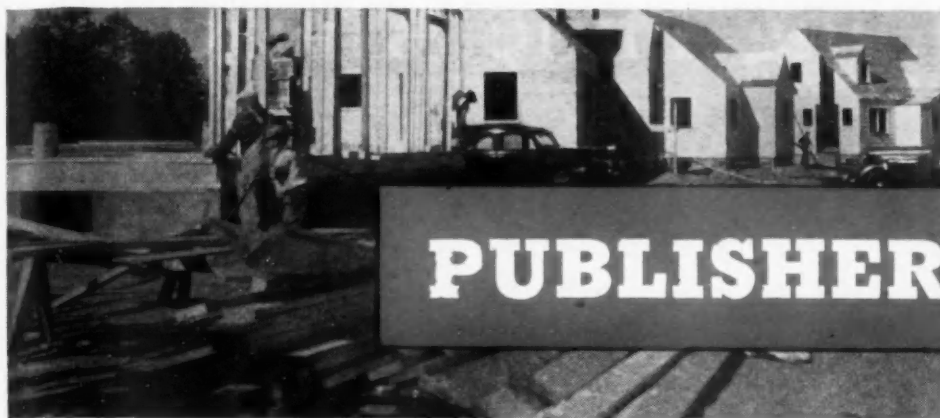
**HOW TO SUCCEED** in building your post-war home is to plan now. . . .

**BUILD BETTER WITH GOLD BOND**  
Wallboard • Lath • Plaster • Lime • Metal Products • Wall Paint • Insulation • Sound Control

**BUILD BETTER WITH**  
**Gold Bond**  
*Everything - for walls & ceilings*

More than 150 different products for  
**MODERN CONSTRUCTION  
AND WAR PRODUCTION**  
WALLBOARD...LATH...PLASTER...LIME  
METAL PRODUCTS...WALL PAINT  
INSULATION...SOUND CONTROL

**NATIONAL GYPSUM COMPANY . . . EXECUTIVE OFFICES, BUFFALO, N. Y.**  
20 Plants from Canada to the Gulf . . . Sales offices in principal cities



## PUBLISHER'S PAGE

### Getting materials for home building

**E**RIC JOHNSTON, president of the U. S. Chamber of Commerce, has defined a statesman as "a politician who is held upright by equal pressure from all directions." This is a good definition for everybody in the building industry to remember. The pressure from all directions on officials in Washington for materials for civilian as well as war purposes is increasing as the postwar period draws closer. The building industry will get its share of materials during and immediately after the war only if it exerts its share of the pressure.

There appeared recently in a single issue of a certain newspaper the following: (1) Quotations from a report of a Congressional committee urging the War Production Board to be more liberal in allocating materials to the railways in order to avoid a breakdown of transportation. (2) An interview with an automobile manufacturer predicting that production of new automobiles will begin next fall. (3) Quotations from a message by President Roosevelt to Congress in which he urged immediate formulation of plans for utilizing "manpower and industrial capacity which will be available after the war" in building 34,000 miles of "modern roads." (4) A statement from Chairman Donald M. Nelson of W.P.B. that "there must be no modification of restrictions" on building construction "until we can be certain that such modifications would not harm the war production program."

Nobody wants to "harm the war production program." But everybody whose only objective is the public welfare wants that program so carried out that it will adversely affect the public welfare as little as possible both during and after the war. Few who are well-informed will oppose giving the railways more needed materials as rapidly as practicable, because a breakdown by them during or after the war would harm everybody. But why talk about producing

new automobiles during the war, and about extensive highway construction following the war, when W.P.B. discourages hope of an early relaxation of restrictions on building? The highway program outlined in the President's message is estimated at \$750 million annually for "upwards of 20 years," or at least \$15 billion—58 per cent as much as the present investment in our entire 250,000 miles of railroad!

Would early revivals of automobile production and highway construction promote the public welfare more than an early revival of the repair, modernization and erection of homes and farm buildings? That the public does not think so is shown by the survey recently made by the U. S. Chamber of Commerce which was reported in the *American Builder* of January, 1944, beginning on page 35.

Not only are war needs for many materials used in the various kinds of production and construction declining, but they will sharply decline with the termination of the war with Germany. As more materials become available for civilian purposes, they should be used first in the ways that will be most conducive to raising standards of living and maintaining incomes. The best and most needed means of raising living standards and maintaining incomes will be increased private expenditures on homes. And, as emphasized on this page in January, the first essential toward revival of home improvement and building will be restocking of the yards of building material dealers.

The building industry should follow closely the decline of war demands for materials, and prepare to make whatever fight may be necessary for its full share of them as they become available.

*Samuel O. Drumm,*



"Sets Building Time Ahead" . . .



**TAKES ANY FORM OF DECORATION**—Any finish that is sprayed, brushed or pasted on may be successfully applied on Sheetrock; or it may be purchased already decorated—ready to apply.



**FIREPROOF**—Made from Gypsum rock that will not burn. Sheetrock walls and ceilings form a fire-armor that fights the spread of fire and protects the building framework underneath.



**"WELDED WALLS"**—Panel joints concealed and welded together by Perf-A-Tape . . . stronger than the panels of Sheetrock themselves.



**VERMIN-PROOF**—Sheetrock has a mineral core . . . it does not attract or support vermin of any kind.



**WON'T WARP OR BUCKLE**—Sheetrock is like a stone wall. It does not twist and pull out of shape with changes in temperature and humidity conditions.

# SHEETROCK

## Fireproof WALL AND CEILING PANELS

Processed wall and ceiling panels, ready to apply—that's what Sheetrock\*, the fireproof wallboard, means. These new Sheetrock building ways save hours and days . . . save precious man-power . . . save all along the line . . . no waiting or wasting time.

The big panels go up fast. Trim can be applied immediately . . . any form of decoration can go on at once—or with Pre-decorated Sheetrock, the board is already finished in pastel or woodgrain effects. When the board is on, the job is done . . . and *well done*.

For Sheetrock is made from gypsum rock that will not burn. When fire strikes, Sheetrock fights a delaying action and protects the structure underneath. Sheetrock may be purchased in various sizes and thicknesses, joints may be concealed and "welded" with Perf-A-Tape\* or made a part of the decoration with "Panel-Wall" method.

Proved in the past with an eye to the future, Sheetrock enters the new era of building at the head of the "preferred list" as the most widely used and best known name in gypsum wallboard.

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



**UNITED STATES GYPSUM**

300 WEST ADAMS STREET, CHICAGO, ILLINOIS

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

GYPSUM WALLBOARD • SHEATHING • LATH • PLASTER

### FIREPROOF GYPSUM

**The World's most widely used Mineral for making Fireproof Wall and Ceiling Materials**

GYPSUM FIREPROOF ROOF DECK AND PARTITION

GYPSUM PRODUCTS • STEEL • INSULATION • ROOFING • PAINT

*"Right now  
Frigidaire Dependability  
Counts More Than Ever"*

*Typical of expressions from  
Frigidaire users everywhere*

Frigidaire, busy with war production, today is no less proud of the millions of Frigidaire products, made in peacetime, now serving their users so well, so dependably, in so many helpful ways. To continue to make Frigidaire products America's first choice is our goal for the future, when victory is won.



Listen to  
**GENERAL MOTORS**  
**SYMPHONY OF THE AIR;**  
Every Sunday Afternoon,  
NBC Network

*For Excellence*



*in War Production*

**FRIGIDAIRE**

Division of

**GENERAL MOTORS**

DAYTON 1, OHIO • LEASIDE, ONTARIO

*Peacetime builders of*

**ELECTRIC REFRIGERATORS • RANGES • WATER HEATERS • HOME FREEZERS  
ICE CREAM CABINETS • COMMERCIAL REFRIGERATION • AIR CONDITIONERS  
BEVERAGE, MILK, WATER COOLERS • FROZEN FOOD MERCHANDISERS  
AND LOCKER EQUIPMENT**

# Acclaimed . . .

## in 300 test installations!



### SERVEL'S NEW ALL-YEAR GAS AIR CONDITIONER

\*Heats and cools with one unit

#### It's the Next Essential for the Home of Tomorrow

You don't have to guess how post-war home-owners and builders will receive Servel's new *All-Year Gas Air Conditioner*. It's already been tested in 300 homes and some types of commercial buildings all over the country. And users everywhere are enthusiastic about the amazing, year-round comfort afforded by this latest development in air conditioning.

Here are some typical comments: . . . "We believe all modern houses in the future will be equipped with it." . . . "Everything your company claimed for this equipment has certainly been fulfilled." . . . "We point with pride to our good fortune in having it."

Yes, Servel's new *All-Year Gas Air Conditioner* has proved itself. And it will be ready for the homes your clients will want to build and modernize when peace comes. Production only awaits the release of capacity from war work.

\* This Servel equipment cools and dehumidifies in summer, heats and humidifies in winter, cleans and circulates the air all year round. It offers, for the first time, all the advantages of indirect fired heating and absorption refrigeration in one easy-to-operate, complete air conditioner.

For full information about Servel's *All-Year Gas Air Conditioner*—"The Next Essential for the Home of Tomorrow"—write Servel, Inc., Evansville, 20, Ind.

**SERVEL GAS REFRIGERATORS** are standard equipment in the nation's finest apartment houses.

# SERVEL Inc.



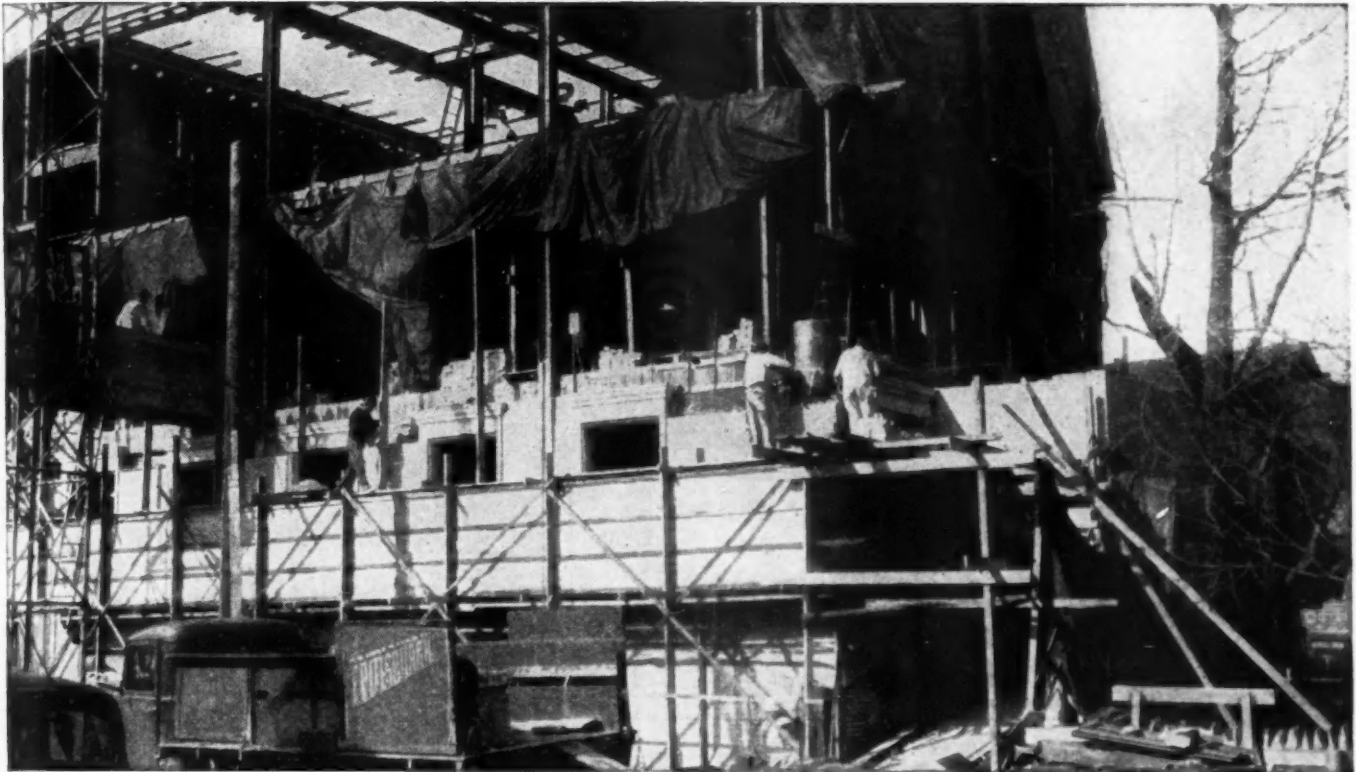
*America's Leading Makers of Modern Gas Appliances*



Let

# LEHIGH EARLY STRENGTH CEMENT

*speed up your winter construction!*



Here's what happens when you use Lehigh Early Strength for cold-weather concreting:

1. Your concrete cures beyond the danger of frost damage 3 to 5 times faster than when made with normal Portland cement.
2. You get service strength in 1/5 to 1/3 the time taken by normal Portland cement poured under the same conditions.

It's easy to see that these results mean faster construction schedules . . . fewer delays . . . quicker removal and re-use of forms . . . lower form costs. And the expense of heat protection, when needed,

is cut 50% to 70% because of the quicker curing! The Lehigh Service Department offers you, free on request, complete data on the practices recommended for cold-weather concreting. Write for this helpful information today . . . and cash in on the time-saving, cost-cutting advantages of Lehigh Early Strength Cement!



**LEHIGH EARLY STRENGTH CEMENT**

for service-strength concrete in a hurry



*Is this  
the Wonder  
HOME*



**OF THE POST-WAR FUTURE?**

New appliances; new fixtures and new ideas will add much to new post-war homes, but people will always look upon one thing as permanent and that is "HOME."

RED CEDAR SHINGLES will continue to be used for roofing and sidewalls, because of their merit and because of their popularity with home builders. The natural homey beauty

of shingles; their low cost, long life and natural insulating qualities assure their continued popularity.

**The Lumber Dealer Knows . . .**

that over the long pull, Certigrade Cedar Shingles are the most profitable and satisfactory roofing material he can sell.

**RED CEDAR SHINGLE BUREAU**  
White Building, Seattle 1, Wash. Canadian Office, Vancouver, B. C.

RED CEDAR SHINGLE BUREAU. AB 2-44  
5508 White Bldg., Seattle 1, Wash.

Please send me, free, a complete set of Blueprints which show how Red Cedar Shingles are properly applied on roofs and sidewalls.

Name .....

Address .....

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



*Red Cedar*  
**SHINGLES**

## SANE THINKING

*will plan and build*

### THE HOUSE OF THE FUTURE

A prodigious volume of words is pouring forth regarding the house of the future. Some of it makes sense; some doesn't. It's one thing to say that tomorrow's house will be better than yesterday's. That makes sense. But to say it will be a miracle does not make sense.

Of course the house of the future will be in stride with progress! By the same token, inherently practical Mr. and Mrs. America will build of good design, pedigreed materials and sound construction; for their house will very likely represent the largest single investment of a lifetime and for a lifetime. They will not jeopardize such an investment with untested innovations!

The case for a sane approach to the house of the future has been exceptionally well stated by Editor Stowell of Architectural Record. His views are practical and reassuring to the building profession and trades. They are reprinted with his permission in the adjoining column, in the interest of sound thinking about post-war home building.

#### HOUSE OF THE FUTURE TO PERFORM SAME FUNCTIONS AS ALWAYS - - - SAYS EMINENT AUTHORITY

"It will provide shelter, privacy, comfort and convenience for each member of the family. It will serve the familiar physical functions and provide the space, furnishings and equipment for family activities as we have known them, augmented by additional labor-saving devices. Consistent with architectural and building progress, advantage will be taken of new materials and new structural methods to produce better houses for less money."

"The house of the future will have rooms thoughtfully planned for maximum use of space enclosed. Rooms will have, in many cases, multiple functions at different times of the day and night."

"The house will have floors, walls, ceilings, partitions and roof, materials selected for strength, insulating properties, weather protection and appearance. Access will be through doors which serve to separate one room from another. The house will have windows to admit sunlight and air; window panes will be transparent."

"The house will be provided with heating equipment for maintaining comfortable temperature, humidity and circulation of clean air. Sanitary facilities will be provided... and water for all purposes will be provided through fixtures at the point of use. Flush toilets (originally invented in prehistoric Crete) will still be used in post-war houses."

"The house will have automatic refrigerators. The preparation of food will be facilitated by electrical devices. Communication with the outside will be through telephone, radio and television. The family car of the future will have its own storage room, known as the garage, conveniently located with respect to the house."

"The house of the future probably will be put together more rapidly than the house of the past, thanks to evolving techniques of the building industry. Materials and equipment that can be produced in the factory in easily handled sub-assemblies will be available to be incorporated in the building at the site."

"In appearance, the house will reflect the desires, tastes, associations, prejudices and prejudices of their owners for they will satisfy not only the physical requirements, but the psychological proclivities of their possessors."

"The house of the future will still be a house. It will still be subject to whims of the public, the development of manufacturing procedure in a competitive market and to the intelligence and daring of the designers."

Excerpts from Architectural Record,  
Kenneth K. Stowell, Editor.

**BRADLEY** LUMBER COMPANY of Arkansas  
WARREN, ARKANSAS

*Manufacturers of Hardwood Flooring,  
Trim, Mouldings and Lumber, and  
Arkansas Soft Pine Products*







The Home of Tomorrow  
should have this  
**APPROVED**  
**INSULITE WALL**  
**OF PROTECTION**

The walls of the homes of tomorrow will face added demands—the demands that modern air-conditioning will place upon them.

Moisture condensation within the walls will present a serious problem unless avoided when the walls themselves are built.

The Insulite Approved Wall of Protection will help solve this problem for you. With this wall, you give your customers:

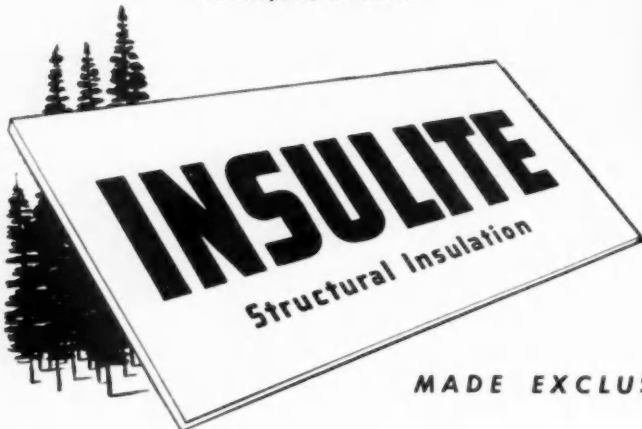
- *Walls of Double Insulation.*
- *A wall of superior bracing strength.*
- *A wall protected against internal moisture condensation.*

The complete story of the Insulite Approved Wall of Protection will interest you. Write today for complete technical information. Address Insulite, Minneapolis, Minnesota.



**INSULITE**

Division of Minnesota and Ontario Paper Company  
Minneapolis, Minnesota



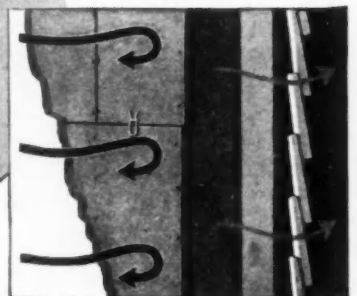
MADE EXCLUSIVELY FROM WOOD



On outer walls, Insulite Bildrite Sheathing. The large boards provide a wind-proofed, water-proofed, weather-tight wall. Bildrite Sheathing has a bracing strength four times that of wood sheathing, horizontally applied.



On inner walls—Insulite sealed Lok-Joint Lath, furnishes a second wall of insulation. The patented "Lok-Joint" provides a strong, rigid plastering surface, prevents joints from opening under trowel pressure.



How moisture condensation is eliminated in the Insulite Approved Wall of Protection: Sealed Lok-Joint Lath, with asphalt barrier against the studs effectively retards vapor travel. Bildrite Sheathing, being permeable to vapor, permits what little vapor escapes to pass naturally towards the outside.

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# When the home is unveiled - postwar



## Macklanburg-Duncan products will play an important role!

THERE'S a lot of talk these days about the postwar home. Some folks say it will have plastic plumbing, glass walls, unbreakable windows, and sliding panels instead of rooms.

We cannot predict what the "dream home" of tomorrow will look like, but we can promise that its construction will include many Macklanburg-Duncan Co. products.

For over 25 years, the Macklanburg-Duncan Co. has been a leader in the manufacture of products needed to build a home. And in "the tomorrow after the war" you may rest assured that we will maintain that position. To such famous trade names as Numetal Weatherstrips, Nu-Art Moulding and Edging, Nu-Way Screen Door Grilles and countless others will be added new products for which we are now planning.

Meanwhile, we are doing out best to divide equally among hardware and lumber dealers the limited number of items we are able to manufacture under present conditions.



We're working for today's victory—but planning for tomorrow's homes.

Our plant is almost totally engaged in making vital parts for fighting planes. But our work is rolling along so smoothly that we are now able to devote some time to our plans for the future. This means that when the war ends we will be prepared to meet your peacetime needs as quickly as we met the wartime needs of our country.



# MACKLANBURG • DUNCAN CO.

*Manufacturers of* NUMETAL WEATHERSTRIP • NU-CALK CALKING COMPOUND • NU-WAY WEATHER-STRIP • NU-GLAZE GLAZING COMPOUND • NU-ART MOLDINGS AND EDGING  
OKLAHOMA CITY, OKLAHOMA

Items Still Available to Hardware and Lumber Dealers Everywhere

**NU-CALK**  
Calking & Glazing Compound

No building is weatherproof until it is calked. NU-CALK Calking Compound will not dry out, run, crack, harden or pull away.

**Nu-Glaze**  
Glazing Compound

This dependable compound does not dry out, crack or peel. Not oily . . . clean to handle. Applied like putty . . . but not putty.

**MADUCO**  
PLASTICS

MADUCO Plastic Molding and Trim won the National Plastic Award for 1941, the highest honor in national plastic competition.

**VICTORY**  
Wood & Felt Weather Strip

An efficient, easy-to-install weather strip. Made of high grade felt and wood.



**ARE YOU  
GETTING YOUR  
SHARE OF THIS  
PROFITABLE  
PIPE BUSINESS?**

## NEW FIBRE PIPE FOR DRAINAGE AND OTHER NON-PRESSURE USES

### CHECK THESE FEATURES!

- **LESS LOSS FROM BREAKAGE**—Does not chip or break easily like clay pipe.
- **DURABLE**—Does not crack underground from shock or soil settlement. Withstands alternate freezing and thawing without damage.
- **LIGHT IN WEIGHT—EASY TO HANDLE**—An 8 foot length weighs only a little more than 2 pounds per foot.
- **RESISTS ROOT GROWTH**—Impregnated with coal tar pitch, which is toxic to roots but does not damage trees or plants growing near pipe.
- **NON-CORRODIBLE**—Because it is non-metallic, Orangeburg Pipe is not corroded by most dilute inorganic acids, alkalis, and salts.
- **NO INFILTRATION**—A permanent, tight line is quickly made when desired, thanks to tapered sleeve joint.
- **BIG CONSUMER DEMAND**—Orangeburg is nationally advertised in leading home and farm magazines.
- **PROMPT DELIVERY**—Made of non-critical materials, Orangeburg Pipe is available for prompt delivery.

### Mail Coupon Today!

THE FIBRE CONDUIT COMPANY

Orangeburg, N. Y.

(AB-2-44)

Please send descriptive literature on Orangeburg Fibre Pipe.

Name .....

Company .....

Address .....

City .....

### REPLACES CLAY TILE and CAST IRON!

- This durable, non-metallic pipe is a "natural" for wide-awake building supply dealers everywhere!

It's not a substitute but an improvement over cast iron and tile pipe for many domestic and industrial drainage and other non-pressure uses including . . . Connections from House-to-Sewer or Septic Tank, Downspouts and Storm Drains, Drainage of Farmland, Sleeves and Weepholes.

Also comes in special perforated type for Septic Tank Filter Beds, Sub-Soil Drainage, Irrigation, and Foundation Footing Drains. Perforations provide complete drainage; snap-couplings keep pipe in line, speed installation, protect joints against clogging.

Backed by consumer advertising to your customers in leading home and farm magazines. Write for further information, price list, and profit possibilities now!





Line Up Your

Postwar Prospects

NOW!

ONE WAY  
TO GET A  
HEAD START

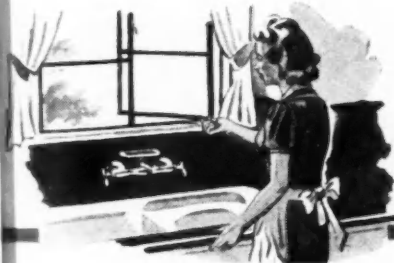
*Help Work Their Ideas into Blueprints*

Tomorrow's homeowners are getting a lot of information about the kind of home they can expect to build after the war. The magazines they read are full of it. You can bet that these people know pretty much what they want, and they'll be anxious to start building the day restrictions are lifted. But to build they must have the plans ready. That's why the bulk of the immediate postwar business will go to the man who helps them work out their plans now.



*Offer Them Up-to-Date Homes . . . with Fenestra Windows*

With the trend to better daylighting, through bigger window areas, it will pay you to give much consideration to windows. Show prospects how Fenestra Windows make homes more modern, more comfortable, more efficient. Women like the smart, trim beauty of Fenestra Windows, and the way they open so easily with finger tip control. Men like Fenestra's "Easy-Set" Storm Sash that goes inside the casement . . . cuts fuel bills and checks condensation.



*\*Get Jobs Ready for Our Fighting Men*

The building industry—your industry—must provide millions of jobs for fighting men and for war plant workers when this war is over. The homes you build can make many of those jobs—on the site and in providing the materials you'll need. Start plans now so construction can begin *immediately* after the war.



DETROIT STEEL PRODUCTS COMPANY

*Now Chiefly Engaged in War Goods Manufacture*

Dept. AB-2 • 2260 East Grand Blvd. • Detroit 11, Mich.

Pacific Coast Plant at Oakland, California

\*THE REASON WHY:

*Fenestra* SUGGESTS

START POSTWAR  
HOUSE PLANS  
NOW



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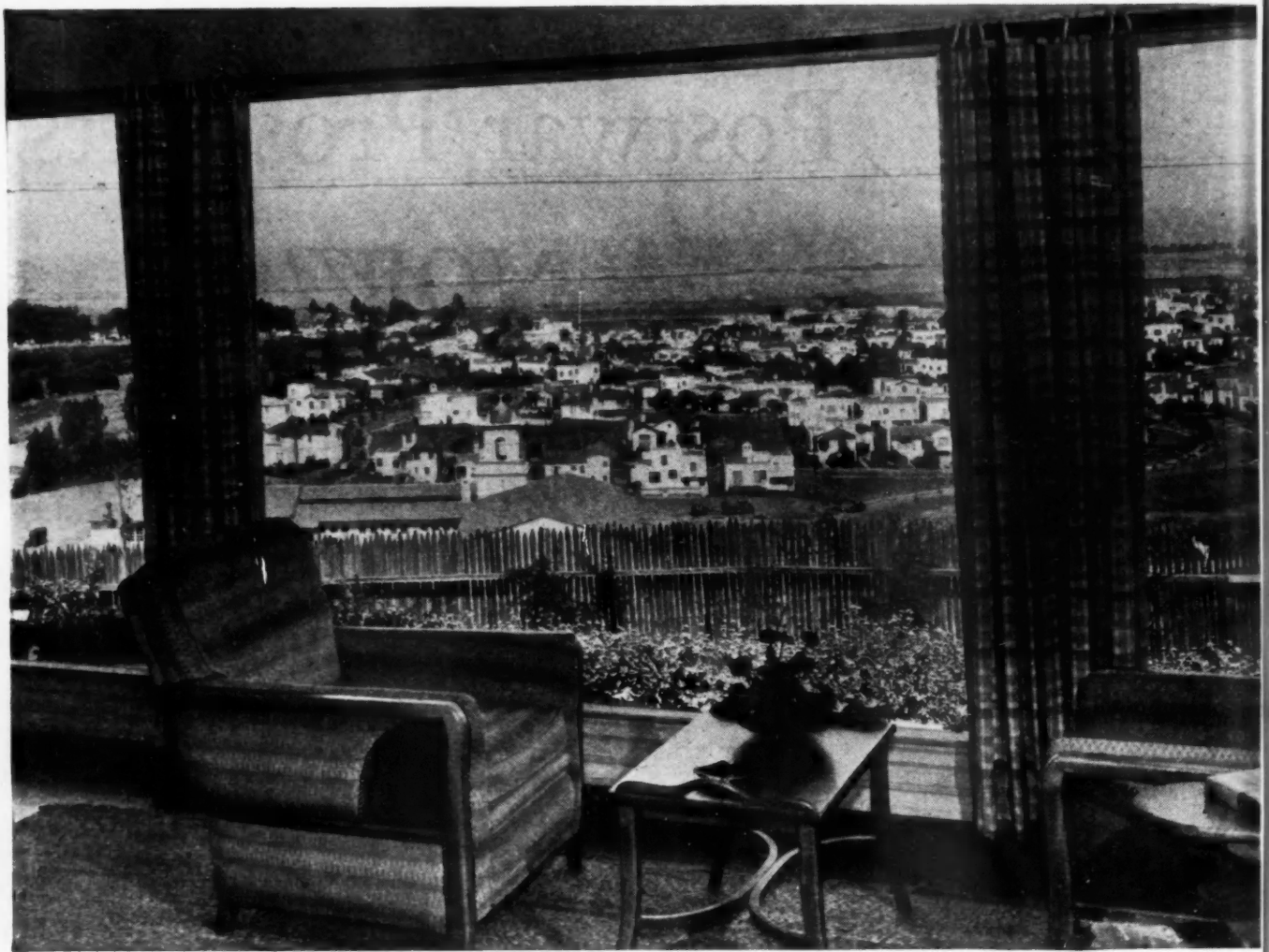
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## From the House on the Hill to Smaller Homes Post War

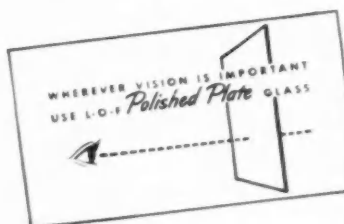
### DAYLIGHT ENGINEERING WITH GLASS

Many of the living features of the more expensive homes today will be enjoyed in tomorrow's smaller homes.

*Daylight Engineering* can and will be one of these features. The larger windows that brighten rooms and make them more spacious in appearance . . . the attractive picture windows and corner windows that make interiors so much more decorative and livable . . . glass partitions and mirrors that help do away with dark corners and hallways . . . these are features of *Daylight*

*Engineering* that prospective home builders definitely want. And they are features that builders of new homes will find it within their practical means to enjoy.

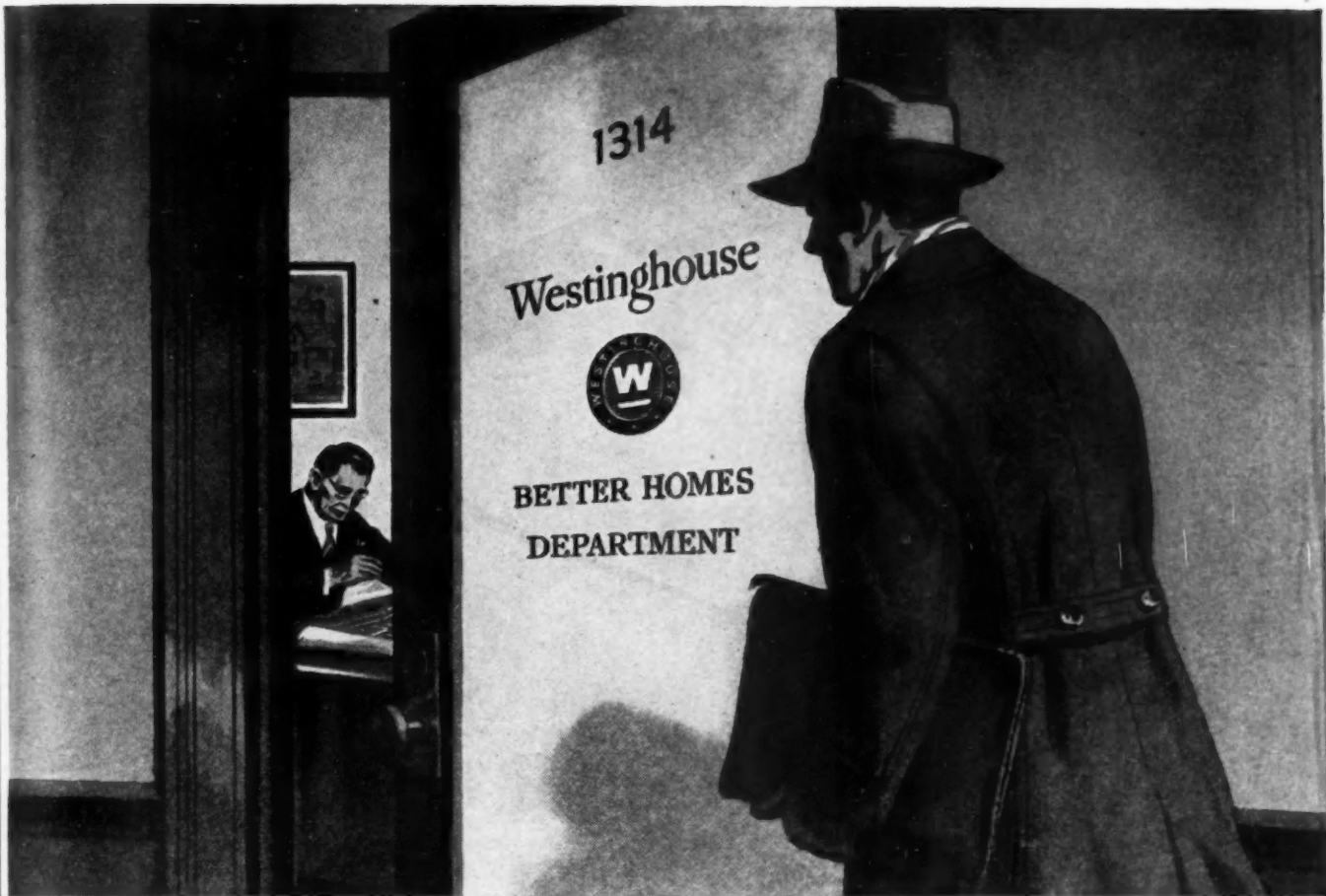
For postwar homes there will be a new Libbey-Owens-Ford Glass for windows, as well as high quality plate glass for mirrors, structural glass for wainscoting and work surfaces, and Blue Ridge Glass for partitions and many decorative uses. Libbey-Owens-Ford Glass Company, 1224 Nicholas Building, Toledo 3, Ohio.



**LIBBEY • OWENS • FORD**

A GREAT NAME IN *Glass*

\* BETTER WIRING FOR BETTER LIVING \*



### This door is always open . . .

**Y**ES, the door to the Westinghouse Better Homes Department is *always open* to assist the building profession in the planning of postwar housing.

The Better Homes Advisory Staff is ready and eager to give authoritative technical advice on the *proper applications of electricity* in 194X homes.

#### SIX-POINT ADVISORY SERVICE

The Better Homes Department offers a *Six-Point Advisory Service* on the following subjects:

1. Selection of correct types of electrical equipment for various classes of postwar homes.
2. Location and arrangement of fixed equipment, for conserving space and attaining maximum efficiency in arrangement of work cycles.
3. Accurate dimensions and clearances of equipment to insure proper installation and efficient operation.
4. Access for servicing of equipment—so necessary for periodic inspection and repair.
5. Location of lighting outlets and controls, for greater enjoyment, comfort, and safety in the home.
6. Utility service connections—including location and size of electric wiring, water supply, and drainage.

Westinghouse Better Homes Department welcomes the opportunity of giving constructive assistance to those interested in postwar housing.

*If you have any problems relating to the selection, installation, and use of home electrical equipment, write: Better Homes Department, Westinghouse Electric & Manufacturing Company, Pittsburgh 30, Pennsylvania.*

#### "ELECTRICAL LIVING IN 194X"

The Better Homes Department is preparing a new and unusual book—"Electrical Living in 194X" — which explains the urgent need for *better wiring for better living* in postwar homes.

This new book will be very helpful to the building profession and allied interests . . . in explaining to prospective home owners the importance of better wiring in their 194X homes.

"Electrical Living in 194X" will be made available to contractors, builders, architects, engineers, public utilities, housing authorities, electrical inspectors, building management, and investment institutions.

*Watch for further announcements regarding this colorful, easy-to-understand, 64 page book!*

Tune in John Charles Thomas, NBC, Sundays, 2:30 p.m., E.W.T.

# Westinghouse

Plants in 25 Cities Offices Everywhere



# Will repairs made...



...say a  
**GOOD  
WORD** for you

**TOMORROW?**



A partial list of

## Carey LONG-LIFE PRODUCTS

- CAREYSTONE FIRE-PROOF ASBESTOS-CEMENT SHINGLES
- CAREYSTONE FIRE-PROOF ASBESTOS-CEMENT SIDING
- CAREY FIRE-RESISTANT ASPHALT SHINGLES
- CAREY WALLBOARD
- ROCK WOOL INSULATION
- ROLL ROOFINGS
- ROOF COATINGS & CEMENTS, Etc.

CAREY Products, backed by over 70 years of experience, are made to provide maximum service and long life, at low cost and minimum upkeep. For details of the products listed above address Dept. 10.



**Buy More War Bonds . . . . .**  
**Save Lives . . Speed Victory!**

If you plan to retire from business when the war ends, it doesn't matter much what kind of materials you sell or recommend for home repairs today.

But if you intend to remain in business—it matters a great deal.

Repairs made on homes and other structures now will "speak volumes" when Victory is won and the vast backlog of demand for new construction is suddenly released.

How today's repair work will speak of YOU . . . how much of the big post-war business will come YOUR way . . . depends directly on the *quality* of the building materials you sell or use today.

You'll be remembered *the right way*—remembered by *satisfied* customers who will look to you when they're ready for a new post-war home—if you now recommend dependable, economical, CAREY LONG-LIFE PRODUCTS.

**THE PHILIP CAREY MFG. COMPANY -- Lockland, Cincinnati, Ohio**

*Dependable Products Since 1873*

In Canada: The Philip Carey Co., Ltd.  
Office and Factory: Lennoxville, P. Q.

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## Here's your post-war market

**A**MERICAN families by the thousands the country over are pasting up scrap books—starting files—gathering ideas for their homes of tomorrow.

Plumbing and heating rank high in their consideration, as evidenced by the amazing response to a nation-wide survey conducted by Crane in 1943. The results of this survey indicate a keen appreciation of the importance of plumbing and heating in the post-war home.

The wealth of information on consumer preference developed by this survey is in the hands of Crane designers and engineers who are already past the experimental stage in planning the plumbing and heating equipment for the Crane line of tomorrow.

Crane Co. will work with you on any plans you may have for the homes you intend to build after the war. By including Crane plumbing and heating in those homes, you are assured of instant recognition of quality by your prospects, and, furthermore, you will know that the equipment has been designed to meet the expressed desires and wishes of Mr. and Mrs. America.

*To further the desire for home ownership—to translate that desire into action, Crane Co. has prepared a valuable "Step Planning" portfolio filled with ideas for tomorrow's home buyers. This portfolio is being widely advertised in national magazines and distributed to your prospects of tomorrow. If you would like to have a copy for your files, mail the coupon.*



AB-244

Crane Co.,  
836 S. Michigan Ave., Chicago 5, Ill.  
Please send me your "Step Planning" Portfolio on Bathrooms & Kitchens.

Name .....

Address .....

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

# CRANE

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

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

# On and Off the Record

by **STRUCTOR**

## News, Views and Comments

### UP AND DOWN PROSPECTS—

One day builders read that the war production job has passed the crest—that materials are rapidly becoming available—that soon more building will be allowed. The next, Army and Navy officials say we are far from any such happy goal, and Donald Nelson turns thumbs down on any relaxation of building. That's the way it goes.

**HOPE**—There are gleams of hope, however. Several top WPB officials are discussing ways that L-41 may be relaxed. Blandford says a "limited program" of civilian housing may be possible later in the year. Fifty thousand bathtubs are ordered, and quotas of other housing equipment are definitely in the offing.

It looks as though what housing will be done will go largely to private builders, since Congress cut off practically all of the public housing appropriation. Thus it looks as though some 150,000 to 200,000 houses may be built this year by private operators. That's something.

**STEEL FOR BABIES**—The well known fact (to builders) that lumber is scarcer than metal was highlighted by the announcement that WPB has authorized a flock of steel baby carriages. Wood is out because it is scarcer than metal. WPB confirms W. C. Bober's article in the January *American Builder* about the big crop of babies expected soon—and says we must have transportation for them.

**MORE DAYDREAMS**—The Ladies' Home Journal has joined the procession of magazines that seem to be carrying on a day dream campaign to mislead and confuse the public about what to expect in a post-war house. In the January issue it illustrates another "house of the future" that is so preposterous that even though it is accompanied by a large picture of Henry Kaiser who seems to endorse it, the public will surely detect its impracticability.

Although intended for the mass market, this structure sprawls over so much ground it would not fit one normal building site in 1,000. The 3-bedroom model has some 1,500 square feet of floor area, two baths, a prefab-

ricated fireplace, also—all for \$4,000! Will daydreams never cease?

**FIGHT NEEDED**—Building industry men and manufacturers need to take vigorous steps to combat the wave of foolish and false promises that have been made by popular magazines and newspapers about post-war housing. This bad publicity is definitely hurting the industry. People are being led to expect \$10,000 worth of house for \$3,000.

The automobile industry took bold and aggressive steps to squelch the daydreaming type of articles that were beginning to appear about post-war automobiles. The building industry should do the same.

### ANTIDOTE TO PUBLIC HOUSING—

The best way to avoid public housing is for private builders to do a better job. I believe a new type of post-war FHA Title VI low-cost rental housing would do the trick. Such privately built low-cost rental housing might be made doubly safe as a mortgage risk by setting up a maintenance fund from monthly rentals. Also by making sure that it is well laid out and built in the first place. With proper safeguards, such a project might be financed over a period of fifty years at 3 per cent interest.

Given such terms as these, private builders could produce attractive, low-cost rental housing for less money than any public agency.

**HOUSING SENTIMENT**—The President recently spoke in favor of sound public housing, and there is considerable public sentiment behind him so far as clearing slums is concerned. Perhaps building men should recognize that certain of the worst slum areas in big cities will require public assistance of some type. To rebuild such areas would not hurt private enterprise. But if a liberalized post-war Title VI, such as we have described above, is provided, the need for such public housing would be kept at a minimum.

**THE 204X HOUSE**—If you stop around in 2044, you will find things and people a lot different, according to Dr. J. S. Thomas, technologist. He says that in the coming century,

men will be 6 feet 3 inches tall, will live 125 years without gray hair. He expects these supermen to live in a \$1600 house containing unbreakable glass, plumbing, living rooms that redecorate themselves at the twist of a wrist, and filters that transform the outside city noise into inside classical symphonies.

Looks to me like he is a conservative compared to some of the current industrial designers who are predicting freak house changes right after the war.

### PITY THE POOR LANDLORD—

I have been looking over the latest Bureau of Labor Statistics' index of living costs, and it clearly shows how the landlord is getting it in the neck these days. In 1943 food prices went up 4.7, clothing 5.6, and miscellaneous goods 4.4 per cent. Under the item *Rent*, there is a large goose egg, and the statisticians make the cheerful comment that "rent continued to be one of the most stable of all elements in living costs."

Rents are stable, all right, because they have been arbitrarily fixed at the levels of 1942 regardless of the fact that everything else has gone up.

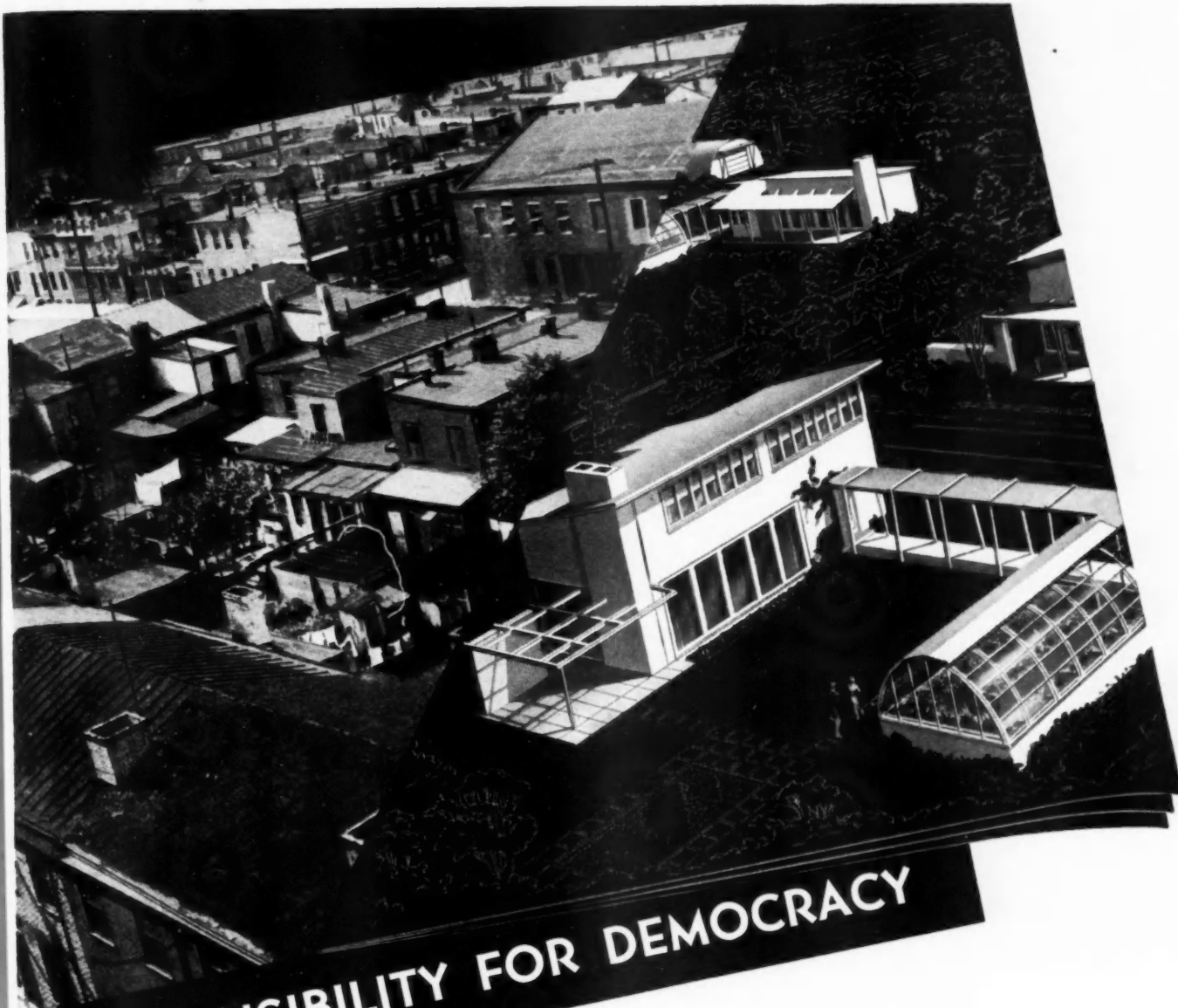
**WORLD REBUILDING**—The article on our Seabees in this issue calls attention to the fact that we now have building men scattered all over the face of the globe doing exciting, interesting and important construction jobs.

They are doing as much to win the war as any combat group. In fact, modern warfare has become very dependent on efficient construction men. Building airports gets A-1 priority on all fronts.

When the war is over, there will still be big jobs around the world for American builders. Vast engineering and construction projects will be needed, and whole cities will be rebuilt. American houses have the admiration of the world, and there will be a big market for men, materials and building brains.

An interesting sidelight is that some of the prefabricators, seeing the possibility of big business, are considering the export of light, compact units equipped with fixtures of lightweight metals or plastics. That is still definitely in the talking stage.





**RESPONSIBILITY FOR DEMOCRACY**

What means will be taken to accomplish slum clearance in the post-war world have not yet been determined. Yet accomplished it must be, for on a decent standard of living depends much that is vital to the future of democracy.

Versatile and efficient, Stran-Steel framing systems provide the building industry with an effective medium of construction for all types of housing developments. They speed erection, safeguard the building investment, and lend themselves to the application of modern methods and materials. Stran-Steel's engineering experience, greatly increased by large-scale wartime assignments, will be at the service of architects and contractors.

Manufacturer of the U. S.  
Navy's Famous Quonset Hut

**STRAN  
STEEL**

DIVISION OF GREAT LAKES STEEL CORPORATION  
1130 PENOBSCOT BUILDING, DETROIT 26, MICHIGAN

UNIT OF NATIONAL STEEL CORPORATION



# IT *Will* HAPPEN AGAIN!

The day will come (and we hope soon) when troop trains and freight cars carrying precious war cargo will cease to rumble. Then, trains loaded with newer, finer post-war products will roll across the country. And a lot of them will roll right into your community. The need for new homes will be large and immediate. With the demand for homes, will come the desire for intelligent ventilation in these homes. Recent surveys tell us that 80% of prospective post-war home buyers want a ventilator in their home.

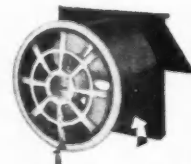
The choice of many home builders will be a Victor Ventilator, naturally. And you will want to supply this "must" item, to satisfy them. Why not find out what Victor is planning for you for your peace-time market? Why not contact Victor today? Victor Electric Products, Inc., Dep't. AB-244, 2950 Robertson Avenue, Cincinnati 9, Ohio.



You'll want to know what Victor is doing to help you reach unprecedented sales when the day of peace dawns. Write today, and we'll put your name on our mailing list for first news of new developments.



**Victor Paves the Way!**  
Thru current advertising campaigns, Victor is helping to build your post-war business, reaching architects, builders, contractors, dealers, thru Architectural Forum, American Builder, Dealer, Electrical Merchandising, thru Better Homes & Gardens, American Home, House Beautiful, Small Homes Guide. Look for these advertisements!



In functional performance, the round sleeve principle conforms to the natural course of an air stream. It eliminates the off-circle corners . . . easy hiding places for dirt and grease, and as every one knows a round sleeve is easier to adjust to proper length as it does not bind. When you get to specifying a VENTILATOR for new Post-War Homes, look for improvements, yes, but be sure that you specify a VICTOR—the Ventilator with the round sleeve.

**THE BONDS YOU BUY TODAY WILL BUY BETTER LIVING TOMORROW**

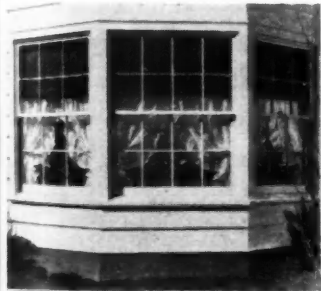
# You and Your Clients BOTH Want More Windows



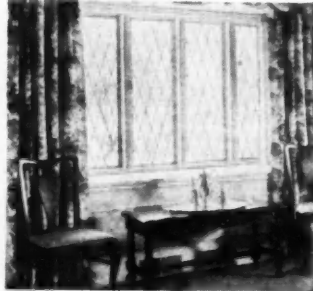
More windows! That's what you and your clients want in post-war homes.

**BUT—**  
You'll want windows that are truly weather-tight—windows that are easier to operate—economical to install—simple to maintain. Beautiful windows that will *keep* their beauty through the years.

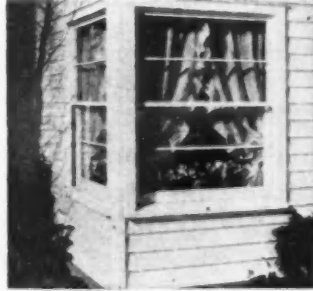
Today, Curtis Silentite Windows offer you and your clients all those advantages for post-war building. And, in addition, the complete Curtis line enables you to choose the *right* window for every type or style of house. Here are just a few Silentite applications—



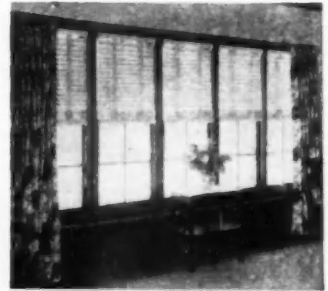
For adding useful living space to a small room—for enjoying a view—for greater interest—it's hard to surpass a Curtis bay. Notice the streamlined beauty of the narrow mullions. Made up of pre-fit stock window units, Curtis bays are economical to install.



These Curtis Silentite casements may be combined in endless variety to provide charming window groups. Silentite casements are easier to operate—no swinging, slamming or rattling—readily cleaned from inside. Several sash styles are available.



For homes in the modern manner, Curtis corner windows add distinction. Because Curtis windows are weather-tight, they provide a practical answer to the problem of creating large window areas with low heating cost, and low upkeep.



Numerous surveys prove the public desire for more and better windows. Home-owners like Silentite Double-Hung units because they eliminate pulleys, cords, weights and are so easily operated. You can "group" Silentite windows beautifully.

### IT'S BEEN 78 YEARS—

... since the first woodwork was made by Curtis. We think the present family of SILENTITE Windows goes further than any other type of window in meeting today's needs. But our research is constantly directed towards developing further window improvements. We suggest, therefore, that you keep in touch with Curtis on windows and other high quality woodwork for today—and tomorrow.

CURTIS COMPANIES SERVICE BUREAU  
Clinton, Iowa

Gentlemen: Please send me your free booklet on Silentite "Insulated" Windows.

Name .....

Address .....


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





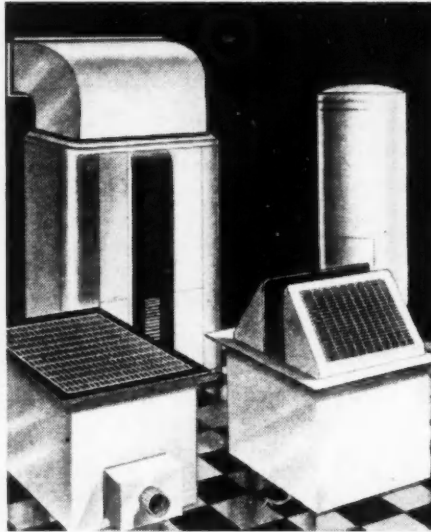
# 3 Important Answers To Your Question:

**How Can Coleman's**  
**"PACKAGED HEATING"**  
**Help Me Build More Profitable Houses?**





**1. Automatic Heat!—A "Must" to Sell Any New Post-War Home—** Coleman's improvement in heating engineering will bring automatic gas or oil heat, at its best, to the \$2500-and-up market that will be your biggest post-war opportunity. Even the smallest-home purchasers have been "sold" on automatic heat—they are going to demand it—and they are going to favor the builder who offers it.



**2. Low Original Cost — Low Installation Cost!** Coleman's automatic-heat equipment will not only be priced low, so you can afford to include it in your budget—it has been engineered for fast, simple installation. Built to call for a minimum of service, too, from the central heating plant and the floor furnace to the oil or gas water heater. So, it saves you on your cost, three important ways.



**3. Public Demand for Coleman—Built by National Advertising!** Coleman is dramatizing this "automatic heat every home can afford" in page and half-page ads in such magazines as Saturday Evening Post, Better Homes & Gardens, American Home.

**THIS FREE BOOK IS SELLING FOR YOU NOW—** We are offering it, free, to our magazine ad readers. Telling the whole heating story — from electronics to warm air — it sells hard on the heating you'll feature.



**THE "HOT" NAME IN HOME HEATING**



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**STARTING IN MARCH!** Full page advertisements, in color, will feature Weldwood Plywood in Better Homes and Gardens, American Home, House Beautiful.



# What? No Plaster!

No, sir, *no* plaster!

Just the sheer loveliness of Weldwood Plywood Paneling — charming, luxurious, beautiful and absolutely practical for the *small cost*, soon-to-be-built home.

A wonderful *fact*, isn't it?

Think of the sales possibilities!

Think of those customers of yours who've "always wanted wood-paneled rooms" but couldn't have them before.

Now, for those 194x homes, you can offer them rooms superbly done, partially or wholly, in mahogany, walnut, oak, gum, knotty pine or other fine hardwoods for little more than the cost of ordinary walls.

What's more, Weldwood Plywood Paneling is guaranteed for the life of the building!

Crack-proof and permanent it goes right on furring strips attached to studding.

A few big, 1/4", 4' x 8' panels are raised into place, and presto! . . . the walls are ready for trim.

No waste of material . . . no waiting for walls to dry . . . no plaster damp to cause cracks and warping.

And for those walls that are to be covered with paper or paint, sturdy inexpensive Weldwood Utility Panels with extra-heavy gum faces provide an ideal crack-proof, under-surface.

Forever smooth, they do not develop rough grain-lines to show through costly wall paper or paint.

One-quarter inch in thickness, they are available in 6' x 4', 7' x 4', 8' x 4' size panels. (Grain runs short way.)

Write for complete information.

**The Mengel Hollow-Grid Flush Door**

opens up a big, new market to you!



**Plastics and Wood Welded for Good**

Waterproof Weldwood, so marked, is bonded with phenol formaldehyde synthetic resin. Other types of water-resistant Weldwood are manufactured with extended urea resins and other approved bonding agents. Back of these Weldwood Products are unmatched facilities and experience in Plywood production and fabrication. Available also are the services of qualified engineers, chemists and wood technologists.

## WELDWOOD Plywood

WELDWOOD Plywood and Plywood Products are manufactured and marketed by  
**UNITED STATES PLYWOOD CORPORATION** **THE MENDEL COMPANY**  
New York, N. Y. Louisville, Ky.

Distributing units in Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, High Point, Los Angeles, Louisville, Newark, New York, Oakland, Philadelphia, Rochester, San Francisco, Seattle. . . . Send inquiries to nearest point.



Serving America on the Fighting Fronts with  
**VOLUME FOR VICTORY**



FARMERS



RED CROSS ACTIVITIES



CIVILIAN DEFENSE



FOOD SUPPLIERS

More  
**CHEVROLETS**  
 are serving America's hard-working home front... more Chevrolet cars and trucks are serving for victory... than any other make. In fact, one out of every four cars and trucks in use these days is a  
**CHEVROLET**  
 CHEVROLET MOTOR DIVISION  
 General Motors Corporation  
 DETROIT MICHIGAN  
 Help Speed the Victory  
**BUY WAR BONDS**



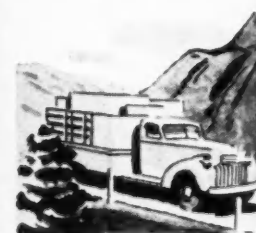
WAR WORKERS



DOCTORS



PUBLIC UTILITIES



VITAL WAR SUPPLIES



Serving America on the Working Front with  
**ECONOMICAL TRANSPORTATION**





**WHEELER OSGOOD**  
*Tru-sized DOORS*  
**HANG WITHOUT FITTING**



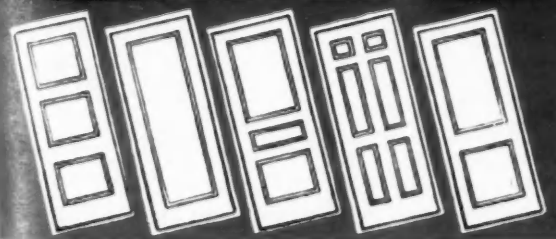
**NO SAWING  
NO PLANING**

**You can SAVE 55 minutes or more on Every Opening**

TODAY when time saved on the job is so important, think what it means to be able to effect a 55-minute saving on every door installed! This is not just an estimate—it is the exact timing of a skilled workman.

*Tru-Sized* doors are precision-designed by America's largest door manufacturer to help carpenters do a better job than ever before. These fine doors—*Tru-Sized* to book opening—fit perfectly any jamb that is plumb and square. They can be ordered mortised for standard locks and night latches—and gained for hinges. Why not get all the details now and be prepared to use *Tru-Sized* Doors on your next war housing job!

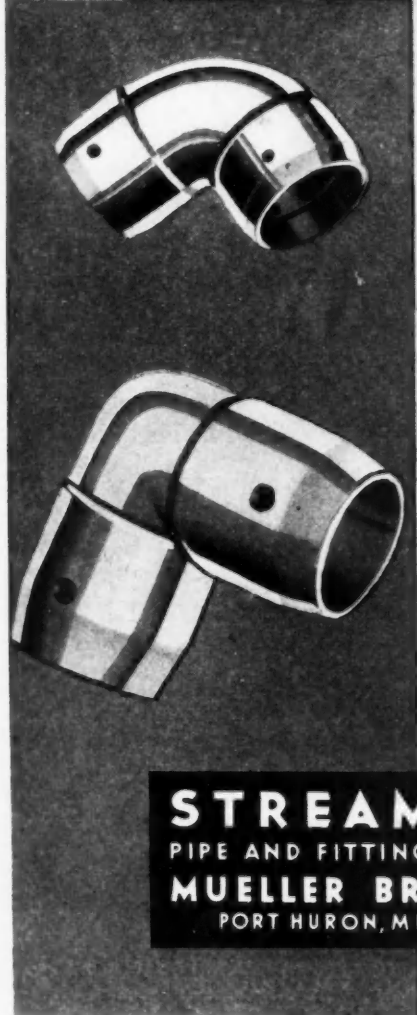
**THERE'S A TRU-SIZED DOOR FOR EVERY PURPOSE...RUSH COUPON FOR FULL INFORMATION**



Wheeler Osgood Sales Corp. Dept. 7  
 Tacoma 1, Washington  
 Please send me free literature and detailed guide sheet for ordering *Tru-Sized* Doors.

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

# Is Its BEAUTY only SKIN DEEP?



**STREAMLINE**  
PIPE AND FITTINGS DIVISION  
**MUELLER BRASS CO.**  
PORT HURON, MICHIGAN

After all, what is the most important thing in any building designed for human habitation? There is only one answer—it is the plumbing or heating piping system, or both. The building may be the last word in modern design with beautiful and modern bathroom and kitchen fixtures, but they are utterly useless if the arteries which supply them with hot and cold water are defective and unreliable. The building's outward beauty will be only SKIN DEEP.

The informed prospective buyer or tenant of tomorrow will ask a lot of searching questions about plumbing and heating piping systems. He has become "piping conscious" and "rust conscious" too. He will demand a piping system that will not corrode and one that will offer the greatest possible resistance to clogging or leaking.

If you agree that a reliable, rust-proof piping system is a vitally important item in promoting comfort and liveability in the home, why not make a leader of it for post-war building? It can be a most effective sales argument to sell or rent property.

A plumbing or heating system of STREAMLINE Copper Pipe and Fittings, installed under normal conditions means efficient, trouble-free performance without repair bills, year after year, for the life of the building.

Investigate STREAMLINE now, and plan on using it either for remodeling or new, post-war construction. Send for catalog . . . it gives you the complete story.



**70%**  
**of all asphalt**  
**roofing goes into**  
**REPAIR and**  
**MAINTENANCE**

*Get your share of  
 this important business  
 with a brand-name  
 that millions know!*

Estimates point to the fact that more than 70% of the roofing bought is used for repair and maintenance. To neglect this field is to neglect the major sales opportunity of the roofing business.

Are you getting your share? It's there if you go after it. The lack of new building has made owners more conscious of the necessity of keeping present structures in good condition.

When you sell Texaco Asphalt Shingles and Roofing, your selling job is made easier — for millions know this famous name. The Texas Company has been making long-lasting asphalt and roof-

ing products for more than thirty-five years.

Texaco asphalt shingles are ideal for re-roofing . . . are easily applied right over the old roof . . . are long-lasting, fire-resistant . . . produce a fine-appearing colorful effect . . . make satisfied customers. Sell Texaco. It helps you make more money.

★ ★ ★

Texaco Asphalt Shingles and Roofing are available through Texaco Roofing Dealers supplied by a large network of Texaco warehouses — east of the Rockies. Drop in, write or 'phone your nearest Texaco Roofing Dealer, or write The Texas Company, 135 E. 42nd St., New York 17, N. Y.



**TEXACO**



**SHINGLES and ROOFING**





# Windowalls

**WITH ANDERSEN**

## *Complete Wood Window Units*

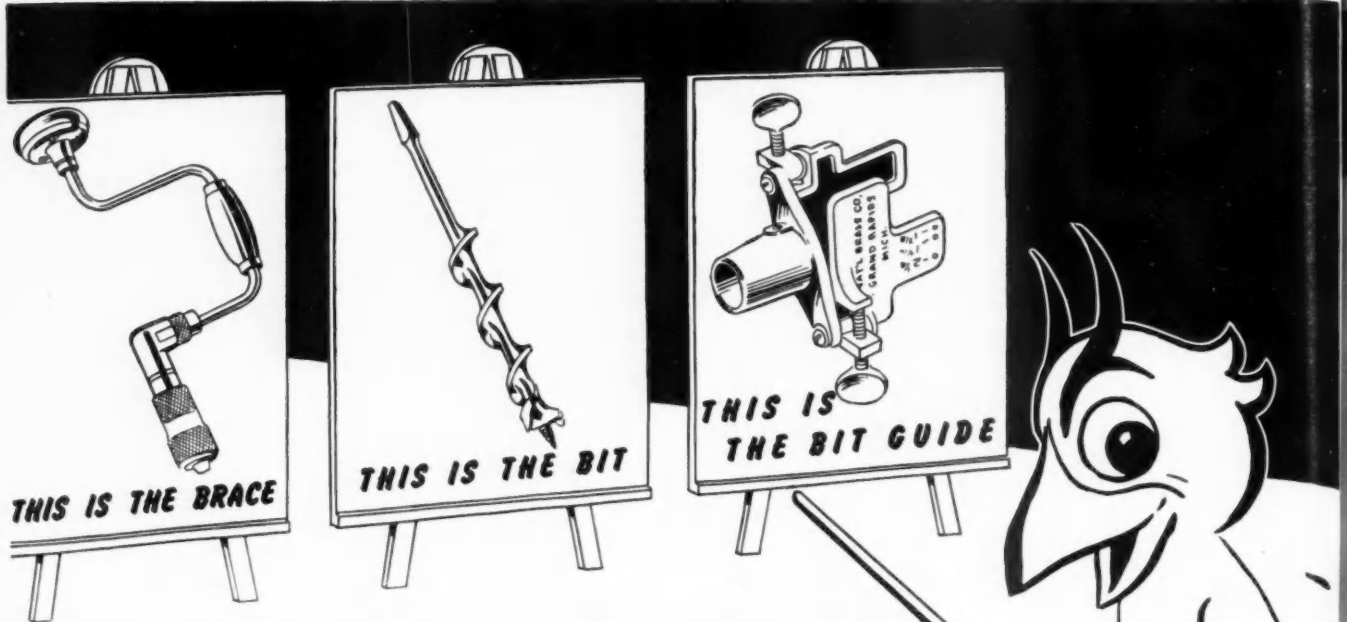
**WINDOWALLS**—greater areas of fenestration bring new responsibilities to windows. For, as walls become windows and windows become walls, a double need must be served—the insulating function of a wall plus the view framing function of a window. Today, as always, Andersen Complete Wood Window Units are engineered to meet these exact requirements. Shown here is a “WINDOWALL” of Andersen Horizontal Gliding Windows specified by Magnus Jemne, Architect. See Sweet’s Architectural Catalog for details and specifications, or write direct to

*Andersen Corporation*

BAYPORT • MINNESOTA

INVITE THE VIEW INSIDE





## Better Job . . . Faster!

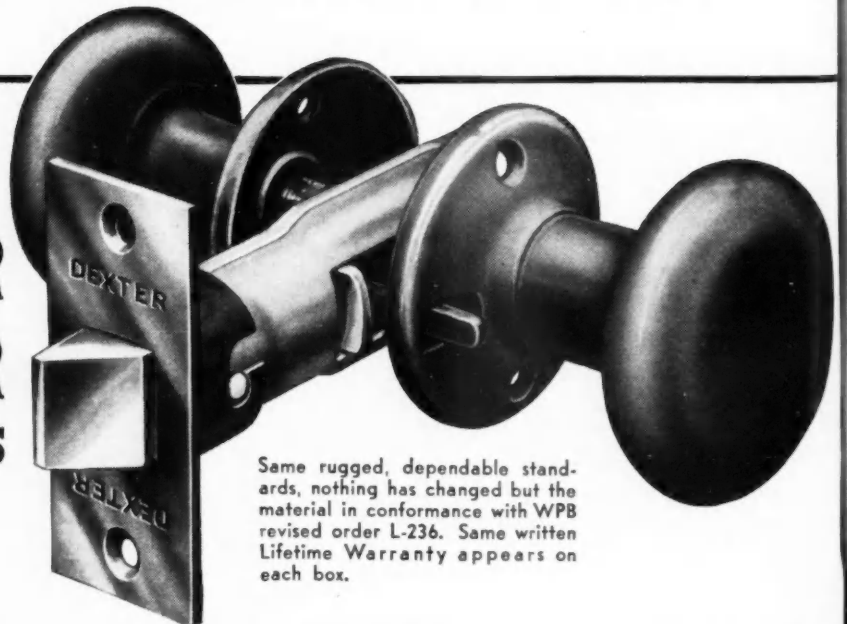
Dexter Bit-Guide is to the bit what the miter box is to the saw — a tool for fast, accurate work. Just clamp the Bit-Guide on the door — no measuring, no squaring — insert the bit in the Guide and bore in. A shallow mortise for the Face Plate and there you are, all set for installation of the Dexter-Tubular.

You can do it with brace and bit alone, but you will do it better and save time by using the Dexter Bit-Guide.

Most Dexter dealers carry a Bit-Guide for you to borrow whenever needed. These dealers make certain that you receive the full time-saving value of Dexter installation. So try it — accept your dealer's offer to loan the Guide.

**Dexter is the Tubular made with care  
GUARANTEED for Life of use and wear**

## DEXTER TUBULAR LOCKS and LATCHES



Same rugged, dependable standards, nothing has changed but the material in conformance with WPB revised order L-236. Same written Lifetime Warranty appears on each box.

Manufactured by **NATIONAL BRASS COMPANY**  
GRAND RAPIDS, MICHIGAN

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# Washington News Summary

## TRENDS TOWARD RELAXING L-41

### N H A Summarizes Its Past 42 Months' Activities

#### Three Million Pounds Of Copper Released

The War Production Board has released approximately three million pounds of fabricated copper and copper base alloy parts for use in the manufacture of builders' finishing hardware, cabinet locks and padlocks. Action is taken through issuance of an amended version of Schedule I of Order L-236 (Hardware Simplification), which permits the use of such fabricated parts as were held in inventory on November 30, 1943.

Such parts, however, may be used only for items conforming to the simplified practices established by the Schedule. Permission to use parts in the manufacture of non-conforming items must be secured through appeal. Formerly copper and copper base alloy parts in inventory could be used only if 10 per cent or more of their total weight was other metal.

#### W.P.B. Amendment Order Releases Boiler Makers

Production of cast-iron boilers during 1944 equal to 100 per cent of the number produced in 1940 has been provided for by the WPB in an amendment to the cast-iron boiler order, L-187. The revised order places the quota for 1944 production on a quarterly basis. Each manufacturer may produce each quarter 25 per cent of the low pressure cast-iron boilers he manufactured in the whole year of 1940. However, the provision is made that any producer may exceed this quota if he obtains permission from the WPB. Quota assignments include production for all purposes, including the armed services, hospitals and war housing. Quotas do not apply to repair parts.

#### 7,500,000 Persons Housed Since Summer of 1940

Now that nearly 3,400,000 housing units completed up to January 1st, 1944, are providing quarters for essential war workers, the war housing problem has been mastered in the majority of the nation's crowded war industry centers, John B. Blandford, Jr., Administrator of the National Housing Agency, announced.

More than 7,500,000 persons, including members of war workers' families, are now occupying quarters mobilized under the war housing program since the early summer of 1940 through new construction, conversion of existing buildings, and intensified use of the pre-war housing supply in war industry areas.

Some acute needs for additional war housing will continue during 1944 in those areas where new war plants are being brought into production or where existing plants must step up their employment to reach peak output. Elsewhere, however, the war housing already provided has generally caught up with

*(Continued to page 86)*

#### WPB Facilities Bureau Director Expresses Hope Of Lifting Restrictions

#### Donald Nelson, WPB Head, Reports Restrictions Are Still Order of the Day

Roy W. Johnson, Director of the Facilities Bureau, WPB, recently expressed the hope that the restrictions of L-41 can be relaxed to some extent, but stressed that these steps must be taken with caution to avoid any possibility of interfering with the war effort.

The big problem is to moderately relax the restrictions on construction to utilize the slight excess materials now being produced over those required to win the war and to direct the use of these materials to those channels where they will do the most good in maintaining war and essential civilian requirements.

Donald Nelson, WPB head, reports however, that after an extended consideration by the full board of WPB, it has been decided to continue restrictions on new construction and facilities with modification until we can be certain, from

*(Continued to page 86)*

### FHA Warns Against Rising Real Estate Prices

With real estate prices rising sharply in many areas because of wartime market conditions, the FHA now emphasizes that it is refusing to recognize inflated market prices in insuring mortgages on existing home properties. The FHA's long-standing policy has been to base its valuation of existing homes on long-term stabilized values, without regard to short-term fluctuations in market price.

FHA field officers are not to accept current price increases in their

valuations of existing home properties in localities where real estate prices are now rising rapidly and their valuations are not exceeding estimated market prices during the last period of stabilized price levels.

Mr. Ferguson, FHA Commissioner, emphasized that the FHA's valuation policy is not frozen to any fixed level of prices and recognizes long-term adjustments in the general price level. However, FHA's position is that sound mortgage practice must ignore rising prices.



# WORKING FOR TODAY

Many and varied are the activities of those who serve their country and their community in the smart uniform of the A.W.V.S. (American Women's Voluntary Services). Norge joins the nation in saluting the members of this permanent organization which is working for victory today and planning to continue its usefulness to soldiers and civilians in the post-war era.

# NORGE

## HOUSEHOLD APPLIANCES

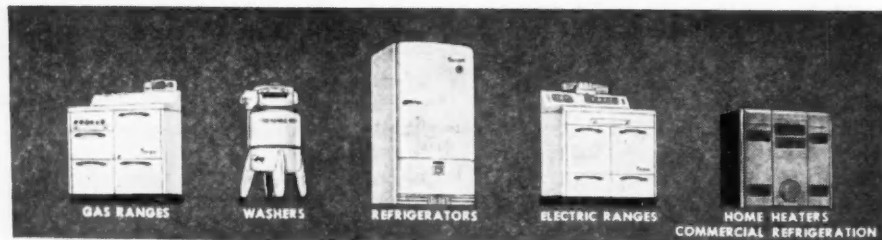
# ..PLANNING FOR TOMORROW



Norge, too, is exclusively *at war* in all of its plants, producing more than forty items of utmost importance to our armed forces. And Norge appliances are likewise doing their part by conserving and preserving food, lightening household tasks and adding generally to the efficiency of war-busy families. But as Norge works for today, Norge plans for tomorrow. Because of the new skills and new techniques acquired as the result of war assignments, Norge post-war Rollator refrigerators, gas and electric ranges, washers and home heaters will be better designed, better engineered, better built. Look to Norge for real *products of experience*—better products for a better world. Norge Division, Borg-Warner Corporation, Detroit 26, Michigan.

A BORG-WARNER INDUSTRY

BETTER PRODUCTS FOR A BETTER WORLD



★ ★ ★ ★ ★ ★

When it's over—see Norge before you buy... meanwhile BUY MORE WAR BONDS

NATIONAL APPLIANCE CONSERVATION PROGRAM "BETTER CARE—LESS REPAIR"

★ ★ ★ ★ ★ ★

## Time to Revise L-41

WHEN the War Production Board recently authorized two million electric irons and 50,000 bathtubs an optimistic feeling spread through the building industry that releases of materials and equipment were on the way.

Many of the most acute shortages in metals and other materials have disappeared, and unemployment in the building trades in many areas is growing. Why not, therefore, relax L-41 and, in addition, make it possible for builders to construct more houses in areas where they are acutely needed?

### Nelson Says No

Donald Nelson issued an answer January 12th, when he said "There must be no modification of restrictions until we can be certain it would not harm the war program."

It appears that the building industry, in order to get more materials, will have to show that to modify restrictions would *not* harm the war program.

There are ample stocks of non-critical materials that could be used. *American Builder* has just completed a thorough survey of more than 3,000 building material dealers which clearly confirms this point.

There is an ample supply of building labor in many areas that needs to be put to work.

The big problem, as Roy W. Johnson, director of WPB's Facilities Bureau has well said, is to *moderately* relax restrictions on construction to do the most good but without interfering with the war effort.

While Johnson holds out hope for some relaxation of L-41 this year, and NHA Administrator Blandford has also said that "increasing attention" must be given to civilian housing in 1944, the fact remains that top Army, Navy and WPB officials, including Nelson, take a very conservative stand.

### Big Navy Increase

According to these officials, cutbacks in such items as small arms and ammunition, tanks and non-combat aircraft will be more than offset this year by doubling the production of combat aircraft, increased ship building, a 50 per cent increase in truck production, and in numerous other types of heavy artillery, signal and electronics equipment.

The Navy declares that its overall program for 1944 will be one-third greater than 1943. While production of some types of ships, such as destroyer escorts, will be greatly reduced, these

will be offset by a vast expansion in landing craft. While some types of naval aircraft are being cut back, the Navy announces an expansion in fighters and bombers of more than 60 per cent.

Building men, therefore, cannot blithely assume that the production war is won.

### Will Autos Come First?

Yet the same day Nelson issued his statement saying there would be no relaxation in building, the newspapers were full of stories saying that automobile manufacturers are preparing to resume operations in March, or at least by mid-year. And the President that same day took time to outline to Congress a huge post-war road building program.

If building men do not keep strongly presenting their views, they may find themselves still bound hand and foot long after other industries have gotten the go-ahead signal. Unless bathtubs, ranges, heaters and other necessary equipment are allowed to make a start soon, the whole post-war home program will be tied up.

### Proposed L-41 Change

There is ample evidence of an acute need for more homes. There is even greater evidence of the need for farm and home repairs and construction. These two can be taken care of by: (1) An administrative order revising the interpretation of L-41 to permit greater use of non-critical materials. (2) Issuance of additional priorities for homes in areas where the need is great but unemployment exists.

*American Builder* proposes that non-critical materials be entirely removed from price consideration under the dollar limitation of L-41. This might be expressed as follows: "In class 3, 4 or unrated labor areas any construction will be allowed where 95 per cent of the materials are available on an AA-4 or lower rating. Cost of labor and materials unrated or with a rating of AA-4 or less would be excluded from cost of the job under L-41 procedure."

This would be a sane, simple first step that would permit much needed building work without interfering with the war effort. Later on, WPB should review its findings to see whether additional priorities may not safely be granted for small homes in certain acute housing shortage areas. Before this is done, however, production must be started on furnaces, hot water heaters, tubs, ranges and refrigerators since lack of these is now holding back completion of houses already authorized.





**An exclusive American Builder**  
**post-war planning feature**



**L. E. TREMBLEY,**  
head of Construction  
Department, D. C.  
Burns Co., Denver,  
Colorado. Formerly  
estimator with the  
Hallack and Howard  
Lumber Company.

**An expert brings you up to date on**  
**tested new home building methods.**

*AMERICAN BUILDER* has asked L. E. Trembley to tell home builders how to bring the efficiency of the large-scale operator to the smaller job. Many new cost-cutting methods have been developed during the war, some of which can be applied to smaller jobs.

*THE INFORMATION* in these articles is based on first-hand practical experience in planning, estimating and building houses.

*THE FIRST ARTICLE* deals with planning and organization. Later ones will deal with estimating and cost analysis, organization and time schedules, modern precutting methods. WATCH FOR THESE ARTICLES IN LATER ISSUES OF *AMERICAN BUILDER*.

## The 15-House Job

**First of a practical series on planning, estimating, cost analysis and precutting method for the small contractor-builder**

**T**HERE is no good reason why many of the economies and cost-cutting operations of the big wartime contractors cannot be used by the builder of 3, 6, 10 or 15 houses.

The big wartime builders of 200, 500, or more houses have developed new ideas, methods and economies. They deserve praise for the excellent way in which they have completed these jobs in a hurry when there was a crying need for the houses they built.

But when the war is over, there will be a great many more builders of small groups of houses than there will be 100-house or more operators. To compete with the big operator the small builders must adopt and adapt as many of his methods as possible. He can do it, too, and produce fine houses at very low cost.

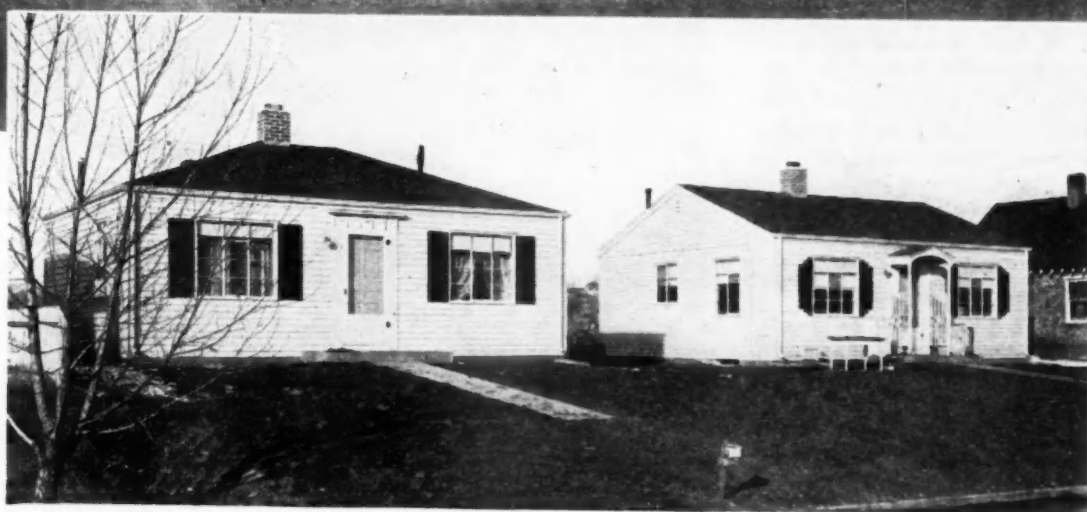
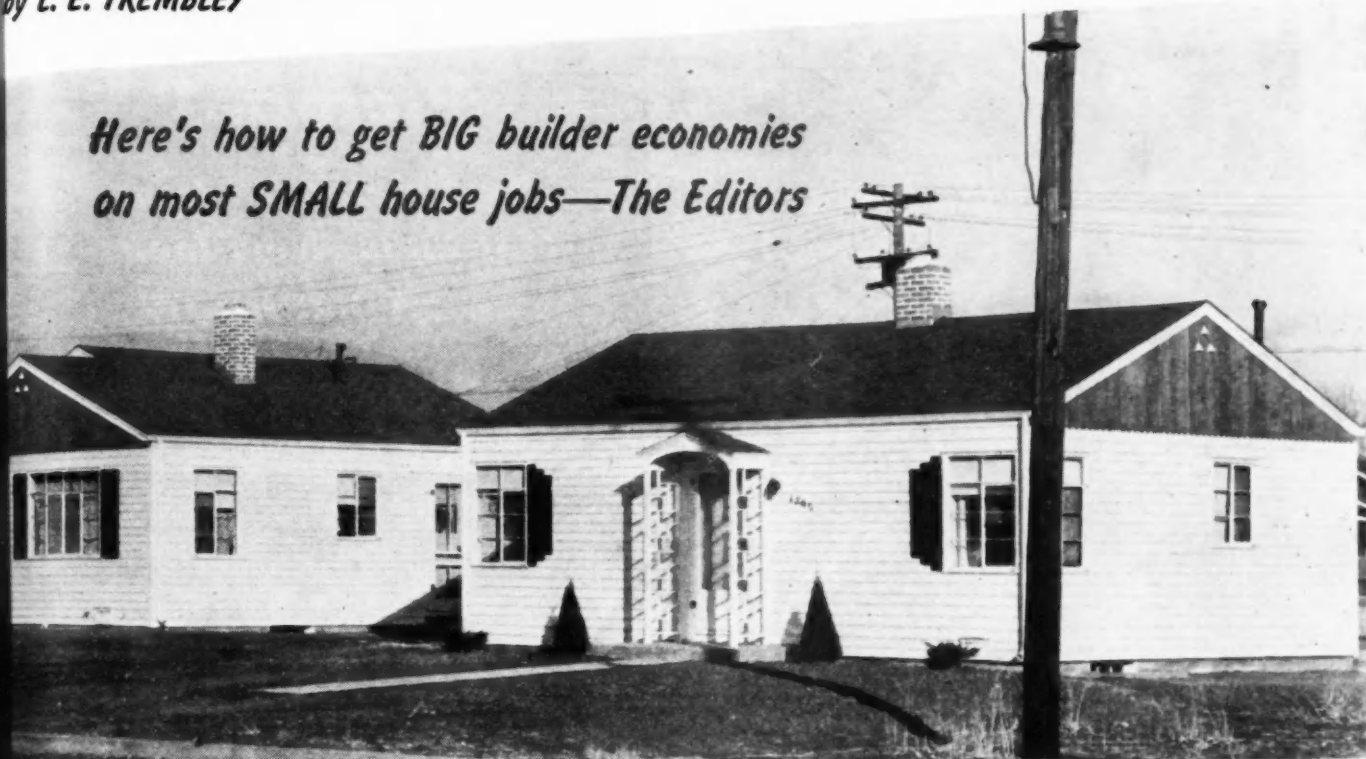
What is needed is more expert estimating, better planning and organizing of the job, use of precutting methods in a practical, inexpensive way, and last of all but not least, a sound and equitable working arrangement with your local lumber dealer or supply firm.

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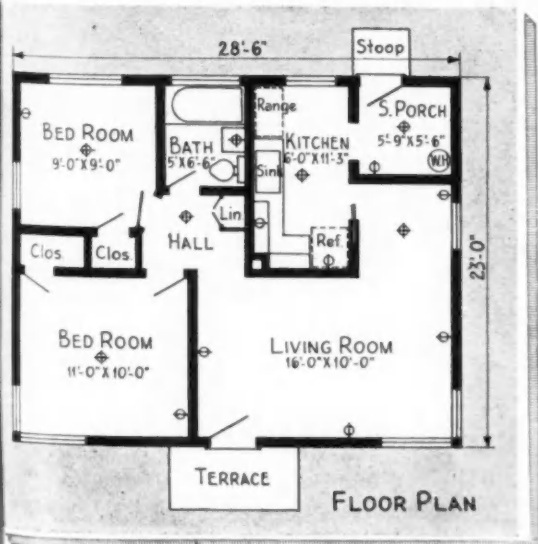


by L. E. TREMBLEY

*Here's how to get BIG builder economies on most SMALL house jobs—The Editors*



GROUP of 15 homes with typical plan used in recent war housing projects in Denver by D. C. Burns Co. All lumber was pre-cut with electric hand saws on work tables at rear of the houses.



The ideas set forth in these articles are based on practical experience—*recent* experience, first as estimator and construction man for one of the largest lumber dealers in Denver, and later as head of the construction department of one of the largest builders of war housing.

I believe that both the builder and the dealer profit by a sound working arrangement. I believe that practical pre-cutting methods, based on sound planning and organization, saves money. In fact, both of these conclusions have been proved many times over.

First let us consider the selection of the site.

Since a small job cannot carry large expenditures for sewer, water, etc., it is necessary to locate the project, if possible, within the city limits, or where all improvements are in, or one on which not more than one extension will be necessary. This is an important factor.

**PLANS AND SPECIFICATIONS:** On a 15-house project sufficient variation can be obtained with the use  
(Continued to page 102)



# Building News Pictorial

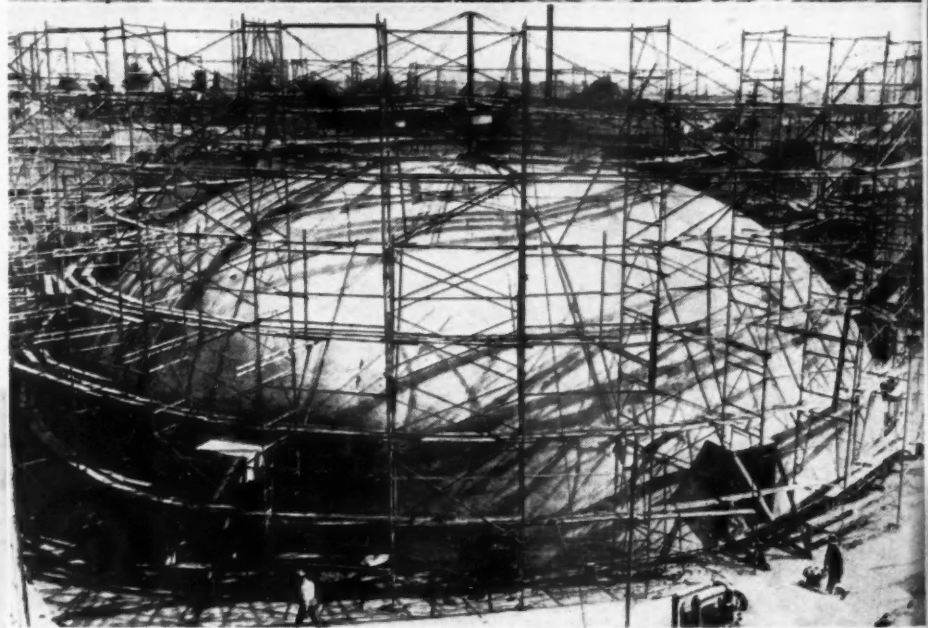
**New Methods—New  
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FOR TOMORROW**

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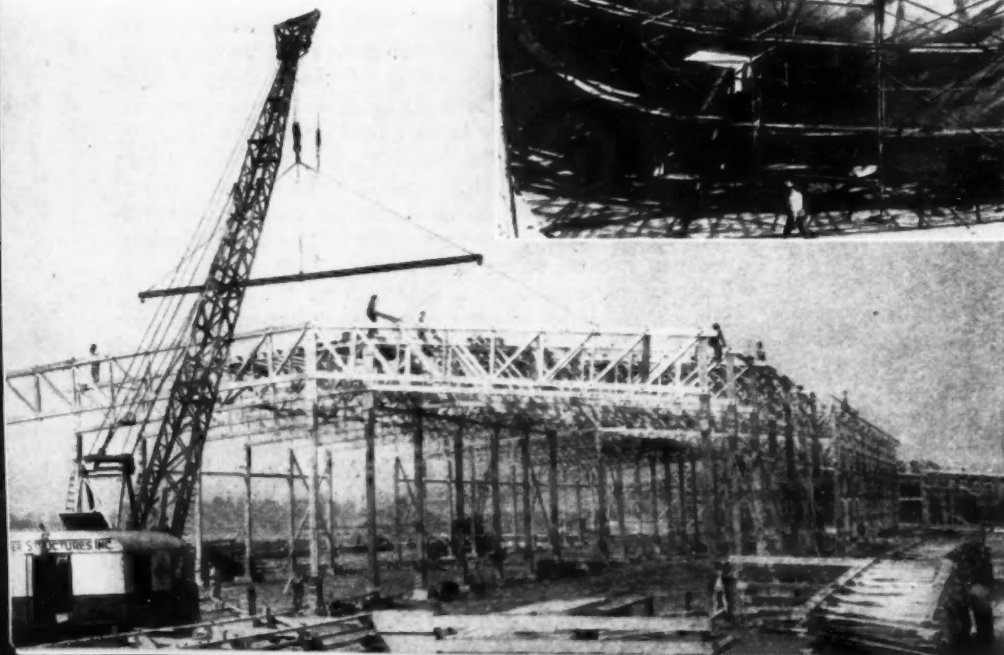
↑ YOUR home for 19?? will be made of plastic, according to Alden B. Dow, designer. You may add to it if you wish, and how Brother! we'd say.

BRITAIN plans new post war home developments just as we do. → This model, exhibited in London, shows to what extent their planning is going.

CONSTRUCTION methods vary, as we all know, and why shouldn't they? → Here is concrete, mixed with insulating material, poured over an inflated canvas bag to make a sizable shelter, as you can see. As the press agent said, "Here's a good way to blow yourself to a new building."



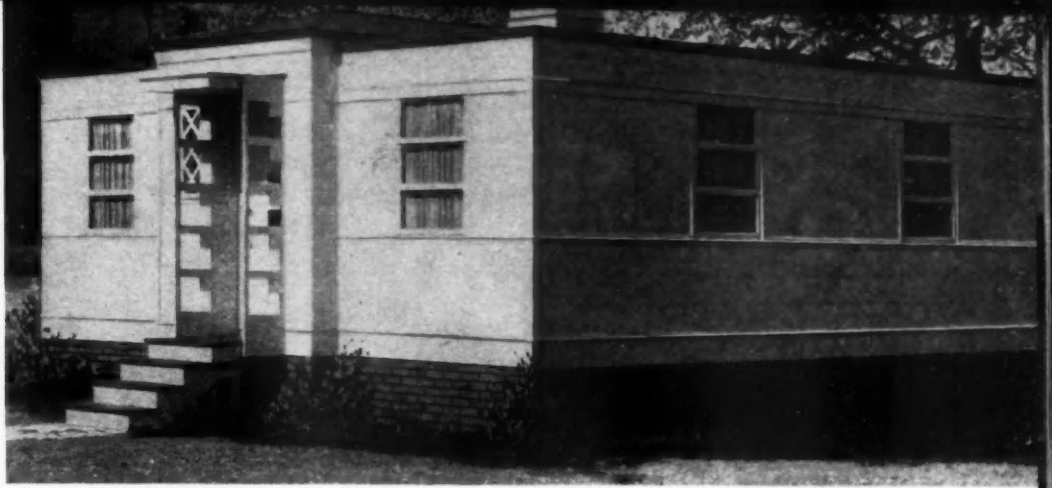
—Acme photos



← PREFABRICATED wood trusses and huge timbers are bolted to concrete foundations in a matter of minutes to form the framework for a series of warehouses to shelter war materials awaiting shipment from the West Coast. Done by private contract.



COMPLETELY factory-built is this three-room bungalow which builder says will be ordered in the morning, rolled to the site in time for dinner the same evening! All plumbing and essential furniture comes built-in or packed inside, ready for use soon after arrival.

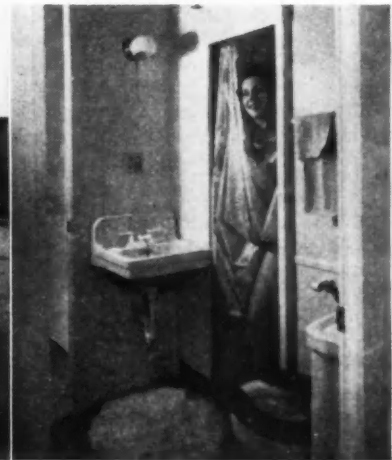
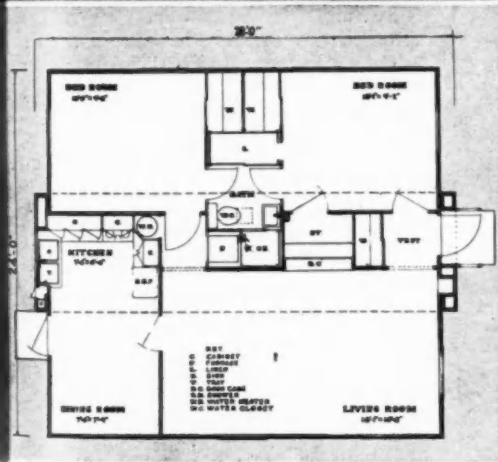


### Mobile Home That Unfolds

THIS BUNGALOW is ready for occupancy an hour after it arrives at the site, complete with fixtures and basic furnishings. It has all modern appliances built-in and can be moved frequently on short notice according to post-war plans of the Palace Corporation.

This house is reported to be out of the experimental stage. It leaves the factory as a unit measuring 8' by 28'. At the site, wings are opened out at the sides to form additional rooms. Foundation is prepared in advance.

Shower, wash bowl, water closet, oil heater, electric stove, refrigerator, two-tray sink, dishwasher, and hot water boiler are in place when the house leaves the factory. Beds, dressers, dinette set and living room set can be delivered with the house. When the house is to be moved, the furniture can be shipped inside, and the whole thing moved as-is. Several thousand units for war purposes, and trailer coaches are the experience behind the designing of this portable dwelling for post-war.



28 x 24 foot portable house which unfolds from 8 foot center unit containing all utilities pre-connected in place.

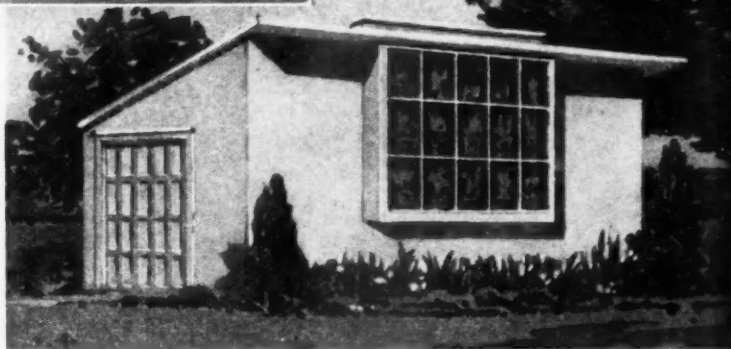




**A—OUTDOOR FIREPLACE**, with massive chimney, gives this Colonial garage unusual charm—makes it a happy addition to the back yard.

**B—EXTRA WORKROOM** with skylight is cleverly built on raised platform in big-windowed garage below. Could serve as flower room. Note handy storage. (Plan is reversed.)

## No. 2 in Blueprint Series: Artistic Private Garages



**THIS** month's *American Builder* post-war blueprint brings a new quality of architectural charm and beauty to the lowly private garage. Architects Henry Otis Chapman and Randolph Evans have specially designed these four types—each with an unusual feature to give it salability and charm.

Each garage is fully detailed in the carefully drawn and accurately scaled blueprint at right. Note the appealing

outdoor fireplace, with its massive chimney, storage space for cooking equipment as pictured in garage A.

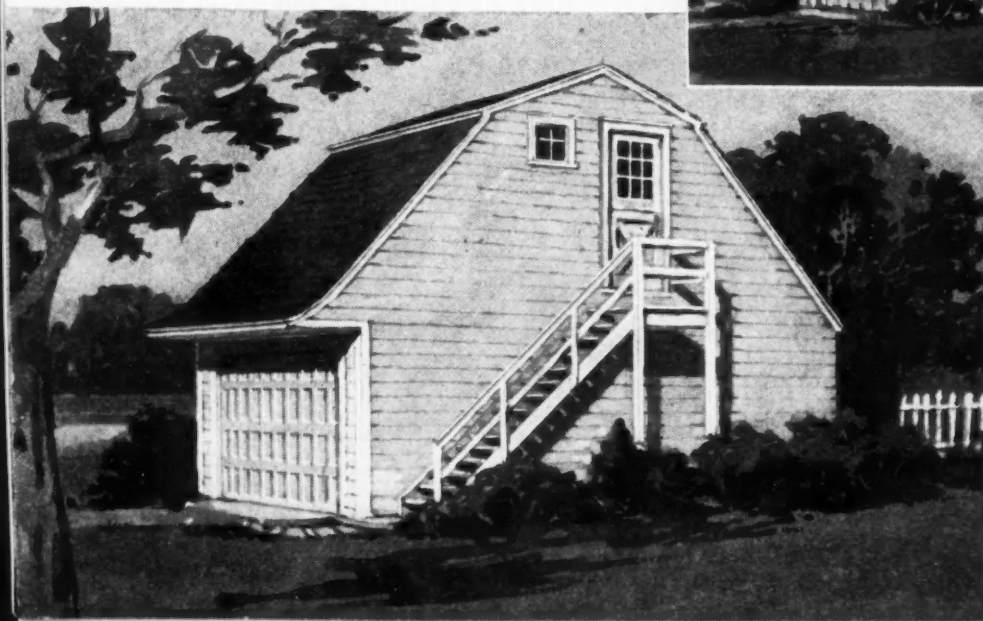
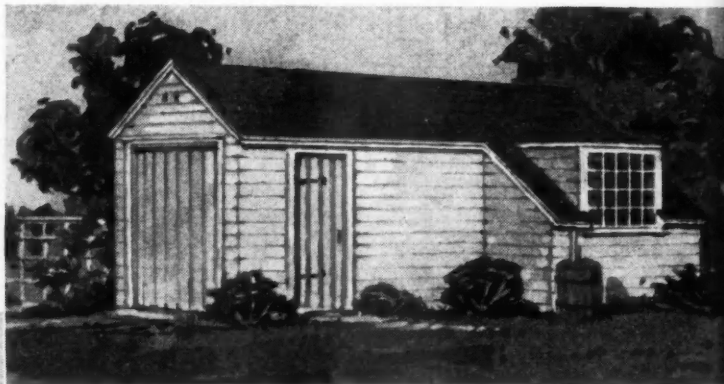
A new idea in garage construction is worked out in garage B, with its clever elevated flower room or workroom lighted by the huge fixed window and skylight. Of equal interest is the built-in work bench in garage D, and the extra bedroom in C, with the sturdy outside stairs and colonial details.

This is the second in *American Builder's* post-war blueprint series, which was inaugurated in January with a charming, rambling Colonial home designed for post-war appeal.

Subjects to be covered in future blueprints will include salable homes with a modern touch, country club cabins, wayside stands and sheds, community shops and stores, Cape Cod Colonial homes.

**D—CLEVER** architectural detailing features the single-car garage at right, with built-in work bench.

**C—SECOND FLOOR BEDROOM** is provided in the charming gambel-roofed garage pictured below. Architects Chapman and Evans have shown how to bring authentic architectural styling to this attractive garage, which is fully detailed in the accompanying *American Builder* post-war blueprint No. 2 at right.

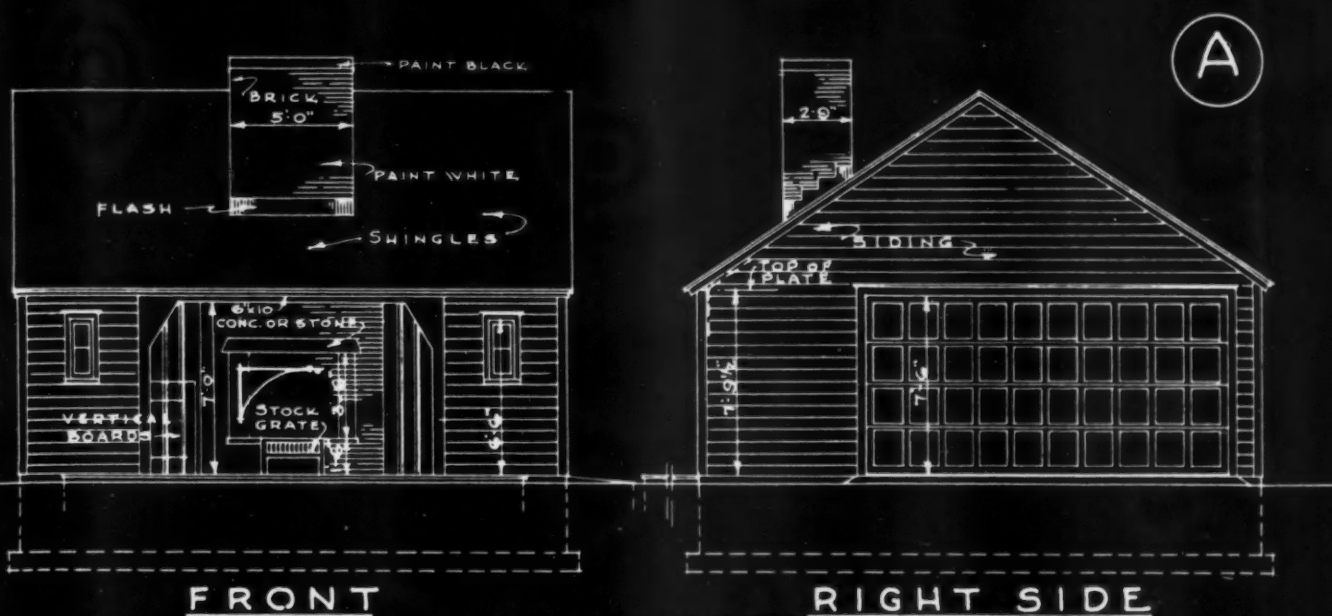


### Extra Blueprints \$1

Extra blueprints (same size, same scale) are available at \$1 each, cash enclosed with order. Send request to *American Builder*, 105 W. Adams St., Chicago, Ill.



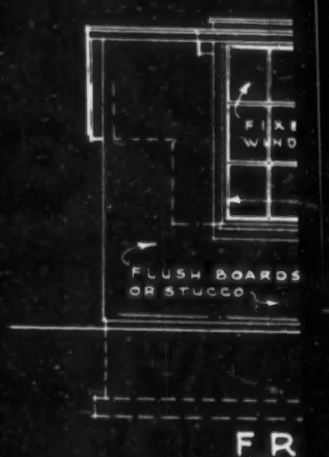
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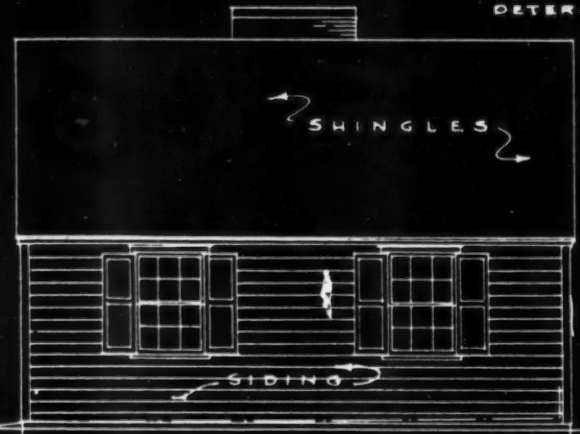
**FRONT**

**RIGHT SIDE**

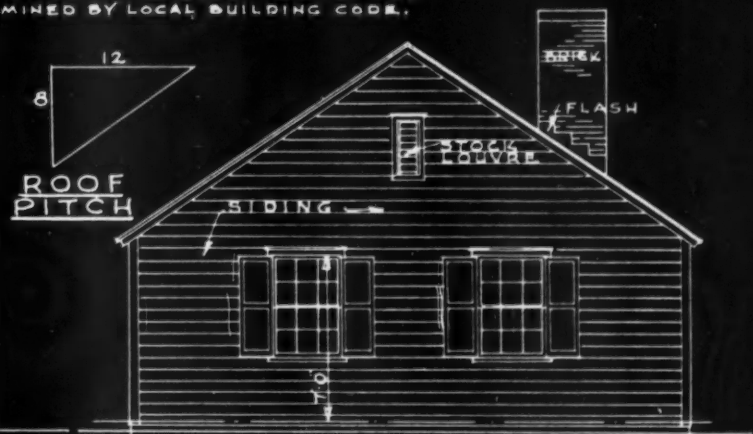
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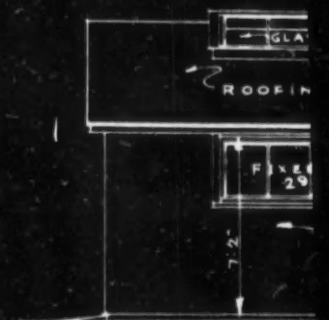


**REAR**

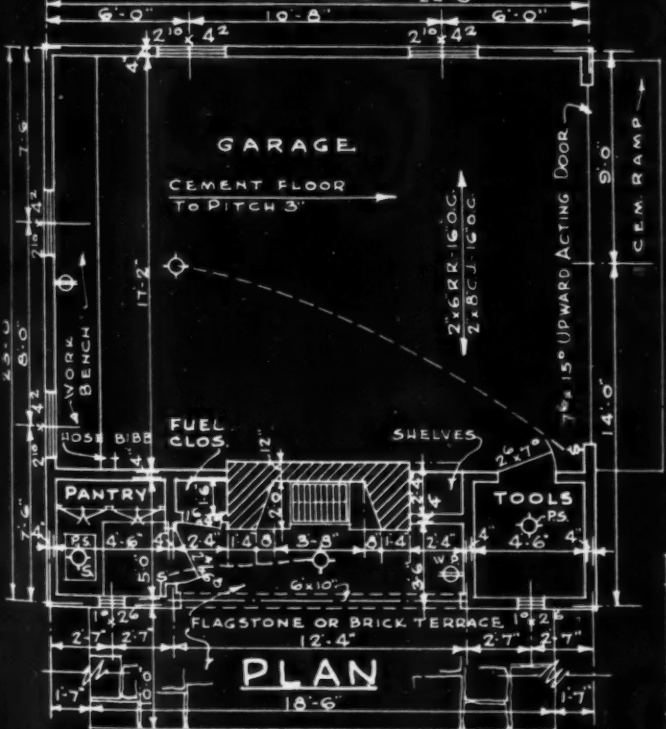


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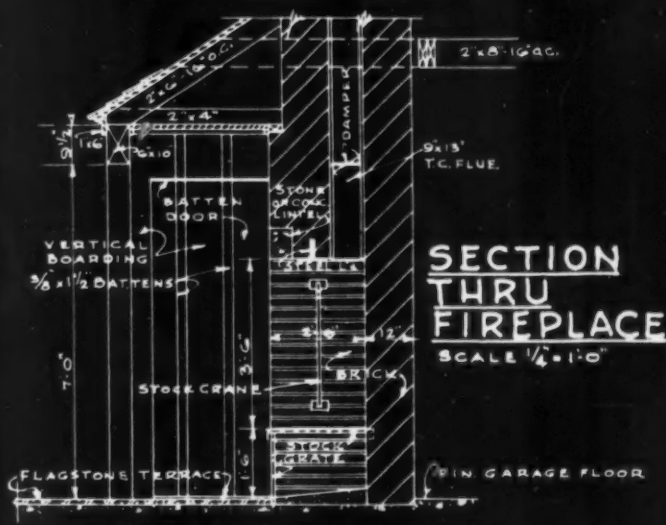
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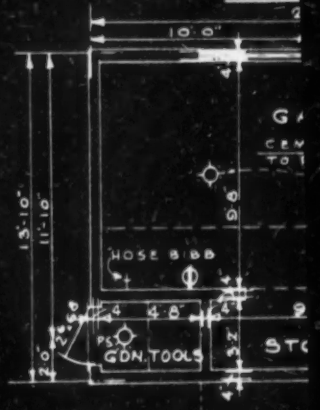
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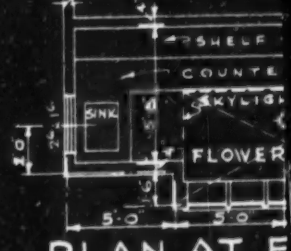
**PLAN**



**SECTION THRU FIREPLACE**  
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**PLAN AT G**

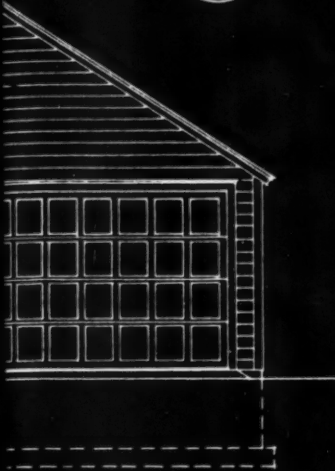


**PLAN AT F**

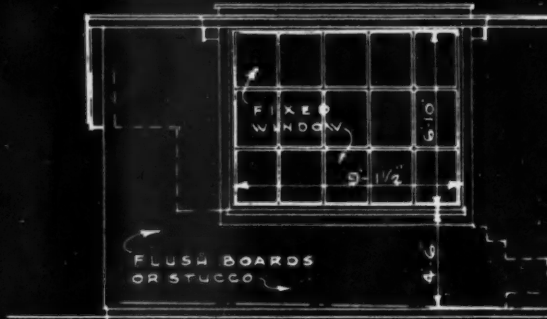
**DESIGN No. AB-2**  
**AMERICAN BUILDER**  
**POST-WAR BLUEPRINT SERIES**  
PREPARED BY  
**HENRY OTIS CHAPMAN · RANDOLPH EVANS**  
ARCHITECTS · NEW YORK, N.Y.  
Simmons-Boardman Pub. Corp. 105 W. Adams St., Chicago.



(A)



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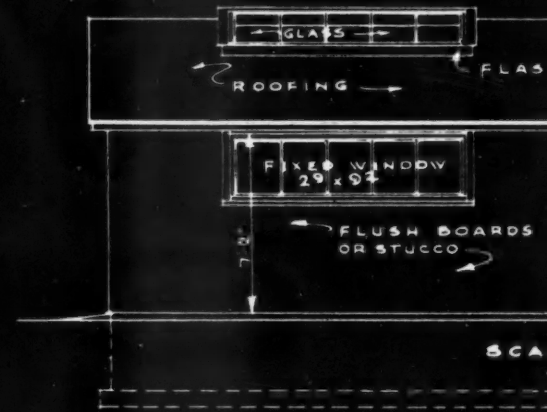


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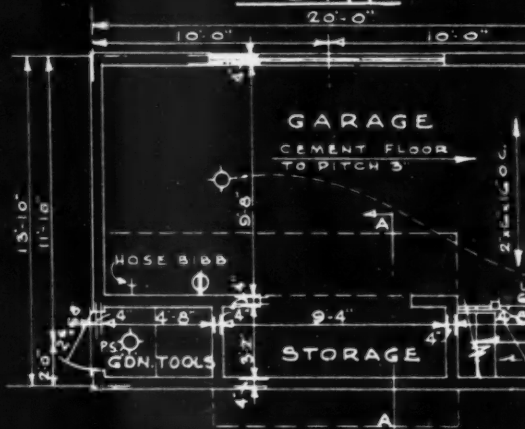


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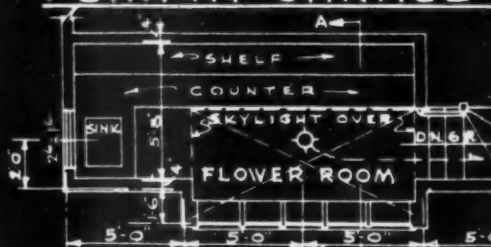
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**SECTION  
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**PLAN AT GARAGE**



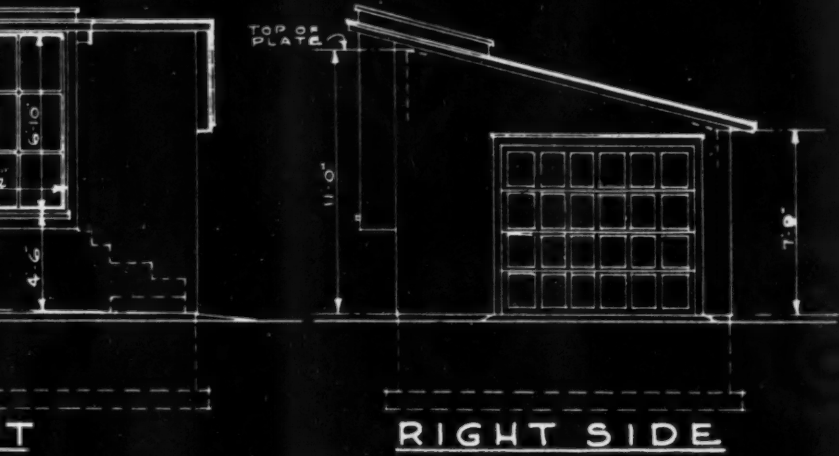
**PLAN AT FLOWER**

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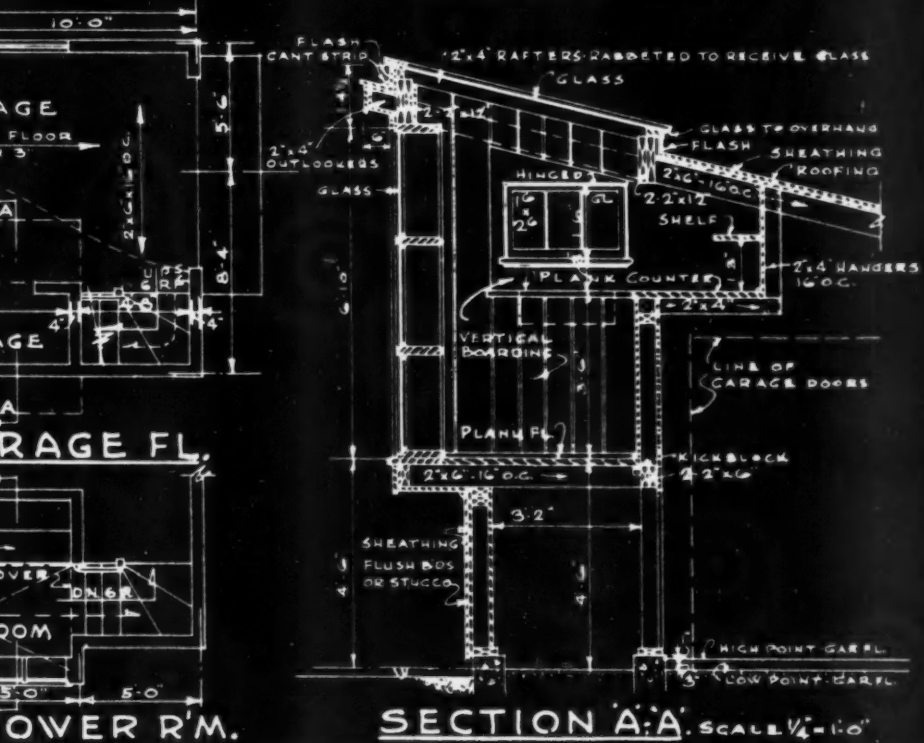
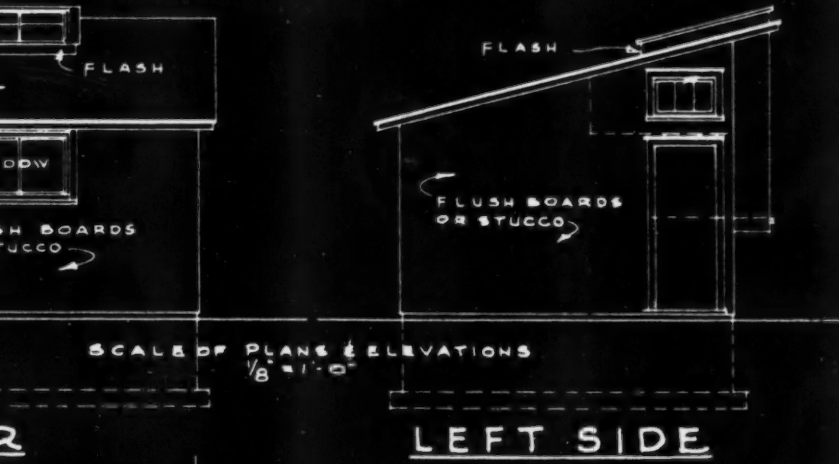
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NEW YORK, N.Y.

105 W. Adams St., Chicago.

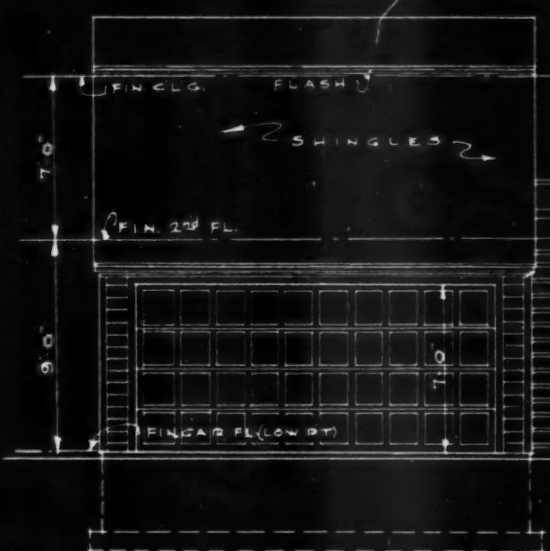
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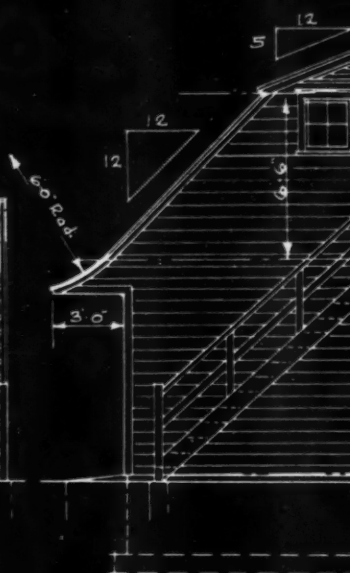
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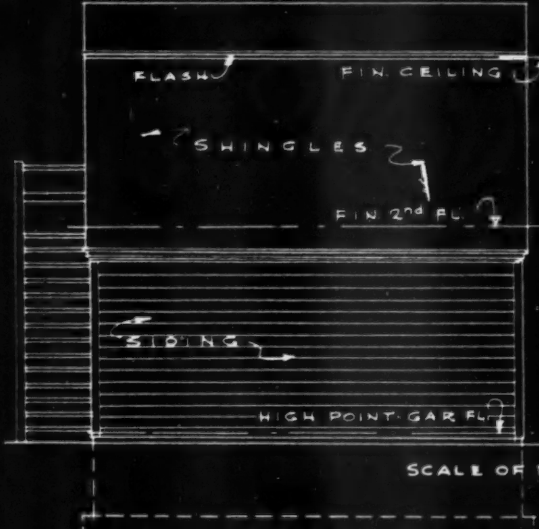
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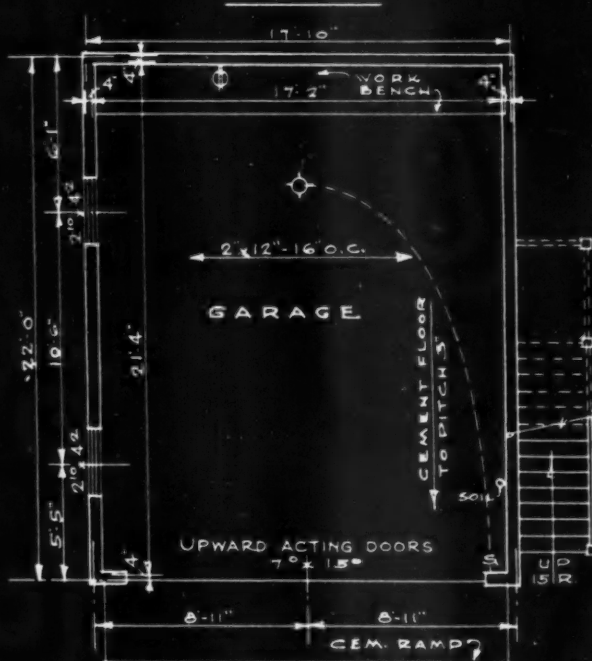


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**GARAGE FLOOR PLAN**



**SECOND**



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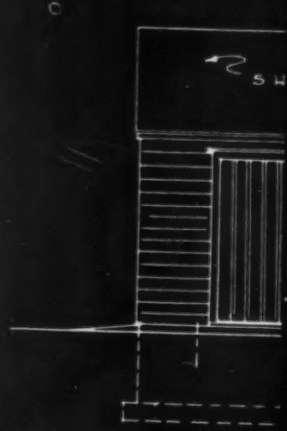


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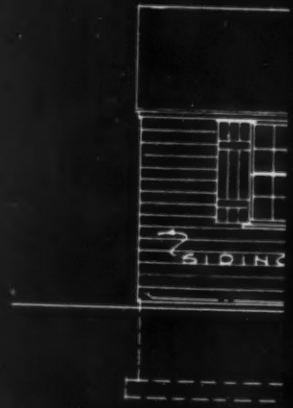


SECOND FLOOR PLAN

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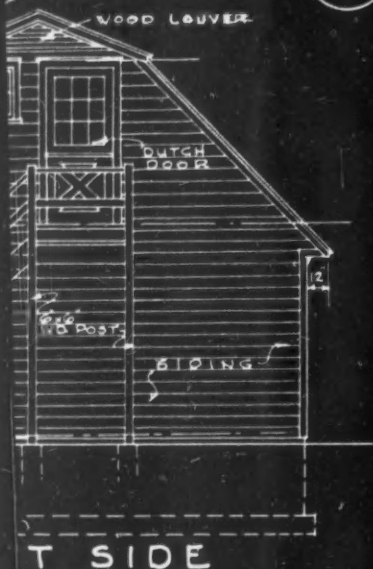


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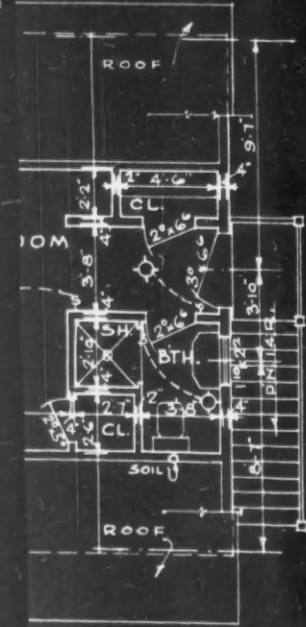
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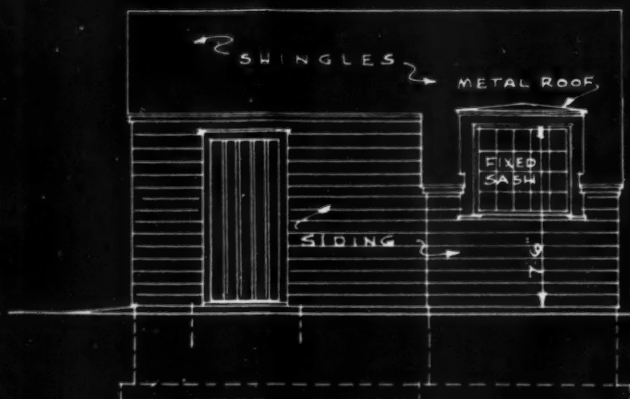
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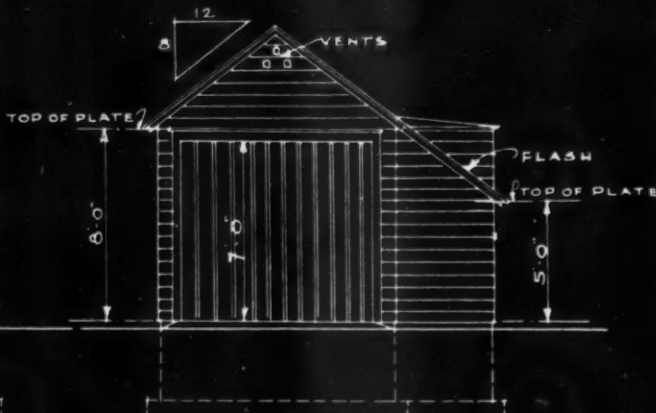
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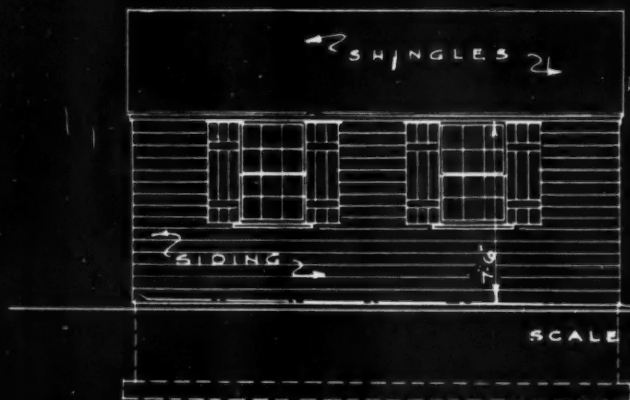
FLOOR PLAN



RIGHT SIDE

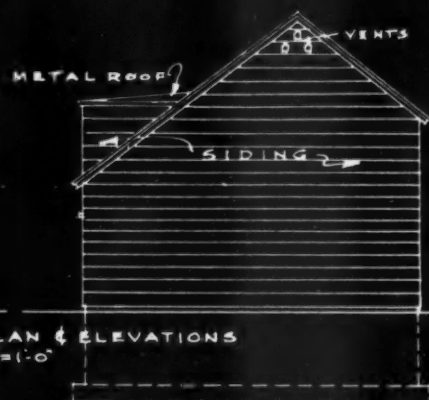


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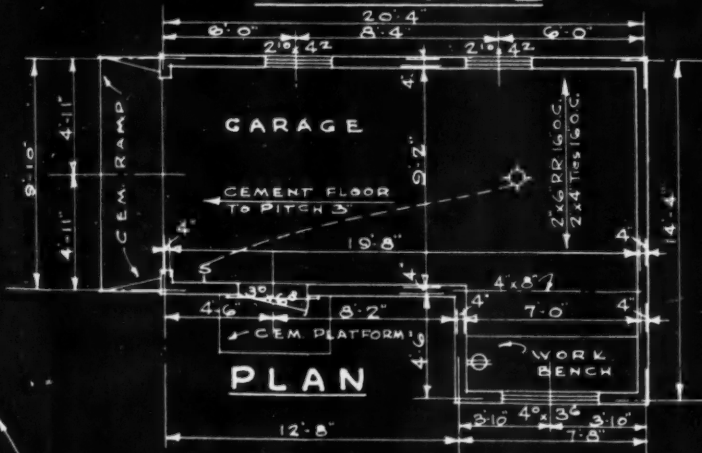


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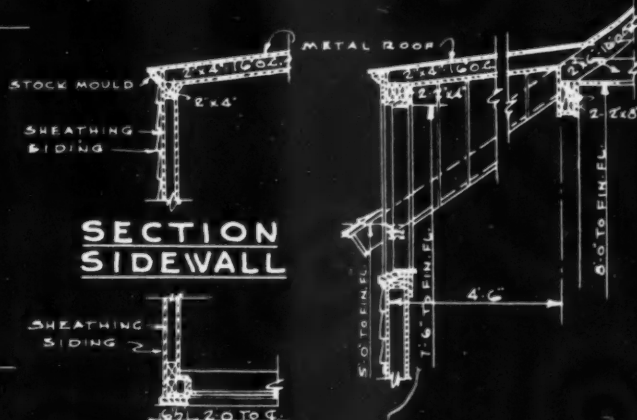
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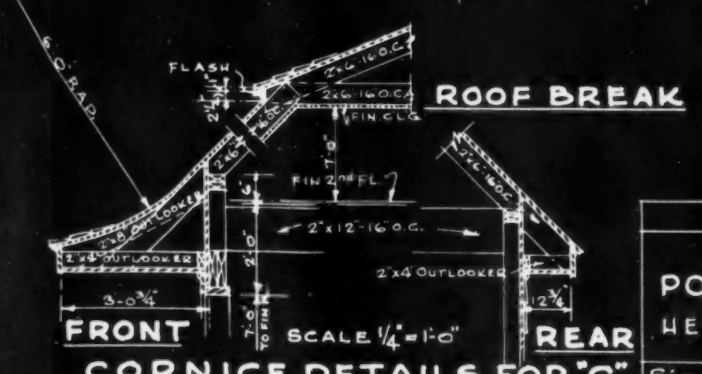


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DORMER DETAILS

SCALE 1/4"=1'-0"



ROOF BREAK

FRONT CORNICE DETAILS FOR "C" REAR  
SCALE 1/4"=1'-0"

DESIGN No. AB-2  
**AMERICAN BUILDER  
 POST-WAR BLUEPRINT SERIES**  
 PREPARED BY  
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# Selling the Prefabricated House?—Here Are Some of the Unsolved Problems

*By Fowler Manning*

Fowler Manning & Company,  
Management Consultants

AS FAR as the various structural approaches which have been made in prefabrication, I can testify to the entire adequacy of the job that has been done by the engineers and the designers, whether in standard sections, units or entire buildings. Much useful experience has been obtained in course of taking care of wartime demands for prefabricated housing, which resulted in many thousands of emergency homes being manufactured, shipped, erected and put into actual use. It seems reasonable to assume that perfectly competent and adequate products have already been designed and are well known, incorporating materials for insulation, sound-deadening, floors, roofing, etc., over a wide range. To the same end, we find remarkably efficient means for equipping the kitchen, bedroom, heating and lighting have been developed and are ready for use. These are already available and well understood, so there appears to be no problem here.

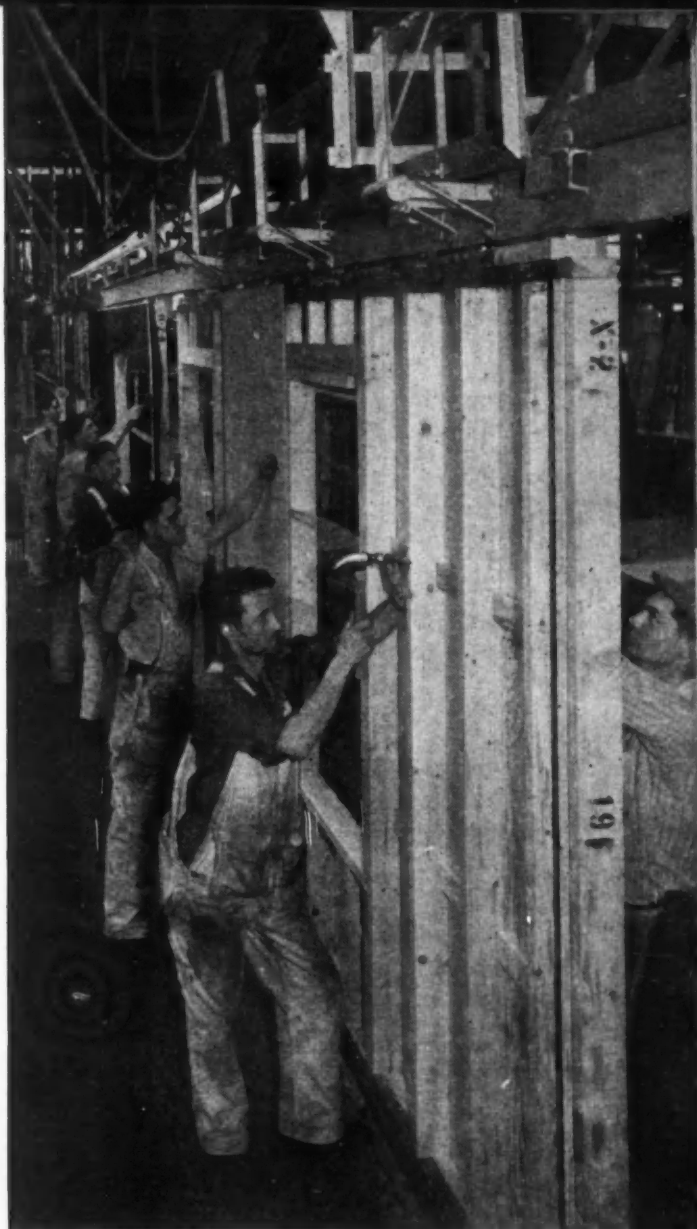
On the other hand, however, I am impressed with the extent to which designers, architects and manufacturers have concentrated upon product design, primarily aimed at low cost housing, with but scant study and too little emphasis having been given to the selling, installing and servicing operations, without which permanent and lasting market development will be impractical, no matter how good the product.

Now then, let's consider the field from the standpoint of the future, its possibilities and its needs as a practical business undertaking.

Many matters, such as these, will have to be worked out to fit the needs of this new industry:

1. Will the house be an individual type, sold by "brand," or will the manufacturer turn out a range of types and sizes?
2. Locating the prospective buyer:
  - Direct mail?
  - Local advertising?
  - What kind of solicitation will prove best?
3. Surveying and estimating requirements and costs:
  - Surveying location.
  - Methods of estimating requirements and costs.
  - Specifications for various models and designs.
  - Will painting and decorating be included?
  - Heating and plumbing equipment.
4. Pricing and Quoting—How will it be done?
  - Fixed price for the whole job?
  - List of items to be supplied?
  - Fully erected, or to what extent?
  - F.O.B. cars—where?
  - Plumbing and heating—kind and cost?
  - Installed—or what?

(Continued to page 96)



## UNANSWERED QUESTIONS ON PREFAB

1. How to produce a house that can stand more critical inspection in line with the wonders and virtues that have been exaggerated and described so much?
2. How to accommodate the psychology of the purchaser to whom only a satisfactory transaction is acceptable?
3. How to find the ideal prefabricated house dealer who is not in existence today?
4. How to adjust the product and its sale to local building codes as well as prevalent union conditions?
5. How to determine the kind of a selling organization needed, and is prefab to be classed as a specialty or commodity?



# Utah Builders Rush War Ho



IN THE shadows of the Wasatch mountains Haddock Construction Co. precut all lumber for 172-house FHA Title VI project. Gable ends, door and window sections, and many other parts are prefabricated on the site, delivered by truck for quick erection. (See cover photos.)



UTAH state FHA director, Gordon Weggeland, discusses precutting methods with Frank Sheldon, project manager for Haddock Construction Co. on the Wasatch Garden job in booming Provo, Utah.

**O**UT to the booming, bustling, growing West is the direction to travel to see private war housing such as you have never seen before.

Take Provo, Utah, for example—a town of 19,000 pre-war. Priorities are available for 2,600 houses, of which 800 had been completed by the end of 1943, and 900 were under construction. Of course Provo has more than doubled in population, containing as it does among other things one of the newest, biggest steel mills in the land.

“Go West, young man,” has real meaning for the coming year. The big push in the Pacific has not really yet begun. When the war with Germany has been won, the entire resources of the country will pour out through the West. Thus in the granting of new priorities for private housing, the Far West will get more than its share. Whereas housing demand is tapering off in production areas of the East, it has not yet reached its peak in the West.

*American Builder* editors, traveling thousands of miles to visit war housing projects from coast to coast, have found remarkable examples of private enterprise at work. For the most part, the Title VI FHA jobs are good looking, well laid out, and a permanent asset to the communities where built.

Since Congress has practically eliminated further appropriations for public war housing, it means that the balance of the job during the rest of the war will be done by private builders. And the West will get the lion's share.

Your *American Builder* representative arrived in Salt Lake City early one morning, soon to be taken

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# Homes

**Exclusive Story  
by an American  
Builder Editor**



FHA TITLE VI war homes in Salt Lake City feature semi-modern designs with large bay windows, brick exteriors. Many have been successfully intermingled with Title II jobs in several good residential areas.

**Emphasis on war housing shifts to West as preparations for big push in Pacific grow. Private builders doing exceptional job in good-looking, well-built war homes. Site fabrication on Utah project.**



COLUMBIA GARDENS homes near Provo are unusually attractive. This one small town has 2600 priorities available for war housing.



DOUBLE COURSED shingles on attractive, cleverly designed houses are widely seen in Utah where thousands are now being constructed.



on a whirlwind tour of FHA projects by State Director Gordon Weggeland. In sparsely-settled Utah he saw more housing under construction than in most of the great metropolitan areas of the East. What is more, the houses were attractively designed, staunchly built, and laid out in well-planned communities.

Here the benefits of FHA's land planning experience is clearly shown. The contrast between the privately built FHA projects and the publicly built war housing jobs in the area is truly impressive. In fact, the public projects are so unattractive that great numbers remain empty even in the face of the crying need.

The Salt Lake area, with its nearby towns of Provo and Ogden, has become a second line of defense for western operations and a great naval and army base, as well as a huge center of both air and railroad transportation. In Salt Lake City itself, a large part of the Title VI war housing has been successfully intermingled with FHA Title II and other good residential areas.

In Ogden, a town of 45,000 which has increased to 80,000, a large number of completely planned, attractively laid out new communities have been built or are under construction. One of the most attractive of these is Sunset Heights, a 77-house project built by Franklin Burns of Denver. Other Ogden projects range from 50 to as high as 200 houses, most of them including full basements and better than average size houses and lots. The Ogden housing

*(Continued to page 101)*





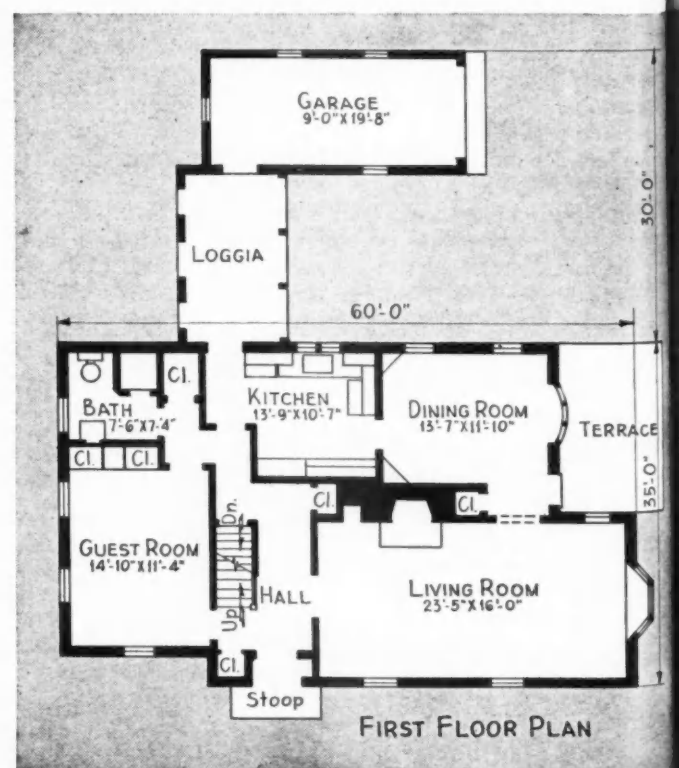
—Richard Averill Smith

## A Home That Offers What Buyers Will Want

***This late pre-war model from West Hartford, Conn., is attractive, well planned***

ARCHITECT Walter Crabtree has combined in this one design buyer appeal both inside and out from the standpoint of good design and thorough planning of arrangement. It has a trimness in its proper placing on the site that sets off good detailing and clean lines. In plan, the guest room and bath on the first floor are extras much in demand, and when the family grows up, this place can be used for a library if desired. There is three-way circulation from front to rear, separate stair hall, living porch connecting garage to supplement terrace off dining room and an extra amount of closet space and linen storage.

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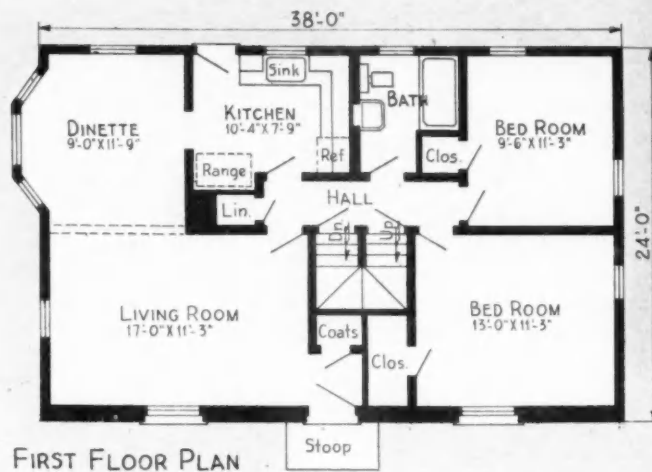
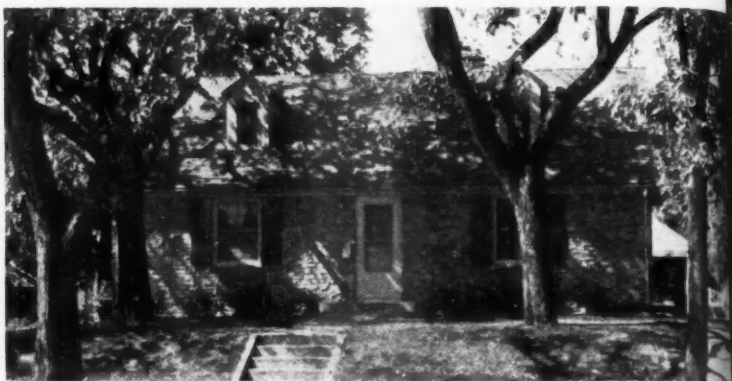




# Double-Checked for Post-War Home Builders

THE advantages of a design which has been built and altered until the "bugs" are out of it is well appreciated by builders. The home shown here has just such a plan. It was originally presented in July 1941 *American Builder* after it had been used a number of times in a project near Chicago. Builder George K. Alexander, Rochester, Minn., thought it was just what he wanted for his own use and made further refinements as pictured here; it was one of the last houses he built before the war.

Good circulation, openness in the living portion and maximum use of space are outstanding in this small home. Other features are economies in plumbing and framing, adequate closet and storage space, stair arrangement that allows best use of second floor space which can provide additional rooms and bath.



FIRST FLOOR PLAN



IMPROVED five-room design has added closed-in porch, stone veneer front and extra space on the second floor for two bedrooms and bath

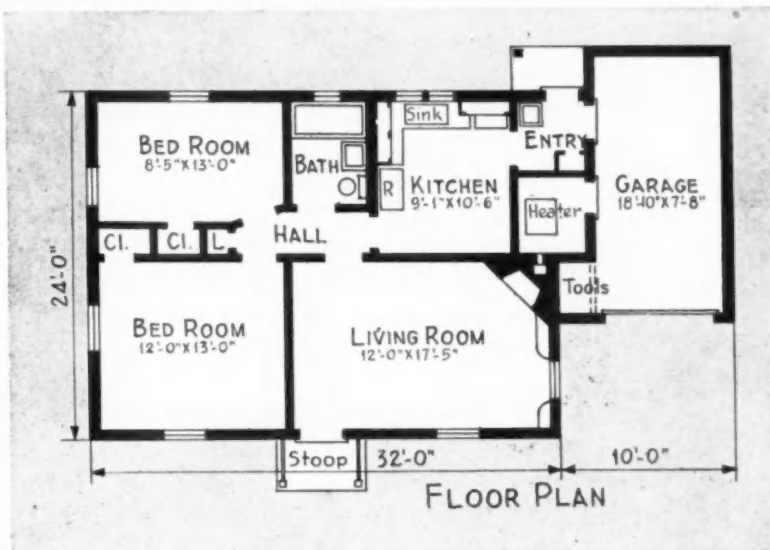
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## Plain American Homes Will Get Quick Approval

FROM all indication of the future choice of home buyers, the trend will be for a small house with conservative architectural lines. A recent national survey points out that 50 percent of the families who are intending to buy a home directly after the war is over will spend between \$3000 and \$5000. Efficient planning, however, and the latest in equipment will be the order of the day. The corner fireplace and the bookshelves flanking the end window in the living room of this little house are examples of good planning. The rear entry, the garage tool room, and the heater room are details which add up to make this one-story house an attractive post-war buy.

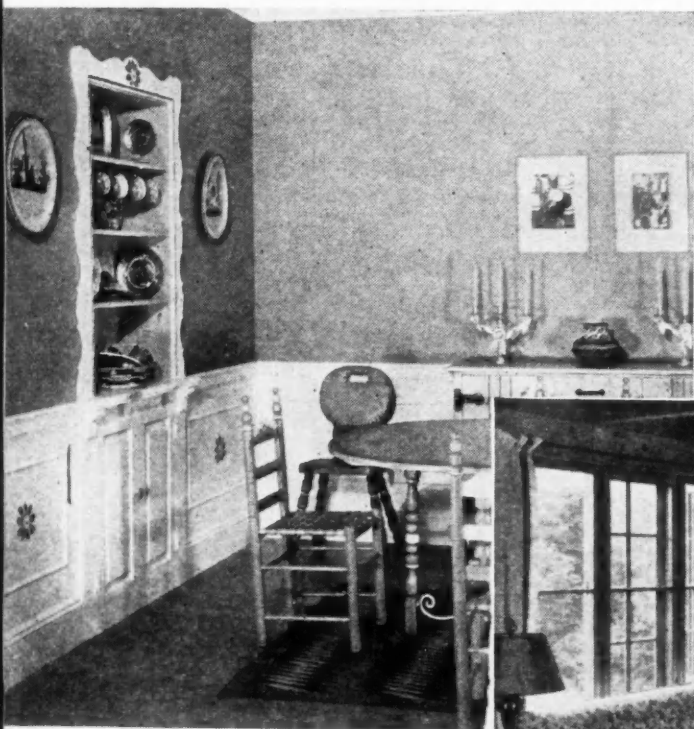


Built in Darien, Conn., Architect Edward G. Wallace.





Exceptional effects are readily achieved by building in window shelving for the display of colorful glass, polished metal and growing plants as shown in this breakfast corner.



Built-in cupboard (above) and combination fireplace are attractive.

## ***Built-in Features Make Any House More Appealing***

*Photograph by: George H. Van Anda, Maynard L. Parker, The Mott Studios, and Harold A. Bell*



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**Comfort and convenience of living in the home will be the major consideration of post-war home buyers. Built-in features can do much to influence the selection of dwelling units. Living room, dinette, recreation room, and, in fact, almost any room in a house can be made more livable and the place much more salable by the addition of built-in items**



"BANJO HOT-DOGS" could be the feature of this recreation-room counter built of pine boards. It is not expensive to build and will be a selling feature in any house. At the left is a combination cupboard and open-shelf unit with a drop leaf in the center which serves as a desk. Such features, well finished, add to the attractiveness of a room as well as to its convenience.



Below, at the left, is a breakfast room unit which would not only conserve space but be a salable feature in a small home. The shelf folds up when not in use. At the right is a pair of open bookshelves flanking a fireplace, the mantel of which continues, forming a decoratively pleasing wide shelf.







STREET VIEW of some of the 578 well built war houses in Westlawn, a subdivision of Mobile, Ala.

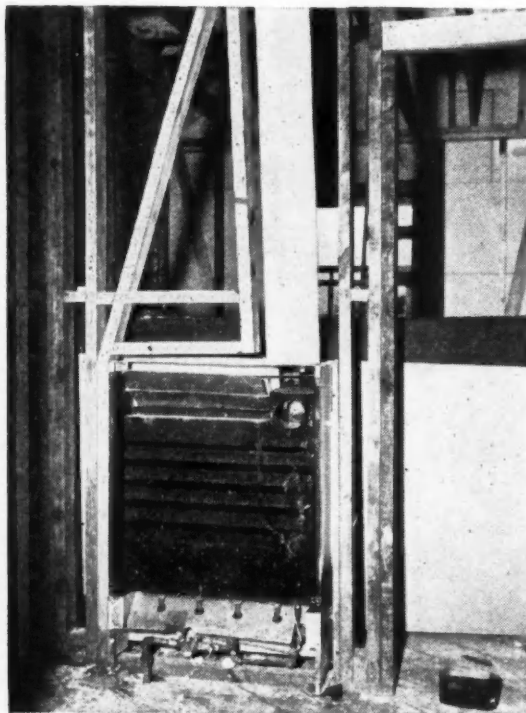
## Better War Housing Is Built for Rent

**Mobile Homes, Inc., rush badly needed units of quality construction for war worker tenants. Foresee continuing rental market after war so decide to lease instead of sell; build accordingly with good job of insulation and automatic gas heating of advanced design built into walls**

**A**UTOMATIC gas heat by means of recessed wall heaters is provided for 578 houses being completed by Mobile Homes, Inc., in the subdivision known as Westlawn in Mobile, Ala. Some 200 of the homes were occupied last November.

Butane gas is the fuel used for house heating as well as for cooking and water heating and it is served from underground tanks, one for each group of 10 houses. The gas is metered out to each tenant.

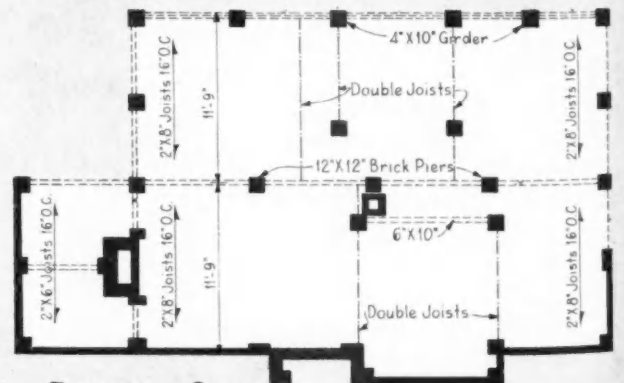
Each house is equipped with two heaters, one placed in the living room and one in the hallway. One of the heaters is of 30,000 B.T.U. and the other of 20,000 B.T.U. The heaters (day and night) have automatic controls so any desired temperature may be maintained.



ONE of the two automatic gas-fired heaters built into each of the Mobile Home units. This view during construction shows framing in at partition between hall and living room to allow for venting into center chimney.



FIRST FLOOR PLAN



FOUNDATION PLAN

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TYPICAL five-room war worker home built for rent in Mobile, Ala., subdivision. Extras include screened-in porch off living room, dining room, recessed front entrance, adequate provision for heating.



The method of venting into the central chimney is shown in an accompanying photo.

"The use of these heaters enabled us to provide automatic heat for the homes without the necessity of having a basement or utility room or extensive piping or duct-work," said G. A. Ralston, developer of the project under Title VI. "The equipment is more than ample to provide winter comfort in the Mobile area. The houses are attic insulated with glass wool and their compact construction makes them easy to heat."

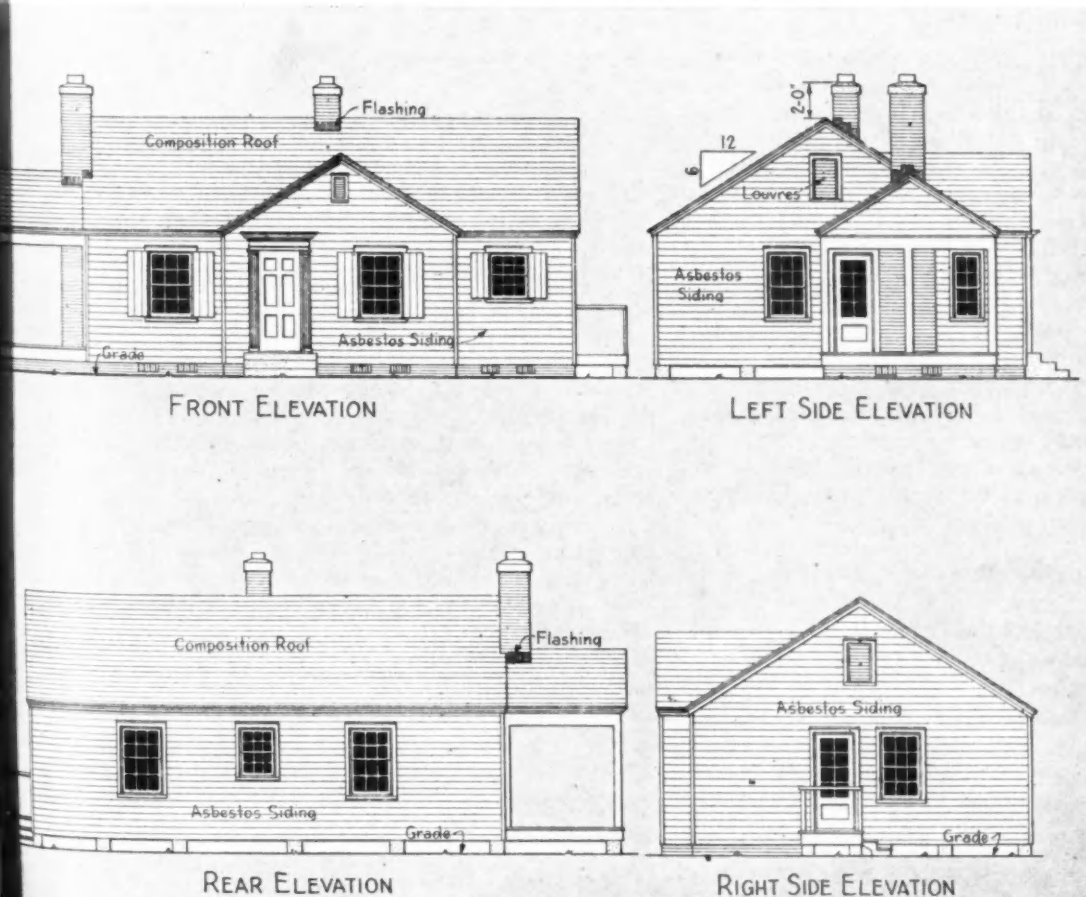
All the houses are of five-room and bath construction with screened-in porches. Five basic floor plans were used with reversals thereof. Variation in exterior lines and roof colors and trim were also utilized to good effect. Most of the houses are of frame construction, some have asbestos siding and a few are of brick veneer. All have asphalt shingle roofs.

The houses in this project are typical of the better type built in Mobile to help alleviate a serious housing shortage, where important ship building activities and

other war plants are centered. The population of the city grew in less than two years from 78,000 to 210,000 with the result that families were living in trailers, in tents and in other unsatisfactory surroundings. Houses in the project are being rented as fast as built at \$50 to \$55 per month, the management preferring to rent rather than sell them. It is felt the development will be a distinct credit to Mobile after the need for war housing has passed.

On account of the extent of the subdivision a 5-acre plot was reserved for a school, also space set aside for stores and other business development. The project is in the path of the natural development of the city away from the Mobile Bay district. All streets are paved.

G. A. Ralston, developer of the project, has erected some 1,500 to 1,600 houses under FHA financing in Nashville, Birmingham, Chattanooga, Columbus, Miss., and Sheffield. Howard A. Griffith, Jr., of Sheffield, Ala., was the architect. Foreman & Foreman, realtors, of Mobile, are the rental managers.



FLOOR plans and elevations of the typical unit pictured above indicate the extra value being built into these rental homes; one of five basic designs used in this project and planned for continued use beyond the present war period.



*This fifth and final article in the current series on precutting methods for quick, accurate and wasteless building presents statistics from various wartime jobs and tells—*

## How Precutting Saves on Framing Costs

**P**REVIOUS articles in this current series on precutting have described in detail the basic steps of this cost-cutting technique. To conclude, the following summarizes the principal advantages and lists specific savings in time, material, skill and cost. These are important in estimating jobs to be precut.

Savings in man-hours on the job amount to as much as 40 per cent of the cost by previous methods. That is, where framing has cost \$25 per M.b.m., it may cost only \$15 with precut framing.

Also important is the fact that precut framing requires less highly skilled labor and permits skilled supervision to be spread wider. This is more than an economic factor; in places where the construction industry is working to capacity it will help determine whether or not a job can go ahead.

### **Savings in Buying Required Lumber**

Another cost factor is in lumber prices. Heretofore, studs have been purchased for cutting on the job into short lengths despite the fact that 2 x 4s—8', for instance, have frequently been at a premium due to the overwhelming demand. With precut framing the number of stud-length pieces is reduced, because nearly half of the total length of walls and partitions is interrupted by openings. All the rest of the framing reaches the

job either as random-length dimension or as bundled precut framing.

Ease and accuracy of estimating, simplified planning, and speedy but excellent framing, qualify precut framing as a distinct aid to the progress and profit of the construction job.

Contractors on national defense projects have made great headway with precut framing in cantonments, tent camps, and housing. Nearly every contractor has adopted one or more phases. Many have developed ingenious and unique applications and time-saving methods based on precutting technique.

On many of these larger jobs, complete precutting was used, and, because of the size and need for all-out speed, astounding records were hung up.

For instance, on a typical cantonment project like the one pictured above, all stock was "gang cut." The saws were spaced along an 800-foot conveyor, and lumber was unloaded from flat cars as near as possible to the point where it was placed on rollers and moved to a saw. Under this procedure of top efficiency each 8-hour period showed the following tremendous amount of lumber cut; ready for nailing:

85,500 board feet of 2 x 6 rafters having two notch cuts in each rafter, eight rafters being cut at a time, and each notch cut requiring only four seconds; 12,000 lengths of studding; 16,600 fire stops; 16,000 pieces of

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**WHAT YOU CAN DO WITH PRECUTTING**

Lay out one piece, then cut thousands accurately to size from that one layout.

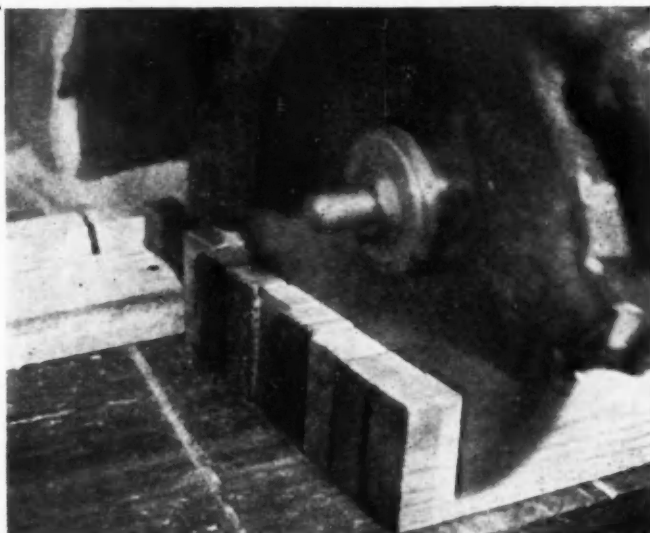
Material handling time reduced to minimum. Feed material direct from car or truck to the saw.

Reduce lumber cutting time to a fraction of the regular time. Gang cutting (shown here) can be used on many members.

Work up short lumber into usable material.

Keep your carpenters busy erecting.

Reduce erection time, lumber fits perfectly.



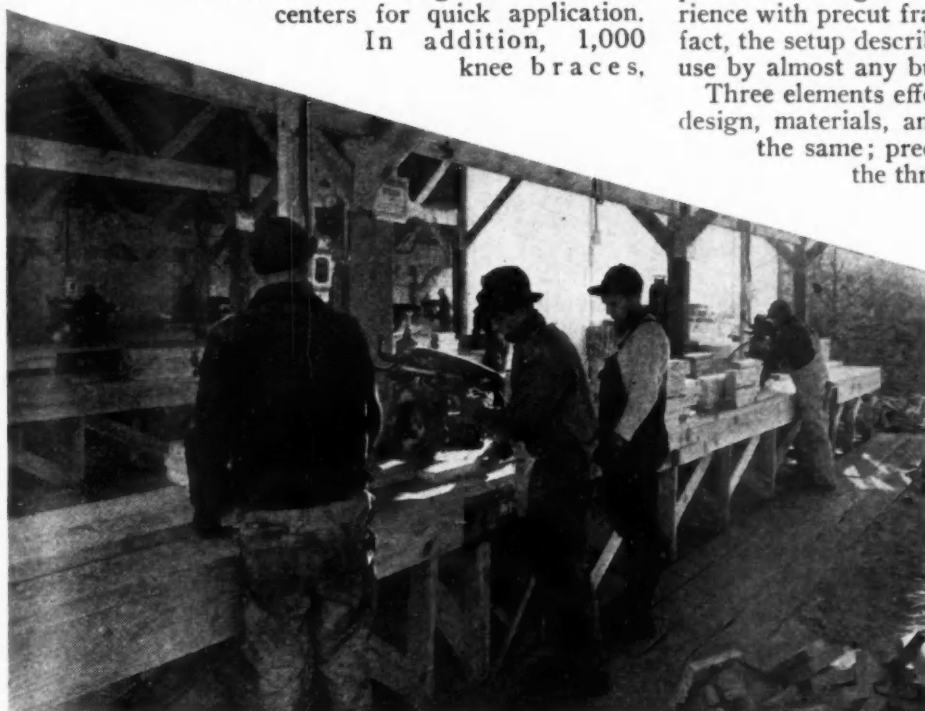
bridging; 6,400 2 x 10 joists, 18 feet long; 64,000 board feet of collar beams; 16,500 headers; and 42,000 board feet of siding, both squared at each end and cut to exact length of two foot centers for quick application.

In addition, 1,000 knee braces,

3,000 1 x 12 x 18 joists, and 7,000 lineal feet of lumber ripped to 1 x 2 stock were cut every hour.

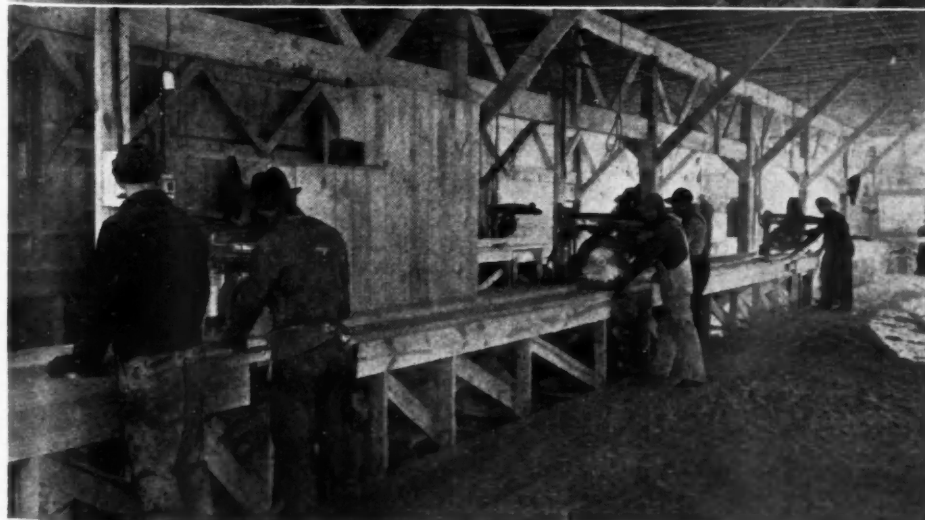
Meanwhile, the vast field of private construction and private housing has been acquiring successful experience with precut framing. Not all jobs are large. In fact, the setup described in these articles is suitable for use by almost any builder or lumber yard.

Three elements effect a successful construction job—design, materials, and the actual construction remain the same; precut framing is adapted to each of the three.



**CUTTING CANOPY RAFTERS AND BRACES**

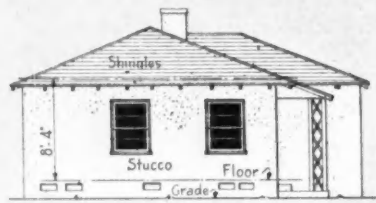
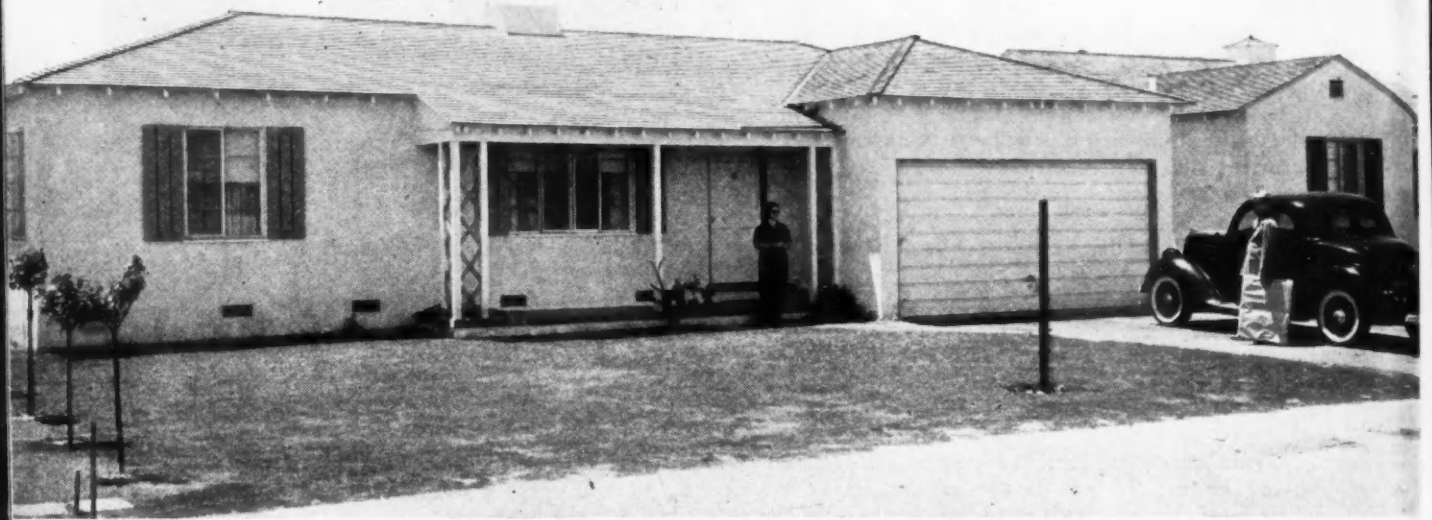
The operation as shown at the left on site of a war building job is done with two saws placed for a production schedule. First operation in the foreground, the rafters or braces are being cut to exact length. The saw further down the table is set to make the angle cut which finishes the pieces.



**CUTTING STAIR CARRIAGES**

Here three saws are arranged along a continuous table for three simple, fast and accurate operations, one on each machine. The first makes parallel cuts for the risers; the second makes the cut for the tread to meet the first cut; the third makes the notch cut for the plate. A false top on the table raises the work and allows the cut to be made with a short arc for most strength.





LEFT SIDE ELEVATION



FLOOR PLAN

ONE STORY homes seem to be steadily increasing in popularity regardless of the geographical location of their sites. About the only restriction to the larger floor area on one level is the size of the building lot. The floor plan shown above is a good example of this type of house as built and sold in the South and Southwest. The double garage and utility room are separated from the house with a fire-safe wall. A rear door in the garage makes it easy to enter the house by either the kitchen or dinette doorway. Kitchen cupboards and sink are efficiently arranged, taking in a corner and two sides of the room. Bedrooms have ample closet space.

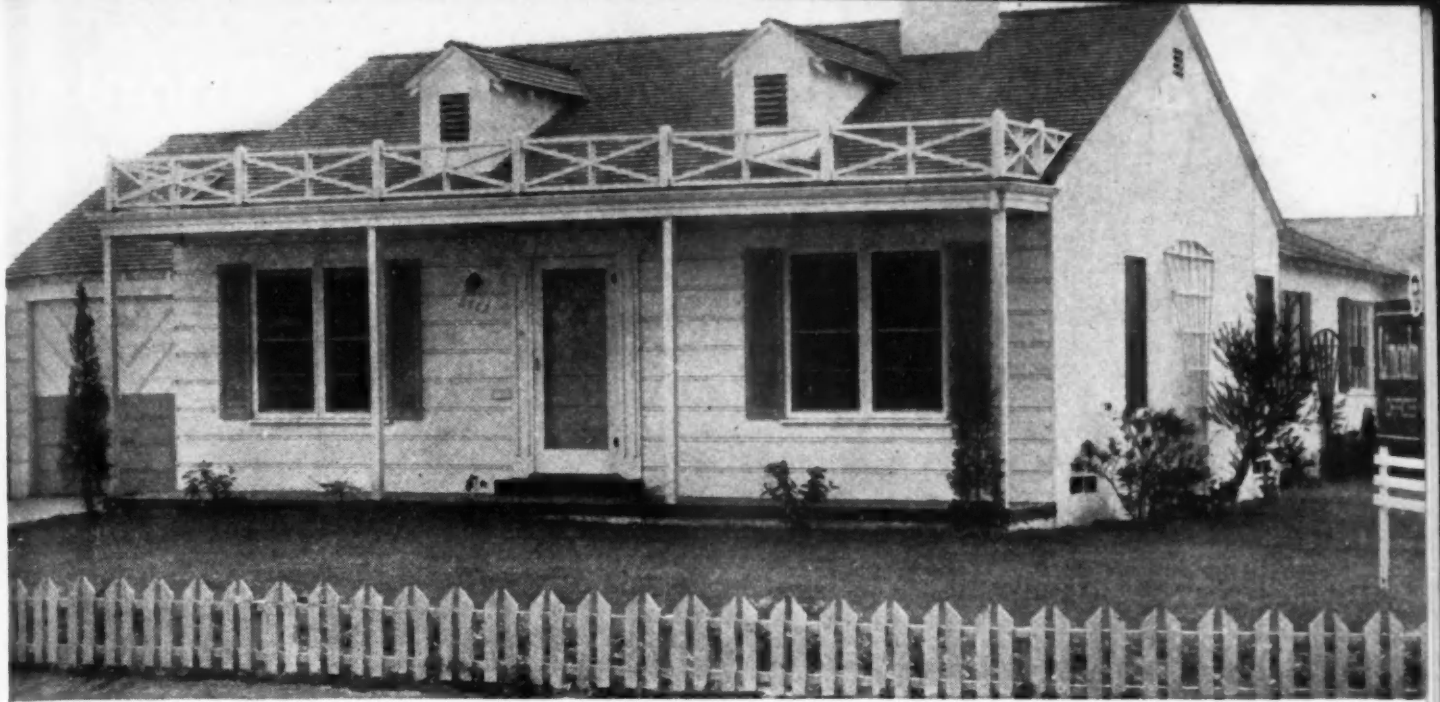
## Rural Industrial Proposed for

NOT only a "home in the country" but an income home in a suitably developed rural area will be the quest by returning service men as well as industrial workers during the reconstruction period after the war. At least this is the thinking of such men as Wm. H. Evans who says that the traffic on our broad highways will do a right-about-face and lead away from cities into areas in the country planned and developed and called by some such name as "Broadacre City."

The two houses and accompanying plans shown are taken from Lincoln Village, a 400-house development recently completed near Long Beach, Calif., by Col. Evans. Before starting his last development, Evans completed 30 years of developing properties, and has traveled widely in foreign countries studying farm planning and housing. He was sent by the President to Sweden to attend the Housing and Farm Planning Conference in 1939.

These two sample houses are representative of what the general demand will be for small, individual homes, both as to floor plan and general architectural appearance. For industrial income or semi-subsistence rural homes, there will be need for some re-planning so as to accommodate for storage. Partial or complete basements will be required in some climates, both for more adequate storage facilities and for greater heating capacity.

According to housing planners of rural industrial income homes, there is little doubt but that labor will be "rationed" at least for the years during the immediate post-war period. About half-time employment is expected, so the other half of a worker's time can be profitably spent in producing food on an acre or so of land surrounding his home. There will be no need for a future "WPA," or living-on-the-taxpayer, if



## Income Homes Post-War Building

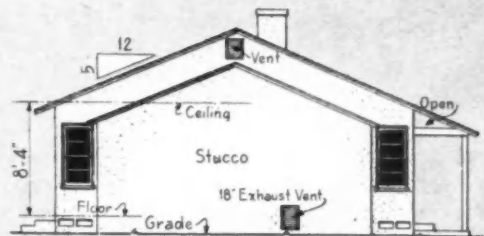
post-war planning is done now for "home economics." The answer to surplus labor is rationing and the industrial income acre. Such homes should be laid out much the same as the war-worker home has been laid out by the FHA land planning department. The homes should be built under Title VI FHA insured loans. The land should be  $\frac{1}{2}$  to 5 acre plots depending upon the land use.

If the worker had his home financed on a long-time FHA insured industrial acre home mortgage, the payments would be about \$30 per month on an average. Food produced on the home place and inter-changes with neighbors, as has been proven by the present victory gardens, would amount to \$50. Half-time employment, based on the \$200 per month full employment, which would seem to be about what war wages will scale down to, would produce \$100. \$30 goes to payment on the home, \$50 in value of food raised on the home acreage, plus the \$70 remaining from his earnings would leave him \$120 to cover balance of food, clothing, and other items of living cost.

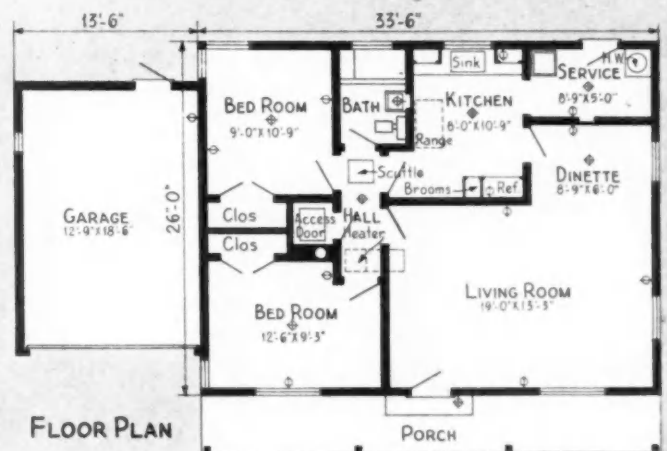
Such a home setup, it is figured, will give the worker a more abundant living than was enjoyed in pre-war years. Tomorrow, then, the trend will be out of the city toward the country. The next major market for the home builder and the land developer will be out on the highway toward "Broadacre City."

So goes the reasoning of experienced builders and developers who are seriously interested in the future stability of America through sound homeownership by the families who produce the wealth, says Evans.

Such rural developments depend as much upon work in a factory as they do upon raising food in the garden or field, so it is essential that good transportation be available to and from work.



RIGHT SIDE ELEVATION



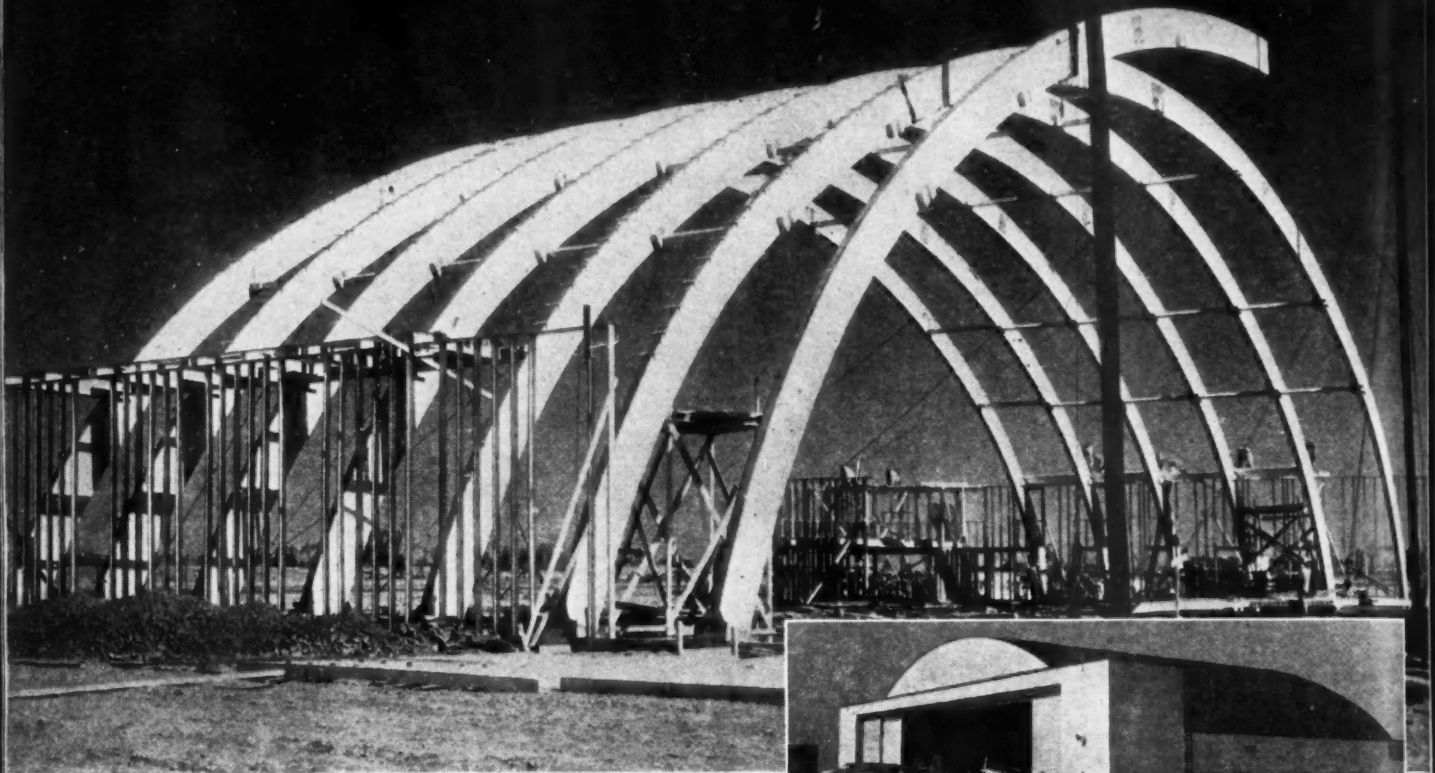
FLOOR PLAN

LINCOLN VILLAGE used one of its popular plans for its office. The full-length porch with an ornamental railing topping it off, plus the dormers which serve as ventilators in the attic, give an attractive appearance to the otherwise normal structure. The size and layout of the floor plan is about what the Economy Housing Corporation, builders of Lincoln Village, Long Beach, California expect will be the answer to small-house, post-war planning. Suitable for most any climate, and economical in arrangement, this small house might well be studied for adaptability to post-war building.

# Wartime Progress in Air Conditioning

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**HEATING PROBLEM NO. 1**—To heat a wooden hangar completed near Fairchild Aircraft Div., assembly plant, steam heat is piped from the main plant to the radiators in the hangar through which large blower units pull and disperse air to convert strong steam heat into tempered heated air; this provides floor level comfort.

**C**ERTAINLY heating manufacturers cannot be included in the proverbial group who are always doing nothing about the weather—that is, inside weather. Even during wartime, progress is being made in meeting the desired conditions for top efficiency in

war plants and military and essential public buildings.

Heating and conditioning systems have been called upon to deliver atmospheric control that would approach the ideal for working and living under such widely varying conditions as high ceilinged structures, hotel rooms, hospitals subject to variations in climate.

Three such cases are shown here, the most unusual

**HEATING PROBLEM NO. 2**

—To provide year 'round comfort for important wartime guests of the new Statler Hotel in Washington, D. C., each room is equipped with an air conditioning unit, as shown at the right. The baffles protect the occupant from drafts as air comes from grille; provision is made for temperature regulation to suit individual guests.



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# to Offer New Comfort

## Promise of Improved Living Conditions Both in Homes and Places of Work Is Foreseen in Advances in Equipment

### Watch for better post-war heating

While manufacture of most standard products in the heating equipment will be resumed at the point of development where the bulk were curtailed by war, some immediate changes will be made and more will follow soon after peace. More panel heating and other forms of radiant systems, wider use of air conditioning, smaller and more efficient units, improved controls, etc., are anticipated.

of which is probably the Hotel Statler in Washington, D.C. This is the first and only conditioning system of its kind delivering nothing but fresh air at a humidity of 50 per cent. The post-war field of application using the same system is extremely broad and is worth study since the use of 100 per cent fresh, conditioned air is possible in thousands of retail shops and stores, even some homes.

There are hundreds of engineering reasons why the new Statler's architecturally designed air-conditioning system draws praise but the experience of a business man who awakened one morning last August in a Statler guest room tells the story of what has been done about weather.

He turned on his room radio and stretched under his woolen blanket. He listened to a radio entertainer broadcast from a Washington hospital bed where he lay ill. The program became particularly heated as it

progressed when the entertainer announced that he had just changed into a fresh suit of pajamas because his were sopping wet with perspiration in a temperature higher than 90°.

"My windows were shut and it was comfortably warm under my blanket," the businessman recalled. "The room temperature was under 70 and when I remembered I had an outside appointment that morning, I telephoned and persuaded a business associate to breakfast with me in my room, instead."

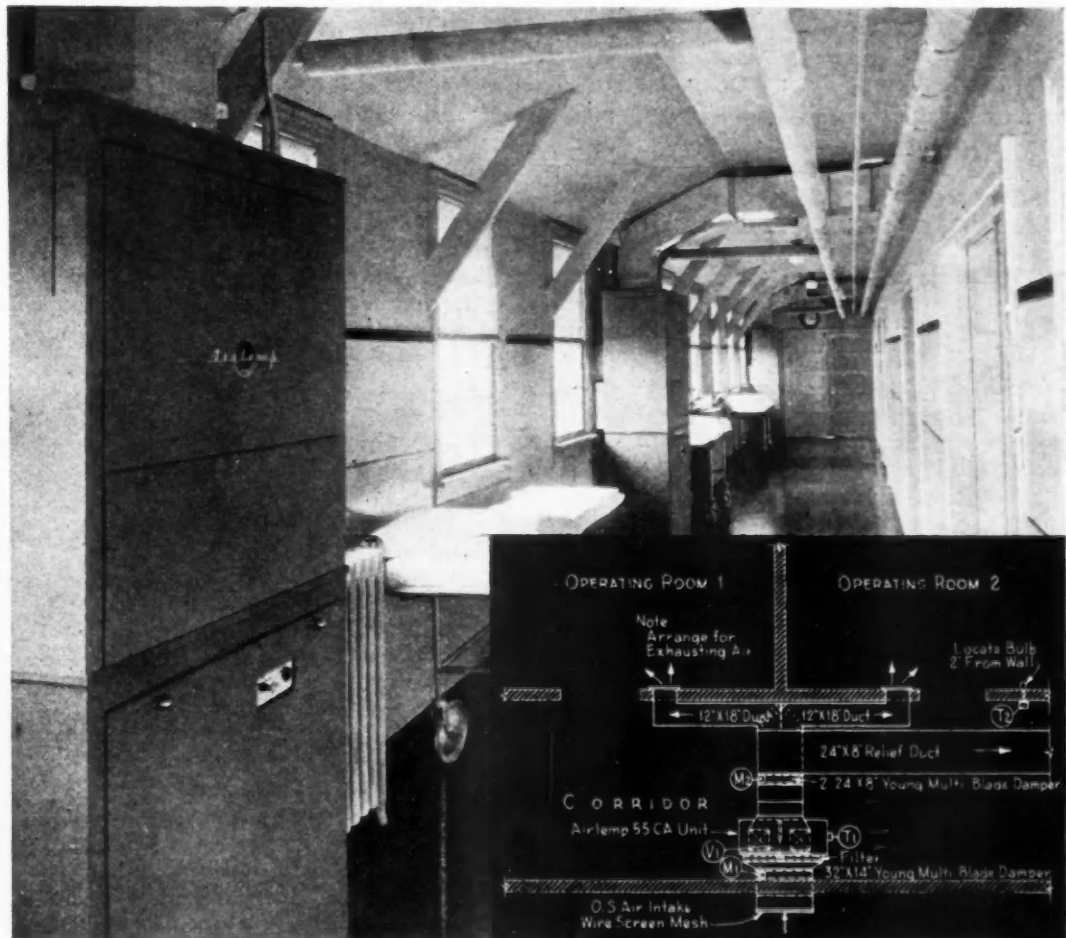
The great variations in temperature which assailed the Statler's air-conditioning system during the spring months after the hotel's opening last year, proved the system could take it. Later, the capitol's summer weather records proved again that the Statler's architecturally designed air-conditioning was the answer to most of the unsolved questions of conditioned air.

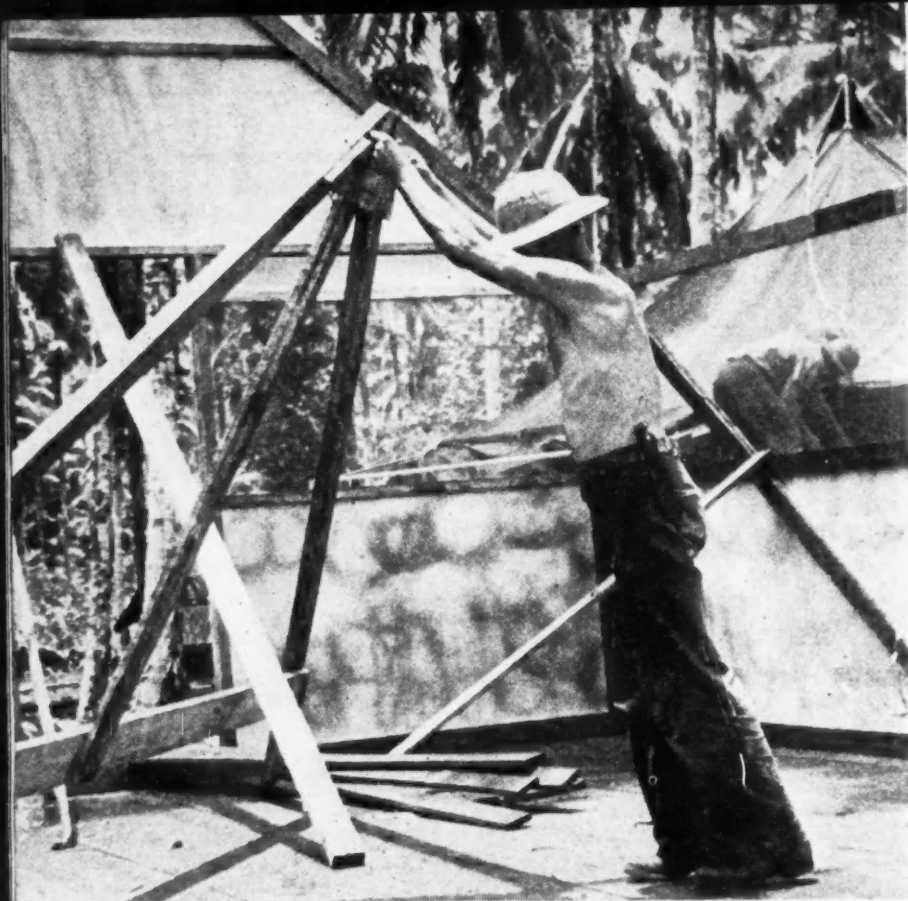
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### HEATING PROBLEM NO. 3

—To provide proper air conditions in operating rooms of army hospital buildings, separate self-contained air conditioning units serve two rooms, as shown at right. The units provide automatic control of room temperature to assure constant conditions regardless of outside variations; these are set at 80° D.B. and 55% relative humidity for all locations.





**HARD-WORKING** Seabees have performed miracles around the world. Here tent rafter is erected by shirtless carpenter, equipped with helmet and dagger.

## Seabees Race Against Time

**Lives at stake as they rush hospital on land carved from Pacific jungle. A first hand account, written in the Solomons by Staff Sergeant Edward Adolphe, Marine Corps**

### **Nation pays tribute to building men in service**

*We salute the nation's building men, wherever they may be on the far-flung battlefields of the world—they are doing a remarkable job.*

*Long before the last Jap has been driven out of shooting range, the Seabees are at work changing bomb-pitted airfields to usable condition. They land close on the heels of the Marines, ready to work or fight—and they have done both with a marvelous spirit and efficiency.*

*In less than two years the Seabees have grown to more than 260,000. Their motto is "Can Do," and they have lived up to it, setting remarkable records building airfields, docks, warehouses, hospitals, barracks, roads—all the vital construction necessary to modern warfare.*

*Yes, building men are doing their part.*

**EDITOR'S NOTE:**—The following story was written in the Solomons by Staff Sergeant Edward Adolphe, of 350 West 57th St., New York City, a Marine Corps Combat Correspondent.

**SOMEWHERE IN THE SOLOMONS**—(Special)—This is the busiest, dizziest hundred acres of battlefield in the Southwest Pacific.

Under the shadows of Japanese planes, fighting building men of several services have laid down their weapons to build a 1,300-bed hospital on land carved out of the jungle. Only a short distance across the water from our island is Bougainville, which we shall attack in a few days. There will be casualties; the hospital must be ready when the attack begins. This is a race against time in which lives are the stakes.

Our hundred acres are inhabited, now that the Japs have been driven out, by Marines, sailors, Seabees and New Zealand troops. They are thoroughly mixed up—eating each other's food, wearing each other's clothes, laughing at each other's jokes. This is where cooperation among the services comes home.

This hospital is really three hospital units manned by a Marine medical battalion. The Seabees are assigned to Marine duty—a hard-working outfit which has changed the Seabees' usual motto of "Can do" to "Have done." The Kiwis are a New Zealand engineers outfit.

In the minds of the Marines, the Seabees are wonderful people. They do the impossible twice as fast as other people think up impossible things for them to do. To wit:

They gave the Seabees 17 days to build the first unit of the hospital. It was receiving patients in three days.

They gave the Seabees three weeks to cut 12 miles of road through virgin jungle. Traffic was rolling over the road in two weeks. Six miles were cut out in one three-day period.

They gave the Seabees 16 days to complete the next two hospital units. They performed their first surgery in a week.

A field hospital unit, such as these, is built about the surgery. But, just in case the Jap bombers get any ideas, each unit also has an underground, bomb-resistant surgery that can be blacked out for emergency operations at night. The rest of each of these

three units consists of:

Twenty hospital wards, with wooden floors and screening; four storage tents; one laboratory; one X-ray laboratory; one dental laboratory; one pharmacy; one dispensary; one galley; one diet kitchen; one mess hall; and abundant sanitary facilities. Each ward has a bomb shelter for twenty patients and their hospital corpsmen—half the patients being stretcher cases for whom special racks are built. The underground surgery is an 8 x 10 foot affair with forced ventilation.





**WITH LIVES at stake.** Seabee carpenters break all records in constructing Marine hospital on jungle island in Southwest Pacific. The job was done practically under noses of Jap airmen soon after the island was captured.

All this the Seabees threw up overnight, after hacking out the jungle. They set up three lumber mills that turned out 12,000 feet of lumber a day—good hard native mahogany that makes fine floors and bridges. And they set up three water-purification plants blasted out of the coral.

The Seabees got help, though. Sailors and Kiwis, some of them alien to the building arts, grabbed saws and hammers and did their share to make a hospital bloom here.

There have been some casualties among the Seabees here, when Jap bombs fell too close. But bombs don't stop this outfit. The first crack of dawn starts their bull-dozers and cranes and electric saws a-humming, and they don't stop until darkness and blackout write an end to the day.

There was a job to do here, for in a few days Marine casualties will be pouring into this island from that Jap stronghold. Naturally, the Seabees "have done."



**THEY WORK and fight**—Seabees on newly captured Pacific island lay hospital foundation floor. Lumber was cut on spot with portable saw mills, brought in by marines.



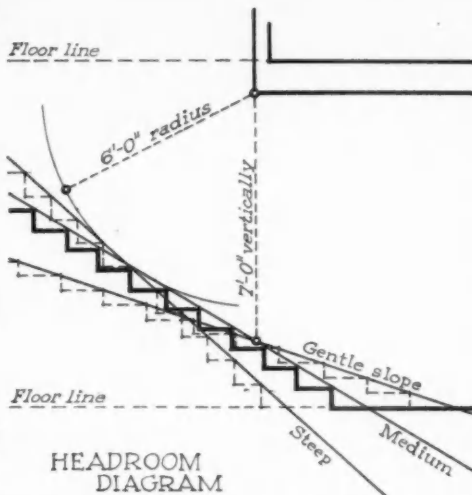
# HANDY NOTEBOOK WORK SHEETS

## American Builder JOB HELPS

Prepared by  
Don Graf

Builders' short cuts, time savers and how-to-do-it ideas shown in convenient 3x5 notebook size for use in office or on the job. A continuing editorial feature appearing monthly. Sheets or notebooks are not for sale or available from any other source than the editorial pages of American Builder.

### HOW TO DETERMINE STAIR HEADROOM

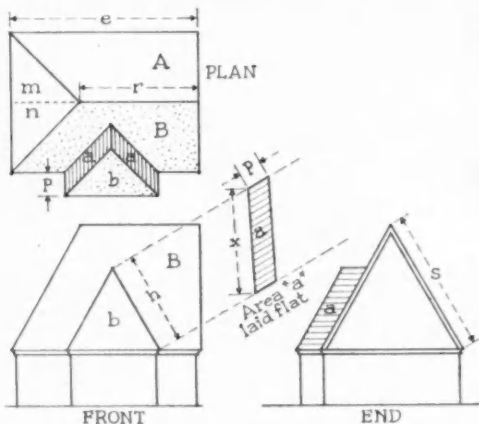


HEADROOM  
DIAGRAM

Many designers determine stair headroom by taking a vertical distance of 7'-0" from the slope of the stairs for clearance, and then wonder why the basement (or attic) stairway seems to have insufficient headroom—making you want to "duck" when you go up or down. The diagram shows a more dependable method, the rule being that the CLEARANCE SHOULD BE NOT LESS THAN 7'-0" VERTICALLY, NOR LESS THAN 6'-0" RADIUS FROM THE CLOSEST POINT.

From the diagram it will be seen that for gentle slopes of stairs, the 7'-0" vertical height will determine the clearance that is desirable. But for steep stairs, the 6'-0" radius is the governing dimension. A stairway having risers of 6 3/4" and treads of 11 1/4" will give both 7'-0" clearance vertically and 6'-0" radius.

### HOW TO FIGURE ROOF AREAS

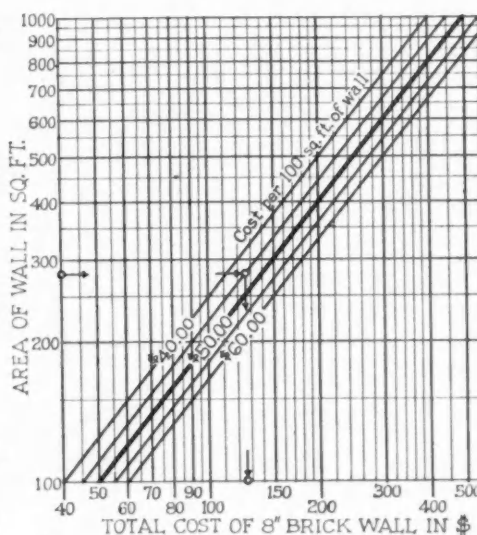


The roof areas forming the sides of a hipped wing or projecting bay can be easily found by observing the conditions revealed in the drawings above. The projection  $p$ , and the perpendicular height  $h$ , can be scaled from the working drawings. The area of  $a$  is equal to  $p$  times  $h$ . Do not use the length  $x$ .

For example, if the projection is 4'-0" and the perpendicular height is 16'-0", the area of each  $a$  will be  $4 \times 16 = 64$  square feet.

It should be obvious that the face of the small hip  $b$  is the same in area as the triangle removed from the main roof  $B$  by the penetration of the small hipped roof. The area of  $B$  plus  $b$  equals  $A$ , and is equal to  $\frac{1}{2}(e \text{ plus } r)$  times  $s$ . These distances can be scaled from the working drawings.

### HOW TO ESTIMATE 8" BRICK WALL COST



**HOW TO USE THE CHART:** Suppose you have 280 sq. ft. of 8" thick common brick wall to build, and your local prices for materials and labor show the base price for 100 square feet to be \$45.00—read across from the 280 point at the left to where this horizontal intersects the diagonal line for \$45; read down from the intersection and find that the total cost is \$126.

An 8" brick wall will require 1233 bricks, 9.85 cubic feet of mortar, 6.5 hours mason labor, 5.1 hours helper labor, an additional 10% of the labor cost for insurance, plus a percentage of profit, for 100 square feet.

## Survey of Building Professionals in Chicago Area Forecasts Trends in the Design and Construction of Post-War Homes

**Facts of national interest on prospective home market confirm down-to-earth outlook held by those who really know building**

**By Brydon O. Myers**

Airtex Corporation, Chicago



**W**AR periods give the dreamer a good chance to talk. His thoughts soar into the stratosphere and he expounds on all the wonderful and radical changes to take place just as soon as hostilities cease. Miracle drugs will cure all diseases, social reforms will free all from want, new materials, foods, transportation, etc., will make life but a breeze. Utopia is here, just wait a minute.

No one should have too serious a quarrel with these people for they are the power behind progress. However, too much stratospheric talk when placed constantly before the general public is sometimes dangerous and unwarranted. This is particularly true when applied to the outlook for post-war residential building. The construction industry is not a glamorous one—the modern house, outside of fixtures and mechanical equipment, is pretty much like the one our great great grandfathers built. But along comes the war and the newspaper and magazine writer must glamourize it. The most amazing part of this beautiful picture is the cost—all of this, says the dreamer, will be available for only a few thousand dollars.

Hearing so much about the house of tomorrow created an active interest and curiosity among the members of our organization which finally resulted in three months of intensive study. To begin with we believe that the people actively engaged in the building business are best qualified to predict the future of construction. As a matter of fact, the *Architect* and *Merchant Builder* probably have more influence on how we house ourselves than all the other factors combined. We, as laymen, place our confidence in them which results in a house which incorporates their ideas, not our own. And so we made a survey, primarily among architects and builders, but we also contacted manufacturers, building and loan societies, dealers, sub-contractors, utility executives, post-war planning organiza-

tions, and others whose opinions should be considered. More than two hundred opinions were gathered by questionnaires, letters, and personal interviews. Here is what we found.

The Chicago architect and builder is optimistic about building activity following the war and estimates that residential construction will increase 62% over 1941 which was the last year of normal conditions. On a national basis this would mean about 1,160,000 dwelling units per year. Of course any estimate of this sort is nothing but a guess but it is interesting to notice that the figure is exceptionally close to the usual estimate. Many people feel that a prediction of over a million dwelling units per year is too high and argue that it is based on need (which we have had for centuries) and not on actual demand. There is considerable merit in this idea but it must be remembered that the architect and builder are most likely to be guided by the interest shown now by their own clientele. Then too, it is entirely possible that building in this area will show a greater increase than other sections since Chicago did not get the full benefit of the building boom in the late pre-war years.

### Few Houses Below Present Costs

Opinions and survey results regarding the probable cost of the postwar house vary considerably but most of them place a great emphasis on the low cost home. One national survey estimates that 50% of all dwellings built after the war will cost under \$5,000. Another organization predicts that 85% of after "V" day homes will cost less than \$6,000, and says in the same breath that building materials will cost 35% more than they did in 1940. Reports of this type are convincing the average citizen that good homes will be available for only a few thousand dollars whereas Chicago builders are finding it difficult to provide satisfactory shelter for anything under the maximum price set by the

government. At the present time the \$6,000 defense house (which appears to be the minimum as well as maximum price) consists of about thirty feet of land, and a two-story building about twenty by twenty-two feet square with five or six small rooms. Apparently this is about the minimum requirement for the great mass of home owners but in spite of this fact the talk about the two and three thousand dollar dwelling continues to gain momentum. When the man on the street is asked just how this revolutionary building miracle is to be performed he says, "I dunno, but it must be true, I read it in a book."

The Chicago architect and builder has no illusions about building costs—it's his business and he knows. The composite opinion is as follows:

2% of post-war homes in this area will cost under \$4,000.

16% will cost between \$4,000 and \$6,000.

49% will cost between \$6,000 and \$10,000.

33% will cost over \$10,000.

These figures are a far cry from the majority of predictions but the reasoning used by building people appears to make sense. In the first place nearly all homes constructed during the past three years have been low cost homes. Since 1941 no houses costing over \$6,000 have been allowed which has caused the average cost of the Chicago suburban dwelling (including apartments and hotels) to decline from \$9,010 in 1936 to \$4,815 in 1942. Therefore the pent up demand will be in the more expensive dwellings unless we assume that everyone will live in the so-called "cracker box."

The contention that the "new rich" laboring class will provide a great demand for low cost homes is quite

(Continued to page 80)

### VOLUME, COSTS EXPECTED IN CHICAGO HOME MARKET

COMPARED with 1941, Chicago builders and architects expect an increase of 62 per cent in home building following the armistice. On a national basis, this would mean 1,160,000 homes per year; this is slightly higher than other predictions because Chicago did not fully participate in pre-war upswing.

ON THE COST of the postwar house in Chicago area, breakdown is expected as follows:

2% will cost under \$4,000

16% between \$4,000 and \$6,000

49% between \$6,000 and \$10,000

33% will cost over \$10,000



# Make Ready for Big Rehabilitation Era

In the city and on the farm, along the commercial street as well as in the residential district, there will be more repair and upkeep jobs this spring and summer than ever before.

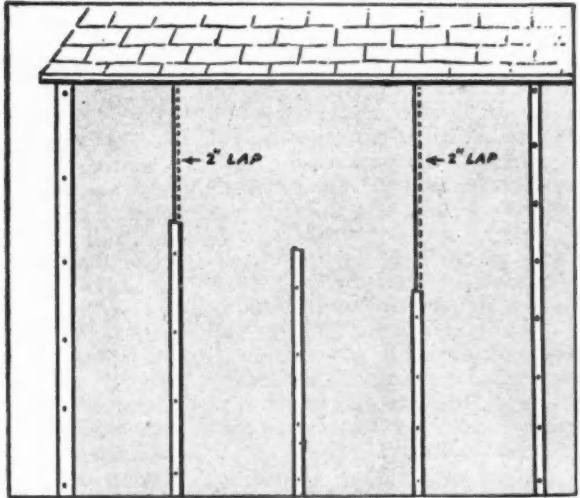
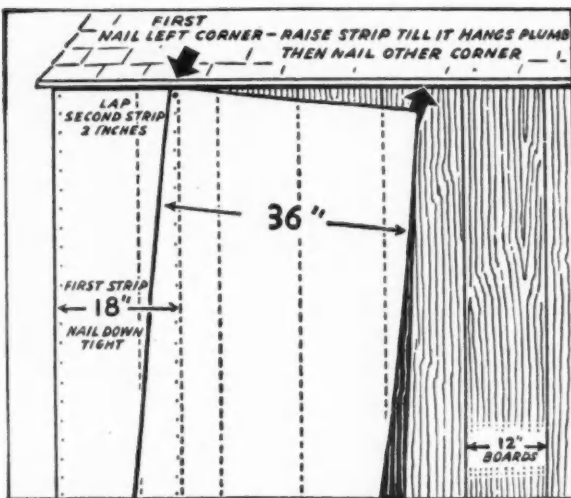
## How to Apply Roll Roofing on Sides of Old Barn Buildings

REHABILITATION of farm buildings will be one of the largest building activities carried on during the spring and summer months. Many a dilapidated building can be put into servicable condition by the application of asphalt roll roofing on side walls. This method of covering exterior surfaces is not recommended for new construction, but it will prove practical for prolonging the life of badly needed farm buildings.

The roll roofing is laid vertically, over either horizontal siding or up-and-down boards. Start at the left of the wall with a strip of roofing cut to length. If it is to be applied over vertical boarding, use a half-strip to start with so that the nailing will come in the center of the

board. Nail the upper left corner loosely, and lift the right edge until the roofing hangs plumb. Secure the corner nails and then nail down the sides alternately, first a nail in one side and then in the other. Space the nails about 4" apart.

Spread asphalt cement under laps, making them 2" wide. The alternate nailing keeps the roofing smooth. Proceed all the way across the side, then apply battens over the joints. A coating of cement under the battens will be an extra precaution and help insure tight joints. Battens are also put vertically between the joints to further guarantee that the roofing will lay flat and tight to the old wall. Nail corner boards on the last thing.



## How to Remove Oil and Grease from Concrete

STAINS caused by oil and grease can be removed from concrete if they haven't been there long enough to soak down into the slab. Cover the spot with dry portland cement or dry hydrated lime and leave it there until it has absorbed the oil. When the cement or lime shows discoloration, remove it and repeat the process if necessary. If the stains are old, and located outdoors, on a garage or driveway surface, soak the cement or lime with gasoline and cover with canvas to prevent evaporation.

## How to Prevent Copper Screens from Staining

WATER dripping from copper or bronze screens often stains light colored paint work on a house. Screens should first be cleaned then washed with benzine. Next the screens are given a coating of spar varnish. The varnish should be diluted with equal parts of linseed oil and turpentine. Thin varnish meant for linoleum, or shellac may also be used. A brush can be used to apply the coating, although a piece of carpet tacked on a block of wood will transfer the varnish from it to the screen.

How Top UNLES plant fa efficien plants i leak-pro four vu Spalling moistu waterpr time, fu concrete

Truscon ABOVE. vent fur is done

LEFT: M proper replacin against most of able re

How IN fix this me cheapes

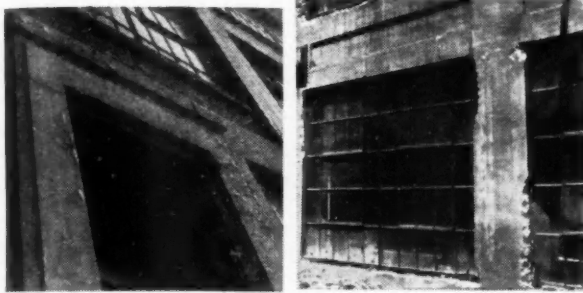
Asbestos Siding or Shingles

HOW



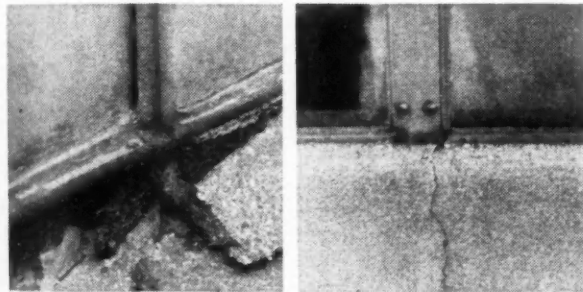
### How to Keep War Plants in Top Condition

UNLESS given the required regular protection, our war plant facilities will soon deteriorate to the point of reduced efficiency. That means that the top job is keeping these plants in first class order, with tight roofs, sound walls, leak-proof windows and good floors. Below are illustrated four vulnerable points where deterioration can creep in. Spalling of concrete exterior surfaces can be prevented if moisture is kept out, which calls for filling of cracks and waterproofing surfaces. Where this work is not done in time, further damage will occur to reinforcing members of concrete structures. At this point, chipping, patching and



Truscon Laboratories Photos

ABOVE, left, concrete needs waterproofing treatment to prevent further spalling; right, otherwise more serious damage is done requiring chipping out, protecting steel and patching.

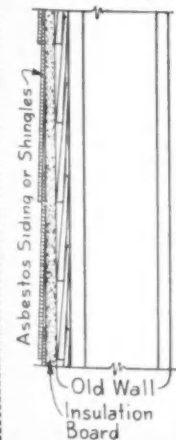


LEFT: Badly rusted condition of steel sash is result of improper maintenance; right, a small crack, the start of trouble.

replacing are called for. Steel sash must be protected against rust, and kept properly caulked for tightness. For most of this repair and maintenance work, there are available ready-mixed commercial products.

### How to Insulate Old Buildings

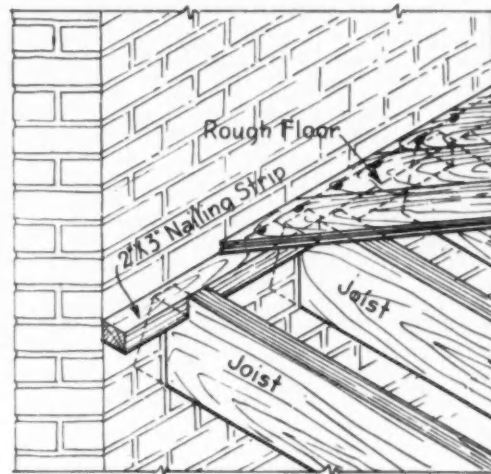
IN fixing up a commercial building in Glasgow, Mont., this method was used to give what was believed to be the cheapest and quickest way to recover and insulate. Both were sorely needed, so instead of removing the old wood siding, insulation board was laid right over this. Longer nails than ordinary were used, so as to reach the studding.



The insulation board made a good surface over which to apply asbestos siding, again using longer nails than usual. This built up an extra thickness wall, as shown in the sketch, and a most satisfactory job was the result. The siding and insulation board can be lapped over the window casings and finished off with a sufficiently heavy moulding. This reduces the width of the casing left showing, but gives a modern appearance. —S. P. Lathrop.

### How to Provide Nailing for Diagonal Flooring in Solid Masonry Buildings

A USEFUL idea for either reconstruction or rebuilding floors in fire-gutted masonry buildings is to be found in this method of providing a nailing strip for diagonal flooring between joists. By notching out to receive a 2 x 3 nailing strip, as shown in the sketch, this member saves cutting blocking to be nailed between joists; this 2 x 3 strip also provides a guide for leveling the joists.—John C. Conover.



NAILING strip takes diagonal flooring between joists.

### How to Apply Asbestos Siding from Top Down

ON some jobs, it is found helpful to apply asbestos shingles from the top down, as shown on the sketch. To do this, place scaffolding within reach of the highest point and start laying with tops to chalk lines. This method will keep shingles clean, allow ease in putting up scaffolding,



METHOD of putting on asbestos shingles starting at top.

and keep out rain from what would otherwise be openwork at the end of the day. When joining the next day's work, use two extra facing nails at bottom of joints.—A. B. Yoder.

## How to Provide Septic Tank Disposal Systems for Remote Suburban Homes and Farmhouses

A GREAT INCREASE in home building out in the country is expected for the post-war period, or just as soon as the war restrictions on building, motoring and "helicoptering" can be relaxed. Thousands of new homes will go up in the distant suburbs and along the highways. They will be outside the limits of municipal sewer systems; yet they will have to be "modern" from the water-supply, bathroom and sanitation standpoint. An electric pump pressure water system and a properly laid-out and constructed septic tank sewage disposal plant are the answer; and every builder concerned with such rural projects will want to keep his information up to date on these matters.

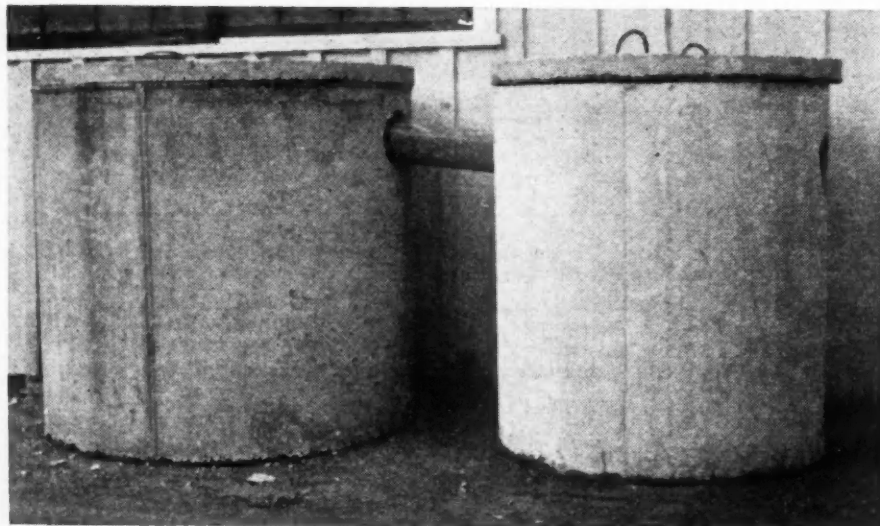
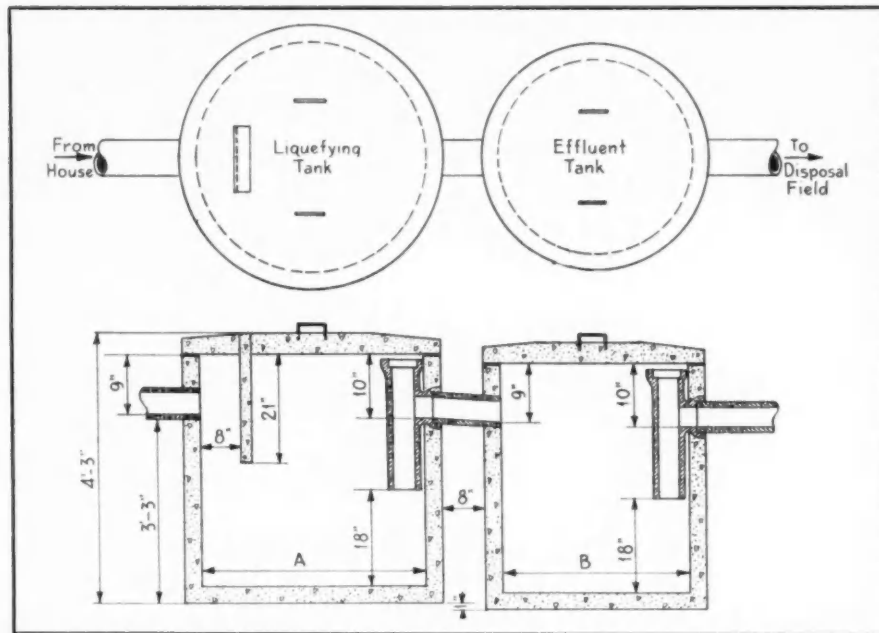
In regard to sanitary sewage disposal, where running water is available, the septic tank system operating by bacterial action is now in wide use, being in every way preferable to the cesspool or chemical toilet.

The septic tank of concrete, either in the form of monolithic poured units or laid

up at the site of concrete masonry, has been developed by the Portland Cement Association and widely introduced and sponsored locally by the prominent concrete products plants. Illustrated here are units produced at the Seattle plant of the Graystone Concrete Products Co. and installed according to the recommendations of the engineers of that organization.

The photograph (with accompanying plan view and section) shows the Graystone 500 gallon twin tank of poured monolithic construction which was generally favored by builders in the Seattle area before the war-shortages made it difficult to produce and deliver, the trade then switching over to the laid-up masonry type, either round or oblong.

This 500 gallon tank consists of two units, a 49" liquefying tank and a 42" effluent tank providing ample capacity for a family of 8 to 12 persons. This tank has been designed to meet the requirements of the City of Seattle, Department of Health.



**SIZE OF RURAL HOME MARKET**  
*(Figures from 1940 U.S. Census)*

- Total Rural farm homes—7,642,281**
- Total Rural non-farm homes—8,066,837**
- Farm homes with running water—1,340,025 (17.8%)**
- Farm homes with flush toilet—855,838 (11.4%)**
- Rural non-farm homes with running water—4,457,113 (55.9%)**
- Rural non-farm homes with flush toilet—3,576,225 (45%)**

*EXPECTED new construction of rural homes, both farm and non-farm, in the first decade of the post-war era—500,000 annually.*

An excavation of 5½ feet by 10 feet is required for it. The weight is 5,700 pounds.

Where it is possible for a truck to be driven right up to the excavation, the company recommends that their estimate of delivery "set in the hole" should be obtained. A reasonable charge is made for this service, which includes lowering the tank in the hole and cementing the covers in place.

Smaller unit tanks also are offered, a 300-gallon size approved by FHA for a family house of 6 to 8 persons, and a 200-gallon size for the really small home to serve up to 5 persons. These units weigh 3100 and 2600 pounds respectively, and are complete as a single tank, not two as used in the larger system illustrated.

**LEFT: Plan and section of ETHAONIHED round septic tank show fixed dimensions and relationship of liquefying and effluent tanks. Capacity determines A and B.**

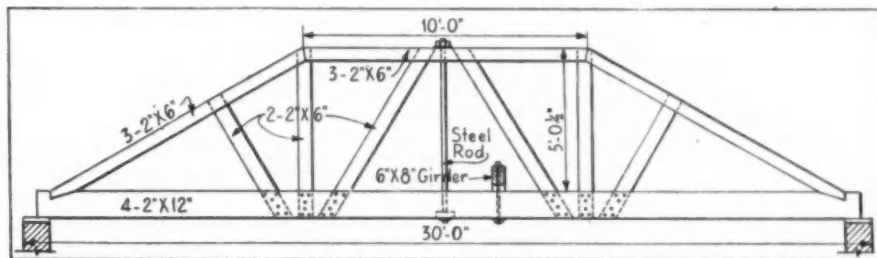
**DOUBLE UNIT concrete septic tank of 500 gallon capacity as produced by Graystone and approved by Board of Health for large homes outside the sewer limits.**



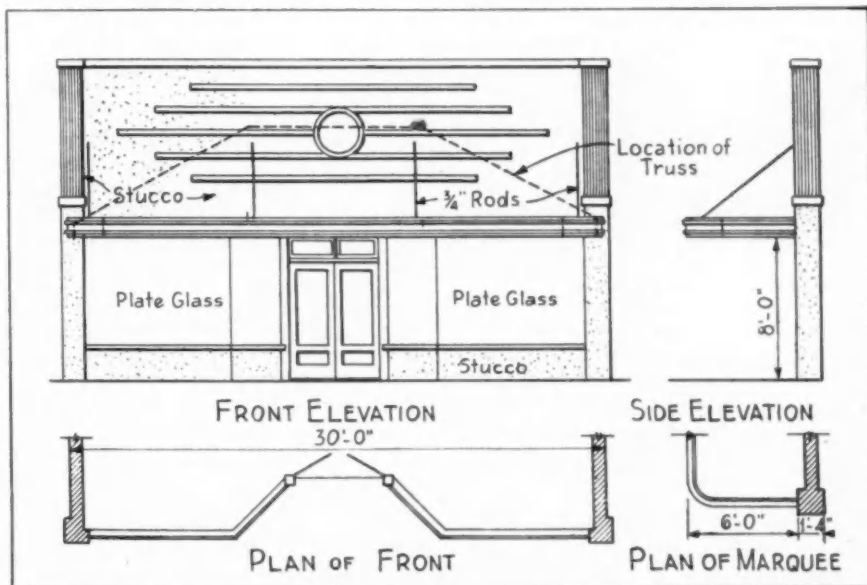
WORKMEN installing store front on extension to useless old shop in a Seattle suburb.

### How to Build on a Store Front with a Five-Foot Wood Truss Designed to Carry Thirty-Foot Span

REMODELING an old work shop into an attractive retail store with a 30-foot glass front posed a simple war problem to G. W. Teeter, Seattle contractor, and his carpentry foreman, Chas. Shaffer. They built out the old structure 16 feet to the sidewalk line and fabricated a queen-rod truss out of 2-inch dimension, as shown in the sketch, supporting its ends on a build-up of five 2 by 8's spiked together to form the end posts. The lower chord of the truss is made of four 2 by 12's, the upper chord and the rafters of three 2 x 6's, and the braces of two 2 x 6's. All were assembled on the ground with bolted and spiked connections and raised into position as a truss to span the storefront opening. Photo shows workman B. E. Higbee bolting on steel angle, 6" x 4" x 3/8", to support future brick veneer face. The builder's sketch calls for a neat design in somewhat modern style. The marquee projects 6 feet and is supported by 3/4 inch rods at a 45 degree angle tied back into the structural frame.



ABOVE: Thirty-foot wood truss to support store front was built up at the site following the detail drawing here. Below: Elevations and plans of front as originally designed for stucco, but later changed to brick veneer; dotted line shows location of truss.







# War Housing Items

## from the CAPITAL

By Frank W. Cortright

Executive Vice-President, National Association  
of Home Builders of the United States



**Real Straight Talking**—Rapid completion of war housing is of primary importance. Joseph E. Merriam, First Vice President, NAHB, has pointed out to government officials the ways and means of completing housing now underway or ready to start. In many parts of the country, Mr. Merriam stated, builders are in an untenable position. Lending institutions are withdrawing through lack of confidence in the administration's ability to supply builders with materials and equipment. Manpower problems are becoming increasingly severe. Failure of government to provide lumber is causing some builders to accept heavy financial losses now rather than proceed with their projects. Problems of the last two years seem insignificant as compared with those now facing private construction. Unless our Emergency Committee can secure adequate commitments from government, a part of the balance of war housing will not be built.

**Careful Planning Required**—Discussion with government officials must be made early this year to permit the gradual resumption of civilian construction. Claimant agencies are presently receiving almost the full allotments requested, and surpluses are developing in some metals. Arthur Whiteside's Office of Civilian Requirements will receive an increasing allocation each quarter. With lumber and manpower the only remaining problems, careful planning this year will permit the production of many things of non-war character. Housing will undoubtedly be included.

The Postwar Committee of NAHB, in consultation with the FHA Legislation Committee and the Public Housing Committees, accepts the ten million postwar homes assignment as its objective. Recognizing that this can only be accomplished by sound preliminary work this year, these committees will meet for the first time with other industry groups. Only through such concerted action can maximum construction, to take up the postwar employment need, be produced.

**OPA Relaxes Again**—Although having been criticized off and on in the past, we can now report one instance of fine cooperation from OPA. Amendment No. 1 to MPR 215 will permit West Coast lumber yards to re-manufacture timbers to size. The charge permitted, amounting probably to \$6 or \$7 per 1,000, will not substantially

increase the end price of the boards and dimension above the present cost of purchasing from the mill. This relief on Douglas fir and West Coast hemlock will be appreciated by West Coast builders, and should be extended to other areas. We are also glad to report that several other beneficial directives are under consideration. In short, 1944 should certainly bring a better supply of materials and manpower to home builders; permission to build; and the enactment of conservative legislation for postwar.

**Unwinding Procedures**—and gradual relaxations are being seriously studied here in Washington. Predictions of an early collapse of the European front, although discounted in congressional and administration circles, still are influencing the thinking. A definite change is apparent as the result of unexpected successes on the Russian front, diplomatic victories, the immense destruction wrought by Allied Air Forces and the steady progress against the Japs. The need for adequate conversion plans is now accepted, as both government and industry would be caught short if Fortress Europe fell this spring. Therefore, oratory and chart-making begin to give place to specific proposals, directives, and legislation.

**Return Engagement**—As proposed by many public housing enthusiasts, non-segregation of racial groups is a subject that should be carefully considered. Our former report of Mrs. Roosevelt's remarks before the Washington Housing Association has brought requests for the full statement.

"I feel very strongly that one of the things that we have done in the past which has been very detrimental to integrating people as a whole has been segregating groups or allowing them to segregate. I think even where we allowed them at the start, because their language was similar, to settle together, it was a mistake. I think we should remove every possible barrier which drives people to living together in special groups.

"I would like to take as an example one of our big minority groups in my own city of New York. I think if we could do away with the part of the city which is known as Harlem and the part of the city in which a number of Puerto Ricans live, we would do the city a great deal of good, particularly because people integrate faster into the community around

them if they don't live in little villages or cities of their own. This is a nation of many nationalities, and the more quickly we assimilate the people into the group of Americans who think of this country as their country and all its citizens as free Americans, regardless of background or language or religion or color, the better it is for the country as a whole. So I would be opposed in any new planning to seeing any segregation on any grounds whatsoever." (applause).

**Let's Be Sure**—Anticipating the public housing problem in the postwar period it must be realized that it affects more than 600 communities. FPHA completed a thousand projects in 1943 with taxpayers' money to bring the total to more than 2,500 separate projects. In addition to this, there are many publicly financed community facilities including stores, schools, hospitals, day-care nurseries, restaurants, theaters and other recreational facilities. Those of us interested in a sound postwar economy must see to it that the amendment to the Lanham Act requiring the removal of all "temporary" housing, is carried out. Unless forceful and concerted action is taken, this housing may blight many communities for years to come.

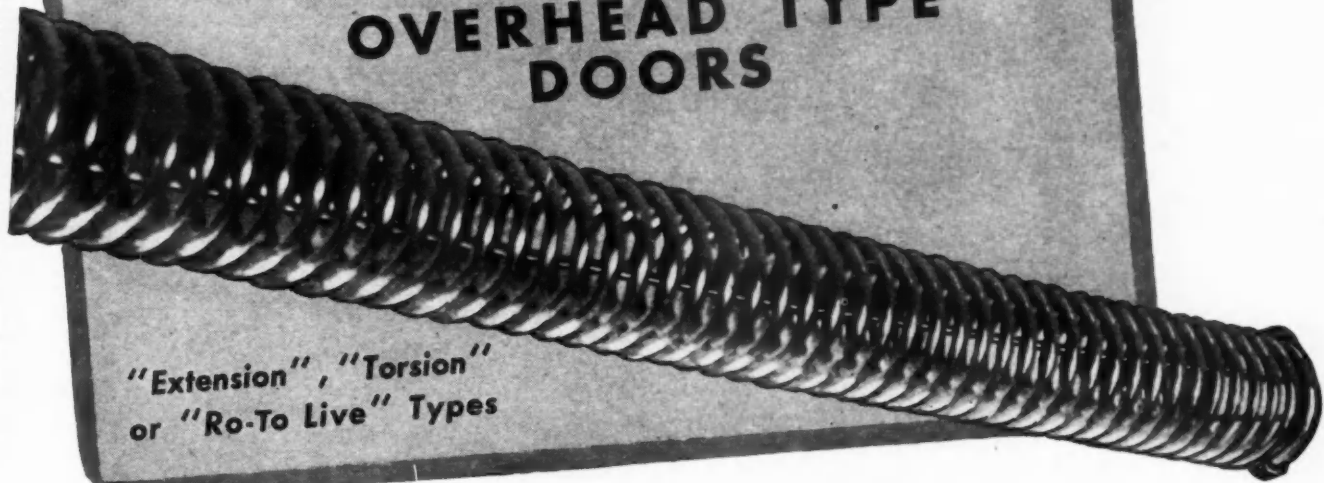
**Discussing Non-War Housing**—Preliminary discussions by NHA and WPB regarding the drafting of a program are evidence of the improved outlook for critical materials. In determining such a plan, many questions must be answered including where, when, why and what. Manpower will undoubtedly be the common denominator. Unless the production of lumber is increased, or the present demand greatly reduced, it will be a primary factor. Finally, it must be ascertained that no bottlenecks will be created in all the items of equipment necessary to complete housing.

It is understood that WPB Chairman, Donald Nelson, has indicated his willingness to award control of programming to NHA, at least in the initial stages. Although the building industry, like every other industry, is anxious to be freed of government controls, a choice of two procedures now seems necessary. Either we are given an early start of non-war construction in such places and under such conditions as government determines will not interfere with war production, or construction must wait until it is apparent that war production cannot be injured by building anything, anywhere. The administration is agreed that during the marginal period, when the demobilization procedure is gradually developing, some form of supervision and control is essential.

**Title VI Needs Revamping**—Following in the wake of any relaxation of the building ban will be a demand for revamping FHA's Title VI. Under the present language, the mortgage limit that may be insured is \$5,400.

(Continued to page 84)

*Make Sure of Tailor Made*  
**"SPRING POWER"**  
 on Your  
**OVERHEAD TYPE  
 DOORS**



"Extension", "Torsion"  
 or "Ro-To Live" Types

That's the **ONLY** Kind used on

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**OVERHEAD TYPE DOORS**

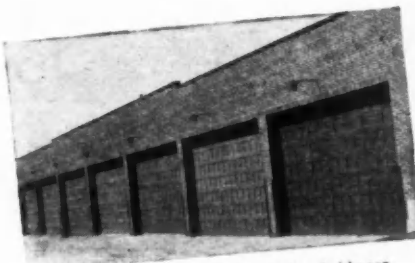
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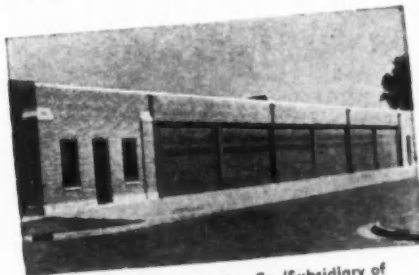
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### that takes place in the Heart of a Forest

By the **JOHNS-MANVILLE**  
ROVING REPORTER

ONCE upon a time—and not so very long ago—there was in the State of Virginia a large tract of pine forest that was considered of little value as a building material. It's a different story today.

Only a few weeks ago I went to Jarratt, Virginia. There, in the heart of the forest where once had been a tiny Virginia village, I saw the impressive outlines of a modern industrial factory. The place hummed with activity. Men and women streamed in and out the doors. Day and night they work at specially designed machines changing the pine trees into a remarkable

**How Johns-Manville Engineers Took Virginia's Native Pine Trees—Once Considered of Limited Value as a Building Material—And Developed A Wonderfully Versatile Insulating Board.**

building material . . . Johns-Manville Insulating Board.

This factory is the type of factory that is building a new South. Here agriculture and industry meet, for the trees are harvested much in the same manner as other farm products. The farmers are taught how to harvest only those trees which will not destroy their wood lot.

(ADVERTISEMENT)



Because the trees mature rapidly—in about eighteen years—these farmers are assured a continuous source of income and never damage their land.

I wish you could see that factory. I wish you could watch the "manufacturing miracle" that is accomplished there every day by the people living in the surrounding countryside.

With a Johns-Manville engineer as my guide, we went inside. In size, the factory is enormous; we stood at one end and watched thousands of pine logs being fed into huge machines which grind them into a pulpy mass of tough wood fibers, retaining all the strength of the stalwart pine. Then follows an ingenious arrangement of drums, rollers, conveyors and dryers where the fibers are felted, interlaced, pressed and rolled into flat homogeneous sheets.

We walked to the other end of the plant and there I saw these sheets of Insulating Board—12 feet wide—come rolling out on a conveyor in a steady stream. They are cut into convenient sizes for handling. In a few days or a few weeks some Johns-Manville dealer will deliver these sheets of J-M Insulating Board to a carpenter.

Perhaps they will find their way into army barracks, a dairy barn or poultry house, or they may be used to convert a waste attic into a modern, livable apartment in a crowded war center. Used outside—this J-M Insulating Board provides a structural sheathing material with a remarkable degree of insulating efficiency. Used inside—in pre-cut, pre-finished, convenient sizes and shapes, it provides beautiful walls and ceilings at lower cost than ever before.

### Enterprise at Work

I asked if they thought it possible to develop other useful products from these Virginia pine trees. They showed me samples of a few that had recently come from the Research Laboratory. "We can't let you talk about them yet," they cautioned. But they showed me several of the things they have coming along for the post-war period. And then, as they explained how these new products—some nearly ready for the market, others still in the test-tube stage of development—would make home building better and less costly in the future, I realized that here indeed was a striking example of the enterprise and ingenuity of American businessmen.

That's what I saw at Jarratt in Virginia . . . a demon-



**JOHNS-MANVILLE Insulating Board** is a homogeneous board made in a variety of sizes and thicknesses. It has a remarkable degree of insulating efficiency. It provides one of the most versatile and practical interior finishes for walls and ceilings of both new and existing homes and other buildings. It is also widely used as a sheathing material. Johns-Manville Insulating Board builds, decorates, insulates. It is a structural building material that improves on Mother Nature herself.

stration of the wonders men of vision can work. This project was conceived by J-M research engineers. It required courage and capital to prove that their ideas were sound. Millions were invested before a dollar was returned.

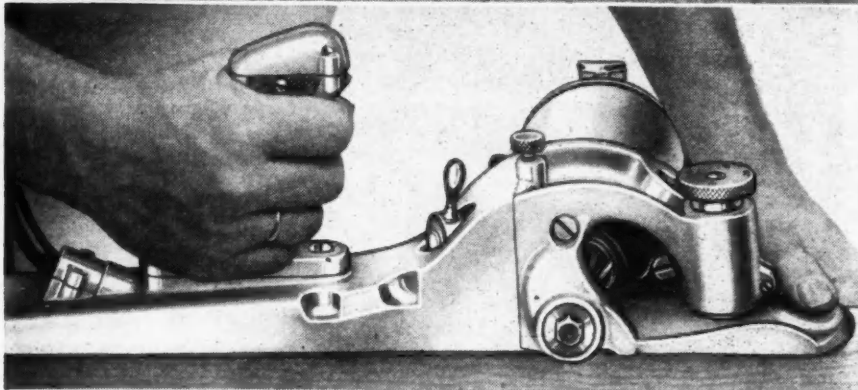
Today this enterprise is successful. The agricultural regions of Virginia have gained a thriving new industry. New jobs have been created and another product of countless uses has joined the ranks of America's many manufacturing marvels, bringing new opportunities for sales and profits to Johns-Manville Building Material Dealers everywhere.



This modern Johns-Manville factory is built right in the heart of the forest. Main building is a quarter of a mile long

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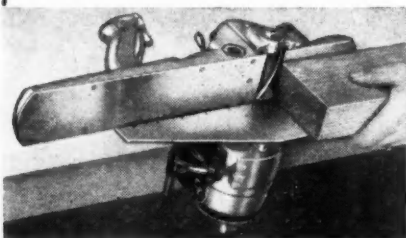
Fit Doors and Sash  
in  $\frac{1}{5}$  "Muscle" Time  
with a  
CARTER J-5 POWER PLANE



**THREE TO FIVE TIMES FASTER** than with hand tools . . . that's the record of the J-5 on door, sash, and screen fitting, and similar jobs! Man-hour savings like this are doubly important today with skilled help so hard to find.

With a J-5, you can base your bids on "motor" instead of "muscle" time. The motor is especially designed for planing application and is part of the J-5 plane. It will pay for itself on the first big job. Other size Carter planes available. R. L. CARTER DIV., The Stanley Works, New Britain, Conn.

J-5 specifications — 1 H.P. motor • Weighs only 16 lbs. • Planes surfaces up to 2½ in. wide, any depth to ¾ in. • Spiral cutter turns up 18,000 R.P.M., leaves smooth, true surface • Makes straight or bevel cuts to 45°.



**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 planing jobs.

**CARTER** TIME SAVING **TOOLS**

**Survey on Post-War Homes**

(Continued from page 71)

possibly an over-rated argument. Perhaps the deduction would be correct in England where the family house or "cottage" comes first, but here in the U. S. the house is more likely to come last. The old story about more automobiles than bath tubs is certainly not due to lack of income alone—it is an example of what the American public desires most. Increased incomes plus lack of materials to buy has bettered the wage earner's cash position but this same wage earner no doubt needs many consumer articles such as automobiles, refrigerators, radios, etc.

Interviews with members of local planning commissions indicated that they do not contemplate the encouragement of cheaply constructed houses even in the rehabilitation of our slum areas.

The prospect for the erection of factory built homes in this area is a popular subject among people interested in home construction. 89% of all answering the survey said that prefabricated houses will not become an important factor in building activity after the war. Here again their reasons are interesting. 85% said that present building codes and labor union regulations would prohibit the erection of factory built homes. 71% said that mass production leads to standardization which results in a house not individual enough for the great majority of home builders. 31% believe there is no economy effected by complete prefabrication and argued that large scale defense housing is proving that site fabrication is not only better but cheaper.

Even though little merit is seen in the prefabricated house, they express a very favorable attitude toward the addition of more prefabricated parts to the conventional residence. 59% of all people contacted said that the trend toward more factory built parts would be accelerated after the war. Complete windows, kitchen and bath room units, floor sections, and wall sections will probably be added to the "prefab" list of parts.

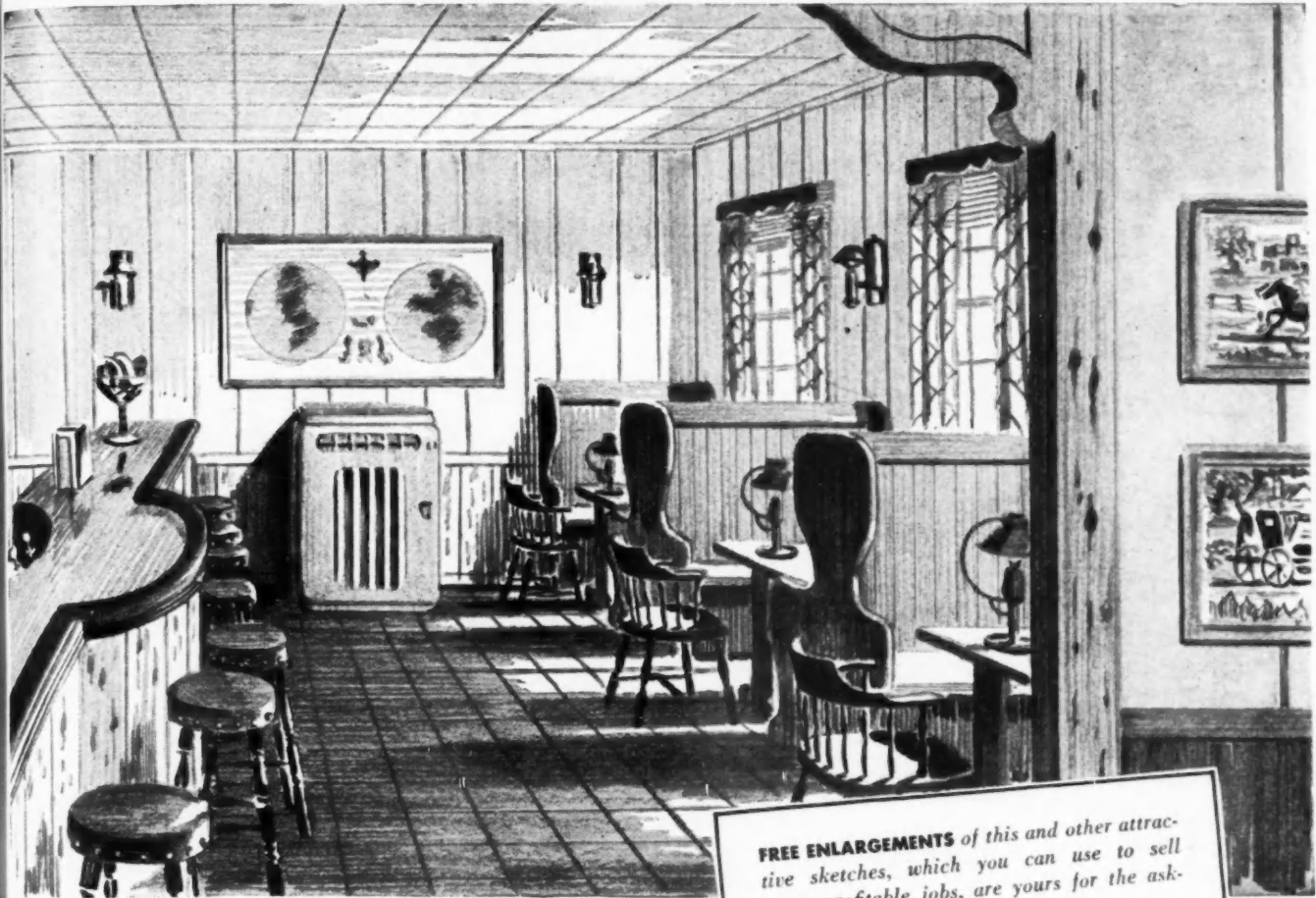
The trend toward completely automatic and clean heating systems will continue at a greatly accelerated pace. These architects and builders predict:

53% of post war homes will be heated with gas.  
23% will be heated with oil.  
12% will be heated by stoker.  
12% will be heated by a hand fired coal furnace.

80% answering the questionnaire expressed a preference for forced circulating air principally because of the substantial saving in installation cost.

Finally, sound proofing in addition to better insulation in the post war house will be rather popular, especially in the larger, more expensive homes. 46% of the survey answers said that at least one room should have acoustical treatment. The areas generally mentioned included the kitchen, nursery, recreation room, and library.





**FREE ENLARGEMENTS** of this and other attractive sketches, which you can use to sell many profitable jobs, are yours for the asking. Write for a set today.

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**R**EMEMBER that shabby restaurant you saw a few days ago? Didn't you wonder how you could fix it up within today's limitations . . . with available labor . . . and at reasonable cost?

Don't pass it up! Figure the job with Armstrong's Temlok De Luxe and you'll find the way around all these hurdles. You'll need just one mechanic who's experienced in the use of ordinary carpenter's tools. Even if it's a matter of redecoration rather than repair, the saving in labor cost alone will permit a maximum square footage of wall and ceiling treatment under cost limitations.

Show your prospect the sketch above, or an enlargement which we'll send you free. He knows how an attractive interior like this can help him increase his business.

Show him samples of Armstrong's Temlok De Luxe. Explain how the panels, planks, and boards are finished at the factory in attractive, practical colors . . . how they'll help to give his restaurant an appearance just as smart as the one shown here.

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Be sure you have all the facts about Armstrong's Temlok Insulation for homes and public buildings. Samples and informative literature are yours for the asking. Just send a note today to Armstrong Cork Company, Building Materials Division, 1602 Ross Street, Lancaster, Penna.

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SHEATHING • LATH • BOARD



DE LUXE INTERIOR FINISH





Sometimes people talk so much about the post-war period that they seem to have forgotten the war.

Probably we have no vision. But we are ready to make the admission that the war is all we can see.

We are not making any bathroom cabinets of metal.

Our minds are not occupied with the bathroom cabinets we'll make tomorrow. (They are too full of the Something-Elses we're making today.)

Nor do we see how making Something-Elses now will be a bit of help in making bathroom cabinets by-and-by. (After all, that's not why we're making them.)

We don't like being even temporarily out of the bathroom cabinet and other household furnishings field. We hope that you miss us and will be glad to welcome us back.

But—we don't expect an armistice next Tuesday. And until one *does* come, our war-job is full-time work.



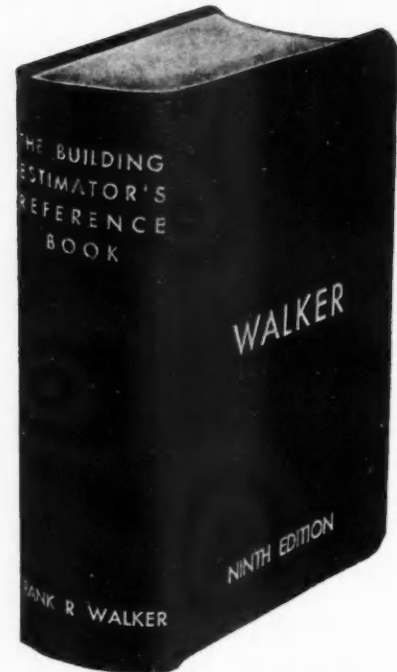
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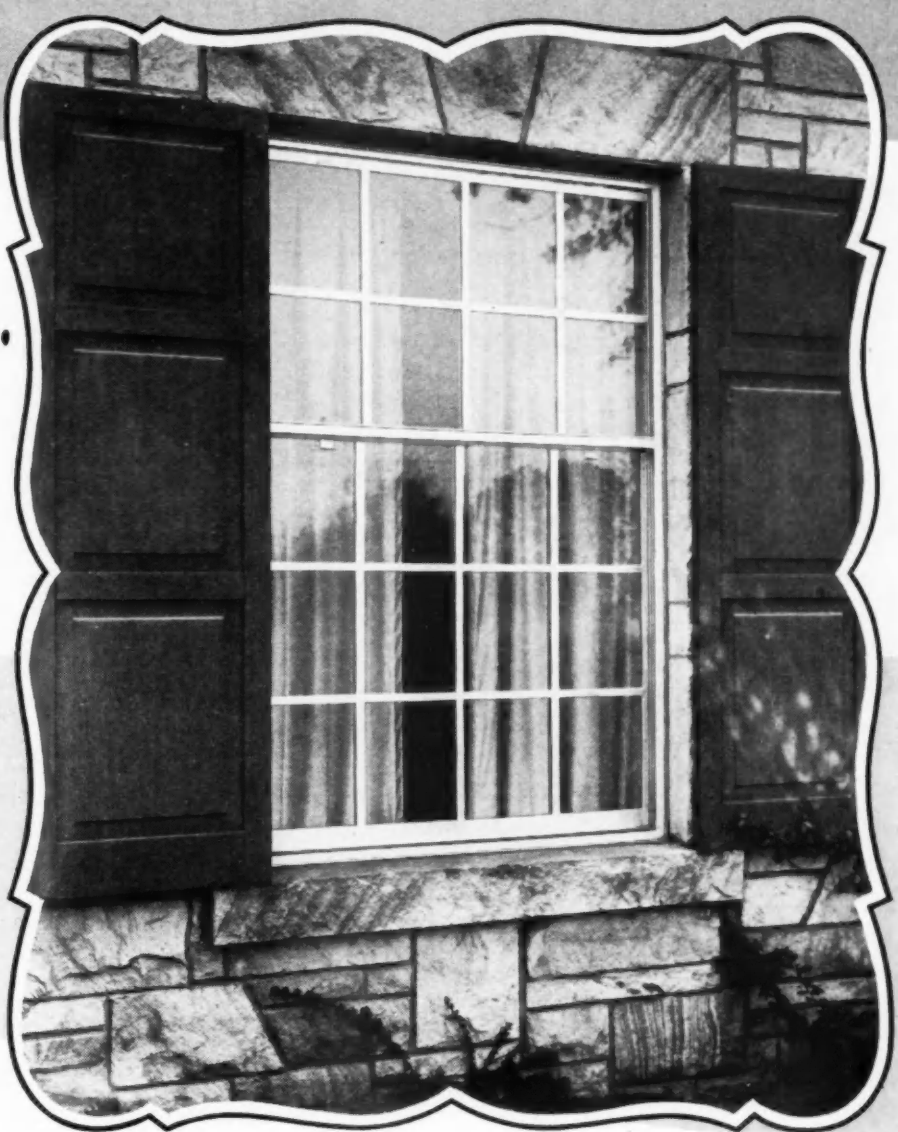
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 SASH IN PLACE**

*It is one thing to accomplish the extraordinary at extraordinary cost. It is something entirely different to achieve it without extraordinary construction cost.*

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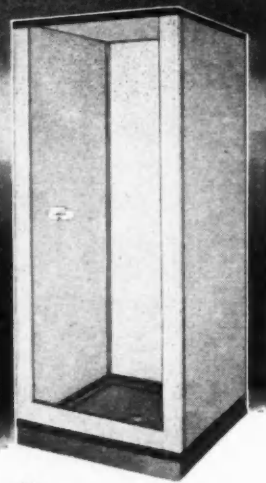
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Some features are designed for the plumber and contractor — exclusive quick-assembly, time-and-labor-saving features, for instance. Others, like the STEEL-FRAMED construction, assure long-life service — and satisfied customers.

Check the many BATHE-RITE advantages when you're called on to supply modern bathing facilities in today's growing market. BATHE-RITE Shower Cabinets set today's standards, and comply with all government specifications. PROMPT DELIVERY — is another advantage in dealing with a thoroughly experienced, well financed organization.

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### CORTRIGHT—

(Continued from page 76)

Obviously, if the way is to be paved for the resumption of building beyond the \$6,000 cost bracket (the top limit under which WPB permits priority assistance to be extended), Title VI will become an inadequate instrument. Thus, housing above \$6,000 would have to be financed under Title II. The other alternative is financing unaided by mortgage insurance, but during the interim period, mortgage lenders may be inclined to regard this protection as essential. FHA thinking on the matter has not entirely crystallized, but it is somewhat chary of any proposal to extend or expand Title VI.

### President Gerholz Talks Sense—

"Due to our (NAHB) studies of the various authoritative estimates of postwar housing needs, which range from 800,000 to 1,750,000 dwelling units annually for the immediate postwar years, we have assumed as an acceptable minimum one million homes a year. This tremendous and unprecedented volume for ten years represents the expenditure of money and labor and materials in excess of fifty billions of dollars. However, provision must be made for the home building industry to keep its organizations together if it is to properly support the national economy when Victory is won. This will require the most intelligent planning and direction by our industry."

Commenting also on the recent dispute in Washington set off by the attack of a local Citizens' Association on the National Capital Housing Authority, which is the District of Columbia's public housing body, Gerholz said, "The accomplishments of the public housing movement, and an accounting of the taxpayers' money that has been appropriated for it must be accurately and fully disclosed for public consideration. It is the intention of the NAHB to join in the rapidly growing sentiment for an early and complete investigation of this form of incentive-destroying, paternalistic benevolence."

He also spoke of the seriousness of the problem which may develop during the early postwar years if the occupants of public housing refuse to pay rent. Citing the recent meeting of 35,000 public housing tenants in the San Francisco Bay area assembled to discuss registration for the coming national election and other subjects, Mr. Gerholz said, "We are convinced that the beautiful ideology of public housing is not workable in its present form because it involves class subsidization. During the past year the viciousness of the subsidy system has become increasingly apparent. We shall seek ways and means of supplying through construction and conversion, decent and adequate housing for the underprivileged by the private enterprise system."

### Criticism of Postwar Planning—

A recent tour of the country by high officials of WPB and the Armed Services has convinced these men that gross over-optimism exists in many quarters. Help wanted advertisements stressing job permanence in the postwar period were found in a number of cities. In some cases both industry and government agencies are believed to be devoting too much time to postwar problems. Denials by WPB of even minute quantities of critical materials or manpower for research and experimentation have consistently been made. Although some divisions of WPB are now preparing plans for various relaxations, it is all being done for the period following the successful establishment of our European invasion beachhead and the advancement of our armies there.

Essentiality of need will be the test for construction at that time. Seriously delayed maintenance and repair will undoubtedly come first as steps recently taken in amending L-41 are amplified. Following this will come construction of such public works as sewer and water plants, schools, hospitals, etc., in defense areas. The same will be true of community facilities including restaurants, stores, bowling alleys, beauty parlors and highways necessary to increase the morale and efficiency of war workers. Statistical studies are now being made in various communities by government and newly organized planning commissions, in order that curves may be projected from historical data. When manpower and materials are released it will be not entirely because of available



surplus, but because of determination of need in the war centers.

**More About Bathtubs**—If evidence was required that the war housing demand for at least 150,000 tubs was justified, an examination of the order books of the five producers would dispel any doubt. Recently the plants were asked the number of orders received, and the percentage of AA-1 and AA-3 applications. Four of the plants had orders in excess of 20,000 tubs, double the amount they are now authorized to produce. The percentage of AA-1 orders varied, but it was evident that the Los Angeles, San Diego, Dallas and Fort Worth areas will be taken care of at the expense of several hundred other important war areas in which the housing cannot be completed and occupied without tubs. WPB was particularly interested to learn that AA-2x orders had been received, and is investigating the matter to be sure that this allotment is not being cut into by other requirements than war housing.

**Lumber Outlook Gloomy**—Although production in some areas is as high as 92 per cent of last year's output, and practically all construction excepting war housing has ceased, the Army-Navy-Maritime demand is great enough to swallow up almost everything produced. The Central Procurement Agency of the Army Engineers takes whatever it needs, and properly so. Whatever lumber is left can, in many places, be obtained as readily on AA-3 as on AA-2. As a matter of fact, even AA-1's do not insure getting lumber in a really tight situation. A forlorn hope comes from production by the very small mills and farmers, but their problem is the serious one of manpower and equipment. Builders must realistically face this unfortunate situation and have reasonable assurance of their supply before starting construction.

**LETTERS—**

(Continued from page 7)

acter through the years. Upon us rests the responsibility of fitting our neighborhoods into the city plan of our communities.

Each community should be outstanding in character. This may be achieved in many ways; wider areas between homes; neighborhood playgrounds; installation of street intersection parks adorned with a variety of garden ornaments. We should provide ample planting of trees, both ornamental and utilitarian; shrubbery; space for flower gardens—and a multitude of things which give charm and distinction to a home area.

The builder who is interested only in the largest loan he can procure

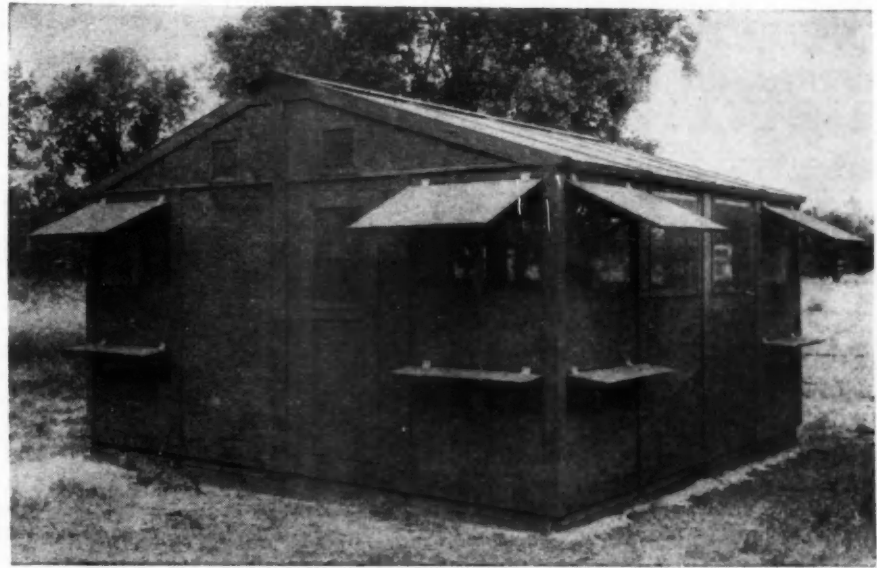
on the homes he builds, in my opinion is untrue to his profession. He is a builder of cities, and should be willing to stake his all—his money, and his reputation—on the desirability of the neighborhoods he creates. He should ever strive to give character, prestige, individuality to the homes and neighborhoods to which he sets his hand—and he should always strive to build long life homes.

Realtors and builders should first think of stability—permanence through the years; yes, be alert to the designing of homes that will permit later installation of new and desirable equipment. They should always, though, be thinking of the happiness which may be brought about in the

homes that they design and build.

Whether America is good or bad is our responsibility for we are the builders of America. Our idealism should be of the highest, but at the same time we should not lose sight of the practical; the stability and the permanence of the homes and neighborhoods they create.

Today it is up to us to demonstrate and prove that private industry can provide housing for all the elements of our civilization, and do a better job than can be done by public housing, and do it more economically, and more permanently and more satisfactorily.—J. C. NICHOLS, Chairman of Board, J. C. Nichols Investment Co., Kansas City, Mo.



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Made by Stout Houses, Inc., of Detroit, Michigan, with production line efficiency. The Laucks Construction Glues, used in the structural work, have been specially formulated to meet tropic conditions. Each well ventilated hospital unit is 16' x 16'. Each is shipped in sections, easily erected, ready to bring medical aid and protection to our fighting men right at the front.

Laucks specially formulated Construction Glues constantly are helping create new building techniques—just as they here help solve the problem of portable mercy. *Let them help you!* For complete information, write or wire:

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• Don't forget, LAUX REZ, the pioneer resin sealer and primer, protects wood as rust-proofing protects metal.



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## Trends Toward Relaxing L-41

(Continued from page 39)

the course of the war, that such modification would not harm the war production program.

Mr. Johnson, in expressing his hope of relaxing restrictions, pointed out that the availability of materials is only one factor which has to be considered in moving to liberalize construction. He stressed the availability of labor and the increased load on the nation's transportation system as two other typical factors which have to be taken into consideration.

There is one very critical material

which we must husband very closely, and that is lumber, he declared. The production of lumber at the present time is far below the requirements. Therefore we can permit no lumber in construction beyond that which is absolutely necessary.

There are certain places throughout the country where construction labor seems available. Materials are also available locally. The question at hand is, would it be detrimental to the war effort to permit certain types of construction to proceed in these localities?

One other method of accomplishing this same purpose which we are studying would be to change the

definition of maintenance and repair as now used in order L-41, and use the word, customary, instead of necessary. This would permit, for example, the repainting of a building even though the repaint job was not absolutely necessary to the preservation of the building. It would permit owners of property to do limited quantities of repair work at the time it is customarily done rather than have to wait until the repairs are absolutely dangerously deferred.

Another relaxation might be accomplished through modifications of other conservation orders of the War Production Board which would permit the manufacture of certain products not now being made, such as steel sash, brass valves, etc., the manufacture of which was stopped because of the lack of sufficient basic materials. We might also change the criteria by which all applications are now judged to permit work to proceed where labor and materials are available at the site. One other method of providing for relaxations would be the increasing of dollar limitations as now set up in order L-41.

\* \* \*

## N. H. A. Summarizes

(Continued from page 39)

the needs of in-migrant war workers. While completion of the war job will be the primary housing responsibility during 1944, increasing attention also must be given to general civilian housing conditions, Mr. Blandford said. A limited program of civilian housing construction may be possible later on in the year as the war housing job is wound up or as increased supplies of materials and manpower become available for civilian use. Communities, the housing industry, and the Federal Government also must intensify their post-war preparations so that a big construction program can get under way after the war.

By necessity, no construction is now possible to correct substandard housing for resident workers or to meet normal market demands for new housing, he said. Moreover, the nation's existing housing supply has unquestionably been deteriorating during the wartime period, reflecting intensified use in war areas as well as curtailed repairs and upkeep resulting from shortages of materials and manpower.

These are the reasons why preparations for a big post-war housing program must be stepped up during 1944 and why civilian housing construction and repair should receive a substantial share of whatever supplies of materials and manpower become available after direct war needs have been met. The National Housing Agency is actively working on these post-war and pre-victory housing problems and seeks increased activity along the same lines by cities and communities and by all phases of the housing industry.



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Covers 32 to 72 square feet (48" x 96" to 72" x 144") at a clip. Adds more rigidity with less nailing than with ordinary sheathing! These TRU-BILT advantages are important for war work today. They will be even more so for postwar competitive building.

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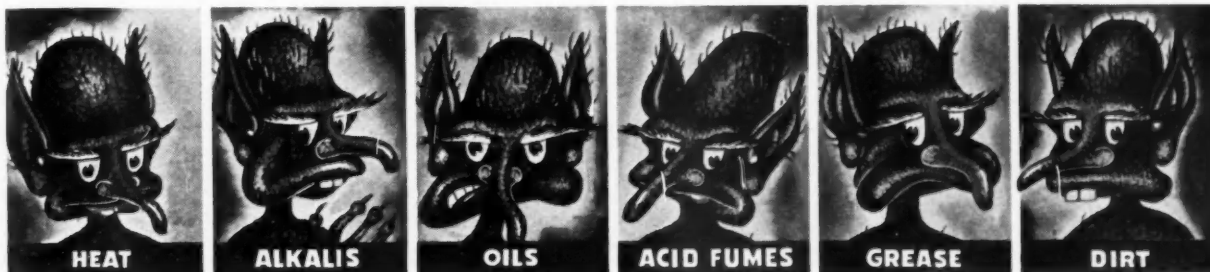
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# BEWARE

## OF THE BLURMITE\* BROTHERS!



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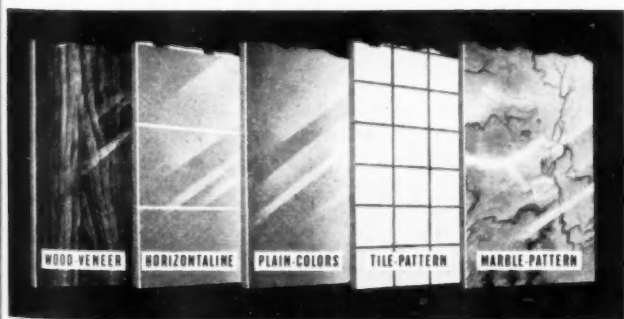
Those insidious Blurmite Brothers have a nasty habit of moving in on interior wall installations the moment they are completed. Unless their destructive action is successfully repelled, workmanship suffers and customer satisfaction goes into a slump. What's the answer?

\*Blurmites — destructive agents harmful to the finish of many wall, ceiling and counter surfaces.

Progressive builders, contractors and dealers supply the reliable answer with interior wall and ceiling installations of practical, plastic-finished Marlite. Available in many patterns and colors and long a pre-war favorite for installations where

permanence, dependability, attractiveness at moderate cost are required, Marlite stepped into an even more prominent role in war-time construction.

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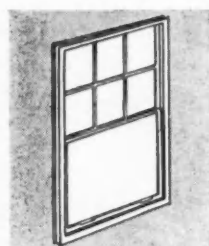
**MARSH WALL PRODUCTS, INC.**

**23 Main Street, Dover, Ohio**





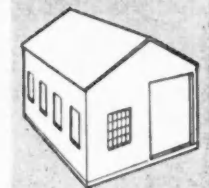
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**6—MAINTAINING YOUR BUILDINGS TODAY**—Since rebuilding or new construction are difficult at this time, proper maintenance of existing construction is absolutely essential. L. Sonneborn Sons have issued a reference manual of help to maintenance men, showing how their products may be used on every surface that needs protection, or waterproofing, for every floor problem and every phase of roof maintenance. Sections are devoted to paints, enamels and varnishes; waterproofings; caulking compounds; roof coatings; and floor treatments and waxes.—L. Sonneborn Sons, Inc., 88 Lexington Ave., New York 16, N.Y.

**7—TACKERS, STAPLERS AND STAPLES**—A 42-page catalog has been issued recently by A. L. Hansen presenting its line of these useful devices. The book is ring-bound for easy handling, and profusely illustrated with photographs of the company's 36 different models of tackers and staplers, and the 81 different lengths and widths of its staples and tacks, as well as with numerous drawings showing the many uses of these devices.—A. L. Hansen Mfg. Co., 5037 Ravenswood Ave., Chicago.

**8—ENGINEERED PREFABRICATION**—A 16-page booklet of file size describes Cilco engineered prefabrication. Profusely illustrated in a most interesting manner, it thoroughly covers prefabrication of homes and housing projects, industrial and farm buildings. Other subjects are timber trusses, laminated arches, wooden boats and barges, shipping boxes and crates. Condensed into understandable form, here is a piece of literature for anyone interested in prefabrication, put out by a firm well established in its field.—City Lumber Company of Bridgeport, Inc., 75 Third St., Bridgeport 1, Conn.

**9—HOW TO PUMP IT**—A 20-page catalog descriptive of Rex Speed Prime Pumps and containing complete information concerning the mechanical parts and construction of the pump, how it operates, and what it will do; also included are specifications and capacity charts to aid in pump selection.—Chain Belt Co., 1600 W. Bruce St., Milwaukee, Wis.

**10—HOW CALCIUM CHLORIDE MAY BE USED**—A new "all-purpose" folder describes in simple, non-technical language how calcium chloride may be used for concrete, fire protection, ending dust and weeds, thawing and skid-proofing ice, drying air and gases, refrigeration brine, weighting tractor tires with non-freeze solution, dust-proofing and freeze-proofing coal and coke.—Solvay Sales Corp., 40 Rector St., New York 6.

**11—FIRE RESISTANCE**—"Properties and Uses of Zinc Borate-3167" is the title of a 16-page booklet on the subject of fire resistance; it includes a review of the present practice of imparting fire resistance; the general physical and chemical properties of Zinc Borate-3167; and its present and post-war application.—The New Jersey Zinc Co., 160 Front St., New York 7, N.Y.

### SERVICE COUPON—CLIP and MAIL to CHICAGO

Readers Service Department, American Builder, 105 W. Adams St., Chicago 3, Ill. (February, 1944)

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

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 Name.....  
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 City..... State.....  
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\*Please note that occupation must be stated if full service is to be given.



# WOOD Is Still Best For Jobs Like This

**THE RAILROADS** are among the earliest and most consistent users of Wolmanized Lumber\*. Bridge timbers, stringers and ties, wharf and platform decking—life is tough on jobs like these. But this wood is "alloyed for endurance," armed against decay and termite attack, so it can take it.

**RESILIENCE**, the cushioning effect between track-bed and supporting steel, is retained where Wolmanized Lumber is used in structures like that illustrated above. The wood also offers light weight, ease of handling and erection, high strength. It is clean, odorless, paintable. There is no added fire hazard, and the wood is not corroded by brine drippings from refrigerator cars. Nor does it corrode its metal fittings.

**SERVICE RECORDS** covering millions of feet of Wolmanized Lumber, at work for the railroads and elsewhere in industry, provide evidence of its durability. Lasting ability is given ordinary wood by vacuum-pressure impregnation with Wolman Salts\* preservative. "Fibre fixation" prevents leaching out.

**WOLMANIZED LUMBER** is being employed for wartime structures all over the world, speeding erection, assuring long life. It will do the same for your peacetime construction. American Lumber & Treating Company, 1645 McCormick Building, Chicago 4, Ill.

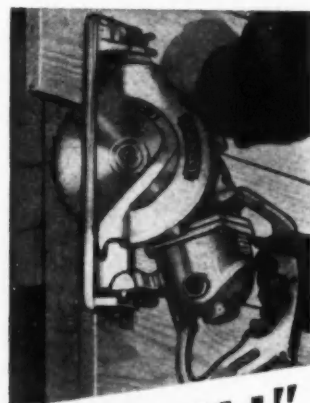
\*Registered Trade Mark

*"Alloyed"* FOR ENDURANCE  
**WOLMANIZED LUMBER**

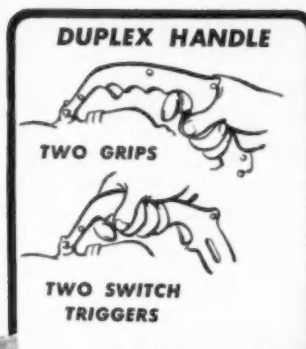


# EVERY CUT IS EASY

With  
**STANLEY W8  
Electric Saw**



**"UPHILL"**



DUPLIX HANDLE

TWO GRIPS

TWO SWITCH TRIGGERS



**"CROSS HANDS"**



**"HEAVY CUTS"**

STANLEY



"Awkward" cuts or heavy cuts are easy and quick with the "Duplex" Handle and extra power of the Stanley W8 Saw! Saves time on every building job - cuts off sheathing, rips flooring, or zips through timbers 2 3/4" thick! Ask your Stanley distributor for demonstration, or write for new descriptive folder. Stanley Electric Tool Division, The Stanley Works, 133 Elm St., New Britain, Conn.

**STANLEY ELECTRIC TOOLS**

*"COST LESS PER YEAR"*

## Neat and Trim!



### MIAMI METAL CABINETS

—production of which has been necessarily discontinued for the duration—will again be available in quantity after the war. . . . Meanwhile, some models may still be had from distributors' stocks.

## MIAMI WOOD BATHROOM CABINETS

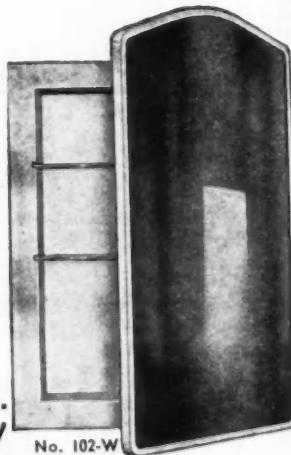
### MODERN . . . STREAMLINED . . . SAVING WAR-VITAL METALS!

MIAMI Wood Cabinets are doing an essential job in war housing and wherever replacements are necessary.

These thoroughly modern Wood Cabinets are a far cry from the bulky, clumsy wood models of years gone by. Smart, trim, attractively streamlined, with mirrors framed in steel (by permission of WPB), Miami Wood Cabinets are complete in every detail, equipped with convenience features that are standard in Miami Metal Cabinets.

For new illustrated folder giving full information, write Dept. AB.

**CONSERVE METAL . . .  
WIN THE WAR FASTER!**



## MIAMI CABINET DIVISION

The Philip Carey Mfg. Company—Dependable Products Since 1873

MIDDLETOWN, OHIO

## Home Building Estimates for 1943 and Forecast for 1944

APPROXIMATELY 225,000 new nonfarm family dwelling units will be started in 1944, a third less than the 344,000 units put under construction during 1943, Secretary of Labor Perkins reports. "The 1943 total is only two-thirds the 496,600 units started during 1942 and less than half the number started during 1941, when the post-depression high of 715,000 units was reached," she said.

"The decline in 1944 is expected to result principally from curtailment of the Federally financed war housing program. About the same number of PRIVATELY financed units will be started during 1944 as were started during 1943.

"About 182,000 or slightly over half, of the 344,000 family dwelling units put under construction during 1943 were privately financed, mostly under the war housing program of the National Housing Agency. This is three-fifths of the number of privately financed units begun during 1942 and about three-tenths of the number started during 1941 before material shortages and consequent governmental restrictions seriously affected the volume of this type of construction. The 1943 volume of private residential building was the lowest in any year since 1920 excepting three years, 1932-34.

"Of the 182,000 privately financed family dwelling units started in 1943, 135,600 are 1-family dwellings, 17,600 are in 2-family houses, and 28,800 are in multi-family structures. The number of privately financed 1-family units started during 1943 declined 47 per cent from the 1942 total while the number of 2-family units increased slightly and the number of multi-family units decreased only 8 per cent. Over 95 percent of the publicly financed family dwelling units started during 1943 were in temporary type of structures. During 1942, over one-fourth of all publicly financed units started were permanent types. Both the reduced prominence of privately financed 1-family units and the increased proportion of publicly financed temporary units resulted from the need to conserve scarce building materials.

"The number of new family dwelling units started during 1943, as compared to 1942, increased 42 per cent in the Mountain States. The number started in the other regions decreased from 11 per cent for the West South Central States to 53 per cent in the West North Central States. One-fourth of the new units started during 1943 were in the Pacific States while over a third were located in the East North Central and South Atlantic States.

"Thirty-six per cent fewer units were started in rural nonfarm areas during 1943 than in 1942 while the volume of units located in urban areas declined 26 per cent. The number of units started in cities of 2,500 to 5,000 population declined the least, 11 per cent, while the greatest decrease, 36 per cent, was in cities of 10,000 to 25,000 population.

"The valuation of the 344,000 nonfarm family dwelling units started during 1943 is estimated at \$880,000,000, a decrease of 43 per cent from the \$1,539,000,000 estimated for 1942. The increased proportion of publicly financed units, with relatively low average valuations, were mainly responsible for the greater decline in valuations than in volume of units.

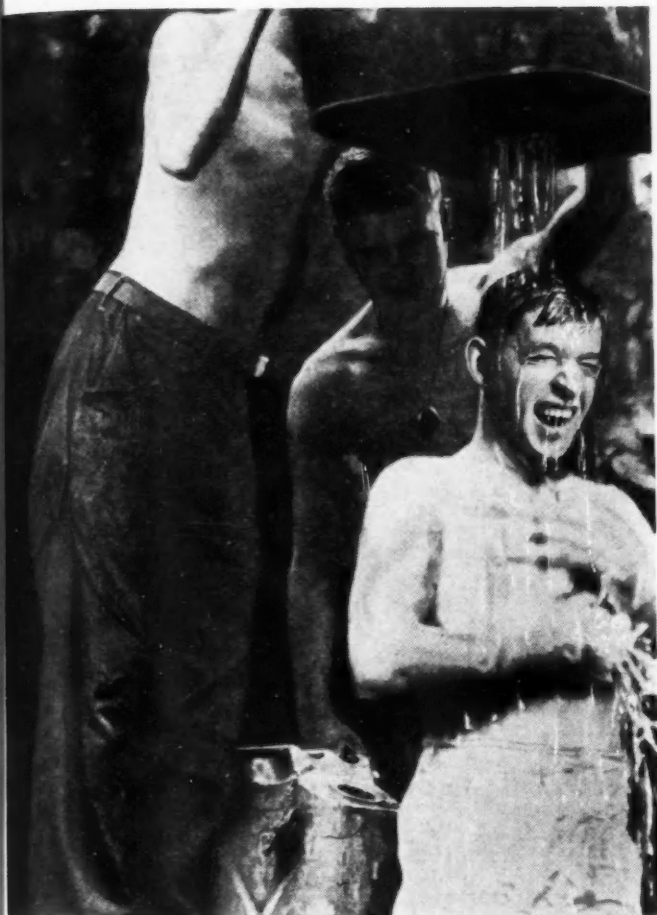
### Servel Studies Post-War Markets

AMERICA must build a minimum of 708,000 dwelling units annually for the next ten years, merely to maintain our home building average of the past 34

(Continued to page 92)



# MEET ONE OF YOUR POST-WAR CUSTOMERS



HE'S getting rid of the grime of battle under a makeshift jungle shower. And one of the things he's fighting for is the opportunity to take all the shower baths he wants in his own home, after the war is over.

He and millions of others in the armed forces are going to be eager customers for built-in showers. You'll be able to offer them handsome, durable shower cabinets of ARMCO Galvanized PAINTGRIP Metal, moderately priced and easy to install in small space in almost any home.

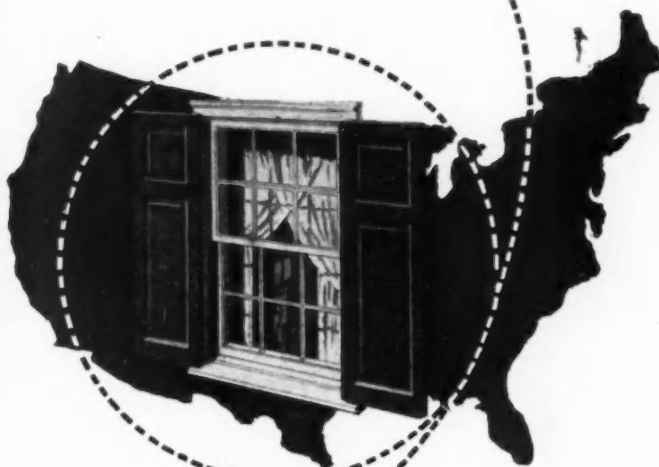
This original Bonderized galvanized sheet is especially treated to hold the smooth, baked-enamel finish. The PAINTGRIP film insulates the enamel from the galvanized and preserves the life and appearance of the finish.

For 30 years the ARMCO trademark has been nationally advertised. People have learned to recognize it as a mark of highest quality on many kinds of metal products. Tomorrow, as in the past, the ARMCO label will help you clinch sales and make satisfied customers. The American Rolling Mill Company, 621 Curtis Street, Middletown, Ohio.



HELP FINISH THE FIGHT - WITH WAR BONDS

## THE POSTWAR OUTLOOK



### ● on Superior unit windows

While we are not prepared at this time to meet the demands for the complete Bilt-Well line because of priorities on war essential materials, some of our production remains available for war housing, remodeling, and repairs. When postwar building gets under way we shall be ready with a complete line of Bilt-Well woodwork.

CARR, ADAMS & COLLIER CO.

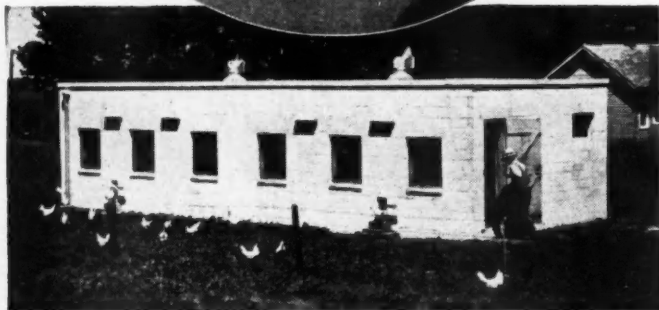
Dubuque, Iowa.



THE BILT-WELL LINE: Bilt-Well Superior Unit Windows • Bilt-Well Colonial Front Entrances • Bilt-Well Clos-tite Windows • Bilt-Well Basement Windows • Bilt-Well Carr-dor Garage Doors • Bilt-Well Lok-tite Trim • Bilt-Well Stair Parts • Bilt-Well Telephone Cabinets • Bilt-Well Nu-Style Kitchen Cabinets • Bilt-Well Colonial Mantels • Bilt-Well Combination Doors • Bilt-Well Ironing Board Cabinets • Bilt-Well Bathroom Seats • Bilt-Well Breakfast Nooks • Bilt-Well Medicine Cabinets



# FARM STRUCTURES ARE WAR EQUIPMENT



## Keep Them Fit and Fighting

Helping farmers make improvements that increase food production is still a major war job for concrete contractors and concrete products manufacturers. And gains in food production at home make gains on the fighting front easier.

Thousands of farms still need improvements such as sanitary milk houses, concrete dairy barn floors, rat-proof poultry houses and storehouses, concrete feeding floors. Many existing structures need repairs or improvements to increase their utility.

{ Concrete construction calls for minimum use of scarce materials. Transportation is saved because the bulk of concrete materials is usually available within easy hauling distance. And cold weather need not delay concrete work. }

For detailed information, send for illustrated booklets: "Dairy Farm Improvements of Concrete," "Improved Poultry Housing," or "Modern Hog Farm Improvements." Free in the United States and Canada.

### PORTLAND CEMENT ASSOCIATION

Dept. 2-3, 33 W. Grand Ave., Chicago 10, Ill.

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

**BUY MORE WAR BONDS**

(Continued from page 90)

years and to take care of normal population growth, according to a careful study of residential construction prepared by N. E. Wooters, assistant vice-president, Servel, Inc. The study was made in order to forecast post-war markets for the company's gas refrigerators. Some of the findings make a noteworthy contribution to a steadily growing fund of information on home building.

Mr. Wooters reports that during the past fifteen years our U.S.A. has fallen far below the long-term average, and we have accumulated a shortage of more than 2,500,000 dwelling units. He believes that demand and purchasing power warrant an expectancy of 1,500,000 dwelling units a year for the first five years after the war, but maintains that the building industry has neither the plant nor the materials to produce more than 8 or 900,000 dwelling units a year for that period.

The survey also explains an interesting characteristic of Building Cycles. Records of home building during cycles show that there has been considerable variation in the types of dwellings erected in different years, depending on conditions. Single-family dwellings predominate during early stages of a building-cycle recovery. The number of multi-family dwellings built during a cycle increases gradually. The major portion of multi-family dwellings, however, are built at the peak of the cycle when the number of single-family dwellings is declining. The Servel survey explains these variations by pointing out that, "During periods of prosperity many people prefer to avoid the labors and responsibilities of home ownership and seek the easier conveniences offered in multiple renting."

### New Plastic-Faced Plywood

SOME of the products that have been created to meet emergency wartime needs should find many new post-war, peacetime applications. Plastic-faced plywood seems to be a product of this type. It consists of plywood sheets of Douglas fir, hardwood, or other woods, faced both sides with non-splintering, moisture-resistant plastic sheets. The new facing material, known as Kimpreg, is made by the War Products Division of the Kimberly-Clark Corporation.

At present, the facing material is made in two types. One is an all-rag-content plastic paper, impregnated with uncured phenolic resin that is reclaimed from fabric helmet liners. The other is a high-strength sulphite-base sheet similarly impregnated with phenolic resin. Either may be used for plywood surfacing, as pre-cured sheets for cold press application, or may be bonded to the plywood by combined heat and pressure. The new material.

(Continued to page 94)

## PROMPT DELIVERY ON UNIVERSAL LEVEL TRANSIT

Patent  
Ball Bearing  
Center



Ideal for Defense Plant and Large Construction Jobs

### PROMPT DELIVERY WITH Preference Rating

Powerful 12" Telescope—Price complete with Tripod, Carrying Case, Sunshade, and Dust Cap \$115.00, plus \$4.00 Excise Tax. Can be furnished with a compass at \$12.50 Extra.

Write for free booklet—HOW TO LAY OUT BUILDING LOTS

Expert Repairing of all makes of instruments

DAVID WHITE CO. 311 W. Court St., Milwaukee, Wis.

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ments

St., Wis.



## For Quick, Neat Wiring **MONCOR** Surface Wiring **DEVICES**

Moncor Surface Wiring Devices can be used anywhere for new wiring or wiring extensions — in war housing, farm buildings, factories, military buildings, etc. They are made of brown Textolite, resist breakage and are easy to install. These devices are approved by the Underwriters' Laboratories, and they meet requirements of the specifications of different government agencies.

*For further information see the nearest G-E Merchandise Distributor or mail the coupon.*

Moncor Surface Wiring Devices can be used with BraidX or BX. Knockouts in ends, side and back of the devices enable them to be end connected, side connected (clear wiring) or back connected for concealed wiring.

### BUY WAR BONDS

General Electric Company  
Section D243-80, Appliance and Merchandise Dept.  
Bridgeport, Connecticut

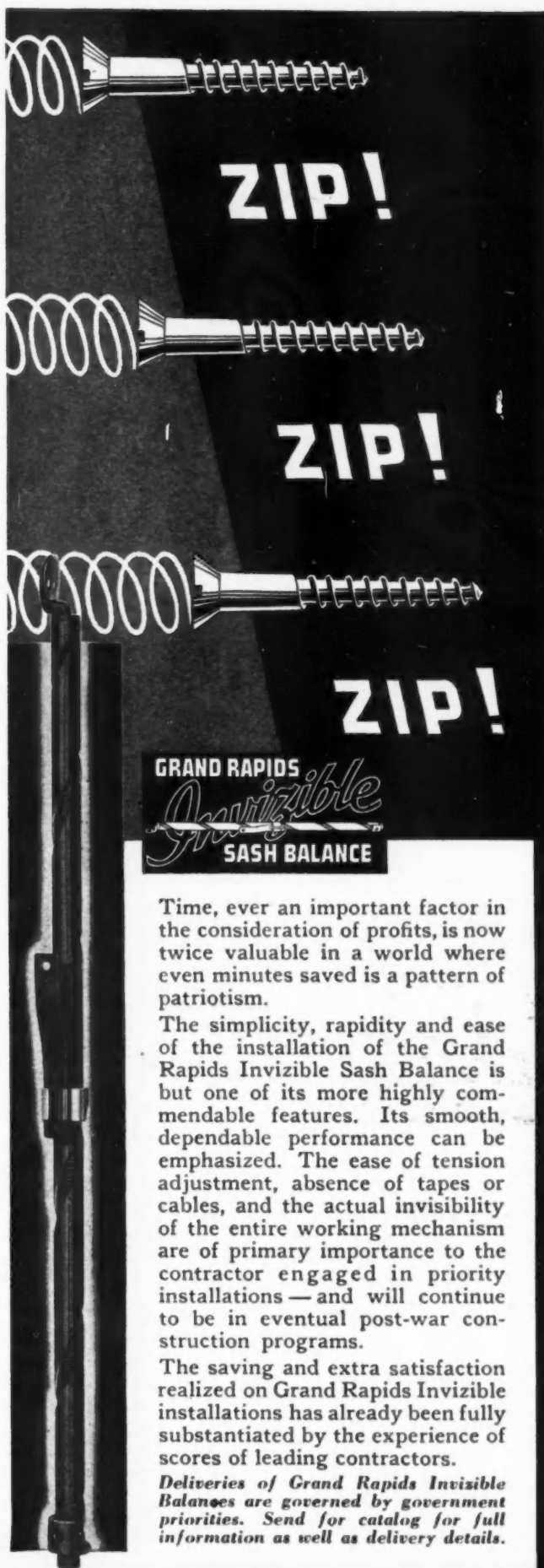
Sirs: Please send me information on Moncor Surface Wiring Devices.

Name.....

Address.....

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

**GENERAL  ELECTRIC**



**ZIP!**

**ZIP!**

**ZIP!**

**GRAND RAPIDS**  
*Invisible*  
**SASH BALANCE**

Time, ever an important factor in the consideration of profits, is now twice valuable in a world where even minutes saved is a pattern of patriotism.

The simplicity, rapidity and ease of the installation of the Grand Rapids Invisible Sash Balance is but one of its more highly commendable features. Its smooth, dependable performance can be emphasized. The ease of tension adjustment, absence of tapes or cables, and the actual invisibility of the entire working mechanism are of primary importance to the contractor engaged in priority installations — and will continue to be in eventual post-war construction programs.

The saving and extra satisfaction realized on Grand Rapids Invisible installations has already been fully substantiated by the experience of scores of leading contractors.

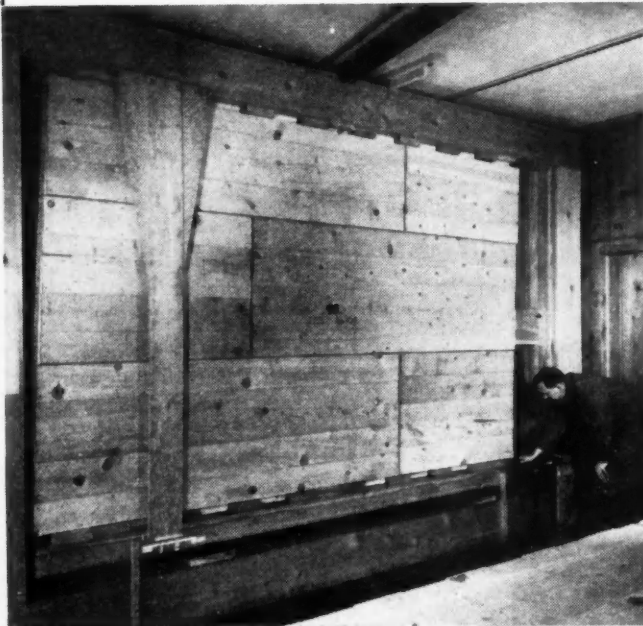
*Deliveries of Grand Rapids Invisible Balances are governed by government priorities. Send for catalog for full information as well as delivery details.*

**GRAND RAPIDS HARDWARE COMPANY**  
GRAND RAPIDS • MICHIGAN



## TESTING BY TORTURING

This picture shows prospective new wall sheathing materials of Western Pines being racked and tortured in a full-size wall testing machine. This Western Pine Research Laboratory test continues until failure occurs and determines what designs can withstand strains far in excess of normal service.



In these wartime days, as in the days of peace, the Western Pine Association Research Laboratory is constantly experimenting to determine new values, new uses, and to improve manufacturing procedures for the Western Pines.



### WESTERN PINE ASSOCIATION

Yeon Building, Portland (4) Oregon

\*Idaho White Pine   \*Ponderosa Pine   \*Sugar Pine

—\*THESE ARE THE WESTERN PINES—

(Continued from page 92)

and methods of applying or bonding it to plywood, are being worked out with a limited number of producers in order to develop and perfect standards that will meet post-war requirements of the entire industry.

Plastic-faced plywood already has proved its ability to meet unusual military requirements. The surfacing material is made to withstand high impacts. They are used in shipping containers that can, if necessary, be parachuted from planes and landed on rocks. Other shipping containers are practically impervious to moisture, so that they can be dropped into the ocean from ships and floated to shore through the surf. Plastic-faced plywood also is made into large sheets, with almost glass-smooth surface, for use as table tops on which parachutes are folded without danger of snagging delicate silk.

Still another use of this versatile material is in wartime airplanes, as floor sections of unusually light weight and extremely high strength. The floor surface is made of plastic-faced plywood, coated with a non-slip surfacing material. Reinforcing ribs that support the floor likewise are of Kimpreg-plywood combination molded into corrugated members. Floor sections of this type may find a number of post-war applications, for their use would permit wide spacing of floor joists, with a high degree of rigidity and unusually light weight.

The plastic facing can be used to cover curved edges, giving a continuous, one-piece surface. The material can be made in a number of attractive colors and designs, or can be "clear," permitting wood grain to show through. Numerous applications suggest themselves to men who are familiar with construction methods and needs.

Plastic-faced plywood now is produced under license agreement in three mills: Buffelen Lumber & Mfg. Co., Tacoma, Washington; Washington Veneer Company, Olympia, Washington, and The Daystrom Corporation, Daystrom, N.C. Output is marketed through the C-W Plywood Company, Chicago. At present practically no plastic-faced plywood is available for civilian use.

\* \* \*

### Wartime Progress in Air Conditioning

(Continued from page 67)

For the Statler's air conditioning system works on one principal idea. There is no general recirculation of air in the guest rooms and corridors. The air is ALL fresh and when your neighbor down the hall sneezes, the germ-laden air from his room is NOT pumped on down the line to the next room.

But there is another principal feature which was designed into the system. It has real dehumidification with the humidity maintained—summer AND winter—at 50 per cent.

When John A. Holabird and John W. Root, co-partners of the architectural firm Holabird and Root, first consulted with their chief engineer, F. A. Byrne, about the Statler project, Mr. Byrne was "loaded for them," he recalls. "We knew that for any air-conditioning system to be as perfect as science could make it, the planning was first and last a problem of design. Each unit, each phase, of this system had to be incorporated in the minutest detail of the hotel's design.

"And it was necessary that the air in the winter time be humidified."

One of the chief problems of proper dehumidification was the necessity of sufficient power, to easily carry the "conduit system" of the Statler's air conditioning setup.

In simplest terms this is how the architecturally-designed air-conditioning system of the Washington Statler works:

The outside air for introduction into the guest room conditioning system of the Washington Statler is taken in at the 15th floor level, where the principal primary treating and handling apparatus is located. In the summer season, the air is filtered and dehumidified, and in the winter this air is filtered and humidified.

There are two main primary air treating apparatuses

from which the air is further subdivided into four zones, which permits adjustment of the temperatures in the main distribution system according to the building exposure. The main primary air fans are also located on the Statler's 15th floor, from which the air is conveyed through circular ducts to the guest rooms by means of vertical risers carried down around the outer wall, each riser serving a tier of rooms or in some cases two adjoining tiers of rooms.

Due to the relatively high pressure and resultant high velocity at which the air is distributed in the Carrier Conduit System, the circular ducts can be kept to a small size, in some cases not greatly larger than the covered steam pipes ordinarily used for heating. It is this property of the "conduit system" which makes it especially adaptable to multi-story buildings, which, when conditioned by the conventional methods, usually require unwieldy duct sizes which seriously interfere with the treatment of the rooms and encroach upon otherwise usable floor space—all of which is ultimately reflected in increased building cubage and consequent cost.

In each guest room a small sized pipe air tap is taken off the vertical primary air riser and extended in a room distribution unit located directly under the window.

This room unit contains a system of air supply nozzles and a small secondary coil. The primary air conveyed through the small pipe tap is delivered through the nozzles, again at a very high velocity, emerging into the room through a grill in the top of the unit. A second grill is placed in the front panel of the unit directly before the secondary coil and the injector effect of the primary air issuing at high speed from the nozzles induces a secondary flow of air through the front grill and the coil which mixes with the primary air before being delivered into the room.

It is thus seen that there are no motors or moving mechanical parts in the guest room units, so that there is no source of noise or vibration at this point. The units  
*(Continued to page 96)*

# Structural, Reinforcing or other Blding Steel Shipped from Stock

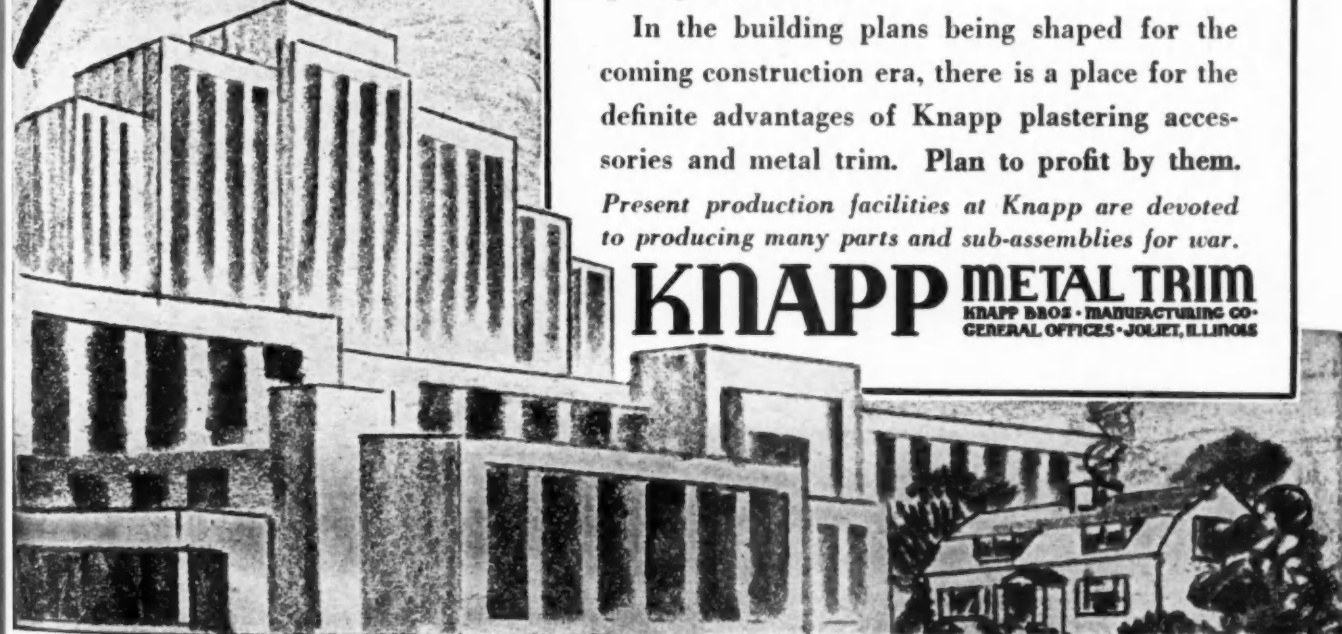
Write for Stock List—  
your guide to over 10,000  
different kinds, shapes  
and sizes of steel for quick  
shipment from ten plants.

Joseph T. Ryerson & Son, Inc. Plants at Chicago, Milwaukee, St. Louis,  
Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

# RYERSON

## FOR THE BETTER BUILDING OF

# Tomorrow



**T**HE better structures of tomorrow will include products of proved quality and design. You will find Knapp Products among them, for they have become the standard of comparison through years of constantly sound design and quality manufacture.

In the building plans being shaped for the coming construction era, there is a place for the definite advantages of Knapp plastering accessories and metal trim. Plan to profit by them.

*Present production facilities at Knapp are devoted to producing many parts and sub-assemblies for war.*

## KNAPP METAL TRIM

KNAPP BROS. MANUFACTURING CO.  
GENERAL OFFICES - JOLIET, ILLINOIS

THIS

*Modern Kitchen*

IS AVAILABLE NOW!

**FOR WAR HOUSING—  
POST-WAR PLANNING**

● Here's a Kitchen Maid modern kitchen—a combination of units from its line of advanced cabinetry which is available today for war housing; ready to be specified in peace-time plans as well. With Kitchen Maid's factory producing 50,000 war kitchens, there is no serious re-conversion problem, and the entire line will be quickly available for all residential purposes after V-Day.

Developed before the war, proved by extensive war housing experience, this new cabinetry is the fulfillment of present and early post-war needs. It is constantly being specified for projects of all types. And *composite construction* is the principal reason for its wide acceptance.

Made of hardwood, plywood, and other compositions, Kitchen Maid Cabinetry combines all the advantages of the best materials available—each used where it serves best, gives greatest strength and longest life. Remarkably flexible, too—with standard units to fit practically any arrangement. Before planning another war or post-war job, see your Kitchen Maid dealer, or—

**WRITE FOR THIS NEW FOLDER**

The Kitchen Maid Corp., 542 Snowden Street, Andrews, Indiana.  
Please send new folder on "Kitchen Maid War and Post-War Cabinetry."

Name \_\_\_\_\_

Address \_\_\_\_\_

 Architect  Builder Dealer  Owner

**KITCHEN MAID**  
FOUNDER OF MODERN KITCHEN UNITS

are baffled and sound proofed so that under ordinary conditions it is impossible to detect any sound whatever in connection with the air delivery.

The small secondary coil in the units referred to above circulates hot water in winter and chilled water in summer, the control of which permits adjustment of the temperature of the primary air as received from the main units according to the individual desires of the room occupants. This is accomplished by means of a so-called "thinking valve," which can be set by the occupant and when once set will operate automatically to maintain the temperature at which it is set, regardless of variations in the outside temperature up to the capacity of the unit.

The room unit also contains a manually operated damper in the air supply pipe, by means of which the entire unit can be turned off if the occupant of the room so desires.

It is seen from the above that all of the air conveyed to the rooms through the duct system is outside air, and the only recirculation effected is within the room itself. There is, therefore, no general recirculation and no interchange of air as between rooms as is ordinarily met with in the more conventional type air conditioning systems.

An important advantage of the primary and secondary method of air treatment in this system, lies in its extreme flexibility and ability to produce the many different shades of temperature required to suit the varying tastes of individuals. In intermediate seasons, when the outside temperatures are on the borderline between heating and cooling seasons, it is possible to operate the system so as to provide heating in one room and cooling in an adjoining room to the moderate degree required by the intermediate outside temperatures. This is accomplished by circulating warm air in the primary distribution system and chilled water in the secondary coil system, or vice-versa.

And the results?

Probably the biggest business record in any hotel's history.

Lower cleaning bills for draperies, rugs, and other furnishings.

Better health for the guest.

Estimated probably lower heating costs in winter months because of perfect control and adaptation to heating requirements.

Is there any reason to suppose that these specific advantages will not be sought in many types of post-war buildings?

\* \* \*

**Selling the Prefabricated House?***(Continued from page 51)*

- How will specifications be stated?
5. Taking the order—here are some practical questions:  
What form of contract suited to the transaction?  
Will it be a list of items, or what designations will be used?  
Terms and conditions clearly stated.  
Payments to be made—initial, ad interim and final.  
How will final acceptance be carried out?
  6. Delivery and Storage:  
Checking and receipt—items "over" or "short"?  
Trucking to site.  
Protection from weather and theft.
  7. Obtaining Permits and Erecting:  
What steps are necessary?  
At whose expense?  
Erecting responsibility and expense.  
Labor—codes—workmanship.
  8. Final inspection and acceptance:  
Check against contract details and provisions?  
Formal acceptance and release—how accomplished?

The whole prefabricated house movement contemplates the elimination of the expense of the services of the local architect and, to a lesser extent, the building contractor.

The architect usually has supplied the experienced judgment needed in selecting the site of the house itself. The



adaptability of certain locations to a certain type of house, and the disadvantages of another; the character of the soil has been examined to determine the kind of foundations required; the feasibility of excavating cellars, etc.; the direction the house should face; the distance from streets, roads, etc.—these questions must still be answered to safeguard the prefabricated house.

Therefore, either an architect must be available or someone else must be there to render a similar service. Otherwise many unnecessary mistakes will be made to the future regret of the owner, as well as the seller of the house.

The building contractor usually takes care of trucking materials, storing away from weather, locating drains, water and electric lines, along with the actual building of the house. These services will still be needed.

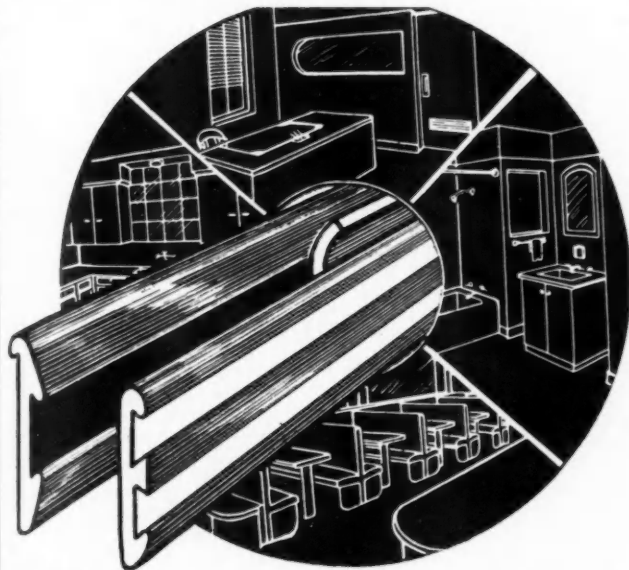
While it may be possible that a standard prefabricated house can be designed that will be adapted to the varied climatic and other conditions to be found in different parts of the country, it is scarcely to be expected that modifications will not be required in respect, particularly, to provisions for heating, lighting and ventilation, balancing out the differences between Florida, Texas and Minnesota, for instance, and these things must be done with skill and understanding.

It seems reasonable to assume, then, that the services and facilities of the local building contractor, as heretofore rendered, are going to be required in a sufficient number of instances as to make it necessary that his part in the operation be provided for.

All market development finally hinges upon the ability of the manufacturer to create and inspire user satisfaction. By this I mean that we must obtain the larger part of our future business through the recommendations of those who have had experience with our product, and who are willing to recommend it to others.

We have much to learn yet about just what is going to be needed to satisfy the buyer of a prefabricated house. He is going to expect a satisfactory result and means must be found to give him that, whatever he may have paid for it.

(Continued to page 98)



Good Decoration Centers Around

**B & T**

METAL TRIMS trademarked

**CHROMEDGE**

Trademark Reg. U. S. Pat. Off.

**The B & T METALS COMPANY**  
Columbus 16, Ohio

**LOW COST**

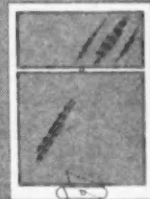
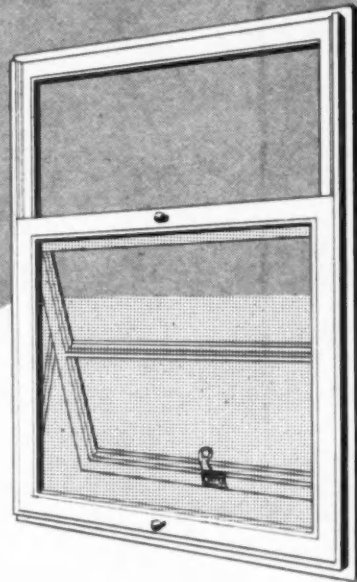
*Pella*

**"AWNING" WINDOWS**

For Standard 2x4 Frame

...Thin Wall...Masonry Construction

Made by Makers of Famous Pella Casement Windows



**AVAILABLE WITH SCREEN AND STORM SASH—**  
Inside screen and storm sash are interchangeable; top hinged or channel guided. Access to flush type lock handle is gained by raising screen or through storm sash ventilator.

No FRAMES  
SASH WEIGHTS  
BALANCES

White Pine Sash...Toxic Treated

These extremely ingenious windows set right in the stud- ding! They do not require any frames, sash weights or bal- ances. Units come completely assembled so no fitting is necessary on the job. . . . Flush type lock handle is an exclusive feature. Units can be glazed with standard size lights. Pella "Awning" Windows comply with Federal Housing Authority Specifications. . . . WRITE FOR FREE DETAILS! Mail a post card TODAY! Ask for your FREE set of full-size details on Pella "Awning" Windows. Address Dept. 324.

*Ideal* AND EASY TO ADAPT FOR  
SPECIAL JOBS LIKE THESE



Patent No. 135609



**MULTIPLE UNITS of Pella "AWNING" WINDOWS** made to your specifications are available when quantities warrant. Wide range of combinations possible. For schools, office buildings, etc. upper sash can be made to ventilate.

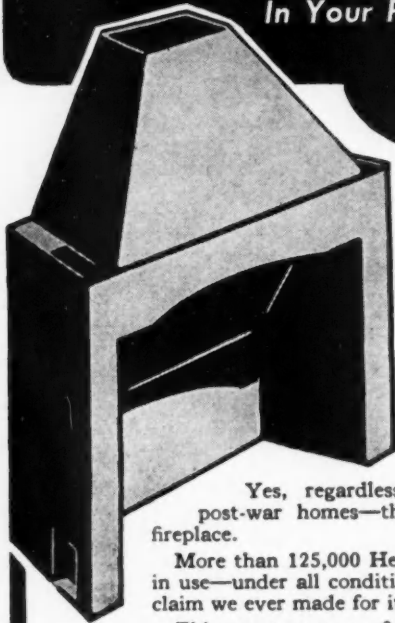
**"4-CYLINDER" HOUSE** designed by Arthur T. Brown, A. I. A. of Tucson, Ariz. incorporates Pella "AWNING" WINDOWS. Pella's broad, horizontal lines give house the appearance of greater size.

**ROLSCREEN COMPANY, PELLA, IOWA**

Pella RolSCREENS • Pella Venetian Blinds • Pella Casements

Build This  
**Modern Fireplace**

In Your Post-War Homes!



Yes, regardless of any changes in post-war homes—there will always be a fireplace.

More than 125,000 Heatilator Fireplaces now in use—under all conditions—are proving every claim we ever made for it.

This great success of Heatilator is adding a new talking point to the living room. It not only provides a smokeless fireplace, but one that circulates the heat.

HEATILATOR INC. 812 E. BRIGHTON AVE., SYRACUSE 5, N. Y.

**HEATILATOR** Fireplace

**One Thing You Can Be Sure of in the HOMES of TOMORROW**

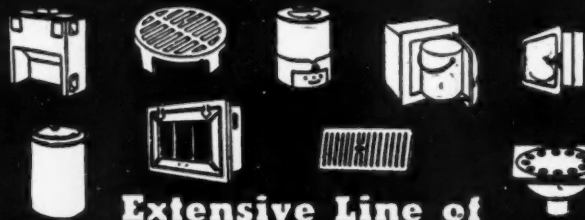
**MAJESTIC FIREPLACE EFFICIENCY**



Speculation on the home of tomorrow shows one feature almost universally in demand—fireplaces that really *heat!* Fuel rationing has made them a "must" for millions of homeowners! And Majestic Circulator Fireplace Units will be more in demand than ever. They circulate air like a warm-air furnace. "Radiant blades," a feature of the Majestic "Master" unit, nearly double the heat-radiating surfaces of ordinary circulating fireplaces. Built-in features and advanced design (note, for example, the insulation-sealing angle-irons at front) make "Majestic" an outstanding "first choice!" They fit any mantel design. Write for information regarding availability.

**THE MAJESTIC CO.,**  
907 Erie Street, Huntington, Indiana

**Majestic** CIRCULATOR FIREPLACES



**Extensive Line of Quality Building Necessities**

(Continued from page 97)

There will be prefabricated houses erected for temporary use and others for permanent and unchanging occupancy. Therefore, all the various phases of each of these prospective markets must be analyzed and plans made in accordance with their needs.

Some of these houses will be purchased by individuals for their own use, and again, real estate developers will purchase these houses in larger numbers and their requirements will differ somewhat from those of the individual owner.

It is well to bear in mind that much more will be expected of the prefabricated house than would be of the ordinary house. This is because it is new and probably "different" and will therefore *be more critically inspected; and because its wonders and virtues have been described and exaggerated so much that it has become one of the hackneyed "dream" creations for the future.*

Therefore, the manufacturer must be doubly careful in working out, thoroughly and practically, each stage of his selling program, which will call for all the care and ability which he can put into it.

**Must Assure Permanent Satisfaction**

There is so much mechanical equipment in the modern home, which must be kept in order, that current inspection, adjustment and supervision is increasingly essential to permanent satisfaction on the part of the owner, and while it will be paid for by him, it must be provided by the man who sold the house.

If the house is unsatisfactory, the owner may not be able to determine the exact reason for, say, cold corners, drafty hall, poor lighting. It is probable he cannot say that better construction was needed, or that the heating equipment was unsuited, etc., but he will expect the job, in total, to be satisfactory.

Faulty heating can condemn a perfectly good house in the mind of the owner, just as an outstanding heating system may well compensate for faults in the house design or the materials used.

**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.



We can not change the psychology of the purchaser, who simply looks to the seller for a satisfactory transaction, and we may learn a good deal from the automotive field.

For instance, the automobile is generally sold "stripped," and you buy your bumpers, heater, radio, etc., separately. Notwithstanding the reluctance of the auto manufacturer to include these in the finished job, the wise automobile dealer sees to it that you buy these accessories from him and, if possible, at the time you purchase the car, because he knows that by this means a sale will be made which will bring satisfaction to the owner and repeat sales to the dealer.

The largest rewards in the prefabricated house field will come to the manufacturer who has worked out the problem of local representation to the best advantage. This representation becomes the basis of the manufacturer's business, and must be able to find and sell the prospect after inspecting the property, and must be able to advise the prospect soundly as to the type of structure and foundations best suited to the location and the surroundings generally, as well as perform the other services called for.

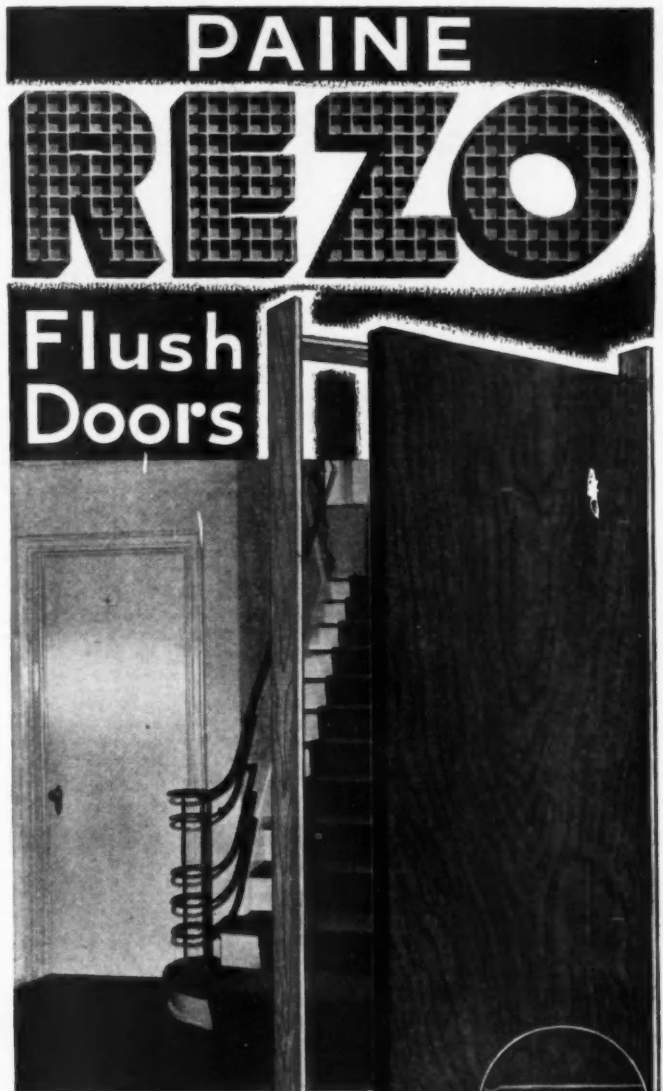
The manufacturer must, in his own interest, provide in his local selling arrangements for competent, supervised erection of the house and the installation of fixtures and equipment which are to be a part of it, along with competent service afterward.

The success of the manufacturer will hinge more upon these points than upon the exact character of construction, design or materials of the house itself, and the problem henceforth is one of sound selling and servicing rather than design and manufacture.

It may be that this local representation, whether it be distributor or dealer, will have to have more than one type of house available in course of building up his business on prefabricated houses and the auxiliary equipment for them.

Obviously this ideal prefabricated house dealer is not to be found today, but his counterpart is going to be needed to carry on and develop the prefabricated house business.

(Continued to page 100)



Open the way to greater opportunities for the contractor-builder

U. S. Pat. 1,887,814  
The exclusive interlocking grid core within the Rezo door provides constant air circulation, adds extra strength and greater rigidity.

There are many opportunities for profit that Paine Rezo doors push your way. For example, patented air cell construction—an exclusive Paine Rezo feature—provides a stronger, more rigid door, prevents shrinking, sagging or warping. You'll find a lifetime of satisfactory service, free from alignment troubles, built into these proven hardwood doors, that cost less to install than an ordinary door. What's more, Paine Rezo doors add more charm to your interiors, make rooms appear larger, lighter, more attractive.

With so many advantages for you and the home owner that are all to the good, it's no wonder that the Paine Rezo is America's largest selling flush type door. More than a million have been successfully installed from coast to coast, sold by leading dealers everywhere. Write today for illustrated bulletins.

Manufactured by the  
**PAINE LUMBER CO., Ltd.** Oshkosh Wisconsin  
ESTABLISHED 1853

## No danger of Shock with Type AC SERVICE EQUIPMENT



Safety and modern protection are built into each Load Center, Service Equipment and Panel-board. All current carrying parts are covered. Needless circuit interruptions are prevented when momentary, harmless overloads occur—but the circuit breakers "trip" on short circuit or harmful overload. Requiring no fuses, the circuit breakers are operated manually, like an ordinary tumbler switch. Simply return the handle to the "on" position after the cause of the short circuit has been removed.

Capacities: 15, 20, 25, 35 and 50 amperes, for 120 volt AC service. Fully approved by Underwriters' Laboratories, Inc.

Write for Bulletins 63 and 67

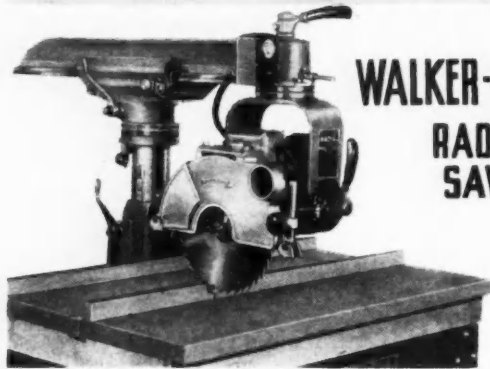
describing and illustrating the FA line—including wiring diagrams and suggested specifications. Frank Adam Electric Company, Box 357, St. Louis (3), Mo.



**Frank Adam**  
ELECTRIC COMPANY  
ST. LOUIS



**SAVE HAND LABOR  
ON "PREFAB" JOBS**



**WALKER-TURNER  
RADIAL  
SAW**

A single operator with this versatile machine can crosscut, rip, dado, shape, rout and tenon—on wood, metals, plastics, ceramics and other materials. He not only turns out greater volume than several men doing hand-work, but the work is more accurate.

The Walker-Turner Radial Saw's patented geared, shockproof motor permits deep cuts with smaller blades. Sliding ram design eliminates overhanging arm, gives clear field of vision. Many other features and ample safeguards. Prompt delivery for war work. Send for literature. Walker-Turner Co., Inc., 1024 Berckman St., Plainfield, N. J.

**walker-turner**  
COMPANY, INC.  
PLAINFIELD, N. J.  
U.S.A.

**MACHINE TOOLS**

DRILL PRESSES — HAND AND POWER FEED • RADIAL DRILLS  
METAL CUTTING BAND SAWS • POLISHING LATHES • FLEXIBLE SHAFT MACHINES  
RADIAL CUT-OFF MACHINES FOR METAL • MOTORS • BELT & DISC SURFACERS

**NON-TILTING PLASTER-MORTAR  
KWIK-MIX 6-P**

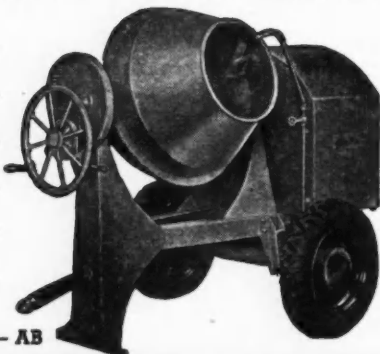


Fast discharge — 7 seconds — no tilting necessary — weighs only 850 pounds — air-cooled engine — V-belt and worm drive.

WRITE FOR BULLETIN NP — AB

**3½-S TILTING KWIK-MIX**

Side discharge — anti-friction bearings — welded construction — discharge either side — spring mounting.



WRITE FOR BULLETIN SD — AB

**KWIK-MIX CONCRETE MIXER CO.  
PORT WASHINGTON . . . WISCONSIN**

(Continued from page 99)

We are familiar with the type of sale which calls for an initial survey to be made of the job to be undertaken and the subsequent selection of equipment and supplying of final estimates to cover the job, as in heating and plumbing. It remains for us to adapt these practices to the selling needs of the prefabricated house field.

The purchaser of a prefabricated house is going to prefer to give the *entire order* for the house, plumbing and heating, to a single responsible seller, whether he be dealer or contractor. In fact, one of the main reasons for offering a prefabricated house is to relieve the purchaser from having to deal with so many different people in course of designing and putting up a house otherwise.

Therefore, the local sales representation should be organized and able to estimate, quote and sell, and to erect and equip and finish the house, ready with plumbing, heating and lighting for occupancy, if necessary, or to have it done.

Efficient means will be needed through which to locate and interest the prospect. Then will follow an initial survey and rough estimate, which may be quoted roughly or broken down and totalized to cover the completed job. A form of contract must be devised such as will enable the seller to complete his obligation definitely. Provisions must be available for this house to be paid for in installments.

**Necessary Requirements for Dealers**

The question of equipment for heating, plumbing, lighting, etc., must be dealt with in definite terms and, if necessary, these may have to be quoted separately, thus complicating the matter of responsibility for the final winding up and delivering of the job.

The local representation, whom we will call the "dealer," must have the following:

1. Financial stability and good local reputation.
2. Experience and understanding of the construction and building materials business.
3. Premises for display and personnel for estimating and selling.
4. Facilities for inventory as may be required.
5. Facilities for delivery, erection and supervision to complete contract, as may be required.
6. Arrangements for financing installment sales.
7. He must stock and sell heating, plumbing and lighting fixtures, or have local arrangements for supplying these dependably.
8. He must be willing to cooperate through training and instruction.

The effect of local building and material codes, of one kind or another, will need to be taken into account, along with the prevalent union conditions and practices in connection with electrical work, painting, tinsmithing, etc.

The manufacturer must accept responsibility for these things and, as he expands his business, he must see that essential facilities are available. He may select a dealer from one trade or another and then, by training and organization, develop that dealer into a proper representative, whether he be a building materials dealer, a hardware dealer, or a building contractor, or an exclusive selling agency.

Where **POWER, SPEED** and **ACCURACY** are required

**MASTER**

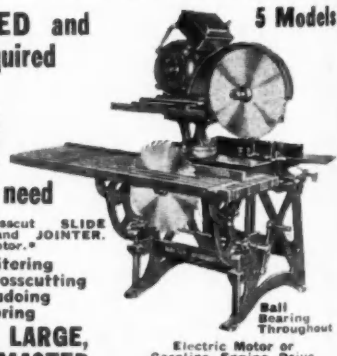
is the machine you need

Equipped with **OVERHEAD** crosscut **SLIDE** saw — **UNDERSLUNG** rip saw and **JOINTER**.  
\*Operated with only **ONE** motor.\*

**12** Machines in **1**      **Mitering**  
**Jointing**      **Tenoning**      **Crosscutting**  
**Ripping**      **Rabbeting**      **Dadoing**  
**Moulding**      **Beveling**      **Boring**

No job too **SMALL**, too **LARGE**, or too **Difficult** for the **MASTER**

**The MASTER WOODWORKER MFG. CO., Inc.**  
Brush and Fort Sts.      Since 1917      Detroit 26, Mich.



Ball Bearing Throughout  
Electric Motor or Gasoline Engine Drive

These are some of the "high spots" of the situation. The operations in each local market will require the steady influence and guidance of the responsible manufacturer, who, after all, must accept responsibility for the sale of his fabricated house clear through to the consumer, just as he has had to do in building good will for any other product. He must anticipate these needs and provide for them.

Generally speaking, the average purchaser of a prefabricated house will need more than drawings and blueprints by which to understand just what is proposed. Therefore, colored pictures or drawings may be employed, or it is possible to use miniature models in course of making sales demonstrations.

These remarks are not "blueprints" of a marketing plan, but they are intended to focus attention upon basic determining factors in one of the great future markets.

\* \* \*

**Utah Builders Rush Homes**

(Continued from page 53)

supplies the Clearfield Naval Supply Depot and Hill Field, the huge Army Air Corps repair base.

In Provo, Utah, some of the finest looking war housing jobs are under way that your *American Builder* correspondent has ever seen. These are being built virtually in the shadow of the towering Wasatch Mountains. Columbia Gardens, a 150-house project under construction by Allen E. Brockbank, is an outstanding project, as is the 341-unit job, University Gardens, built by Taylor-Wheeler Company of Fresno, Calif.

Perhaps the most spectacular Provo job is the one illustrated on the front cover of this issue, Wasatch Gardens, a 172-unit project being built by the Haddock Construction Company, Pasadena, for Varsi & Goodman.

On the Wasatch Gardens job, the builders were using three

(Continued to page 102)

**LICK Sawing Jobs**  
\* SINGLE HANDED

**MODEL 80**  
CAPACITY 2 1/2"

**with A MALL Saw**

Light weight is combined with perfect balance to make this powerful, fast-cutting saw safe and easy to use with either hand. It will cross-cut or rip rough or dressed lumber, make complicated mitre cuts, pocket cuts, cut metal, cut and score stone, concrete, and tile with an abrasive wheel.

A handy time and effort-saving tool for carpenters, builders, lumber dealers and others engaged in War Work. Model 120 with 12" blade and 4 1/2" cutting capacity also available for Victory Construction.

Literature and prices upon request.

**Back the Attack—Buy War Bonds**

**MALL TOOL COMPANY**  
7737 South Chicago Ave., Chicago 19, Illinois



**SAMSON SPOT SASH CORD**

*the most durable material for hanging windows*

★

WHERE THE NEED IS GREATEST  
Samson Braided Cords Serve Best  
Now and Always

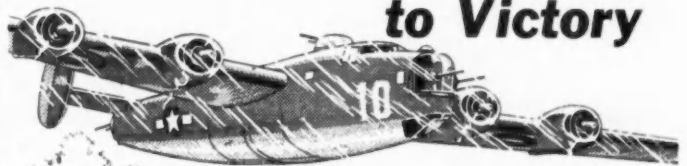
**SAMSON CORDAGE WORKS**  
BOSTON 10, MASS.

**SAMSON SPOT SASH CORD**



Reg. U.S. Pat. Off.

**Speeding Our "Liberators" to Victory**

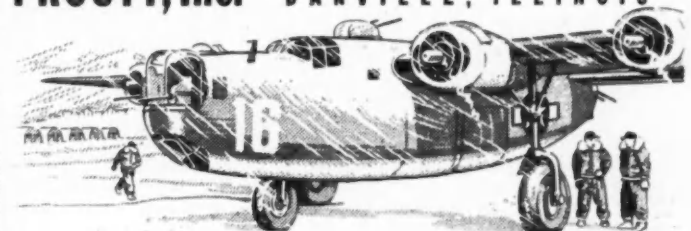


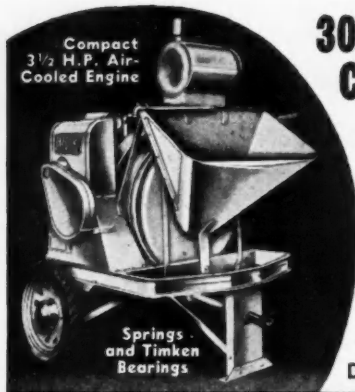
**Allith HEAVY DOOR HARDWARE**

Through snow and sleet, in bitter Arctic temperatures, our majestic Liberators have been raining "tonners" and "block-busters" on the Axis. Then . . . back safely to their bases . . . they've been tucked away behind hangar doors, to be readied for tomorrow's foray.

Much of the sturdy hardware in these massive hangar doors is ALLITH-made, for we've been geared 100% to war production. But, we'll be ready to serve even more efficiently than ever before in the peacetime building boom that's bound to follow V-Day.

**ALLITH-PROUTY, Inc.** DANVILLE, ILLINOIS





Compact  
3 1/2 H.P. Air-  
Cooled Engine

Springs  
and Timken  
Bearings

## 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.

# JAEGER 3 1/2 SPEEDLINE

## BATHROOM CABINETS

### THE "BEAUTY"

#### Venetian Cabinet FL 3039

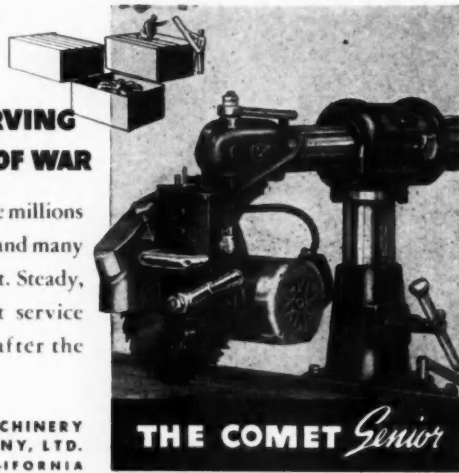
One of four new low cost designs. Complete with hardware attached, ready to install. Mirror size 14" x 18". Requires recess 1'-1 1/2" x 1'-5 1/2". Prompt shipment from stock. See your lumber dealer or write us, Dept. AB244.



**FARLEY & LOETSCHER MFG. CO.**  
SASH • DOORS • CABINET WORK • ETC.  
"QUALITYBILT WOODWORK"  
DUBUQUE • IOWA

## Comets SERVING IN ARSENALS OF WAR

Munitions plants use millions of feet of lumber—and many use Comets to cut it. Steady, high-speed Comet service will be for you—after the War.....



CONSOLIDATED MACHINERY & SUPPLY COMPANY, LTD.  
LOS ANGELES, CALIFORNIA

### THE COMET Senior

## AMERICAN FLOOR SANDERS SAVE MAN POWER

The War Program calls for SPEED, and the American Standard floor sander by actual performance has proven itself 25 to 40% faster than machines formerly used. We have machines in stock and will help you obtain authority to purchase the sander you need.

Write today for details and prices.

**THE AMERICAN FLOOR  
SURFACING MACHINE CO.**

511 So. St. Clair St. Toledo, Ohio



Walker-Turner Radial saws on specially built work tables. All the lumber was precut on these saws, and in addition, numerous parts of the framing were prefabricated on the site. Complete wall sections containing doors and window openings were pre-built in a shed, then delivered to each house as soon as the floor was completed. The sections were laid flat on the floor and workmen then applied the sheathing and siding while still in that position. When the wall section was completed, it was then erected.

In addition, numerous other parts of the house, such as gable ends, louvres, entrance hoods, etc., were prefabricated on the site adjacent to the power saws.

One of the questions that is inevitably asked is, "What will happen to these Title VI war jobs in peacetimes?" That, of course, is anyone's guess and depends on the future of the industries in this area. In Provo, the huge new Geneva steel plant is expected to continue at least partial operation after the war. In other cities of Utah, the feeling is that while there will be some decrease in population, the new housing built by private builders is so attractive that it will continue to be desirable both for investment and for rental. Time alone will give the answer to this question, but in the meantime, the builders who were given a job to do are doing it extremely well.

\*\*\*

### The 15-House Job

(Continued from page 43)

of just one plan, or not more than two basic floor plans. Variation is obtained through the use of Colonial entrances (packaged units), hipped roofs and varying treatment of gable ends, as shown in the accompanying war housing job completed by our organization late in 1943.

The object of using only one plan is to make sure that all basic portions of the structure may be precut with an electric saw. This subject will be covered more fully in a later issue.

Naturally, design and orientation will be governed largely by our local FHA office, or other local factors.

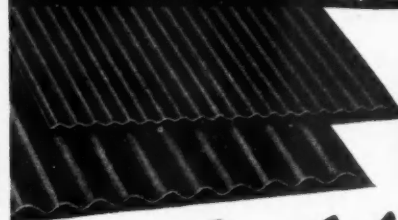
After plans and site have been approved, and if precutting methods are to be employed in the construction, it is advisable to free the carpenter foreman from as much responsibility as possible through the letting of sub-bids, in order to allow him to devote his individual attention to precutting and assembly. Roofing contracts should be let on a complete material and labor basis applied. Flooring contracts should include laying, sanding, and finishing. The plumbing, heating, wiring and painting should be let in the usual manner.

All sub-bids should be signed and in the contractor's file before actual construction begins in order to synchronize them with the total operation.

This method leaves the carpenter crew unburdened so that they can work as an organization on precutting and assembly.

Much has been said about not putting all your eggs in one basket, but this axiom is not sound judgment for the contractor planning on precutting methods. The most satis-

## CHENEY METAL CORRUGATED ROOFING



The  
Permanent  
Successor to  
the old-fashioned  
corrugated  
iron roof

Now Available

DISTRIBUTORS,  
WRITE US!

CHENEY METAL PRODUCTS CO., Trenton 5, New Jersey



factory procedure is to contact the local dealer of your choice, present your plans and specifications and explain your project in detail. *Precutting methods are only successful when you cooperate 100 per cent with your lumber dealer.*

Place your order in its entirety with the dealer and explain that you will need only the amount of material that can be cut that day. Because a small job will not justify the purchasing of trucks for use in hauling from a central cutting shed, you are necessarily dependent upon the lumber company's co-operation with its trucks to spot at each house the material necessary for precutting of joists, studs, rafters, etc.

One can easily see why any lumber company would cooperate in this kind of operation if they are getting your entire order. Many lumber companies are in a position to also take your roofing and flooring contracts.

This makes your company a *prime purchaser* at the lumber yard, and greater effort to serve is expended than would be if you were purchasing only a small quantity from them and *shopping* at several places.

Any saving in lower prices is more than offset by the service you will receive by obtaining full co-operation of the lumber company by making them a partner in your operation.

After plans are selected, many hours of labor can be saved through the use of portable forms, which can be belted together in sections and readily knocked down and re-assembled at the next excavation. Three sets of forms are sufficient for a project of 15 houses. Where precutting methods are to be employed, the footings for all 15 houses should be poured and allowed to set before the main building operation begins.

**Jobs Go Up Without Loss of Time**

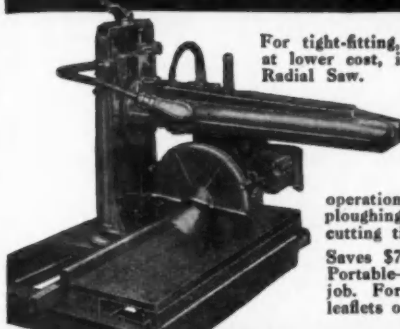
The next step is to set the foundation forms on the first three of the footings previously placed. While the cement contractor is pouring concrete, work benches, electric hand saws and power crosscuts are assembled at the rear of house No. 2, and precutting operations begin for houses, 1, 2, and 3. The layout man directs the cutting operation from schedules previously worked out to fit the project.

All common laborers (or carriers, as we call them), are trained on the job to know just where to place the precut pieces for assembly by the carpenters.

By the time the concrete in the first 3 houses is properly set, sufficient material has been precut to frame them. Then the common laborers, or carriers, remove the forms and move them to houses 4, 5, and 6, while the carpenters start framing on houses 1, 2, and 3. Thus begins the cycle that is maintained throughout the project of 15 houses, with the sub-bids being worked in with predetermined precision so that at no time is any house standing idle for want of men or materials.

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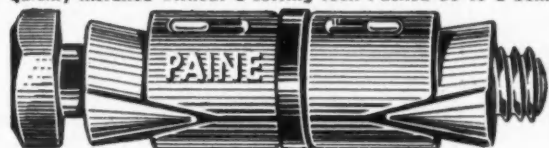


Fig. 980



Fig. 970

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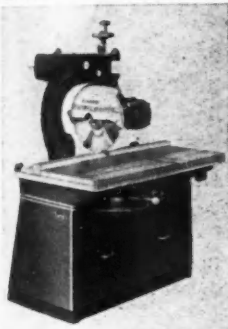


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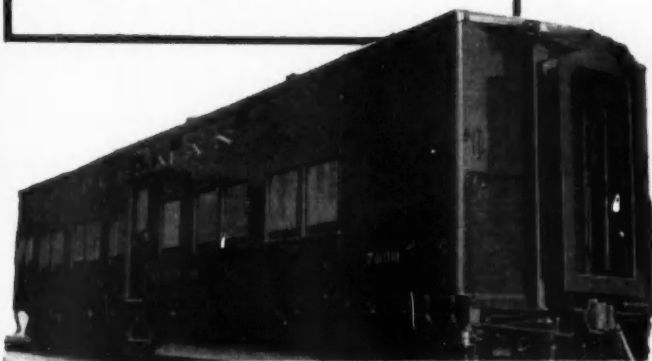


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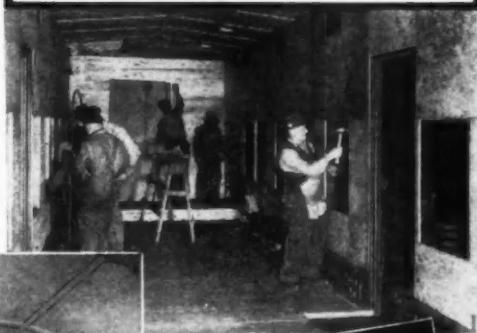
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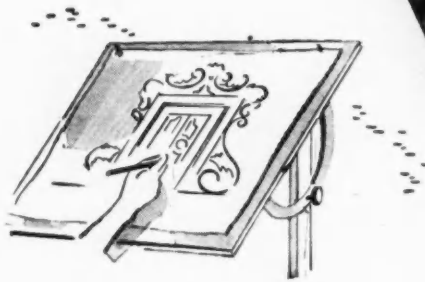


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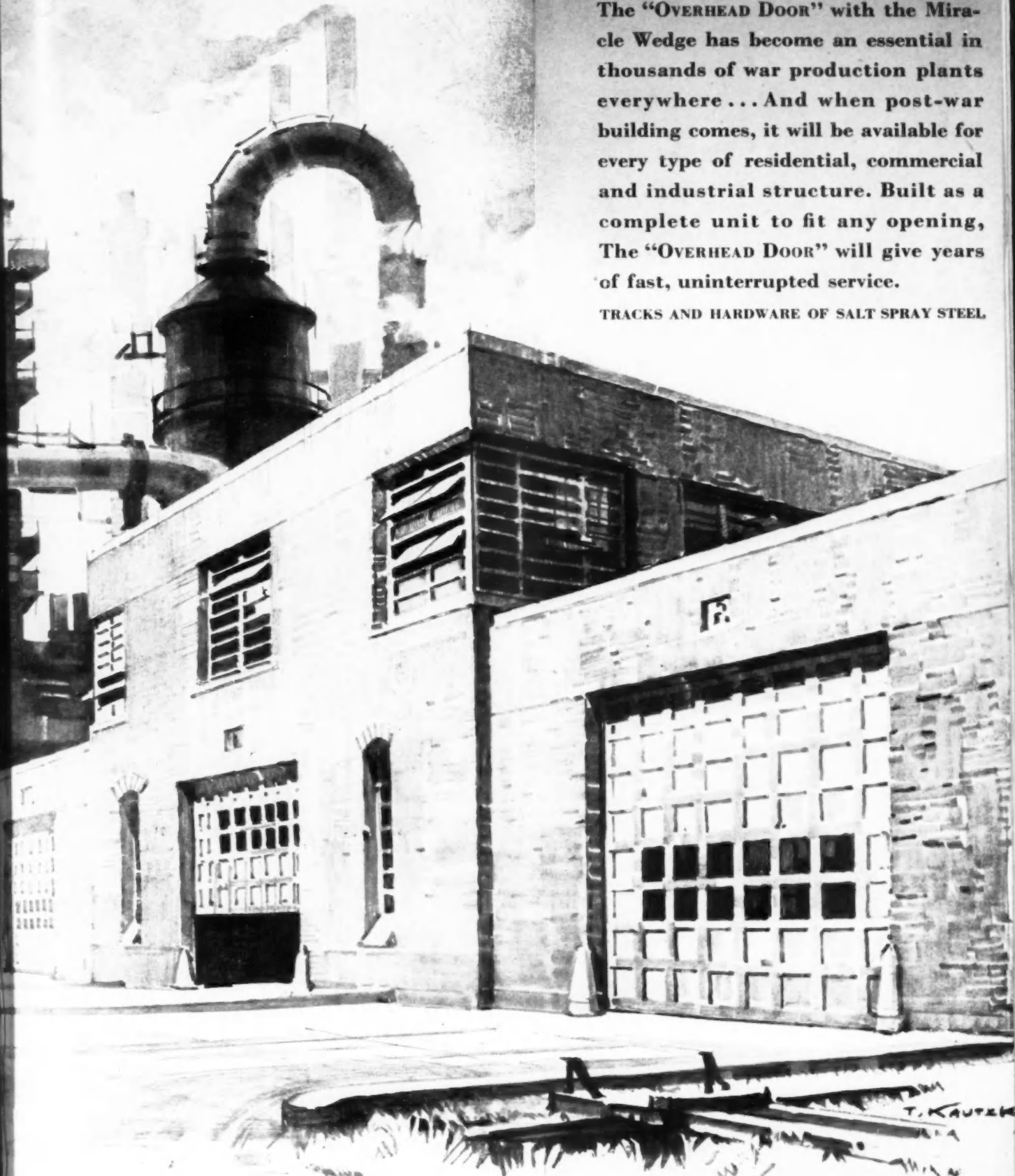
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