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# AMERICAN BUILDER

MARCH, 1943  
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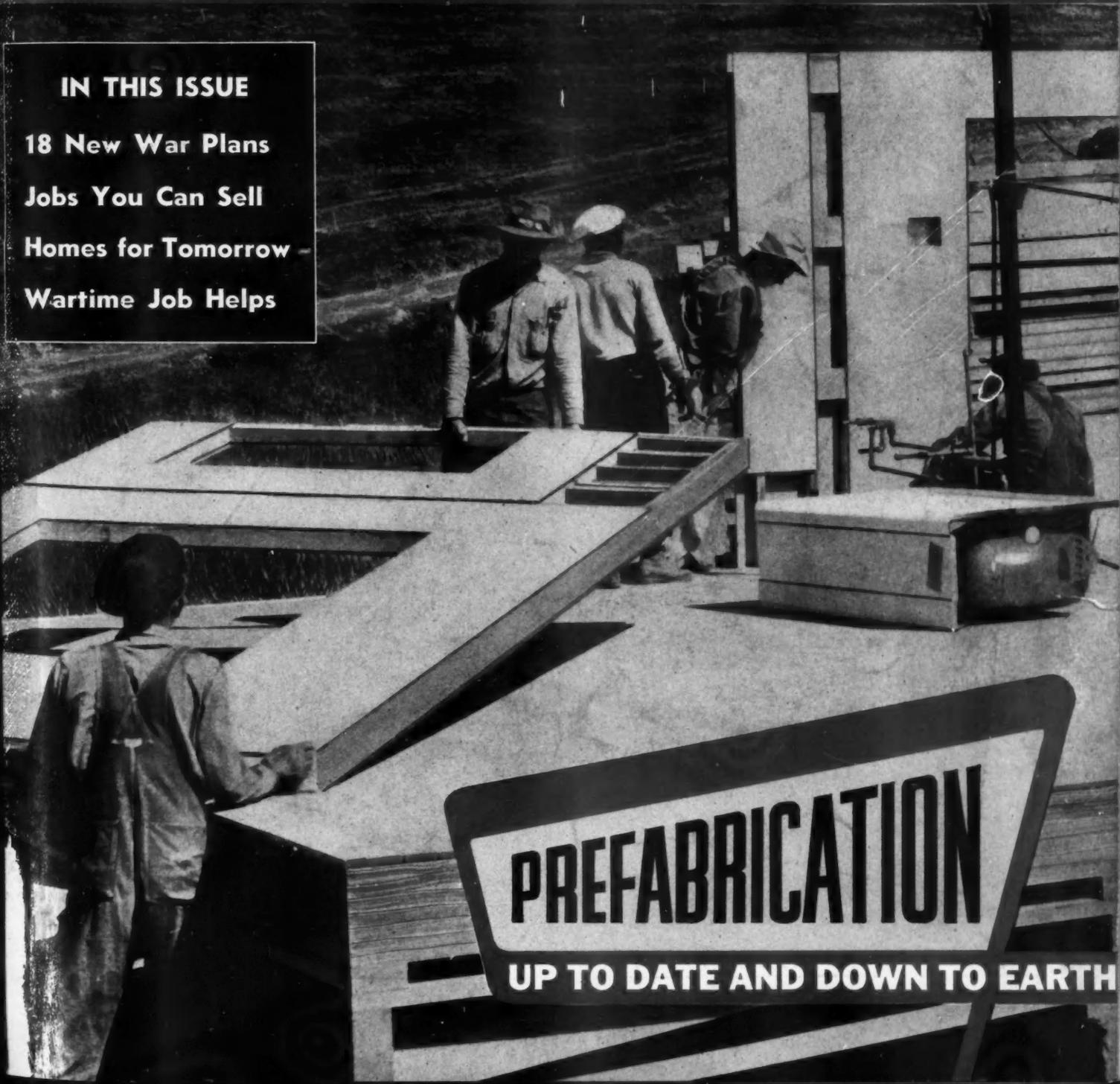
WORLD'S GREATEST  
BUILDING PAPER

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AND BUILDING AGE

## IN THIS ISSUE

- 18 New War Plans
- Jobs You Can Sell
- Homes for Tomorrow
- Wartime Job Helps



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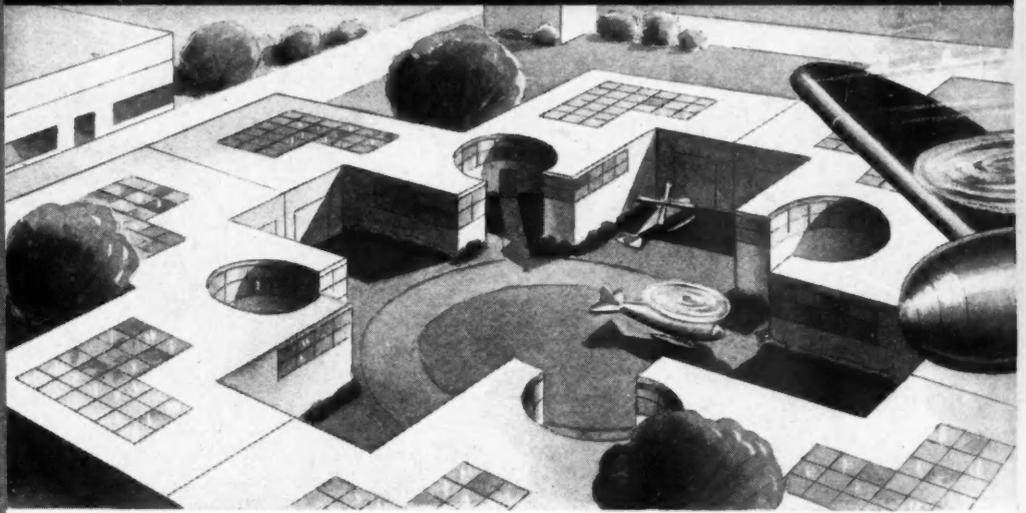
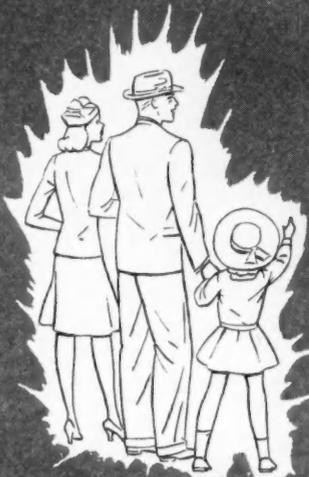
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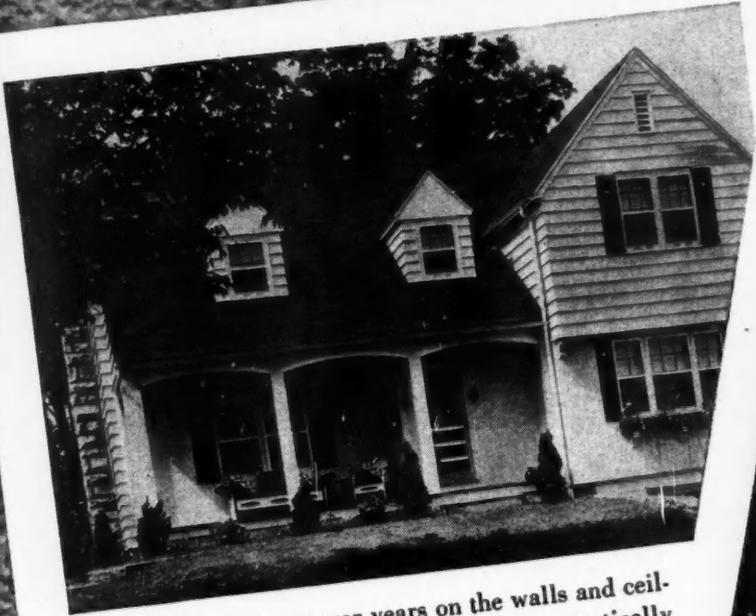
**YOU'LL BENEFIT** IN MANY WAYS FROM THE NEW SKILLS DEVELOPED IN WAR WORK. First, in a smashing victory when the full power of American production is felt on the battle fronts. Second, after the war, in new and improved products of all sorts. Kawneer has added tremendously to its store of fabricating experience in the past year—is developing new methods, new designs, new products for a better post-war world. THE KAWNEER COMPANY, NILES, MICH.



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# AMERICAN BUILDER

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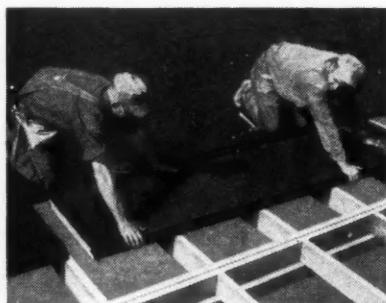
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# Publisher's Page

## The Voice of Experience

**M**ANY letters are received from readers about this page in *American Builder*. Most of them endorse, some of them condemn, what is said here. One reader recently urged the writer to fill two pages instead of one. Another demanded his subscription money back if the page was to be continued.

Send us more letters. Whether they agree with us or not we welcome them, and carefully read them all.

We are discussing the war and postwar problems of business in general and the building industry in particular now because they are of vital importance to the American people. This is especially true because the government is not only revolutionizing our national economy for war purposes, but is promoting a permanent economic revolution in the *postwar period*.

Everybody should know this. It is proved by *official documents* issued from Washington almost daily. When government bureaus *during war* openly promote a permanent revolution, it is a patriotic duty *during war* to discuss the policies and proposals intended to cause the revolution.

The revolution being promoted is substitution of a government-planned, dominated and spending economy for a private enterprise economy. This is being done upon the claim that a government economy will provide (1) more employment, (2) more construction and production, and (3) larger incomes and more security for the so-called "underprivileged." The word "underprivileged" is given a broad application. The program is really for the supposed benefit of all *wage-earners* in industry and transportation, however highly paid. And it is backed principally by leaders of labor unions and politicians seeking their support.

But wage-earners in industry and transportation are but one minority class of the people. The only question entitled to consideration is what system will yield the greatest benefits for *all* the people.

No other system ever has yielded as great benefits for all the people of any country as free private enterprise. Under real free private enterprise everybody *competes* with everybody else for economic success. Ability and effort being unequal, rewards are unequal. And the incentive of unequal rewards for unequal ability and effort is a driving force for which there has never been found any substitute. It has caused all the peacetime increases in the efficiency and volume of production that ever have provided increasing employment, incomes and living standards for all classes.

Nobody can cite any economic experience to the contrary. All history shows that the more government burdens, regulations and competes with private enterprise the less there is for every class of the people. Promoters of a government-planned economy are disregarding experience and merely *theorizing* when they contend that it will benefit wage-earners or any class—excepting government bureaucrats. Advocates of free private enterprise as best for all the people, including wage-earners, are supported by all experience.

The question being nationally debated is, then, whether we should adopt a system which has absolutely no experience in its favor, and discard a system which, wherever really tried, always has benefited all classes. If it is sane now to disregard all experience, this is the first time in human history that it ever was.

Samuel O. Drumm,



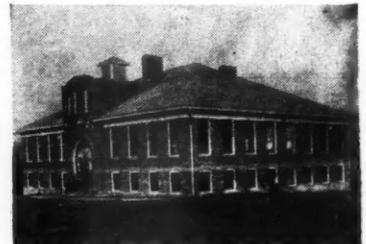
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against the ravages of **FIRE and WEATHER!**

**J-M Asbestos Shingles are  
built to last 30 years PLUS!\***  
**Can't burn, rot or decay**

When a home-owner needs a new roof in wartime, it's a sound investment for him to buy one that will last, and require little if any upkeep expense over the years. You can furnish that kind of a roof with the new Johns-Manville American Colonial Asbestos Shingles.

Consider the *extra* advantages of these shingles: They make an attractive roof of American method appearance. They're easy to apply . . . require no special skill . . . and there are fewer pieces to handle. J-M Asbestos Siding Shingles for side-walls provide equally high fire safety and freedom from maintenance expense.

For complete information, write Johns-Manville, 22 East 40th Street, New York, N. Y.

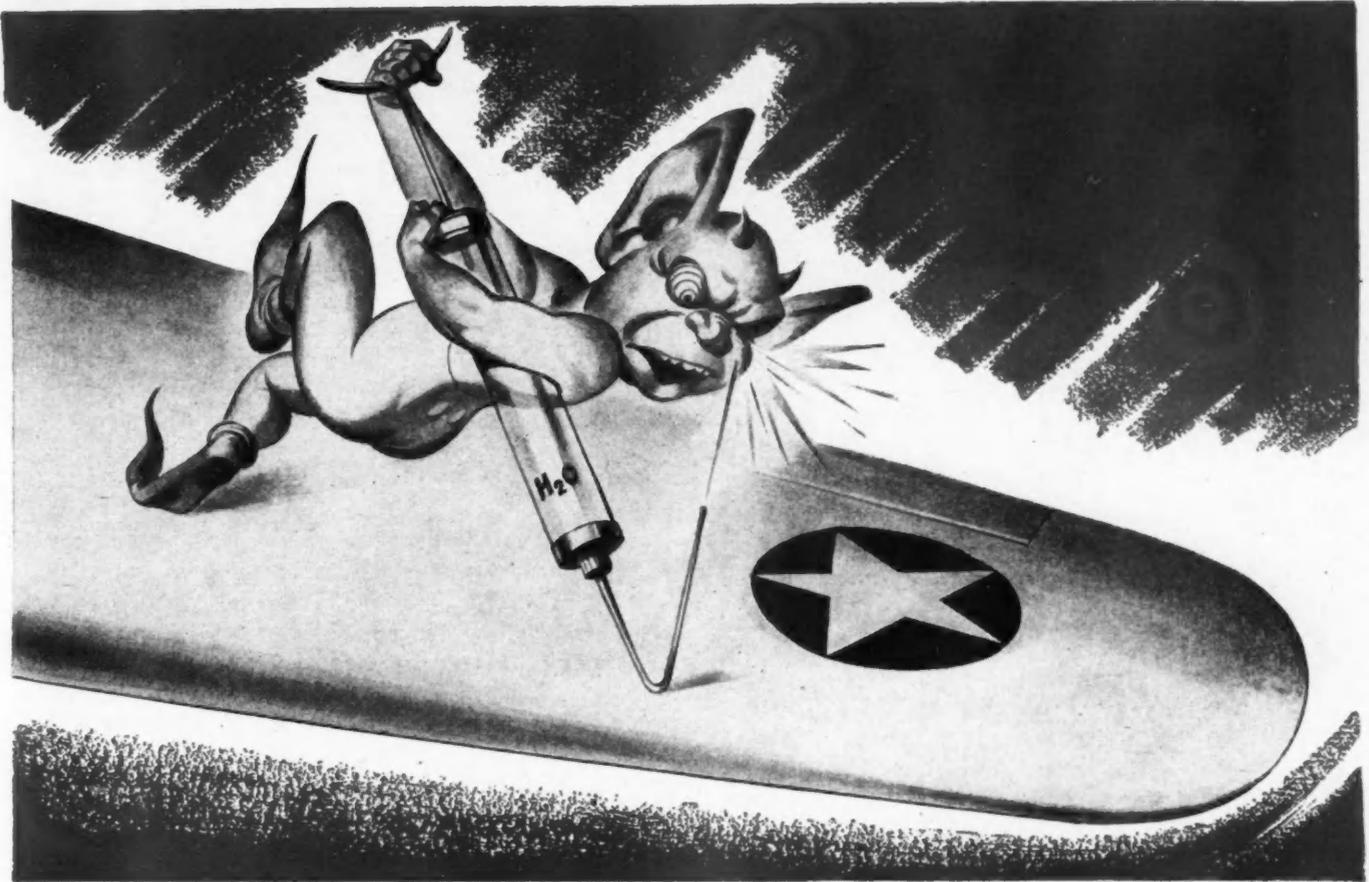


\*Thousands of J-M Asbestos Shingles have been in service over 30 years and are still in excellent condition! This school at Frankclay, Missouri, erected in 1910, is a typical example.



**JOHNS-MANVILLE**

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Was he a wet blanket, this Soppo!

Aided and abetted by high humidity, his special trick was sneaking moisture through the paint and into the wood surface of plywood trainer planes. The fun of that was the premature failure of paint and raising of the wood grain.

So, it was concluded that the paint with the highest moisture resistance would have to be used, even though it did take aluminum. And now that many plywood trainer planes are coated with aluminum paint, made with Alcoa Albron Paste, the humid atmosphere of

southern training bases is being successfully combated.

This proves nothing new to architects and builders. To give wood extra protection against moisture has long been one of the big reasons for using aluminum paint. And it is one of the reasons why...

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*Aluminum Paint*  
 AGAIN



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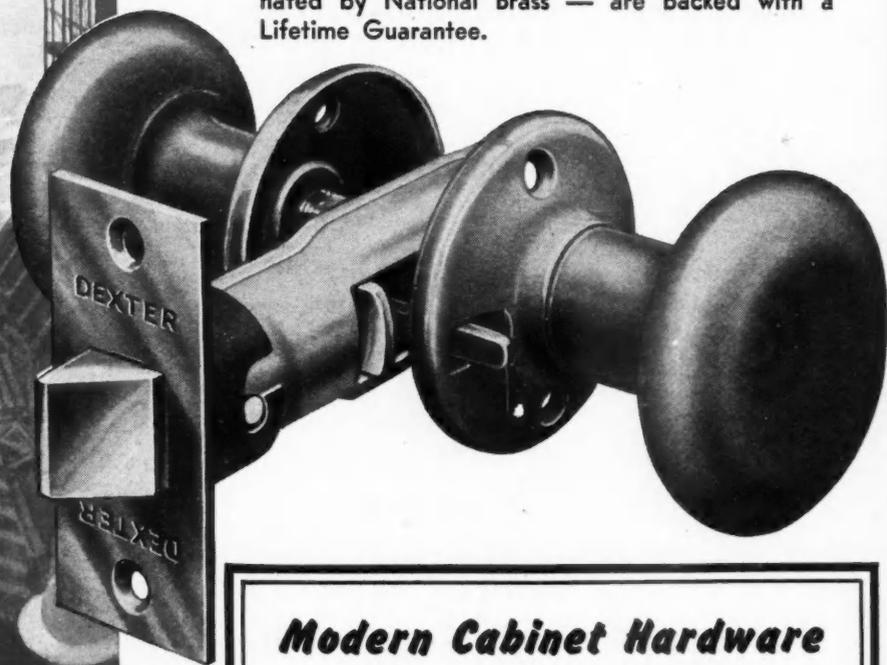
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MAKERS OF ALCOA ALBRON PASTE PIGMENTS, MADE UNDER PATENTS OF METALS DISINTEGRATING COMPANY, INC.

# DOING IT BETTER... FASTER *is the American Way*

## On War Housing Jobs **DEXTER-TUBULAR LOCKS & LATCHES** *are saving thousands of man hours*

Hours saved in production speed victory... count just as much for defense housing as in building ships and munitions. The man hours saved by the Dexter "Drill Hole Bit Guide" in the installation of Dexter-Tubular Locks and Latches total more than a half million since Pearl Harbor — vital man hours saved on important war housing. Today, when every minute counts, these significant *man hour savings* multiply the advantages and qualities of Dexter Tubular. Remember, too, Dexter-Tubulars — originated by National Brass — are backed with a Lifetime Guarantee.



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**Appealing for Colorful Style  
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National Brass Company Modern CABINET HARDWARE and the Dexter-Tubular Commander line conform with the specifications given in the War Housing Manual dated December 12th of the War Production Board and can be promptly supplied to those with qualifying rating. If you do not have both the Handy Reference Cabinet Hardware and the Commander Line Catalog, write for your copy. Let us serve you.

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# Washington News Summary

## More War Housing Needed—Blandford

### Repairs Plus Construction Termed New Construction

#### Passage of Title VI Bill Deemed Probable; Finance 100,000 Additional Houses

Although the new Title VI bill will be approved with probably no opposition, the House Banking and Currency Committee is bothered by the fact that not enough emphasis is being placed on home ownership in the program.

One of the problems has been the necessity to increase the volume of insurance authorized because the FHA is now handling over 85 per cent of the total amount of new residential construction as compared to 50 per cent at the time of last authorization and the amount of average loan has climbed due to increased construction costs and is now \$4,300 against \$3,800 last spring.

A new bill sponsored by chairman Steagall of the Banking Committee increases the insurance ceiling to \$400,000,000 and extends the present expiration date of June 30, 1943, for another year. The new volume of insurance will be sufficient to finance somewhere between 90,000 and 100,000 houses on the basis of an average loan of \$4,300.

A note of encouragement is lent the entire building situation by the fact that a strong sentiment prevails in the Congress that private industry should have the first call in meeting the housing needs of war workers.

Commissioner Ferguson has pointed out that the Title VI program has not imposed a strain on the government, for foreclosure proceedings have only been instituted on only one project so far and the FHA has not had to dip into the funds previously set up by Congress to meet losses. It was also pointed out that unless there is a continuation of Title VI, the government will have to finance the entire amount of war housing through greatly enlarged appropriations for public construction.

#### Plywood Replacement on PD-Ix

Chief news of interest regarding plywood control is the fact that distributors should apply to the War Production Board on Form PD-IX for ratings for replacement of stocks. The object of Limitation Order L-150a was to enable plywood distributors to refuse to sell plywood from their stocks unless the orders were rated AA-5 or higher.

### New L-41 Amendment Draws Strangle-Hold Tighter on Industry

A revised definition of what constitutes maintenance and repair of a building is contained in an amendment to Conservation Order L-41, which was made effective Feb. 19. The new definition specifically designates that where a single job is partly maintenance and repair and partly new construction, the whole project will be considered new construction and subject to Order L-41.

In addition, the amendment reduces to \$200 new construction which may be undertaken, without specific authority, by a number of manufacturing enterprises which are not essential to the war program. Moreover, the amendment applies to private dwellings and commercial structures.

Under the new definition, maintenance and repair means the work that is necessary to keep a structure in sound condition, but does not include any building operation involving a structural alteration or change in design.

1. Provision is made for emergency work on any damaged structures for the protection of the structure and the public.

2. In prohibiting construction in violation of L-41, the amended order forbids not only the beginning of such construction but also forbids carrying on or participating in the work.

3. The cost of construction as defined in the order has been narrowed to exclude financing and insurance charges as elements of cost.

4. The exemption of certain types of agricultural construction is permitted to reflect the USDA rationing program.

### Some Clarity Emerging in Washington Regulations Governing Construction

#### But Interpretations Reveal an Unattractive Future for In- vestors in New War Housing

Out of the maze of Washington orders and restrictions affecting building, some clarity is at last emerging.

The new war housing standards have been issued and are published in full on pages 48-49 and 86. The joint declaration of policy of the War Production Board and the National Housing Agency has been further implemented by revisions relating to preference rating Order P-55. Administrator Blandford has definitely stated that 170,000 new starts must be made in addition to the 80,000 dwelling units now under construction and has stated furthermore, that this is a minimum estimate required for housing immigrant war workers. And finally, it appears that the new Title VI bill will be approved with virtually no opposition.

Among the clarifications is the ruling regarding retroactivity of some of the rules recently applied to building. A general statement approved by Administrator John B. Blandford, Jr., and made by Leon Keyserling, explains:

"To give reasonable assurance that the rules will not be changed in the middle of the play in the future, the new rules are made applicable only to houses begun on or after February 10, 1943. With respect to all housing begun before that date, the original rules contained in the priority application or in other relevant documents under which such housing was started are not changed. In order further to avoid retro-

*(Continued next page, col. 3)*

## Curb Government Agency Non-War Building

In line with the policy of curtailing non-war work, to free materials, equipment and other resources for essential war uses, construction projects totalling \$1,214,850,897 have been stopped during last twelve weeks.

Greatest savings resulted from the stopping of miscellaneous WPA projects which, if carried out, would have cost an estimated total of \$413,000,000. Power and irrigation projects totalling \$348,412,577 were stopped. Some less essential army and navy projects

costing \$69,772,200 and \$113,243,858 were also halted. Housing projects stopped, totalled less than any of these, approximating \$1,370,000.

Types of projects halted included State and National highways, bird refuges, fish hatcheries, reclamation projects, power projects, both publicly and privately financed, housing, schools, irrigations, and others which could not meet the test of essentiality.

## Iron and Steel Quota Lifted; Provide More Boilers, Repair Parts

Iron and steel quotas for the manufacture of low-pressure cast iron boilers for war housing and civilian replacement needs including repair parts for such boilers, have been increased for the first six months of 1943 by an amendment to limitation order L-187 which became effective February 13. Abnormal seasonal requirements for repair parts caused by reduced supply of new boilers and by conversions from oil and gas-heating units to solid fuel burning types has hampered the industry in meeting demands. The amended order slightly increased the weight of iron and steel that may be assembled and shipped in the form of completed boilers.

## Blanket Authorization Up to \$10,000 for Large Buildings Under New Priority Procedure

A new procedure covering priority applications for maintenance work on large buildings has been announced.

WPB states that this procedure relates to such structures as office buildings, apartments and hotels. Under this plan all miscellaneous construction jobs costing up to \$10,000 that are necessary for the maintenance of large buildings may be included in a single application or blanket authorization. The previous limit was \$5,000. Applications must describe proposed construction work and include dollar value of each job as well as quantities of materials to be used and the period of time needed for the work.

## New PD-105-s Forms Simplified; But Add a Complete Statement

New Forms PD-105-s covering every phase of residential war housing construction are now available. This is a simplified form which is to be filed with the local FHA office. The instructions are specific and should be carefully followed. Emphasis is laid upon the completeness of the original application. If additional space is required, attach a supplementary statement and do not be afraid of how explicit and detailed a report you give. For incomplete or inadequate information will delay consideration and probably result in the rejection of your project.

## Restrictions on Eight Items of Plumbing Fittings Relaxed Permit Assembly Until Mar. 15

Restrictions on manufacture of certain specified plumbing fittings have been temporarily eased by an amendment of limitation order L-42. Eight items of plumbing fixture fittings and trim are affected: two-valve over rim bath faucets; two-valve bath and shower combinations; double bath faucets; lavatory compression faucets; lavatory combination assembly less pop-up waste; two-valve shower assemblies; sink faucets; sink combination swing spout

faucets. Amendment permits assembly by producers until March 15, 1943, of materials frozen in stocks or in stocks of other producers on June 15, 1942. Use of copper or copper base alloys is still prohibited in the assembly of these fixtures.

## Repair and Conversion Program Will Be Curtailed if Title I Is Allowed to Expire June 30

Members of the House Banking Committee are asking FHA officials what they intend to do about the extension of Title I which expires June 30. Aside from the fact that Title I provides a convenient and attractive financing plan for keeping the Nation's homes in repair, at a time when new construction is being curtailed, it is proving valuable in connection with the program for converting houses into war apartments. An increasing amount of conversion work of this nature is being handled. What is finally done about Title I extension may be a tip-off. For its extension would reduce the amount of work the government would have to do under its conversion program involving the leasing of private homes.

## Appoint F. C. Dresser to Head Construction Division of the WPB

Appointed director of the construction division of the War Production Board was Ferdinand C. Dresser of Cleveland, Ohio, to succeed William V. Kahler, who will return to the Illinois Bell Telephone Company. The appointment of Mr. Dresser was effective February 5.

## Asphalt Shingle Accessories Can Be Manufactured Now

Manufacture of accessories for completing application of asphalt shingles or tarred roofing material, such as hips and ridge shingles, starter, valley or ridge strips and corner pieces and soldier course for siding is permitted according to a recent correction of the language of footnote No. 8 in Exhibit A of limitation order L-228.

## Amendment to Order P-55

Amendments to preference rating order P-55, have brought about these principal changes:

- 1) Preference Rating Orders will be addressed to owners in the future rather than to builders;
- 2) Only critical materials which have been specifically approved may be used in war housing structures;
- 3) The owner is ordered to comply with his agreement in connection with the maintenance of occupancy standards.

## New Order Assigns Rating AA-3

Deliveries previously assigned a preference rating under P-55, P-19-d or P-19-h were automatically given AA-3 under new rating order P-19-k. This will provide speedier delivery of vital construction materials.

## Lumber Requirements For 1943 Can Be Met If Government Acts

Requirements of lumber for war uses and essential civilian needs in 1943 can be met in the opinion of spokesmen for Forest Products Industries if proper government policies are adopted. A three-point program for government action advanced by the industry includes: 1) protecting forest industries from further dispersal of their labor, especially wood's labor; 2) prompt availability of needed maintenance equipment and repairs; 3) revision of depletion provisions of income tax laws.

## More Housing Needed

(From preceding page, col. 3)

activity, the new rules state that private war housing has begun, on the date that a properly executed application, for priorities assistance, or authority to begin construction, is submitted rather than on the date when construction is begun."

This means that if the application was filed prior to February 10, the new rule regarding rental for four months to a war worker does not necessarily apply.

On the other hand it is allowable for the builder or owner to apply the new and broader war-worker definition instead of the older and narrower war-worker definition previously applied to such housing by the priority application.

Despite the liberalized clarification for housing begun prior to February 10, it appears that, particularly in relation to sale of war housing, the clarifications reveal a most unattractive future for anyone who wishes to invest capital in these houses.

Examine the following dictums:

The tenant shall not be obligated to purchase, and the options shall run only in behalf of the tenant;

No payment shall be required in any one month in addition to the listed monthly payments while a tenant, which monthly payments shall not exceed the fair rental for the dwelling units under an ordinary landlord-tenant relationship not coupled with an option to purchase;

The option shall continue in effect for at least thirty months unless sooner exercised; and,

The occupancy and disposition provisions shall continue to apply to such housing after the option is exercised, or terminated, for the duration of the national emergency declared by the President on September 8, 1939.

Only one ray of light falls obliquely over the picture and that is: "that anytime subsequent to sixty days after completion of any such housing, the owner of such housing may petition the National Housing Agency in accordance with NHA General Order No. 60-3 to permit such housing to be disposed of otherwise than as provided above."

The new rule regarding rental provides that the standards of occupancy apply also to reoccupancy, which means that if one war worker lives in a house four months, and leaves the property, it must still be held for rent to some other war worker who must live there four months before he could buy the property.

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



Take some Brixment mortar and some 50-50 lime and cement mortar. Try shoving a full head-joint with each mortar. You'll find that with the Brixment mortar



(1), it is much easier to shove the brick accurately into place, with a full head-joint, than it is to do the same thing with the other mortar (2).

## **BRIXMENT** *Makes a More* **PLASTIC Mortar!**

One of the most important characteristics any mortar can possess is *plasticity*. Within certain limits, plasticity is the greatest single factor not only in the *economy* of the brickwork, but also in its strength, its neatness and its resistance to the passage of water.

One of the most outstanding characteristics of Brixment mortar is its unusual plasticity. For nearly twenty-five years, bricklayers all over the United States have agreed that the working qualities of Brixment are comparable to those of straight lime putty. This exceptional plasticity makes it easy for the bricklayer to secure neat, economical brickwork, with the brick properly bedded, and

the joints well filled. And because of this unusual plasticity, a bag of Brixment will carry three full cubic feet of sand and still make an ideally workable mortar.

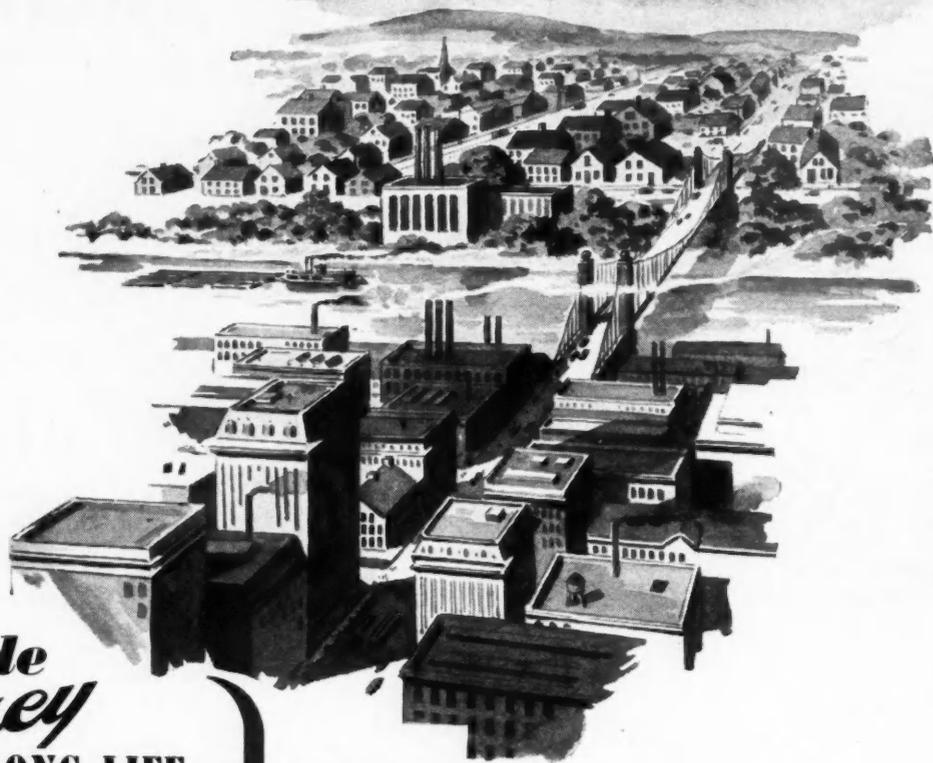


# **BRIXMENT**

## **For Mortar and Stucco**

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

# PROTECT... Your COMMUNITY'S BUILDING INVESTMENT



## Provide *Carey* LONG LIFE PRODUCTS for repair and maintenance



**ROCK WOOL INSULATION**  
Saves fuel and transportation . . .  
aids the war program.

### ASBESTOS-CEMENT SIDING

Fireproof . . . rot proof  
... Painting not essential.



### ASPHALT SHINGLES—INDIVIDUAL AND STRIP

Protect property against  
weather and damage. Avail-  
able in a wide range of colors.



### "TRI-TONE BLEND" SHINGLES

Architectural beauty at rea-  
sonable cost. Reduce fire  
hazards, maintenance and  
repairs.



### ROLL ROOFINGS

Wear longer . . . cost less per year.



### ASBESTOS-CEMENT WALLBOARD

Easy to apply . . . fireproof  
... rot-proof.



# T

O maintain unimpaired for the duration America's tremendous national asset in homes, commercial, industrial and governmental buildings—is a vital need in our wartime economy.

In meeting this need, Building Contractors are in the front line of defense. They should perform an important service in educating their communities to the importance of making necessary repairs quickly—before the damage can spread; also through proper maintenance of property to prevent damage.

By using Carey Long-Life Products for these needs, you provide ultimate service and satisfaction because Carey Products have the inherent quality that makes them wear longer thereby reducing upkeep and conserving manpower.

Through continuous research and testing, CAREY quality is rigidly maintained and the number of money-saving products increased, offering you a diversified line with which to meet your customers' present needs—on which to build a more substantial after-war business.

Write today for full information. Address Dept. 10.

## THE PHILIP CAREY MFG. COMPANY

Dependable Products Since 1873. Lockland, Cincinnati, Ohio

IN CANADA

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



RECOGNIZED  
*Experience*

*New Airplane  
Engine Plant in  
the Middle West  
Designed  
by Albert Kahn,  
Associated Architects  
and Engineers, Inc.,  
Detroit.*

ONCE MORE, Minneapolis-Honeywell helps those who help! In this new airplane engine plant in the middle west, M-H Controls govern conditions to help speed production. • No matter what control requirements may be—whether for a sleek, new modern building like this outstanding plant designed by Albert Kahn—or for an

older plant being converted to war production—Minneapolis-Honeywell has the experience, the knowledge and the facilities to produce exactly the results desired—at minimum expense. Minneapolis-Honeywell Regulator Company, 2842 Fourth Avenue South, Minneapolis, Minnesota. Company owned branches in 49 principal cities.

MINNEAPOLIS-HONEYWELL  
*Regulator Company*

# On and Off the Record

by *Structor*

## News, Views and Comments

**PERENNIAL SUBJECT**—You can't escape hearing, talking and reading about prefabrication—the "Infant Terrible" of the building industry. In all the smoke there is surely some fire and the job of practical building men is to get down to the facts. As to engineering, planning, new techniques and organization there is much to be learned.

**WHAT ABOUT LABOR?**—Prefabricators usually claim that their big advantage is in lower labor costs. But will that last? When these plants become unionized it would seem they will be paying at least one dollar an hour. When you include plant shut-downs, overhead, cost of superintendents, a normal amount of idleness, and the actual cost of maintaining and owning the plant, it seems difficult to believe that one dollar an hour labor in the plant can compete with one dollar and a half labor at the site.

**SIX QUESTIONS**—A canny friend who has been approached by many men with ideas for prefabrication says he has six questions that must be answered FIRST. Here they are:

1. Can you possibly maintain a steady volume of ten houses a day considering how uncertain building BUYING always has been?
2. Can you really meet shipping problems?
3. Is your labor cost—including shut-downs, overhead, superintendents, etc.—actually lower?
4. Can you actually sell such a house on a lot for less than a comparable conventional model?
5. Do you have a workable distribution set-up and local representation?
6. Do you have a house with charm, good looks and salability?

**ULTIMATE IN PREFABS**—The prefab business has brought out some striking personalities. Such as, for example, Foster Gunnison of New Albany, Ind., whose feelings certainly will not be hurt by having himself compared to Orson Welles. His prefab factory, with its half-mile long overhead conveyor on which panels are built, is a machine age marvel.

**MOBILE HOUSING**—Last week I went through a huge trailer factory which is now turning out fifty "mobile houses" a day for the government. This firm carries prefabrication techniques to their final conclusion: the whole job is delivered on its

own wheels. All the utilities are in a central trailer unit which is eight feet wide by twenty-six feet long. This central unit houses the bathroom, kitchen and heating room, and central hall. When the unit has been rolled out to the site two additional eight foot sections fold out from the central unit, providing a 24 x 26 ft. four-room, fully equipped house. It has to be seen to be believed—but I have seen it.

**HOME USE TROUBLES**—National Housing Agency's home conversion plan has succeeded, as many predicted, in becoming completely balled-up in red tape and inter-departmental confusion. It's the old story of agencies having to send endless papers back and forth between regional offices. A typical example is in Seattle where more than one hundred jobs were lined up, but had to be sent all the way to San Francisco for approval. Just a short hop, of course—unless you ever took that *thousand mile* trip.

**BIGNESS**—It's a curious contradiction that housing is the ONE industry about which so many people are advocating bigness. The general trend today is a reaction *against* bigness. Yet uninformed but nevertheless voluble reformers keep repeating day after day that what building business needs is mass production, bigger projects, bigger firms.

It's strange—especially in view of the fact that the record of mass builders in the past has been not too good. The bigger they've been the harder they've fallen.

**LONDON SHORTAGE**—With people returning to London the city is experiencing the worst housing shortage in history. Builders are now trying to get the \$400 limitation on repairs increased, or to get more permits to rebuild damaged structures. They aren't having much luck.

**NEW STANDARDS**—Just after the February *American Builder* went to press with a lead editorial lambasting National Housing Agency for the delay in issuing new war housing standards, lo and behold, they actually were issued. While the new standards relaxed the lumber requirements somewhat and permitted rooms to be a few feet larger, they are still so severe as to make it mighty hard for builders to operate. Furthermore, builders are still jittery about the constant changes in rules that have been made before that have left them out on a limb.

**TIMELY FREEZE**—There is one freeze order much desired by builders: let the government freeze its restrictions, rules and regulations at some workable point so builders can be assured the rules will not be again changed in mid-stream.

**HELD THE BAG**—Several builders we know are not at all happy about their experience with war housing. One in particular in Southern Illinois built a sizable batch, after considerable urging by government officials who had studied the local housing needs. But later it developed that local requirements were far less than expected. Now these "war babies" can't be sold or rented or given away—so there they stand.

**BARKWELL'S AD**—On the highway near Grand Rapids, Mich., stands the following lively billboard:

"When Hitler Goes Back to Paperhanging  
Remember  
BARKWELL BUILDS BETTER  
Designing Engineering Building"

On the other side of the sign was this cheerful message:

"After We Slap Down the Japs—  
Remember  
BARKWELL BUILDS BETTER"

**KAISER vs. MOBILE HOMES**—In the mobile home factory I mentioned, the complete mobile house is built in twenty-four hours, ready to be rolled out to the site on its own removable rubber-tired truck.

"Henry Kaiser has nothing on us," the president of the firm told me. "He reduced the time of building a ship from four months to one-half month or about 8 to 1.

"We have reduced the time of building a house from four months to twenty-four hours—or 120 to 1!"

**MERGER PLAN**—Last month I mentioned the dispute over a similarity in names between *National Association of Home Builders of the U.S.* and *National Home Builders Association*, two separate organizations of builders. Well, apparently this won't become a legal matter after all. At the recent meeting of N.H.B.A. at St. Louis, decision to merge the two organizations was voted; provided a majority of members vote approval.



## They also serve AVIATION who never leave the ground

It takes much more than gasoline to get a plane aloft and bring it safely back.

Among the myriad items on which aviation leans is cement—ordinary, everyday, hard-working cement.

It has been Lehigh's privilege to supply cement for our air defenses, both at home and abroad for important construction such as new airplane plants, new flying fields, runways, new piers for seaplanes. Often it was Lehigh Early Strength Cement that got the call; for its ability to make service-strength concrete in  $\frac{1}{3}$  to  $\frac{1}{2}$  the normal time is a big asset in war-time work. In winter this time saving is particularly important. It reduces the danger of frost

**Lehigh**  
CEMENT

damage, reduces heat protection time . . . and cuts cost.

For better, denser concrete for war or civilian projects—at speed that means more safety in winter, more economy all year 'round—use Lehigh Early Strength Cement. The Lehigh Service Department, is always at your service, with data or counsel.

**LEHIGH EARLY STRENGTH CEMENT**  
for service-strength concrete in a hurry

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

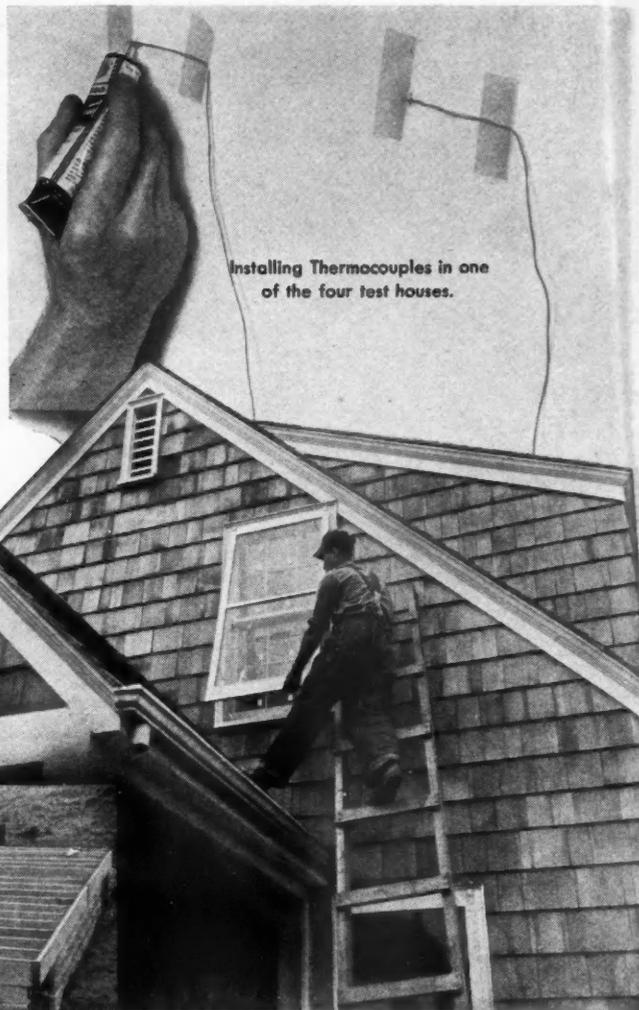
# NEW AND POSITIVE ANSWERS to these questions—

*How much fuel savings can you expect from insulation?*

*What is the comparative efficiency of various insulation thicknesses?*

*How do actual results check against calculated ones?*

*What is the difference in fuel savings when actual temperatures are used in place of theoretical?*



Installing Thermocouples in one of the four test houses.



All four houses were identical in construction.

Installing storm windows on a test house.

## WHAT *Can These Tests Tell You* About Insulation Values?

Up until now, "calculated" or "estimated" results have furnished the yardstick for measuring insulation value. Today, you need no longer rely on such approximations. Today, authoritative, scientific data—based on actual insulation performance—are yours for the asking.

To obtain these data, Wood Conversion Company, manufacturer of Balsam-Wool, built four identical test houses. Throughout an entire heating season, the houses were heated under rigidly controlled conditions. Thermocouples in 43 positions gave accurate temperature readings.

Such Wood Conversion insulation tests are a part of this company's continuous research program. They are embodied in a report that is yours for the asking. For new light on insulation values—for a new and more positive yardstick of insulation performance—send for your copy today.

# Balsam-Wool

SEALED INSULATION

WOOD CONVERSION COMPANY  
Dept. 119-3, First National Bank Bldg.  
St. Paul, Minnesota

Please send me complete scientific data on the Wood Conversion Company insulation tests.

Name .....

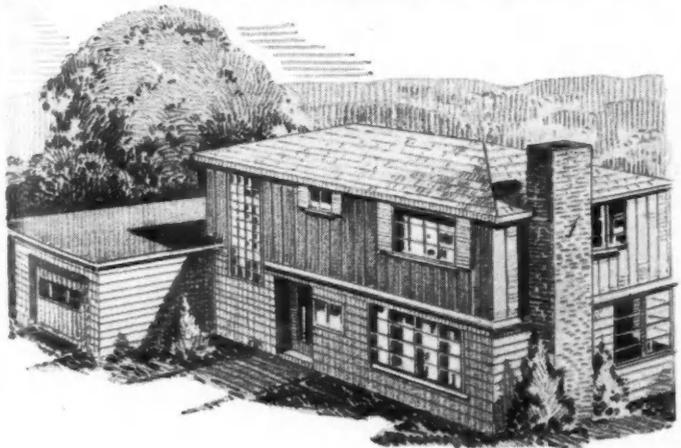
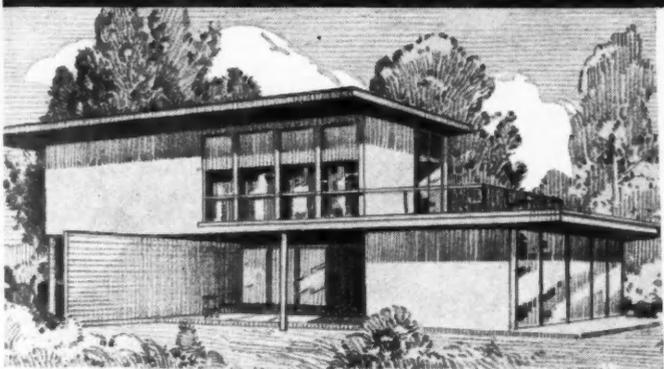
Address .....

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



# HOMES FOR 194X

*Are being planned today*



CERTAINLY home construction is due for a rapid expansion when the war is won; and thinking is already far advanced on planned communities, pre-fabrication and other developments that may mean a new conception in the planning of America's dwellings.

In keeping with this advanced thinking, Crane designers are right now developing ideas, experimenting with new materials. Out of their planning may come a radically different approach to the bathroom and kitchen of tomorrow.

But whatever fixtures the Crane postwar line includes, architects may be sure that they will embody the same regard for beauty, style and sanitation that has always characterized Crane Equipment.

# CRANE

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

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

# Letters

## from Readers

Facts, Opinion and Advice  
Welcomed for This Dept.

### Built 800 Houses Last Year

San Francisco, Calif.

To the Editor:

The splendid work being done by your staff deserves the fullest support of all branches of the building industry. At a later date I hope to submit to you an interesting report on private war housing. I built practically 800 houses during the last year and am starting a 700-house project under Title 6, FHA in Richmond, California.

I believe some of our methods will be interesting to every builder and a whole-some comparison with public housing.—  
DAVID D. BOHANNON.

### Wants More Builder Education

Lafayette, Ind.

To the Editor:

You are to be congratulated upon your editorial on page 31 of the January issue.

We have often wondered how it was possible to get three thousand dollars worth of equipment into three thousand dollar houses, and we agree with you that it can't be done, and we might further comment that that isn't the way to do the job.

We also believe that it is going to be a matter of evolution and not revolution in the field of housing. We would urge, however, that a big league program of education be undertaken to get the builder to accept the *worthwhile changes and improvements* that have been developed, and it seems that in the very limited time available the trade press is the one and only way to do the job.

Some day we may have sufficient information to justify Purdue in offering education in the field of housing, and in the meantime our researches will continue strictly in the field of very low cost housing, and we now operate with the belief that there are only two ways to provide better housing at a lower cost. One is to reduce the amount of materials, and yet use the smaller amount of material to greater advantage. The other is to reduce the total amount of man hours required for construction, and by so affecting this premise we can provide better and simpler housing at lower cost; we automatically broaden the market.

We agree for the most part with "What to Expect" as written by Randolph Evans. We would put greater emphasis, however, on rural and country homes.

Whatever your new editorial policies may be, let them put more emphasis on

builders' education, as you are starting out to do.—CARL F. BOESTER, Housing Research Division, Purdue Research Foundation.

### Will Print Back to Back

Winnipeg, Man.

To the Editor:

I must commend you on the American Builder's Handy Book Job Help sheets. The information contained therein is concise, clear and particularly useful.

However, may I make a suggestion, which I think would add to their value?

Could you arrange these sheets to be printed on a page with a blank back?

To save in paper they might be printed one on one side of the page and one on the reverse side, directly over each other, so that they would coincide with each other and one would have a finished sheet of size 3" x 5" with information on both sides, which sheet could be filed to make a notebook complete with all the information. As you notice in your February issue this cannot be done, as the sheets are not directly over one another.—H. W. LEVIN.

### Need Better Merchandising

Bridgeport, Conn.

To the Editor:

I was considerably intrigued by your editorial, "Transition from War to Peace." You mentioned the importance of "desire," but the preponderant inference seems to be that if the building industry's values are greater, its competitive troubles will be less. I venture the opinion that this doesn't necessarily follow.

As I see it, "value" is not an automatic absolute quality—instead it's largely *whatever we make it*. Today automobiles cost about twice as much as they did twenty years ago, but I doubt that by any fundamental standards their *value* is twice as great. Every automobile manufacturer has a *national market* and therefore automobiles have been *nationally merchandised* and promoted for many years—but the same situation does not exist in housing.

The automobile industry has accompanied a good intrinsic value by a fine national merchandising job which influenced the public's *idea* of value to the industry's advantage, and as a result the importance of price has been minimized. Isn't there a need for better and more extensive consumer-merchandising of the end-products in the building field (e.g. houses), to kindle a desire for homes and home ownership and to build an appreciation of value, if the house building industry is going to

expand as much as it should?—C. W. STUART, Manager, G-E Home Bureau.

(The point made by Mr. Stuart, that to provide an adequate market for anything *the public must be made to desire it*, is of the utmost importance to the home building industry. This paper has no quarrel with the automobile industry. But it is a very important fact that in peacetime there is intense competition *between different industries* for the people's money. It is also a fact that between World War I and World War II the principal competitor of the home building industry was the automobile industry. And it is also undoubtedly a fact that, for reasons indicated by Mr. Stuart, the automobile industry was the more successful in this competition.

There will be a huge *potential* market for the home building industry as soon as the war ends. But so will there be for the automobile and other industries. The extent to which each industry will benefit will depend on how aggressively and skillfully it begins cultivating this potential market, nationally and locally, before the war ends and continues doing so after the war. And the way the automobile industry makes the public desire good automobiles can teach the home building industry, nationally and locally, a lot about how to make the public desire good homes.—  
Editor)

### Little Fellow Suffers

Chatham, Mass.

To the Editor:

I have been in business for 13 years and now I am forced to give it up due to the restrictions on building. That is alright to a certain extent, but, locally there is Government work being done and contractors from the various parts of the country doing the work, whereas the local builder has to lay off his help.

I believe the local builder should have more respect in these projects—as he knows the conditions that prevail in his locality and the work could and would be done by him or them cheaper and to the benefit of all concerned.

What is the answer to all this? Politics—and the little fellow is too little.

How about it? I have read the *American Builder* for years and have enjoyed and learned considerable from it. It seems to me you could use your influence (which I believe you have) in helping to correct some of these bad set backs for the local builders. And I do not mean in my locality alone.—D.E. HOWES.

# Uni-point Cutting \*Guarantees Greater Production Per Man Hour!



Show this page to your superintendent and ask him True or False—?

Here's the answer! An answer also to the need for greater daily production!

If our engineers had chosen to design a machine with a stationary column in the back and a long swinging arm, our saw blade would necessarily cut into the material at a point in the guide fence wherever the CUTTING LINE OF ANGLE AND GUIDE FENCE INTERSECTS—A DIFFERENT POINT FOR EVERY ANGLE. Note diagram (A) and the five points representing any five different angle cuts.

Based on half a century of building woodworking machinery, our engineers instead designed a machine so that the saw blade would always enter the material at the SAME POINT IN THE TABLE regardless of cross cut angle, vertical, horizontal or compound miter. Note diagram (B) and the ONE-POINT CUTTING regardless of the angle of cut.

Woodworkers everywhere consider UNI-POINT a revolutionary advance in machine design. Why? Well, look at diagram (A) again! Suppose you were in production angle (5) and changed to angle (2). Note the distance between the two points at the guide fence. Because the second cut would be cutting across the table at some other point, it would be necessary to change the stops of gauges and reset the work accordingly.

Now look at diagram (B) and it will be observed that with ONE POINT CUTTING THE UNI-POINT WAY, such adjustments, changes and resetting of work never become necessary.

This is only one example of the many multiple motions eliminated many times each day, every day, by Uni-Point simplicity.

Naturally, if an operator spends 20% or 30% of each hour making changes, machine adjustments, waiting for saw blade to stop, and resetting work, he will do only 70% or 80% of the production, which is another way of saying his work requires 80 or 90 minute-hours to do 60-minute jobs.

Yes, Uni-Point guarantees greater production per man hour in more ways than one!

\*Uni-Point Cutting means the saw blade always enters the material at the same point in the table, regardless of whether saw is set vertical, horizontal, or compound miter cross cut angle.

Write for Catalogue No. 60

We also manufacture "modern design" Saw Benches, Band Saws, Jointers, Planers, Lathes, Shapers, Mortisers, Sanders, Swing Saws, as well as a complete line of Saw Mill Machinery.

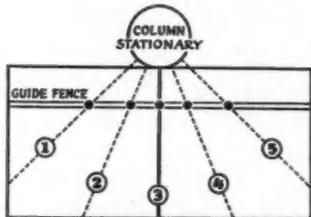


DIAGRAM A—The Old, Slow, Costly Way. Saw enters work at different point for every angle.

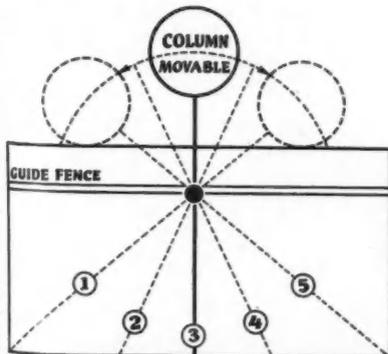


DIAGRAM B—The New, UNI-POINT, Eminent Way. Saw always enters work at same point regardless of angle. Saves 20% or more per man-hour.



## AMERICAN SAW MILL MACHINERY CO.

HACKETTSTOWN, NEW JERSEY

**SAVES FUEL OIL...  
SAVES LABOR...  
...and makes a  
BETTER ROOF**



**FLINTKOTE COLD PROCESS ROOFING . . . a complete, tested system  
for cold-applied Roof Maintenance and Re-roofing**

Wartime conditions demand conservation and economy. Roofs must be kept in tip-top shape to protect buildings and costly . . . often irreplaceable . . . equipment. Proper roof maintenance is a wartime must.

Thousands . . . literally thousands . . . of "flat" roofs in all parts of the country are in *immediate* need of repair or replacement.

Flintkote Cold Process Roofing provides a complete, tested system for the cold application of proven materials in roof maintenance, re-roofing and new built-up roof construction.

Flintkote Cold Process Materials are applied cold! No fuel oil . . . no heating . . . no fire hazard. Save time and labor.

The weathering surface of a Flintkote Cold Process Roof is *Static Asphalt* . . . bitumen in its most usable,

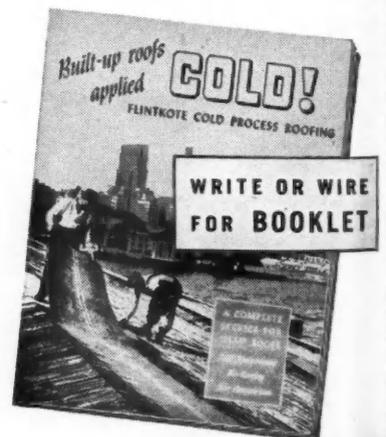
most protective form. It will not slip or flow under heat, crack at low temperature nor carbonize through aging.

A free booklet for anyone interested in "flat" roofs describes repairs, renewal and re-roofing by the exclusive Flintkote Cold Process . . . and gives specifications for 10 to 20 year bonded roofs.

This illustrated booklet tells about Cold Process Materials . . . Static Asphalt. Cold Process Felt, Reinforcing Fabric, Roof Saturant, Col-Ply Cement and Fibrex Cement. For your copy, please write The Flintkote Company, 30 Rockefeller Plaza, New York, N. Y.

**COVERS** wood, concrete, gypsum and steel decks, with or without insulation.

**PROTECTIVE COATING** for metal roofs and buildings. Prevents rust, saves irreplaceable steel.



**FLINTKOTE** Building Materials



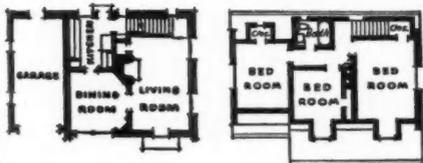
New York · Atlanta · Boston · Chicago Heights · Detroit · East Rutherford · Los Angeles · New Orleans · Wash

# Every room in your postwar homes should be FLOODED WITH SUNSHINE



### MARCH'S POSTWAR IDEA FOR BUILDERS

Construction cost of this 1½-story "Economy House" is low, due largely to its simple design and compact plan. Yet it provides 3 bedrooms. The interior is abundantly daylighted by windows of generous areas—a postwar essential.



In America's postwar houses, *blackouts* will be replaced by *whiteouts*—every room warmly daylighted by generous windows, such as Fenestra . . . Owners will also want Fenestra's better ventilation, easier opening, safer washing, better screens, more economical storm sash—plus lower first cost and installation cost.

### Warehouse Stocks Still Available

Fenestra's manufacturing facilities are now almost entirely engaged in the production of vital war materials. However, warehouse stocks of New Fenestra Package

Windows and other types of Fenestra Residence Casements are still available now, under proper priorities. Consult nearest Fenestra Branch Office.

DETROIT STEEL PRODUCTS COMPANY  
Dept. AB-3 • 2260 East Grand Boulevard • Detroit, Mich.

# Fenestra PACKAGE Windows

and steel  
roofs and  
replace-

WIRE  
KLET



beans - Wash

# 12 YEARS of Research Brings You Sturdy, Permanent, Co



## Meets All Government Requirements as to Critical Materials, Heat Loss Factors and Structural Stability

**Ideally Suited  
for Operative Builder  
Developments or Group  
Housing by Industries**

—  
**SHOP FABRICATION OR  
SITE ASSEMBLY METHODS  
WILL BE EXPLAINED  
BY CELOTEX ENGINEERS**

**C**EMESTO combines exterior and interior finish, plus insulation, in a complete fire-resistant wall unit of remarkable structural strength. Celotex Roof combines sheathing, insulation, and roofing. These two new multiple-function materials and the Cemesto house they have made possible are the results of twelve years' research.

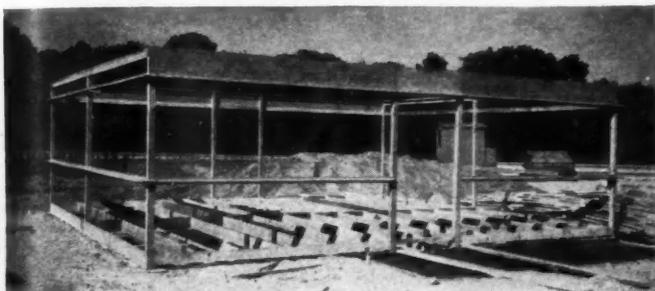
Cemesto houses are *permanent* homes, pre-engineered for mass production. They are ideally suited for privately financed developments or

projects by industries requiring group housing. Although they are not prefabricated, they make use of ideas used in prefabrication, cutting construction costs to a minimum. They meet rigid government requirements as to critical materials, heat loss factors, and structural stability.

Write to us, describing in detail the project which you are considering, and a Celotex engineer will call to present full particulars concerning the Cemesto house, and how it can fit your needs.

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

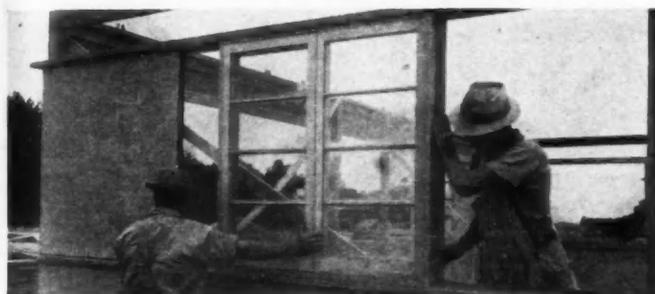
# gives You the Cemesto Home that is Comfortable, Economical



**1** Floor and wall framing are erected on concrete piers or continuous foundation walls.



**2** A sheet of 1½" Cemesto is being applied to the lower section of wall. Panel is 12' long, 4' wide.



**3** Wood casement window, complete with frame, is slipped into place. All elements are pre-fitted.



**4** An end roof truss, equipped with ventilating louvres, is fitted into position in a matter of minutes.



**5** All roof trusses have now been installed. These are put up at the rate of about one per minute.



**6** Celotex Celo-Roof combines insulation and roofing and is applied direct to roof trusses.



**7** Walls and roof are now complete. Houses are finished at the rate of 20 per day on recent projects.

Let This **FREE** Booklet  
Tell You All The Facts!

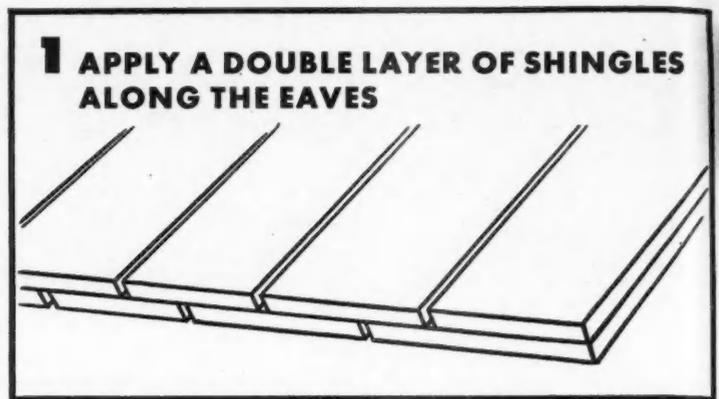


THE CELOTEX CORPORATION, CHICAGO AB 3-43  
Please send my **FREE** copy of your 28-page booklet, "A Vital Contribution."

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Address \_\_\_\_\_  
City \_\_\_\_\_  
County \_\_\_\_\_ State \_\_\_\_\_

# THESE SIMPLE RULES *Build* GOOD ROOFS

A GOOD ROOF is great satisfaction to both builders and owners. We are happy to submit these few simple rules for the construction of a Certigrade Red Cedar Shingle roof... positive insurance against "kick-backs."



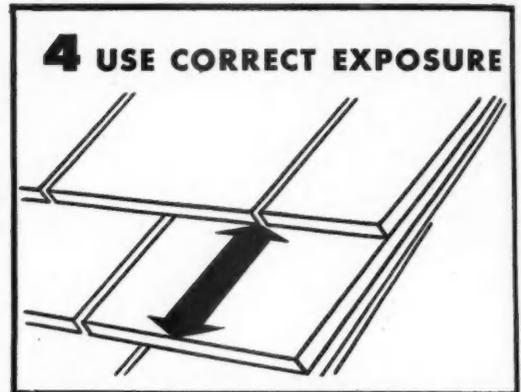
**WHY?** By applying upper layer so that no joint (shingle edge) is closer than 1 1/2 inches to the joint beneath, complete coverage is made and danger of roof leakage is avoided. This same "staggering" should be followed throughout the roof. If carefully adhered to, leaks are extremely remote possibilities in a roof built in this manner.



**WHY?** Nails must conform to the thickness of the shingles on the roof. For 16-inch and 18-inch shingles, use 1 1/4-inch (three-penny) nails. For 24-inch shingles, use 1 1/2-inch (four-penny) nails. Be sure that nails are rust-resistant. When shingles are nailed as directed in No. 3, the overlapping of the succeeding courses completely covers the nails and protects them from the elements.



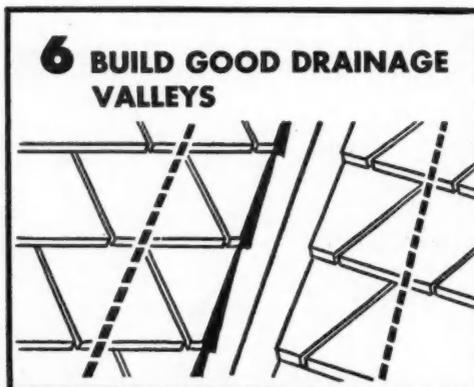
**WHY?** Two nails are sufficient. Additional nails restrict expansion and contraction of shingles. Nails should be driven approximately 3/4 of an inch from each edge of shingle and about 1 1/2 inches above butt line of shingles to be applied in next layer.



**WHY?** Choose a weather exposure that provides no less than three layers of shingles on all parts of the roof. Use a 5-inch exposure for 16-inch shingles, 5 1/2-inch exposure for 18-inch shingles, and 7 1/2-inch exposure for 24-inch shingles. This triple layer achieves a "bridging" effect, strengthening the roof and effectively insulating the building. Some carpenters use a strip of lumber as straight-edge against which to lay shingles; others use chalk line; others use shingling hammer with gauge.



**WHY?** This spacing allows adequate room for the shingles to expand during rainy weather. It also permits ready drainage and dissipation of moisture. These joints must not line up in successive courses of shingles.



**WHY?** To permit free run-off of rain water, exposed portion of valley should be at least 4 inches wide. Build valleys of rust-resistant metal. On steep roofs, extend them at least 7 inches on each side of valley center; on roofs of lesser pitch extend them at least 10 inches on each side.

No other wood in the world is quite like Western Red Cedar. This fine-grained, even-textured wood is amazingly durable, roofs of Red Cedar Shingles remaining in perfect condition for decades. If you would like to have free working blueprints, showing the correct methods of application for new roofs, over-roofing and side-walling with Red Cedar Shingles, write to

**RED CEDAR SHINGLE BUREAU**  
White Building, Seattle, Washington, U. S. A.  
Canadian Office, Vancouver, B. C.

RED CEDAR SHINGLE BUREAU, White Building, Seattle, Washington. AB 3-43

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

Name.....

Address.....

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



# Red Cedar SHINGLES

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**AMERICAN  
BUILDER**  
*Editorial*

**Importance of being Well Informed**

**B**ENEATH the ballyhoo, bunk and boloney of uninformed press-agentry that have accompanied the growth of prefabrication, there lies a hard layer of fact and accomplishment. The building industry is in a period of rapid change, with many old ideas and customs being tested. New products, new methods, new ideas are clamoring for attention, and the public is expecting remarkable, if not miraculous, developments in post-war housing.

**Need "down-to-earth" facts**

Yet, prefabrication has been so overloaded with gross exaggeration and fantastic predictions, that it has often been made ridiculous.

It is the purpose of this issue to penetrate the ridiculous and fantastic to show what actually has been happening.

It is an undeniable fact that many thousands of prefabricated houses have been built and are now being lived in. As a result of the experience gained in building these houses much new light has been thrown on the technology of building—of engineering, planning, co-ordinating.

It would be foolish for all building men not to profit by the technological improvements and ideas that have been developed—many of which apply to conventional construction.

This "Infant Terrible" of the building indus-

try has stimulated inventiveness, made building men review their methods, study them, improve them and adopt new ideas.

Highly significant is the fact that so many well known national building material manufacturing firms have now perfected prefabricated systems or building units which they plan to sell to the trade through their established distribution channels. This perhaps may indicate that prefabrication will eventually be taken over and absorbed by the present building industry.

During the past few years prefabrication has demonstrated that it can produce mass housing cheaply and quickly. But it has not demonstrated that it can *sell* housing nor meet the complicated distribution, labor and building code problems of normal peace-time construction.

**May open new markets**

In the sense that mass prefabrication of very low cost housing may open new markets not hitherto served by the building industry, it need not be considered competition for established firms. It is possible that prefabrication may become an agent for expanding the business of this industry and the millions now connected with it.

*American Builder* believes that prefabrication—"up to date and down to earth"—has much that warrants careful study and analysis. The importance of being well informed is great.



**Prefab Battle Ground — 12 reasons why:—**

**PREFABS CAN'T SUCCEED**

- Sales resistance too high
- Impactical and visionary
- Unions will obstruct
- Building codes won't permit
- Distribution systems will impede
- Overhead costs too high
- Too stereotyped, too boxy
- War prefabs too Jerry-built
- Miracles don't happen
- Costs are higher
- Shipping problems too difficult
- Too many odd ones still around

**PREFABS MUST SUCCEED**

- Eliminate handicraft inefficiency
- Use lower cost labor
- Eliminate costly "middlemen"
- Public expects miracles
- Machine age progress can't be stopped
- Cut costs by applying technology
- Permit more labor inside
- Greater efficiency, accuracy
- Put big business into home building
- Eliminate small, inefficient operator
- Deliver benefits of mass production
- Will fit low cost, post-war market

## AMERICAN BUILDER'S

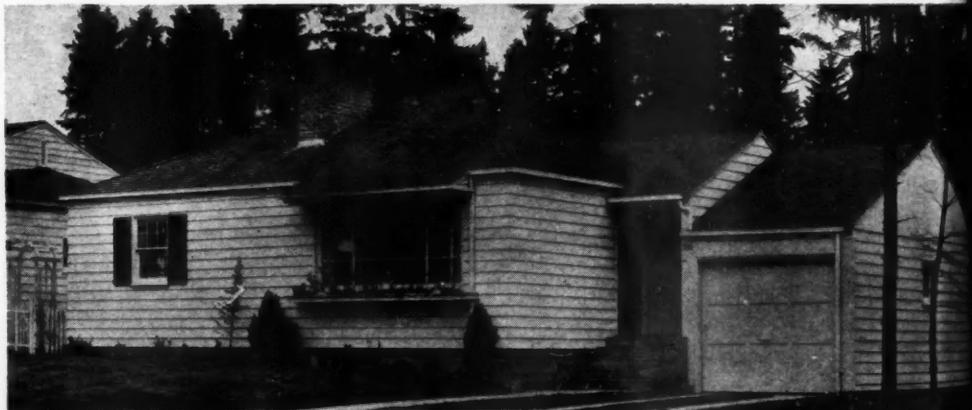
## BLUE RIBBON HOME



*Advantages of project building from a standard basic plan to save time and cut costs have been double checked on war housing jobs—both conventionally built and prefabricated. So houses produced in fairly large groups should be important after the war. That mass building need not be ugly is well illustrated by the four variations here.*

THESE four homes built in Balch & Setzer's "Wedgwood," Seattle, Wash., were designed by the firm of Thomas, Granger and Thomas, A.I.A., to fit the single plan opposite. Need there be any question about getting variety in a development and still hold to a limited assortment of floor plans? In this 200-home project, only ten basic floor plans were used.

In the top illustration, hipped roof and clapboard are combined with a modern entrance and bay window to give an entirely different styling from the other house above, which has gable roof, entrance treatment in brick with overhang above triple sash. Other small details such as trim and decorative features of cornices and sills dress up the designs.

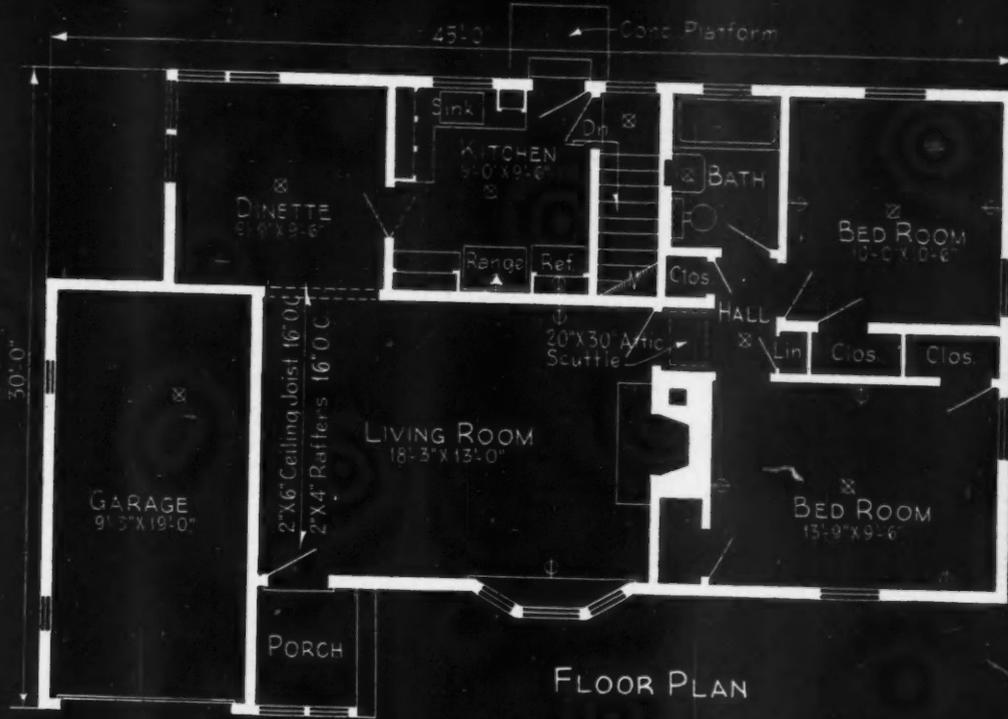


THE two lower exteriors of this Balch design further show the consideration given to obtain variety. Notice that this plan is adaptable even to sloping sites without any suggestion of makeshift. The entrance of the one above has been moved to the side between garage and house; a picture window was added as a center of interest. At the left, shingled sidewalls and an alternate entrance with vestibule and closet are used.

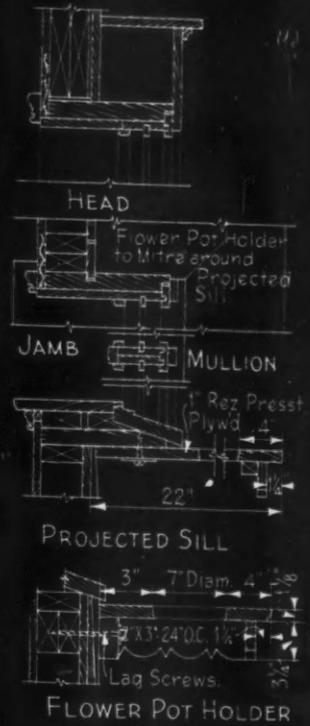
BUILD UP YOUR SALES PORTFOLIO OF POST-WAR DESIGN

HOME

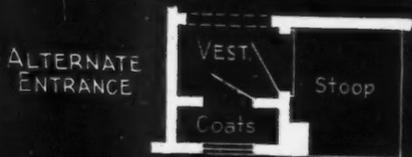
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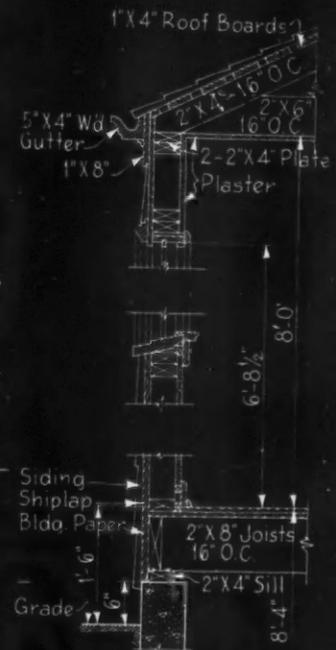
FLOOR PLAN



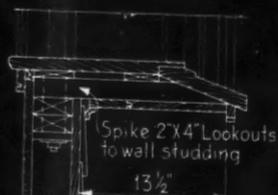
0 5 10  
SCALE IN FEET FOR PLANS & ELEVATIONS



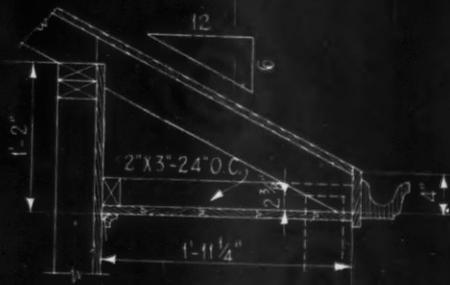
REAR ELEVATION



TYPICAL WALL SECTION



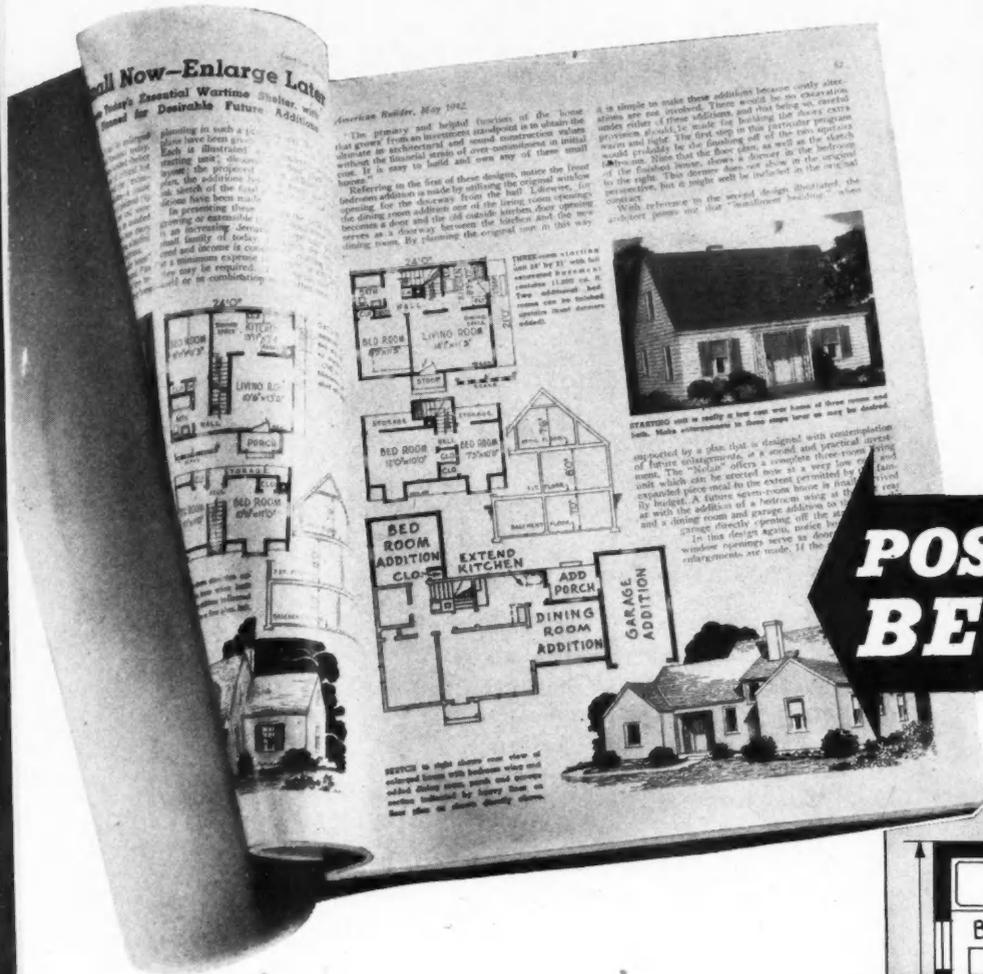
BAY WINDOW SILL



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# HOW KENNEDY PLANS A



**BIG IDEAS** never spring from a single source. The printed page at left brought forth the plans shown below and on facing page. The plans themselves, however, of necessity, took shape against the background of a man; in this case, H. E. Kennedy, Litchfield, Ill.

## POST-WAR PLAN BEGAN HERE

**E**VERYTHING has to start from something. H. E. Kennedy, Builder, Litchfield, Ill., states that his plans for post-war building started in the main from two facts.

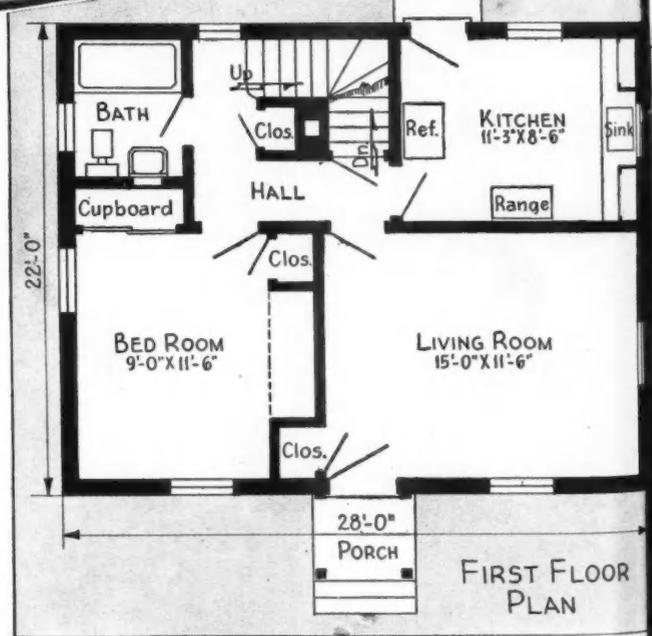
Said he, "I am finding time now to calculate unit costs on jobs completed—which I have always intended to do but somehow never found time for. I am getting ready for the business which I know will follow after the war and am developing a number of houses which I believe will be in demand in this locality. It is my intention to detail these houses while I have plenty of time to get out estimates and material lists for them."

That is Fact One. Kennedy has made time to, as he says, "sit down and think things out so that I can go into the post-war period better prepared in every way to secure and take care of the backlog occasioned by the non-building period we are going through now."

The particular plan that began to take shape was stimulated in the main, Kennedy says, by page 57 of the May, 1942, *American Builder*, which is reproduced here. That particular page becomes Fact Two.

Probably the reason that page began to concrete some of Kennedy's ideas was that he had already made up his mind about some of the factors that would go to make up the post-war house.

It is Mr. Kennedy's belief that the post-war house should include several possibilities:



- (1) There should be a closet in the living room for hanging up coats;
- (2) There should be an entry way, a protection over the entrance for people coming in from the outdoors;
- (3) The entrance to the basement should serve for both inside and outside use;
- (4) There should be a stairway to the attic as that valuable storage space should not be wasted;

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# S A BUSIER TOMORROW

(5) The stairway becomes doubly important because the attic should be made to contain two bedrooms to accommodate the expansion of the family; these bedrooms to be finished at a later date;

(6) The house should be built economically, using for example a basic house containing a living room, a bedroom, a kitchen and a bathroom enclosed by 28 x 22 ft. walls. He believes that such a house could be built in brick, with garage and including lot and improvements for about \$4,000;

(Furthermore and 7) the house should be built so that a porch could be added, a kitchen extended, or a bedroom or dining room addition included on the site.

It is interesting to note that someone who must have been pretty astute made the observation that once a house is completed, it begins to die. Certainly Kennedy's house, as he outlines it, is not apt to die for as the family grows and new needs are encountered, new additions can be added to accommodate those needs.

To check up on that take a look at the first floor plan shown, which is one of several plans Kennedy has on hand based in general on the plan of the *American Builder* house.

"I want to build this house as often as possible," says Kennedy, "thus lowering the cost on each one."

A good builder, he believes, is like a lawyer or doctor. He is better qualified to design a house because when he gets through with it the bugs are out, simply because he is dealing with the actual mechanical problem of put-



H. E. Kennedy, Litchfield, Ill.

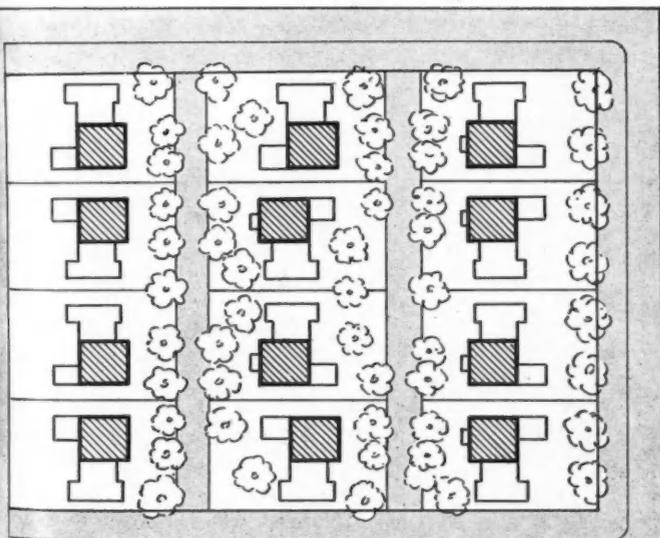
### SAYS KENNEDY:

1. The post-war house should have a closet in the living room for coats and hats.
2. It should have an entry way with a protected front entrance.
3. Entrance to the basement should serve for both inside and outside use.
4. A stairway should lead to the valuable storage space in the attic.
5. The house should be built so that additions can be added as the family grows.
6. The basic house with garage, lot and improvements, should cost about \$4,000.

As far as building the house as often as possible, Kennedy has designed his plans so that a number of houses can be built without looking exactly alike. This is best illustrated by the plot plan that accompanies this article.

"Contractors must learn to sell," says Kennedy. Today it is his practice to drop in on anyone who ought to be repairing or doing something to their buildings and he has found that by visiting them and making suggestions, he has influenced them to go ahead when otherwise they would not have thought it was possible. He actually asks people to repair and maintain and to give him the job of doing it. After the war he intends to follow this practice of calling on people who ought to be interested in building and asking them to go ahead and build and to give him the job of doing it.

In addition to this definite type of merchandising, Kennedy believes that the woman should not be forgotten when it comes to house-building. He makes a



PLOT PLAN

ting something together, and making it work. His job, as he conceives it, is to keep the cost down and provide as much cubic footage and as much utility as possible for the price the customer can afford to pay.

Most people, Kennedy believes, cannot afford a \$30,000 house or even a \$15,000 house, but they can afford a \$4,000 or \$5,000 house and he intends to give them that kind of house with as much utility and cubic feet of space as he can put into it soundly.

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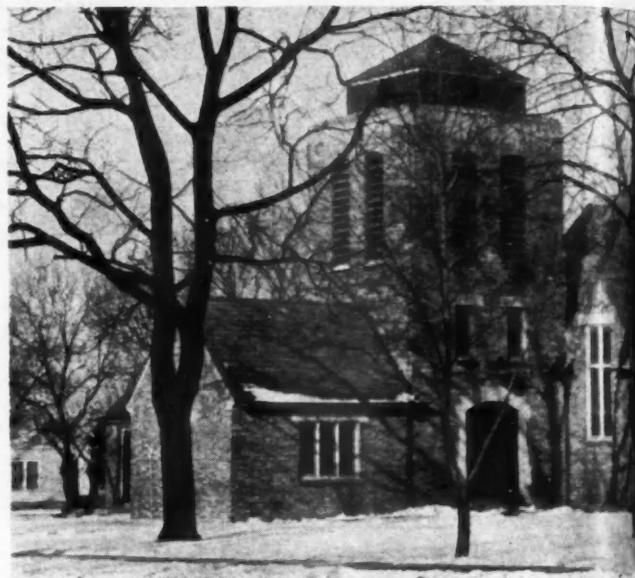
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practice of giving the housewife prospect cutouts of furniture to scale with the plans and then he sits down and lets the woman arrange her furniture. This immediately creates interest and helps to make the sale, but in addition, the woman in trying to arrange her furniture within the scope of the proposed plan, often irons out in conjunction with the contractor a number of the bugs that might appear later when it would be too late to do anything about them.

Kennedy keeps a complete "postponed file" of jobs he has figured on, but which he has not yet contracted. One brick veneer house job was first figured in 1938 and again figured in 1940, when he contracted for the job and completed it. A warehouse job which he first figured in 1940, was finally completed early in 1942, simply because he continued to follow-up on his figures, and to refigure each job in order to put it in a different light. There are many house jobs that Kennedy figured on prior to the war and these are still in his file and when the war is over he is going to take out that file, re-



ABOVE house was cut in two sections. Larger section is shown at right while inset shows hoisting of new prefabricated walls.



figure the jobs and visit those people. From them he knows he will receive a good share of his immediate post-war business.

In the meantime Kennedy continues to advertise and to work. There are some things he cannot afford to have people forget. One is the \$40,000 church job which was completed about a little over a year ago, a picture of which appears on these pages. Another thing he doesn't want them to forget is that he is an artist in handling brick jobs. Take, for example, the photographs shown on these pages. The old house at the left was cut in two; the righthand side was reworked although as can be seen by the photograph it looks practically hopeless. The pictures at the bottom of the opposite page show the results of the two halves when remodeled and brick veneered.

So Kennedy continues to advertise because as he says, "ads keep your name in front of the public," but he is not just advertising to keep his name in front of the public. He is advertising for the kind of business he can do today because he believes that jobs which are done and accomplished are probably the best kind of advertising and certainly the best way of obtaining customers, present or future.

At present he is running ads such as the one illustrated on these pages. It reads "We have a number of base and wall sections for kitchen cabinets left from completed jobs. These may be just what you need for fixing up your kitchen and can be had at bargain



prices. See H. E. Kennedy." He writes that he has had several replies to that ad which led to business.

He is running similar ads featuring chromatile for floor coverings for kitchens and bathrooms. Likewise he plans to use ads to promote "colorcreting" jobs. He is interested in waterproofing basements and has built a colorcrete block, hollow in the center, and filled with water to test and show the waterproofing possibilities of colorcreted basements.



THERE is quite a distance between building the \$40,000 church (left) and the type of work portrayed by advertisement (right), but this type of advertising is important to keep going until post-war building begins.

**V || Building || V**  
 WE HAVE a number of base and wall sections for kitchen cabinets left from completed jobs. These may be just what you need for fixing up your kitchen and can be had at bargain prices. See H. E. KENNEDY. PHONE 65. 1-11-6°-50

Two other items that Kennedy is working into his advertising are asphalt siding advertising and asphalt floor tile. Roofing is another type of job that can be done today and one which he advertises. Such business is keeping Kennedy and his men busy today and preparing customers for tomorrow.

"Preparing customers" is a phrase judiciously used for Kennedy believes that every actual satisfied customer is worth a good deal more than a whole flock of future prospects. Every person that he can do work for today is a possible home builder or home remodeler after the war is over. Nor is Kennedy afraid of prefabrication as can be seen by the photograph showing the hoisting of a wall section. Kennedy prefabricated his own wall sections for his own house and made the sections in his own shop.

It goes without saying that H. E. Kennedy is a man

of parts, but probably not so many builders have also been the mayor of their town and certainly most builders would not have wanted to be mayor of their town in the years 1928 to 1932, for those were the years that the good people of Litchfield elected H. E. Kennedy to that office.

It was undoubtedly a mighty good experience in how to rise from the top and go down in one jump. He does not recommend the office of mayor as a stepping-stone to prosperity as a builder, but in spite of the unfortunate time which the people selected to put him in office and in spite of the depression and the present war, the fact remains that Kennedy is looking forward to the post-war years with enthusiasm and what is more important, he plans to do something about the essential building that must be done at once when the war ends.

Some of this optimism may spring from the same type of thinking that led Kennedy to become a builder. On the surface of things, at least, it appears that most builders come from the carpenter, civil engineer, and architectural field, but Kennedy ignored all those facts and chose to become a builder after having decided that he no longer would be a bricklayer.

He went out for himself in 1922 and has been steadily at it ever since. In fact as one goes about the streets of Litchfield, it seems difficult to believe that anyone could forget that Kennedy was a builder for many of the larger structures in the town are his designs and work.

He knows, however, that memory is short with most people and that the only way he can keep himself in the public eye is to keep advertising, keep working at the jobs that are available and keep planning for a better house in a better future.



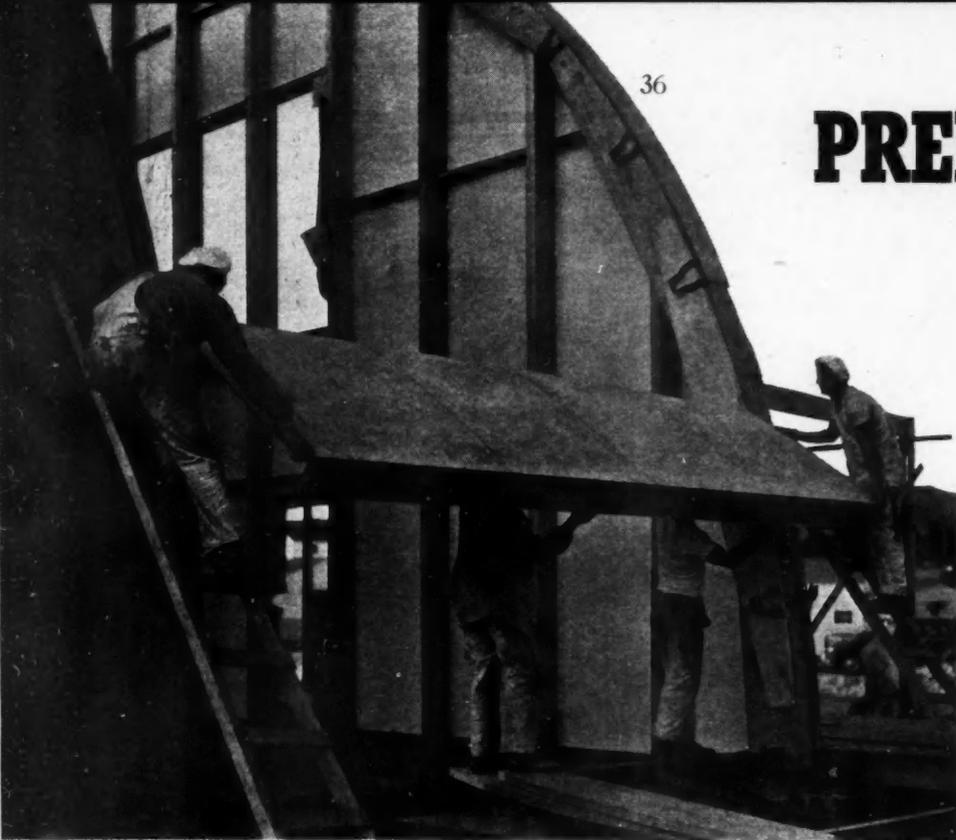
ABOVE and at right are shown the two sections of the house which was cut in two (see facing page), then both sections were rebuilt and brick veneered.

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# PREFABRICATION

**A "Brass Tacks" analysis of what has been done and what the future effect may be on the construction, distribution and selling practices of the building industry.**



**WORKMEN** placing prefabricated roof panels on a public building to serve war housing.

**P**REFABRICATION — a term which on one hand scares your maiden aunt into believing that a shoebox will soon replace her cute cottage, and on the other extreme sends the visionary into rapture over dreams of the future. Actually defined, this abused "catch-all" is merely the *building or fabricating of any or all component parts of a structure at one or more central points before placement at point of use.*

Why "Up to date" and "Down to earth"? Because in approaching this subject *American Builder* believes its readers want the facts without the glamor—useful information trimmed of the romancing which is being aimed at prospective home buyers. That is *prospective* if all the current

misconceptions haven't scared them out of the post-war market into waiting years after peace until some of the "miracles" are available.

But **PREFABRICATION IS HERE** and its past accomplishments cannot be nullified nor its future progress stopped by ignoring it. The whole building industry must approach the subject on a sane middle road stripped of both ballyhoo and indifference.

All the varying degrees of pre-building that are being done or promise to be done in the near future must be considered; this includes all types of partial prefabrication, if such methods are not those that have been currently accepted as conven-

tional building, and if such new methods may become any part of standard practice in building tomorrow. Building men should not be concerned over the controversy of what is to be called prefab, what not. Actually, there is practically no total prefabrication, the nearest to it being small, non-residential utility buildings which need only to be hauled onto the site and small homes set up from mobile units or by placing together two or three trailer sections. Such novel exceptions as one instance where steel houses were built near a river and floated to their sites are still beyond the scope of practical and widespread application.

Those points of interest to building industry men, either as offering

**BELOW:** House produced in regional plant shows prefab progress; at right, roof panels are placed on a site fabricated job.



# Up to Date and DOWN TO EARTH

**Five factors that may indicate a trend in building tomorrow:**

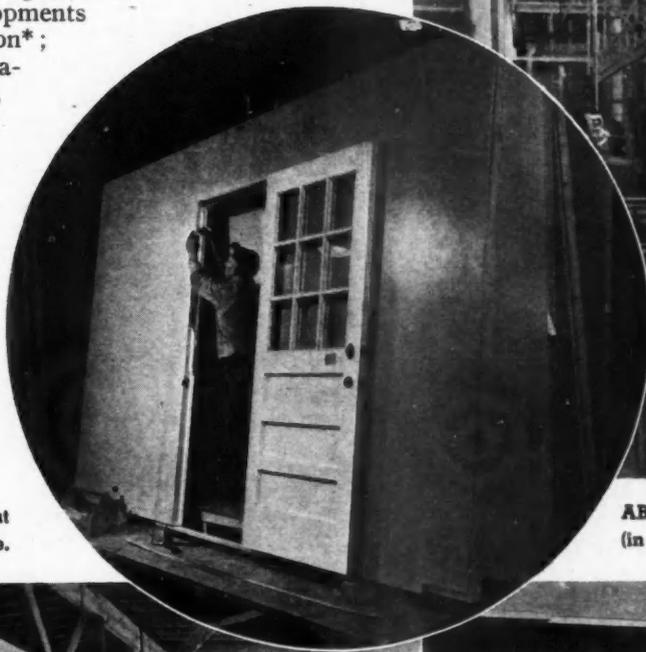
1. **Local prefabrication—a way for the small builder?**
2. **Site prefabrication—a pattern for projects by the large merchant builder?**
3. **Regional prefabrication—a merchandising opportunity for the dealer-real estate operator?**
4. **National prefabrication—a service for mass housing?**
5. **Non-residential prefabrication—a method of cost-saving construction for wide range of structures?**



NEW products will help local builders prefabricate.

something which they can adapt to their own methods, or offering some new field into which they can expand, can be set down as five developments or classes of prefabrication\*; these are labeled site fabrication (on following pages), local prefabricated assembly, factory prefabrication, both regional and national, and miscellaneous non-residential prefabrication.  
(Continued to next page)

*\*BIBLIOGRAPHY at end of this article will provide reference data for those wanting additional information from case studies on all these developments.*



ABOVE: Standing on three levels speeds building; (in circle) weatherstripping, a final factory touch.

BELOW: Power tools in shed cut framing to supply jobs on the site.

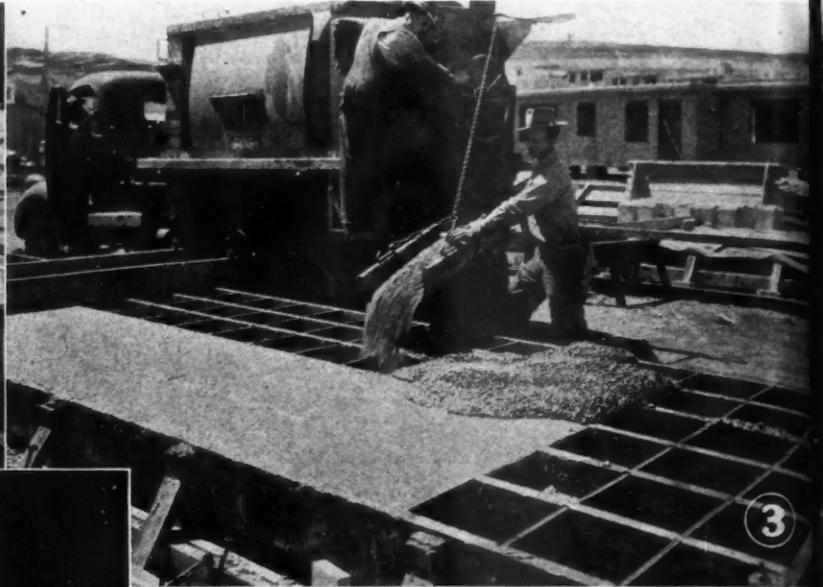
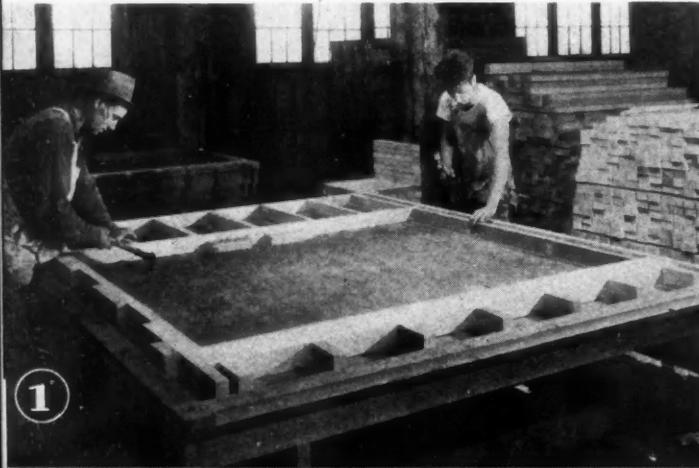


cation. Each of these should be examined from the standpoint of typical production methods, as developed up to date. Also the sales and distribution practices, to the extent that these have been worked out, are worth study for possible importance in the post-war market together with the potential opportunities for the various branches of the industry as constituted by *American Builder* readers.

In much of current writing on what to expect after

the war, promises on technical advancement are closely associated with mass prefabrication as the layman understands it. Of course there will be no limitations on the use of such recent developments where new materials, products, equipment and other products of wartime laboratory research are concerned; there is no reason to suppose that better plumbing fixtures, improved lighting, larger construction units, plastics and the host of products and materials which have

• PREFABRICATION—Up to Date and Down to Earth • PREFABRICATION—Up to Date and Down to Earth •



## SITE FABRICATION AT A GLANCE

**Large war housing projects brought home advantages of speed and economy.**

**Methods are outgrowth of precutting systems increasingly popular before war.**

**Power tools used to cut and prepare members for assembly into sections; jigs speed duplication of similar panels.**

**Wide flexibility—no special type of plant, materials or equipment needed. Require no new distribution or sales methods; look like conventionally-built homes.**

**Adaptable to post-war mass housing.**

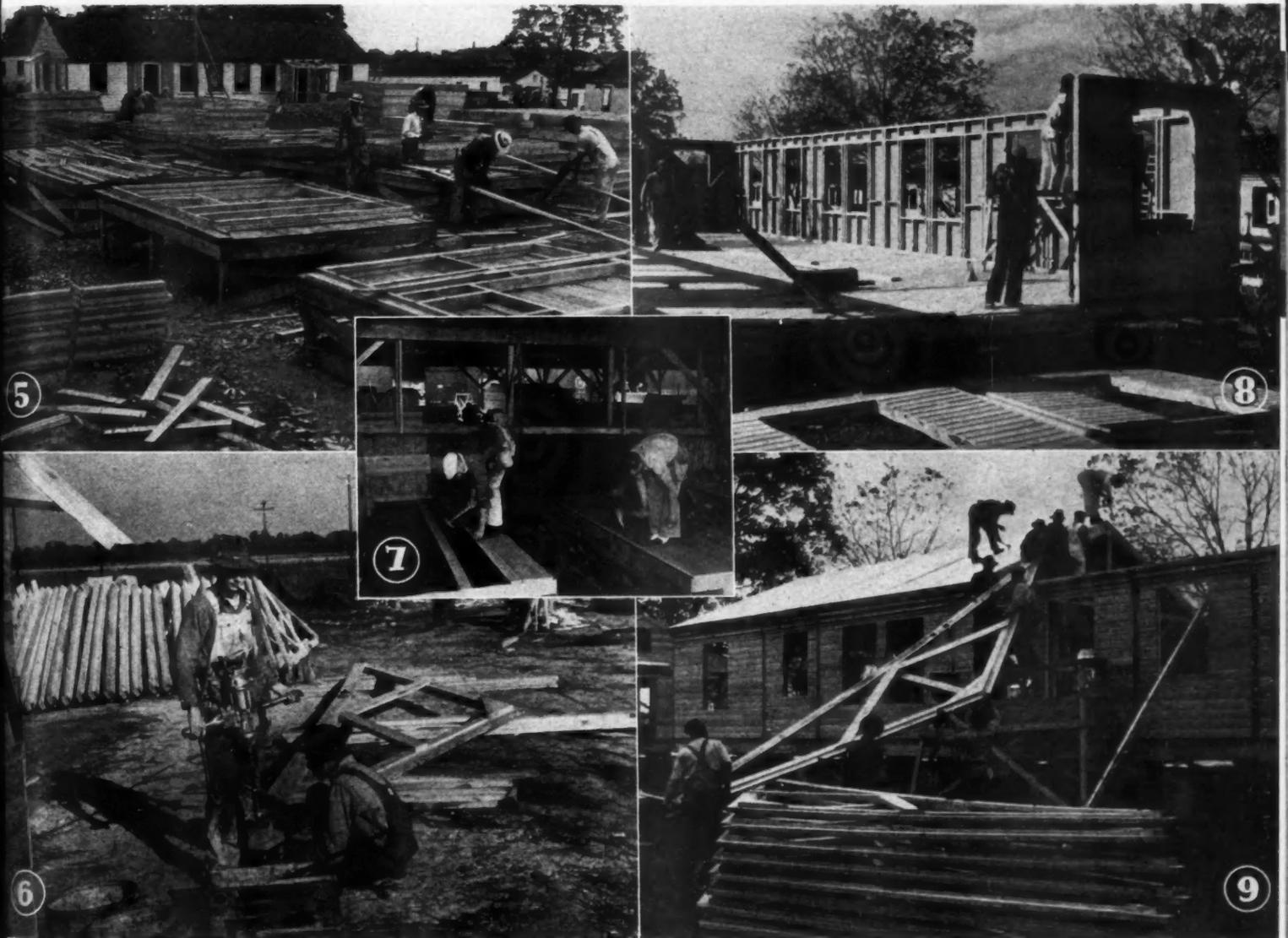
## The How of Site

**W**HEN the war housing program first demanded stepped-up construction output, this method of building answered the call with the blessing of government (FPHA finally became godparent). Precutting technique with power tools was the forerunner from which it rapidly emerged into full bloom and spread into a production giant under the guiding hand of big contractors. Down the East Coast, across the South and along the West Coast, on-the-site setups mush-

been developed for war purposes will not be available for conventional building generally, instead of being limited to some new type of building practice which may or may not become widespread in a normal market. This is important to building industry men only because in doing post-war planning they can give their customers assurance that advancements must be fitted into an orderly pattern and will be general throughout the industry; it is up to them to see this picture clearly

with each claim boiled down to its proper proportion. Before getting down to the details on the "How" of prefabrication as it exists today, a few other fundamentals should be considered in their relationship to planning for the tremendous amount of building ahead. It should be borne in mind that while there was a relatively large amount of prefabrication in connection with various phases of the war effort, this volume was  
(Continued to page 92)

• PREFABRICATION—Up to Date and Down to Earth • PREFABRICATION—Up to Date and Down to Earth •



## Prefabrication

roomed—many out of doors, others in sheds and some in plants. Because permanence was not required, these various systems of patterns and jigs were turning out houses almost overnight; some projects ran into thousands of units with hundreds of such houses completed each week.

Certainly these much publicized spectacles have made a permanent impression on building methods. If there  
(Continued to next page)

SHOWN IN SITE PANORAMA: (1) Wall panels are being built in a jig located under cover; (2) a typical site fabrication panel jig as developed by FPHA; (3) precasting concrete piers and footings for California war housing; (4) a battery of power saws cuts material in a shed; (5) lengths of framing to fit out-of-doors jigs are ready for wall finish on a Childersburg, Ala., job; (6) meanwhile, on the same project, other workmen are assembling the roof trusses; (7) prefinished flooring sections quickly fabricated from stock close at hand; (8) wall sections are then bolted and nailed in position ready to receive roof trusses (9) and roofing panels as job progresses toward completion.

are to be large housing developments in the minimum cost field after the war, economies of time, labor and materials such as have been demonstrated will be figured into contracts on future building. And not only will this technique—called prefabrication or by some other term—be limited to large operators; every builder of two or more units from a standardized plan can use the lessons learned.

The secret is properly scheduled use of power equipment to turn out easily erected sections of walls, floors, partitions and roofs. Finish, inside and out, can be any suitable material; range of equipment and variations are limited only by the builder's imagination; flexibility is the keynote.

Since on-the-site fabrication methods are entirely concerned with building practice, there will be few sales and distribution problems added to normal conven-

tional building. Standard practice, as found on the average multi-house project, would prevail where comparatively small operators who formerly built houses on scattered lots decided to go into site fabrication. It would merely mean consolidating their normal operations and confining them to one spot.

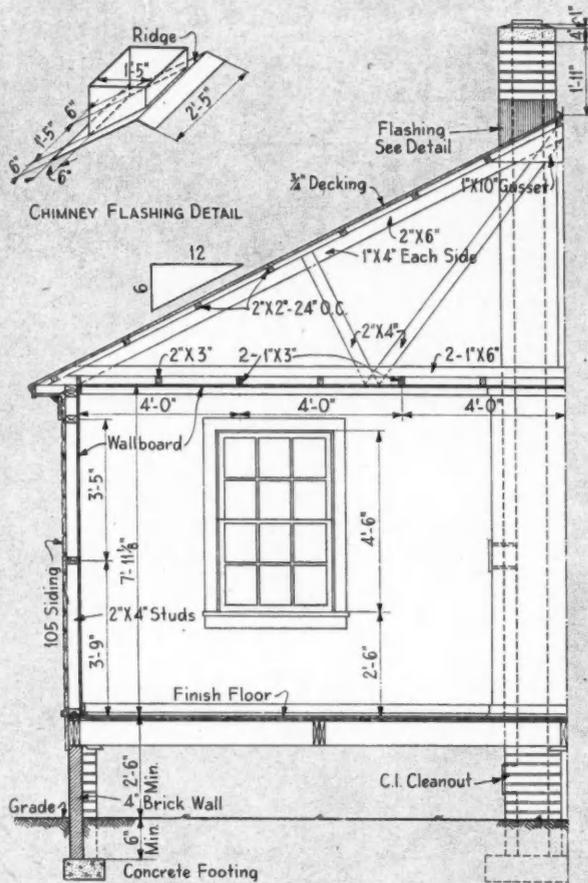
**A Typical Case Study**

The "how" of site fabrication has many small variations, but for the most part these are confined to the use of different materials and operating under various climatic conditions. Of such large projects as those at Norfolk, Va., Vallejo, Calif., and Bremerton, Wash., by firms like Barrett & Hilp, Robert McCarthy Co., and Prefabricated Products Co., one at Childersburg, Ala., probably followed as typical a technique as any; for that reason the fabrication and assembly methods are shown here (page 39) as a case study of an FPHA job done by a private contractor.

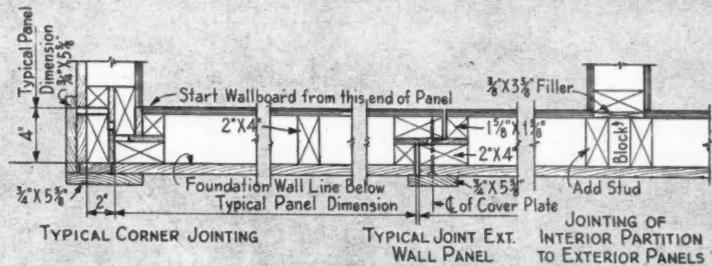
The construction drawings on this page indicate this system of the D. T. Underwood Construction Company of Birmingham, as used on 230 of the units at Childersburg. The first of these houses was erected as a sort of guinea pig to see that all panels fit correctly. After this the go ahead order was given to the construction crews, a definite job being assigned to each. Just one crew, for instance, did nothing but build floor panels and soon became almost 100 per cent efficient in operation.

Most of the houses are of the duplex type and conventional in appearance despite the fact that units are demountable. Gypsum wallboard in sheets 48 inches wide was used for the interior walls and this given a flat finish or tint. Foundations are of concrete cinder blocks, a curtain wall being provided by the use of asbestos sheets around the foundation piers. Roofs are of composition shingle.

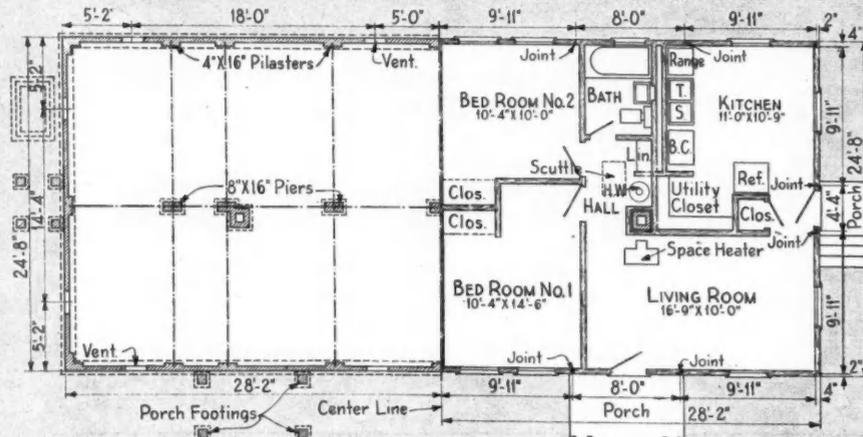
**PANELS** of this Childersburg job, as detailed here, are joined together by bolts and double-headed nails so these duplexes can be demounted and re-erected as single units if desired after the war.



HALF CROSS SECTION

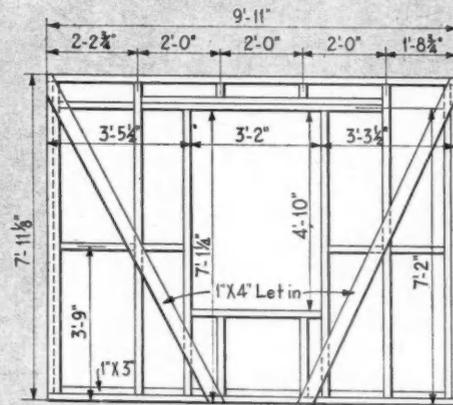


DETAILS OF EXTERIOR WALL PANEL JOINTING



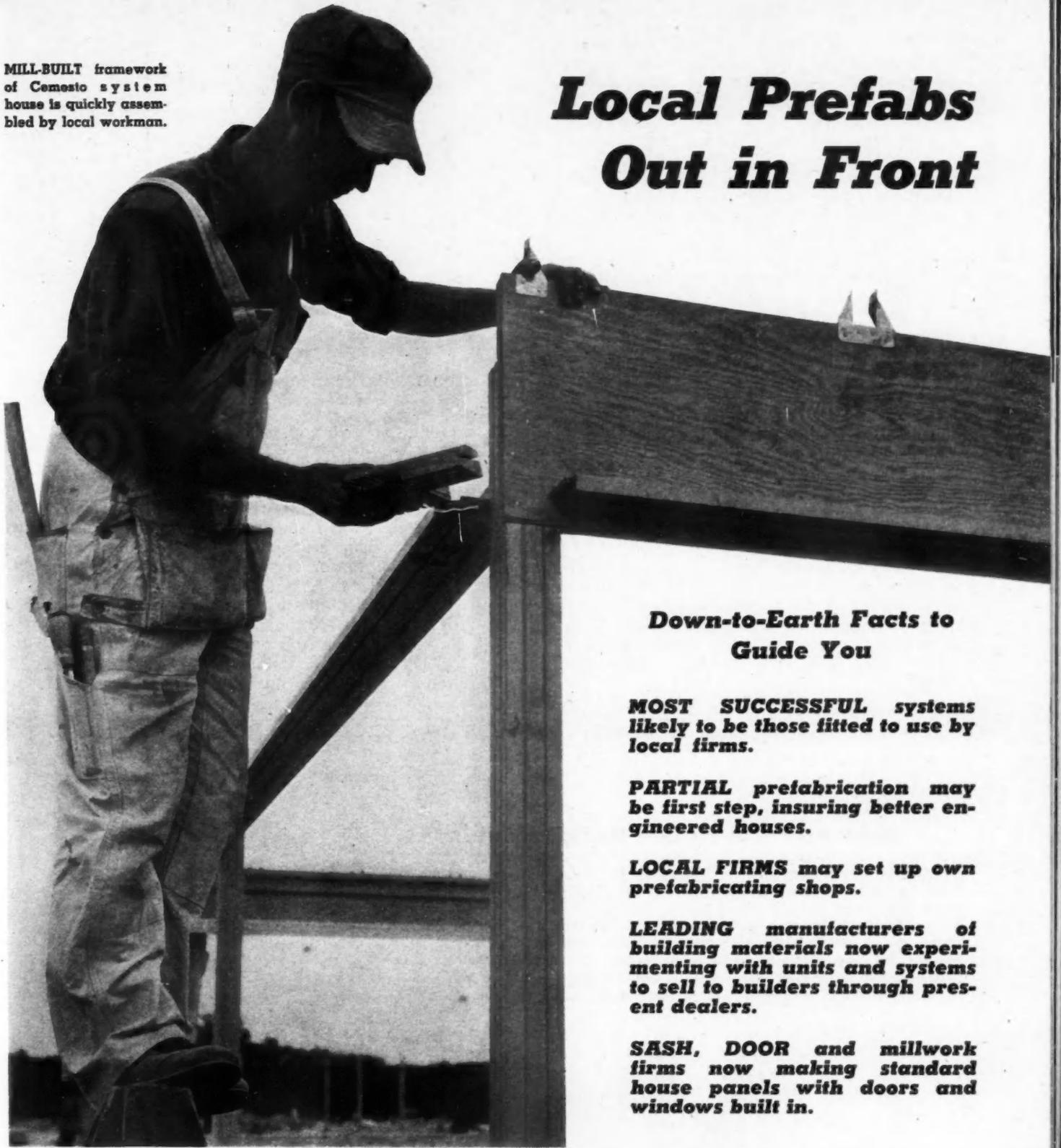
HALF FOUNDATION PLAN

HALF FIRST FLOOR PLAN



TYPICAL PANEL

MILL-BUILT framework of Cemento system house is quickly assembled by local workman.



## Local Prefabs Out in Front

### Down-to-Earth Facts to Guide You

**MOST SUCCESSFUL** systems likely to be those fitted to use by local firms.

**PARTIAL** prefabrication may be first step, insuring better engineered houses.

**LOCAL FIRMS** may set up own prefabricating shops.

**LEADING** manufacturers of building materials now experimenting with units and systems to sell to builders through present dealers.

**SASH, DOOR** and millwork firms now making standard house panels with doors and windows built in.

**O**UT OF many conflicting ideas about prefabrication one Gibraltar-like fact always emerges: *land, utilities and selling require the services of experienced local building men.*

The buying of land, the installing of utilities and the selling and servicing of a house eventually and inevitably brings any system of prefabrication face to face with the need for experienced local building firms and services.

That is why the prefabrication systems most likely to succeed are those which can be adopted by or used by builders, dealers, realtors or other local building men who may decide to enter this business.

Distribution has been described as the Achilles' heel of prefabricated house systems. Local *selling* is equally important. While the war has given much valuable experience to large scale home prefabrication, the factors of *distribution* and *selling* have by no means been tested.

The most remarkable recent trend that has come out of war prefabrication has been the decision of large, well known, national manufacturers of building materials and equipment to produce standard panels or prefabrication systems which can be sold through their present channels of distribution to local builders.

If such systems can be made to work efficiently; and if

the houses can be made sufficiently attractive and salable, this trend may develop into an important post war reality.

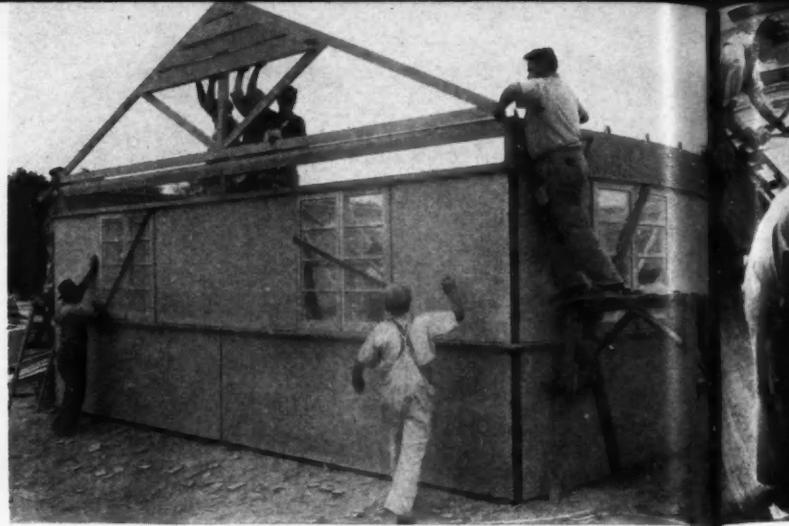
Such a development might mean that local builders and dealers could pass on to buyers the benefits of prefabricating techniques, while at the same time preserving their local identity.

By local prefabrication is meant the local erection or assembly of houses using standardized, pre-built units. Local builders or dealers may prefabricate standard sections in their own shops or purchase them from others.

### Many New Systems

Many of the national manufacturers of building materials and equipment have been experimenting in recent years with production of prefabricated houses or units of some type. What is more, a startling number of very large firms have perfected systems which are already in use in war housing. The experience gained in the construction of war housing will be applied, it is presumed, in post-war, although it is acknowledged that peacetime conditions will be greatly different, particularly as to distribution and selling.

Recently some of the country's largest millwork and sash and door firms have gone into the production of prefabricated house parts. Rock Island Sash and Door Company of Rock Island, Illinois, is now producing an all-wood prefabricated panel designed for use in war housing. Such panels are built with high-speed millwork equipment and are delivered complete ready to install, with drop siding exterior and wood panel interior. Doors and windows are built in at the plant complete with hardware.



**LOCAL WORKMEN** erect mill-built frame and install factory-built panels of asbestos-cement and insulating board in war housing.

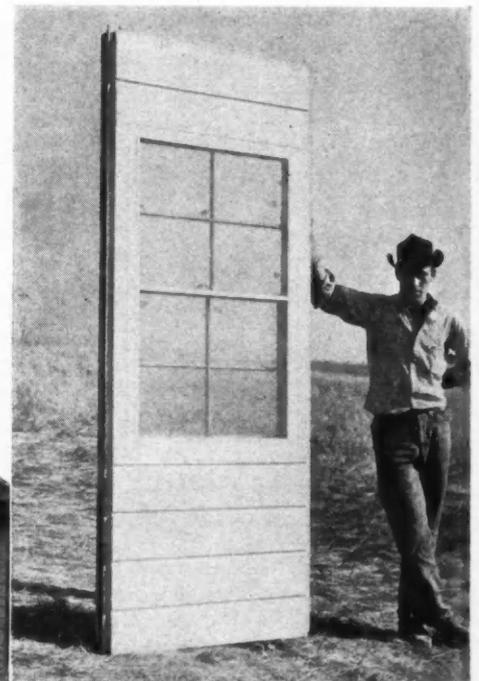
The Curtis Companies of Clinton, Iowa, have been for some time producing millwork parts for war housing jobs. The Andersen Corporation of Bayport, Minnesota, is making wood-frame insulating board panels for army hutments, using a system that may well apply in the post-war period to portable farm buildings, cabins and other small structures.

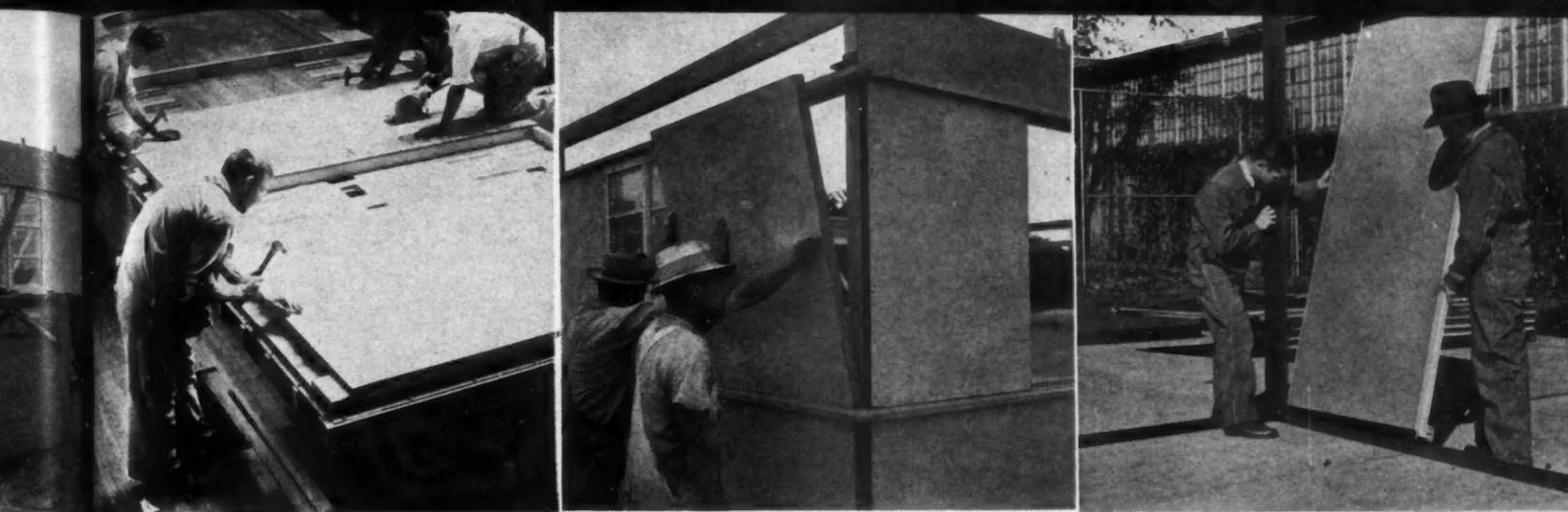
Among well-known systems developed by material manufacturers are the Homasote Company's Precision-Built house using large panels of insulating board and the Celotex Company's "Cemesto" house system, many hundreds of which are being built at the present time for war

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### Sash and Door Firm Builds Panels

**E**NTRANCE of a number of large and nationally known millwork firms into prefabrication is a highly significant development. Pictured at right is an all-wood panel of type now being produced by the Rock Island Sash & Door Co., of Rock Island, Ill., which has already been used in the construction of war housing. A flexible system which permits local firms to erect a variety of architectural styles, including the little cottage below, has been perfected. Because of their extensive equipment and experience, millwork, sash and door firms should be in a position to produce standard prefabricated units economically, if anyone can.





EXAMPLES of local prefabrication: LEFT: Precision-built panels constructed on jig in local shop. CENTER: Short asbestos panel is nailed to wood frame. RIGHT: New insulation board panel built for army hutments.

workers. The Johns-Manville Corporation has been for some time experimenting with prefabricated house sections and the Upson Company has been contributing its system of "strong-built" panel construction to war prefabrication. Manufacturers of plywood, gypsum board and fibre board have been selling vast quantities of their product through various systems of prefabrication and there is little doubt that they are seeking ways to carry on in the post-war period.

The significant thing about the above is that such firms as these have always operated through the channels of distribution of jobbers, dealers and local builders and

presumably will try to fit their post-war plans into that system. The firms mentioned represent only a few of those that are studying, experimenting or are actually already engaged in such operations.

Local prefabrication by local firms will also be assisted by manufacturers of heating, plumbing and specialty equipment who are producing "package units" that will fit into standardized prefabrication systems.

The opinion of many firms who have spent large sums of money experimenting with prefabrication is that if any system will work, it will be one in which experienced local  
(Continued to page 94)

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## Will Create New Post-War Markets

By F. Vaux Wilson, Jr.  
Vice President, Homasote Co.



F. VAUX WILSON, JR.

LARGE amounts of capital may be forthcoming to prefabricators to enable them to do a merchandising job. The excess capacity of airplane plants, of aluminum plants, and various other war production industries may be diverted to the production of prefabricated houses.

Materials, such as aluminum, magnesium and steel, will be considerably cheaper, and some enterprising men may turn out houses using these materials. Plastics may materially change the housing situation.

Already many improvements are being developed. Cheaper and better methods of handling electric wiring through prefabrication are a reality. Large plumbing and heating companies will cut, bend and thread pipe, and package it for the prefabricator. Heating systems will be improved and packaged. Even furniture will come knocked down in packages.

Some prefabricators believe well-built, two bedroom houses can be sold from \$1500 to \$1800 for the post-war market. While this may seem fantastic at the moment, it can become an actuality. Thus the 70 per cent or more of

our people whose incomes are less than \$2500 will be in a position to have new homes and a vast new market opened.

It is not necessary for you to sit back and do nothing about this new industry. It is not necessary for you to think that it is your enemy. As a matter of fact, it can become your best friend. And you can pave the way for it by campaigning against unnecessary and unsound restrictions—such as building codes.

### How to Finance

Of course, it takes money to get into this type of business. If you want to set up a plant that will produce one house a day and then sell that house to a contractor to erect, you must have \$30,000 working capital for your prefabrication business. And if you want to increase your production to more than one house per day, you need an additional \$24,000 for each house more per day that you want to produce.

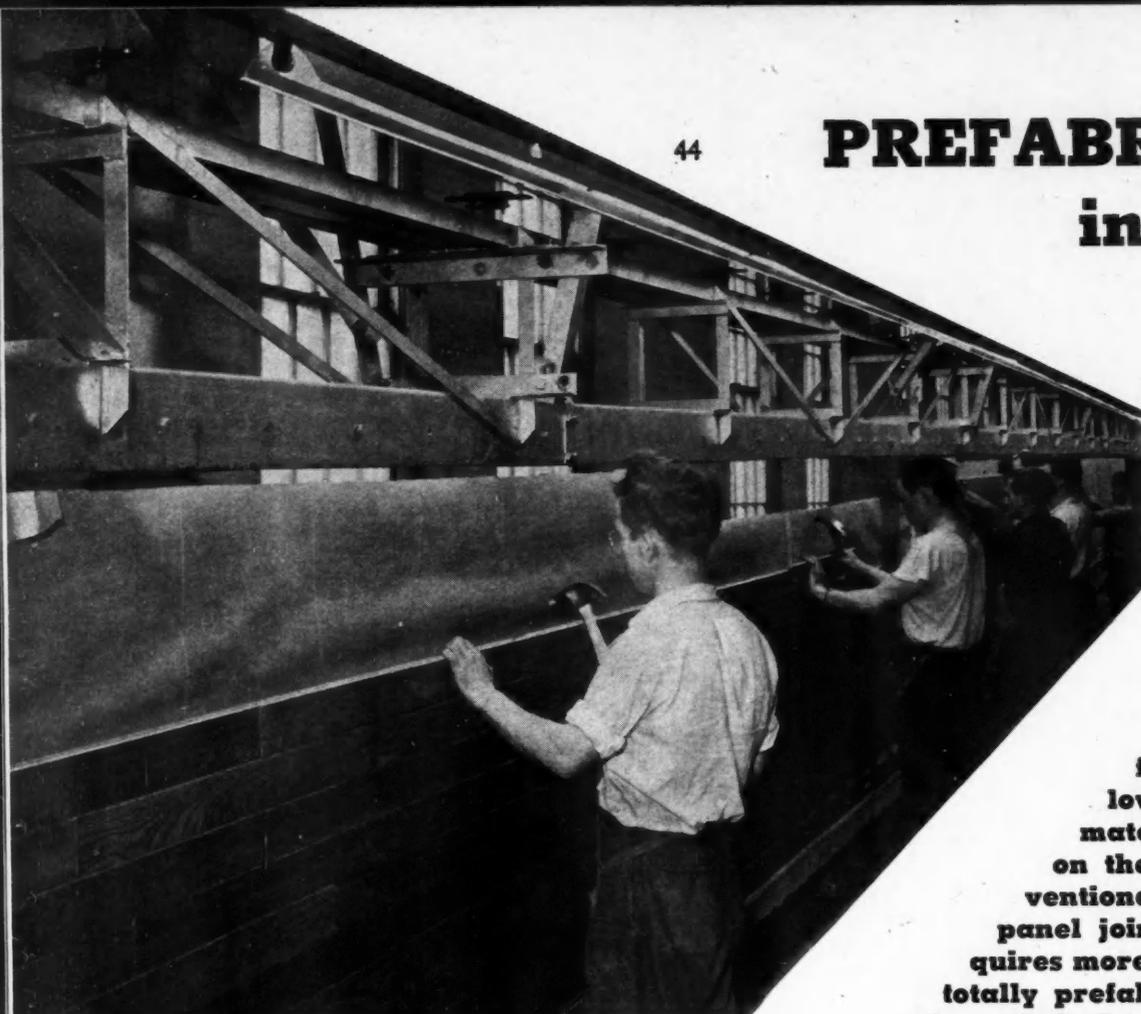
In other words, if you wanted to fabricate five houses per day, you would have to have \$126,000 worth of working capital. If you wanted to do the whole job, you would need \$210,000 worth of working capital.

Obviously, some of us are limited in this respect, but it is perfectly conceivable that a group of you could get together in an area covering, say, a hundred square miles and go into the prefabrication business. A few of the prefabricating systems are available to you to do this.

For those of you who do not want to go into the prefabrication business yourself, a plan could be worked out whereby you could purchase the fabricated parts of the house from a nearby fabricator and then sell the rest of the material that goes into the job.

(Continued to page 94)

# PREFABRICATION in Regional Plants



IN THE modern Peaseway factory, strips of prefinished flooring are nailed to panels hung from overhead track.

**Sections made in plant to benefit by factory methods. Allows choice of exterior materials, usually applied on the job. Looks like conventionally built house; no panel joints inside or out. Requires more labor on the site than totally prefabricated units. Operations limited to a surrounding area.**



**ABOVE:** All sections for a house loaded on truck; at site they are quickly assembled, ready for exterior finish.

**STREET** of prefab war housing is varied, looks conventional, attractive.



**J**OHN Q. Public thinks of prefabrication in terms of what is shown on these two pages—houses coming off an assembly line. The two systems, here designated as regional and national to differentiate between systems of distribution and the resulting limitations on the houses, use similar production methods.

Under regional prefabrication a house is turned out in sections that are loaded onto a truck and hauled to a site generally within a limited trade area. Consequently, wall partition, floor and roof units can be anything up to full length; in this respect it is like site fabrication.

Advantages are quick delivery of each home anywhere within the radius of operation. One pioneer in the field believes that eventually a regional prefabricator will set up a plant, demonstrate and sell his product in a central metropolitan showroom or store, and have local builders erect his homes within a radius of, say, fifty

BELO

miles. Lumber dealers and millwork companies have entered this field of prebuilt dry wall construction.

Two examples of such regional type of prefabricators and distributors are the Pease Woodwork Co., Inc., (Peaseway Homes) Cincinnati, and GBH-Way Homes, Inc., Walnut, Ill. Both have modern plants; sections are carried on overhead tracks while being built and move toward end of line as assembly progresses.

These systems use hot press bonding to turn out the section-length sheets of plywood to cover the framing. As a result there are fewer joints to contend with when erected.

On the exterior, a wide choice of sidewall and roof covering is either entirely applied on the job (see opposite) or, if partially done at the factory, that material needed to cover the joints of wall and roof sections is put on at the site as a finishing touch.

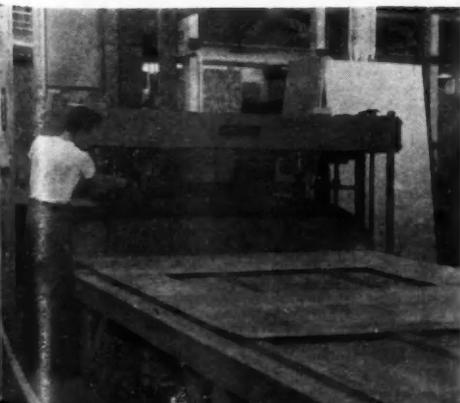
Interior walls likewise give no hint of assembly. Coated fabric, wallpaper or plastic paint can be selected and put on at the plant or at the site. Floors are turned out in prefinished sections. Ceiling panels are leveled at the time they are suspended from the joists.

Choice of plan ranging from a basementless one-bedroom apartment to 2-story and full basement arrangement with 3 bedrooms is possible. A selection of such details as entrances, dormers, porches and details of trim allow the owner to get further variation and express his personal preferences.

The methods outlined above call for more of the operation to be done in the fabricating factory than either site or local prefabrication, but allow greater flexibility and more conventional appearance than in houses more completely pre-assembled.

To classify this system, it is the middle ground of prefabrication—design and limitations standardized but not frozen, many of the advantages of factory assembly, but still a considerable amount of construction on the site, consequently not yet delivering houses in the lowest price class.

BELOW: Hot press bonds "endless" plywood.



OVERHEAD conveyor transports these large panels after fabrication on jig table in foreground. House at right is typical unit built by Libbey-Owens-Ford Glass Co., using the National Homes System.



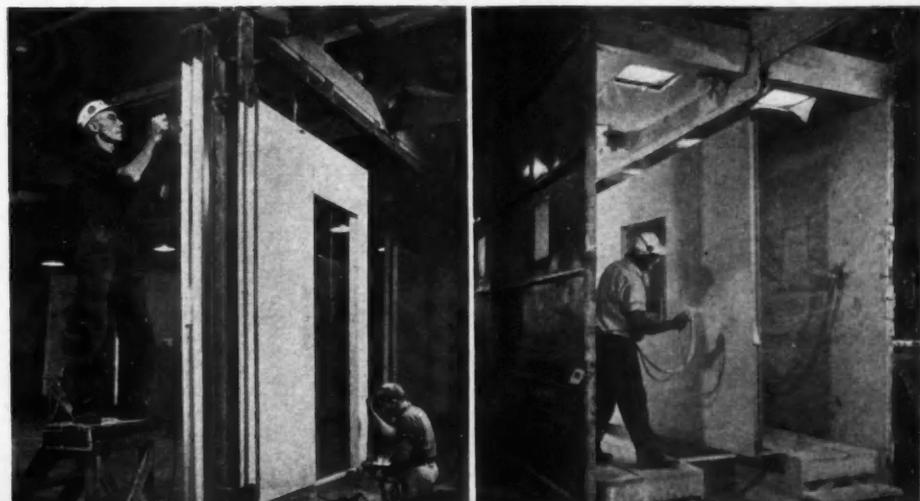
## NATIONAL PREFABRICATION

PROponents of large-scale national prefabrication say that a few large firms, or a combination of firms, will operate on a nation-wide basis, selling houses directly through their own dealers or local erectors. Most ambitious exponent of this theory is Foster Gunnison, president of Gunnison Housing Corp., New Albany, Ind., who is sometimes described as "the Orson Welles of prefabrication." Using a "Timed-Flow" system of constructing panels on a one-half mile long conveyor system, Gunnison packs all parts of his house in a box car and delivers it complete with all equipment, ready to assemble, anywhere. He thus carries prefabrication to what he considers the ultimate conclusion.

Another advocate of the national type of prefabrication is National Homes Corp. of Lafayette, Ind., of which D. W. Lowman is president. Large, scientifically built plywood panels are erected in a highly mechanized plant in which the panels move slowly along an overhead conveyor.

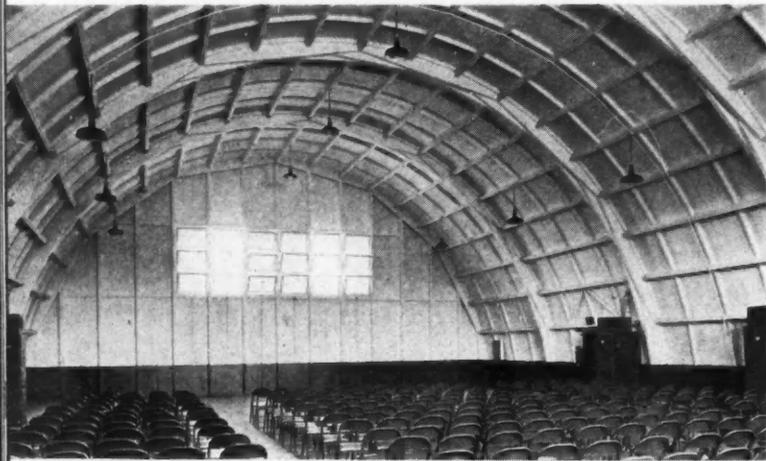
National's system was used by the Libbey-Owens-Ford Glass Co. to produce the war home pictured above, together with the conveyor system of construction. (Continued to page 95)

POWER TOOLS (left) are used in tooling up and drilling L-O-F panel as it hangs from conveyor. (Right) Quick-drying paint applied with gun as panel moves through spray booth on overhead track.

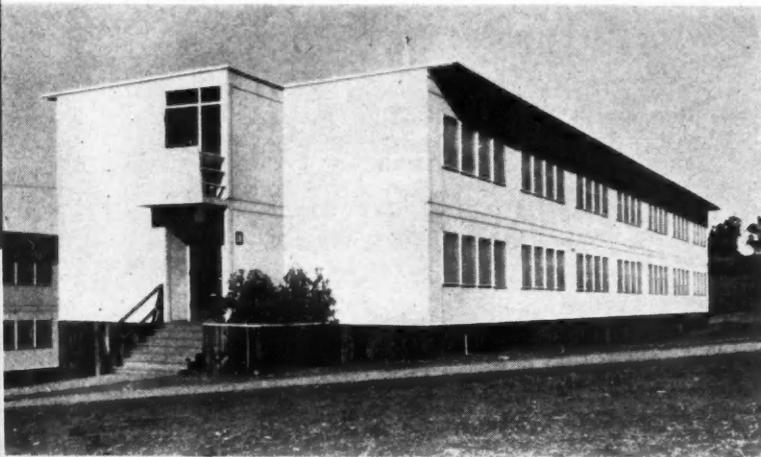




BELOW: Auditorium of site-fabricated school. Above, left: Small store and, right, trailer housing unit, both factory-built.



WAR housing dormitory; by Stewart & Bennett, Vallejo, Calif.



DEMOUNTABLE hutment; housing for army or migratory workers.



## Count on PREFABRICATED

**I**F YOU are looking for a "sure thing to lay your money on," as far as post-war prefabrication is concerned, keep an eye on what's happening in the non-residential field where there was plenty of headway made before Pearl Harbor and fewer headaches. Since then even more spectacular progress has been made.

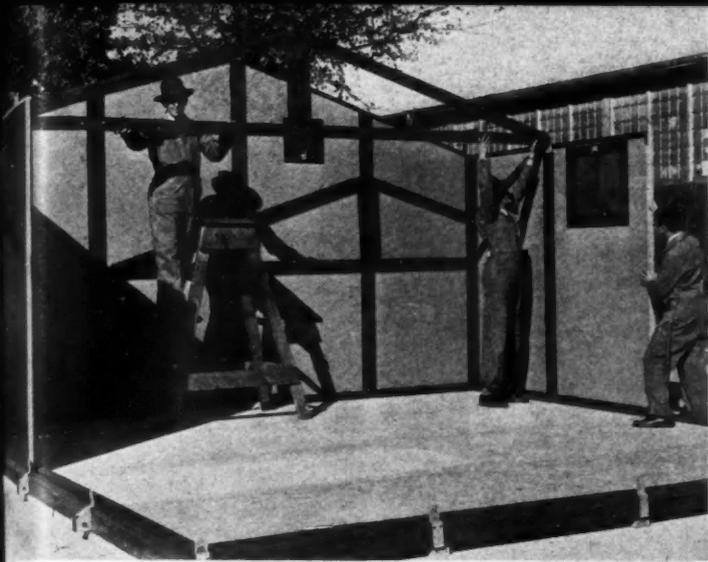
A home is traditional, romantic: something bought to satisfy an individual's background, preferences and dreams as well as to provide shelter. A hog house, garage, roadside stand, store, factory or public building, each is a tool of production or utility. The advantages of prefabrication in the latter instance are not weighed down and balanced against emotionalism. From a sales standpoint there is little or no competition with the past.

There should be a battle royal in this market with practically all building factors figuring into the picture. Builders, large and small, can use local and site prefabrication methods on jobs ranging from utility buildings to industrial structures. Dealers will have a chance to yard fabricate farm buildings, building panels and other items. Many regional and local prefabricators are already in this field, some exclusively having turned to war hutments, barracks, dormitories, service units, farm buildings, storage bins, etc. Fabricators of mobile units are ready to offer many post-war innovations ranging from resort cottages hauled complete to sites to travelling community services; incidentally one producer in this business has recently set up a company to finance his sales over a 5-year period with dealerships flexible and open to builders, lumber dealers, real estate men and others.

Manufacturers of building materials have not overlooked the field either. Everything from silos to heavy roof trusses in a range of materials—steel, non-ferrous metals, plastics, lumber, panel boards, etc.—should speed erection and cut costs on non-residential jobs.

The illustrations here show a few representative products of pre-war and war prefabrication; they merely suggest the scope of future building that may to a considerable extent be done by other than conventional methods.

Savings in construction cost of course is a primary reason, but also demountability is a decided advantage in many of these fields. Take small commercial structures, for instance. If a detached store, shop, roadside lunch-eon or gas station becomes a business mortality in one location, it can be salvaged and moved elsewhere. Think of all the vacant property today that may be permanently



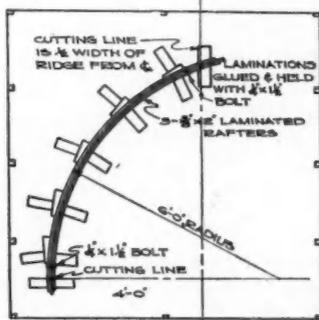
BUILT for war—a peacetime garage or farm building? Right: Brooder house being sold by prefabricator of homes and other structures.

## Farm, Utility, Store, Industrial and Public Buildings

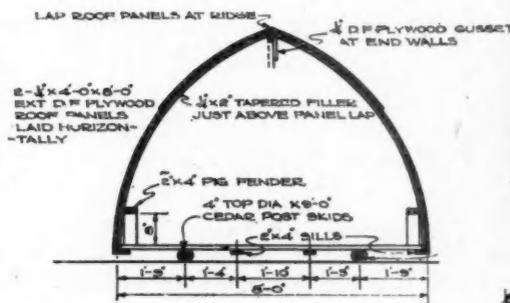
unprofitable; if demountable, it could follow population shifts during the war and again afterward. Also seasonal use can be better served in cases of roadside stands, dormitories for migratory workers and the like.

Construction of multi-family housing, factories, warehouses, public buildings, offers a big field for prefabrication. If not assembled entirely from pre-built units, there is a good chance that many such structures will use standardized roof and wall panels, carried as regular dealer or warehouse stock, and will be supported by prefabricated trusses and beams. War has taught many short cuts in this field; the wave of peacetime building may demand their use to meet the expected market.

**Wide open field of prefabrication—builders, lumber dealers, sales agents, house fabricators, manufacturers—all can and will operate to produce and sell parts or complete structures—farm buildings, mobile units, garages, stands, stores, larger commercial, public and industrial buildings. Emotional, traditional influence nil; competitive market for materials, equipment and methods.**



• RAFTER • LAYOUT •



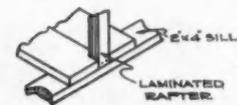
• SECTION •



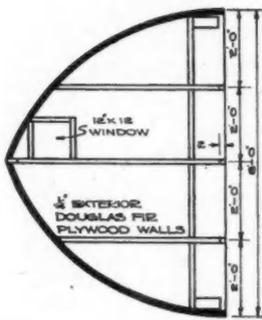
YARD-fabricated hog cot.



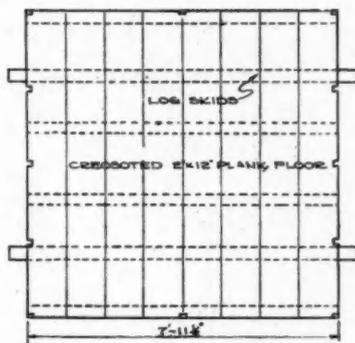
• RIDGE • DETAIL •



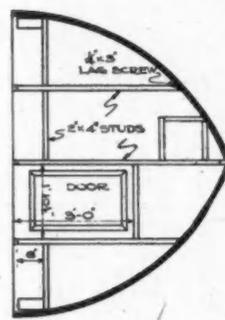
• RAFTER • DETAIL •  
• AT • FLOOR •



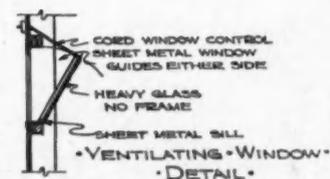
• REAR • WALL • PANEL •



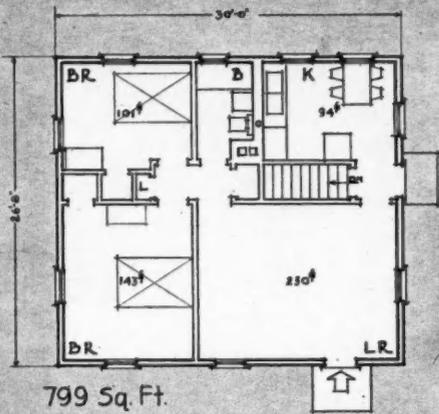
• FLOOR • PANEL •



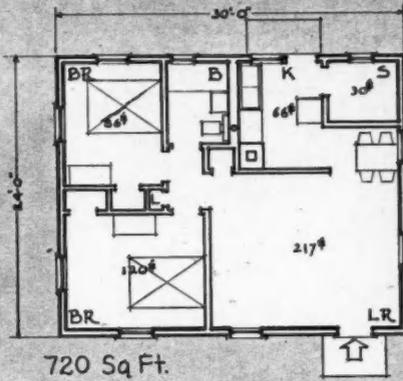
• FRONT • WALL • PANEL •



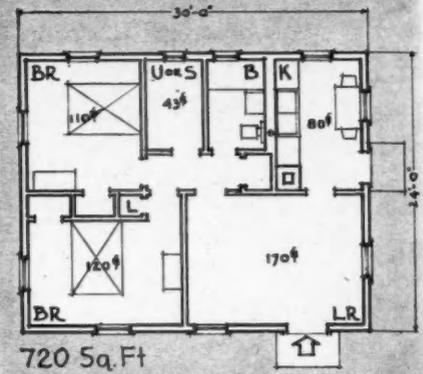
CONSTRUCTION details of arch roof, hog cot, planned by Michigan State College for DFPA show typical prefab procedure.



799 Sq. Ft.



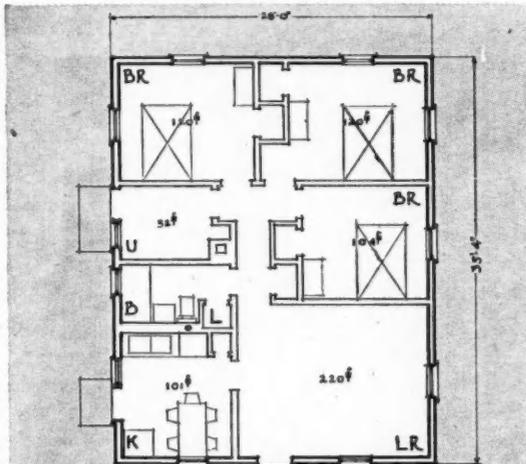
720 Sq. Ft.



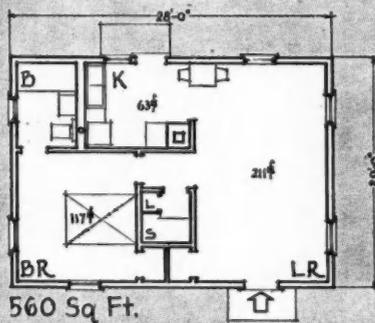
720 Sq. Ft.

48

**SINGLE-FAMILY DETACHED**—Three WPB-approved plans, all under 800 sq. ft. Utility or service rooms are provided in two where basements are not called for.



989 Sq. Ft.



560 Sq. Ft.

**Eighteen basic arrangements by FHA cover all types of war housing. New construction standards increase floor area 10 to 15 per cent, permit greater use of lumber.**

**F**ROM thousands of war housing plans, the Technical Division of the Federal Housing Administration has produced 18 basic arrangements, which, it is believed, will meet all conditions.

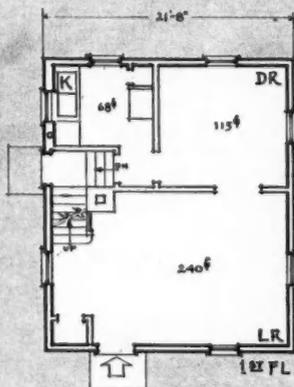
These plans were released by FHA simultaneously with the announcement of the War Pro-

duction Board's new construction standards. They therefore not only meet the requirements of the new standards, but are also approved construction under FHA Title VI.

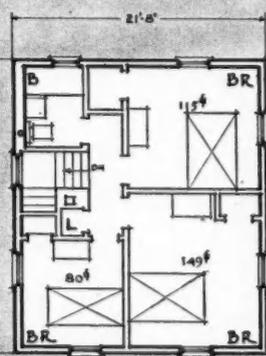
Close study of these plans shows a number of clever new ideas for grouping bathroom and kitchen equipment to save plumbing materials. Probably no organization in the world has as much practical data on small house plans as the Technical Division of FHA, and Howard Leland Smith, chief architect, has drawn on this information to produce compact, well arranged plans that use a

**MINIMUM ONE-FAMILY DETACHED** (left) has an area of only 560 sq. ft. Three-bedroom (above) has 989 sq. ft.

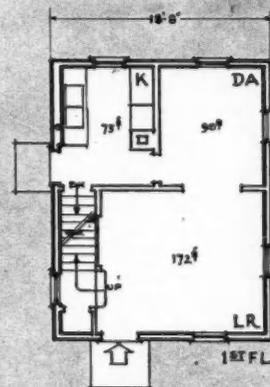
**TWO-STORY ONE-FAMILY DETACHED** model shown below. The three-bedroom model at left has only 1,093 sq. ft.



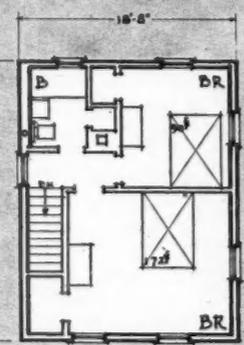
1093 Sq. Ft.



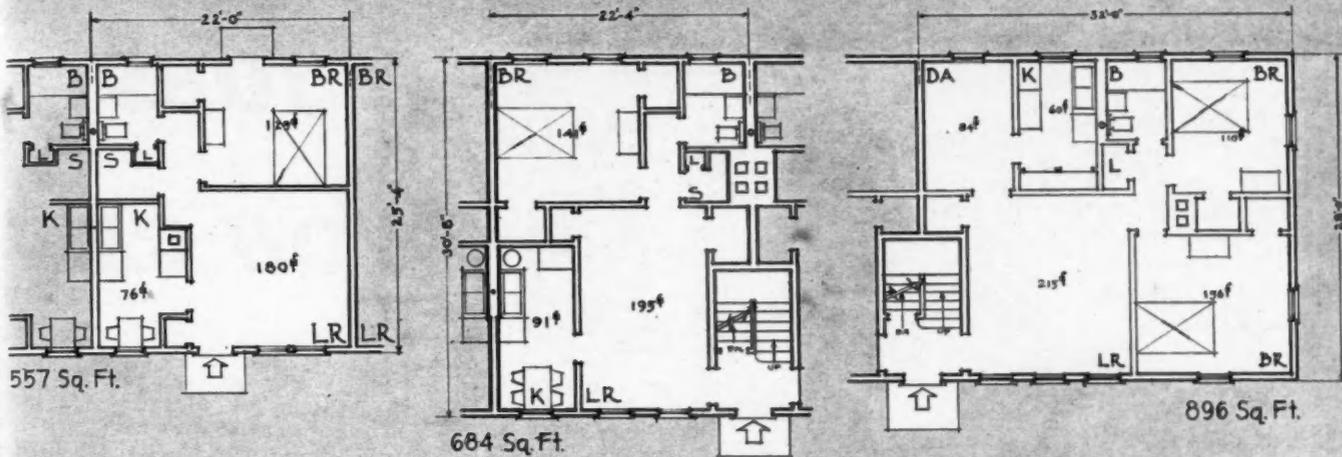
900 Sq. Ft.



1093 Sq. Ft.



900 Sq. Ft.



**ROW UNITS OR FLATS**—One-bedroom (one-story) model (left), 557 sq. ft. Center: Two-story one-bedroom unit. Right: Two-story two-bedroom unit for use in four-family building or row flats. Much emphasis is put on row or group housing in new program.

# Revised WPB Standards

minimum of materials. Minor changes may be required in certain areas due to WPB variations in heating systems, and special attention is called to the row and four-family house arrangements, which are favored by WPB.

After months of delay and discussion, the War Production Board finally released its revised construction standards. The principal changes of interest to private builders were:

1. Increase of 10 to 15 per cent in permitted floor area.
2. Removal of ban on use of softwood lumber for finished and sub-flooring.

3. Expansion of areas in which wood frame construction may be used.

4. Elimination of heating provisions, since the major requirements formerly included have been incorporated in the current War Housing Critical List.

In those states within reasonable reach of the Pacific Northwest and Southeastern lumber producing areas, the use of lumber, within certain limitations, is permitted. In states outside of these two lumber producing areas, the housing structure must have laid-up  
(Continued to page 86)

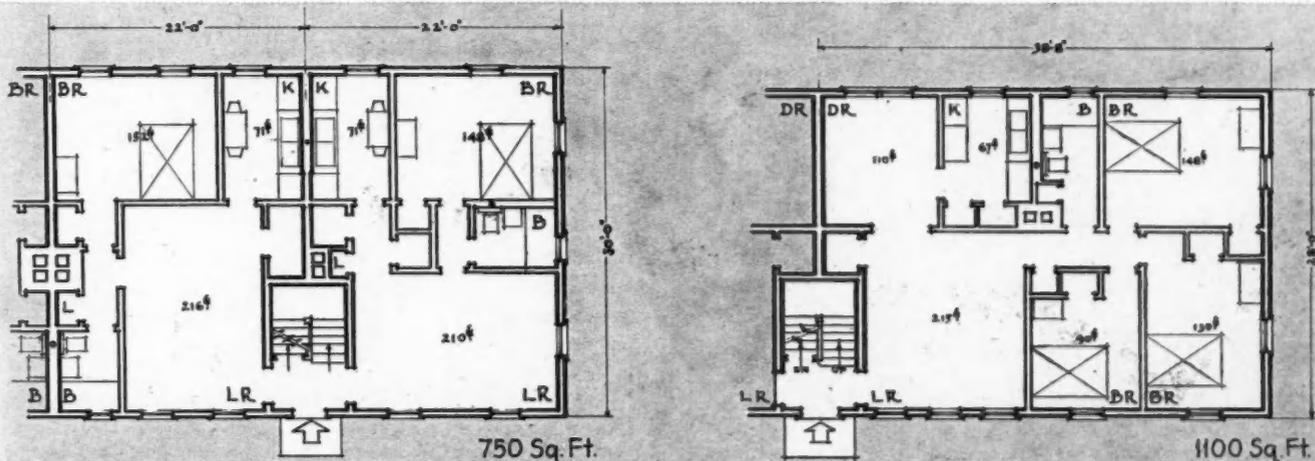
## GO AHEAD SIGNAL?

**WPB's new construction standards, if intelligently administered, will permit thousands of needed war homes to be built by private builders.**

**FHA's Technical Division has done a noteworthy job by preparing the 18 basic plans shown herewith. They represent the boiled down, tested experience of FHA in thousands of war housing units over the past two years.**

**Complete Text of WPB'S Revised Construction Standards Given on Page 86.**

**FOUR-FAMILY OR ROW FLAT**—Two-story one-bedroom model at left requires only 660 sq. ft. The two-story three-bedroom unit (right) has 1,088 sq. ft. (Figures shown are permitted area.) These styles are adaptable to use in groups or rows.





HOW to increase the usefulness of a small room. The built-in shelves for china, with drawers and cupboards below, take the place of one or more pieces of furniture.

# **JOBS YOU CAN SELL**

**Small built-ins can dress up an old room or newly converted space, provide needed storage, and frequently lead to other sales.**



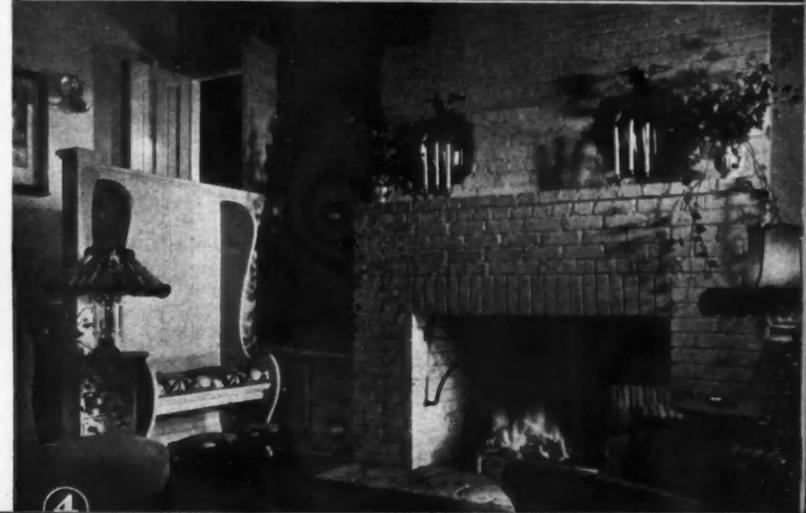
**BUILT-IN** cupboard is an attractive addition to a corner. Note decorative moulding, convenient drawers, and door matching wainscot.



**SHELVES** added to each side of a fireplace add color, attractiveness and importance to that particular wall of any living room.

**A**s a continuation of the feature started in last month's issue, here are eight additional suggestions for built-ins to keep builders busy. Using a little ingenuity in adapting them to the needs of particular rooms, they will help create new jobs. There are ideas here for increasing the usefulness and beauty of small rooms; drawers, shelves and cupboards which can take the place of extra pieces of furniture; plans you can offer to home owners for the simple conversion of that extra space into a one-room "apartment." And you can point out to your customers that the need for extra storage or living space need not result in unattractive "make-shifts," as evidenced by these interiors. Using these illustrations as a basis, you will be able to work up other ideas to offer a variety of suggestions to your customers—and you will be keeping yourself busy.

FOUR suggestions for built-ins are offered at right. (1) Bookshelves flank a built-in sofa and large double window, and below them are handy drawers for storage. (2) An idea for bookshelves, surprisingly and effectively placed at corner of a wall. (3) A suggestion for a "war worker" apartment—a built-in single bunk with drawers below for bedding and storage. (4) High-backed seat built out from wall offers seating space, and attached is wood box.



DRESSING table, with cupboards below, can be built against windowless wall, with closet built in on one or both sides.



GOTTA KEEP BUSY SOMEHOW! SAYS: "Home-Front" Homer

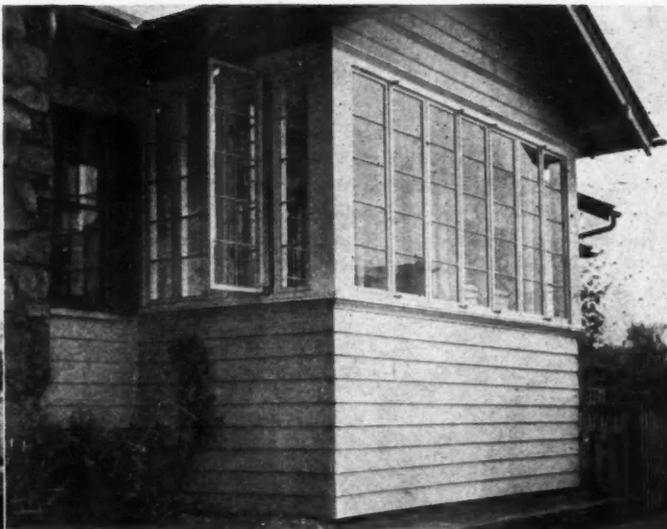
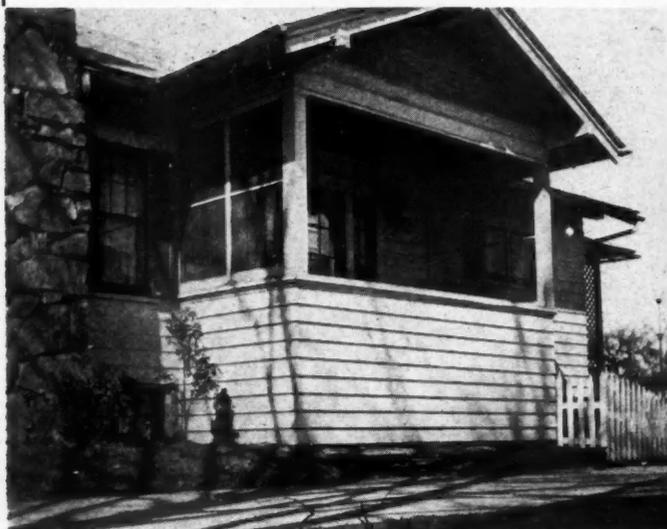
# Needed Maintenance and Small Construction Jobs You Can Still Do

## How to Create Extra Living Space

OPEN porches on many homes can be converted into an extra room to be rented or used by the family merely by enclosing with good weather-tight windows properly fitted

with screen and storm sash and installing ceiling and under-floor insulation. Such extra rooms can generally be heated without increasing the size of the present plant which will probably handle an additional register or radiator.

THE open porch below was easily and economically converted into an extra room; many similar jobs can be found throughout the country.



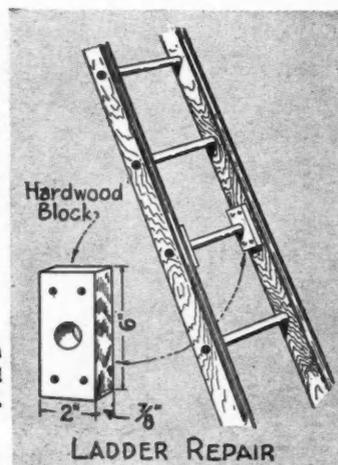
## How to Get Proper Shingle Exposure

THE proper exposure of Red Cedar Shingles is important these days when material conservation is necessary; the chart below shows how to apply for the longest life of the shingle. The first column shows various rises for a 12-inch run when the pitch is not known. The other columns show exposures for three lengths of shingles laid in either three or four layers.

Run - 12 Inches	Rise	Pitch	Exposure for 16" Shingles			Layers
			Exposure for 16" Shingles	Exposure for 16" Shingles	Exposure for 24" Shingles	
	16"	$\frac{4}{3}$				3 Layers
	15"	$\frac{3}{4}$				
	12"	$\frac{1}{2}$	5 Inches	5 1/2 Inches	7 1/2 Inches	
	10"	$\frac{5}{8}$				
	9"	$\frac{3}{8}$				
	8"	$\frac{2}{3}$				
	7"	$\frac{7}{8}$				
	6"	$\frac{1}{2}$				4 Layers
	5"	$\frac{2}{3}$				
	4"	$\frac{1}{3}$	3 1/4 Inches	4 1/4 Inches	5 1/4 Inches	
	3"	$\frac{1}{4}$				

## How to Repair a Ladder

NOW that we have to take care of equipment on hand, repairs to make it do for the duration are important. Here is one on an easy way to fix a ladder, something which is a rather tricky job if the rung must be completely removed and put back in its former condition. But a safe job can be done by cutting off the broken rung flush with the inside of the rail, fashioning two hardwood blocks as shown in the illustration and then fitting a new rung in place between these hardwood blocks, each side held with four penny nails.



REPLACEMENT rung held in position by two hardwood blocks for quick ladder repair.

LADDER REPAIR

### How to Protect Screen Door and Dress Up a Front Entrance

SINCE the front entrance of any home is usually the center of interest, the little details which dress it up and improve it generally offer a number of jobs which can still be done. (Illustration at the right). A very clever wooden screen guard has been put on this door to protect "hard to get" wire cloth. This guard can substitute for the standard metal screen guard.

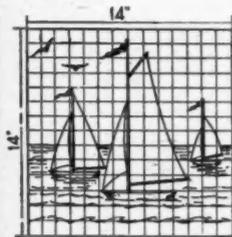
Flagstone platform steps, walks, etc., dressed up with the proper landscaping, are other jobs which can be done to improve front entrances without using critical materials.

WOOD screen guard replaces metal one, dresses up entrance.

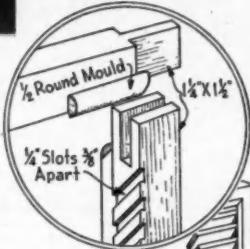


### How to Convert Unused Closet Into Bar

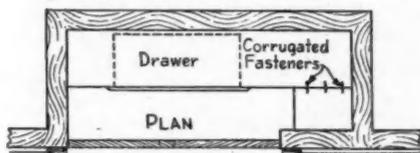
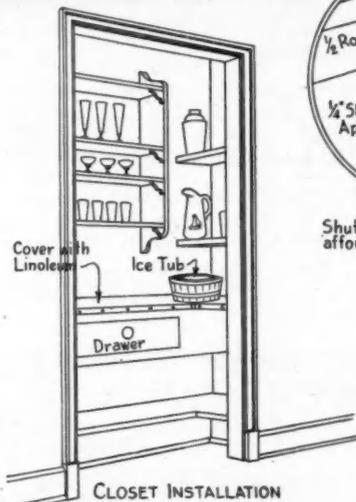
A SHALLOW closet on the first floor that isn't used for clothes or other storage can be easily converted into an attractive, convenient bar. A pair of louvered doors, as shown in the view below, add a decorative touch to the room when they are closed. Painted or stenciled figures (yachting scene suggested in drawing) can be used to decorate the wall space around the built-in shelves.



Wall Decoration Painted in Varying Shades of Blue



Shutter Type Doors afford Ventilation.



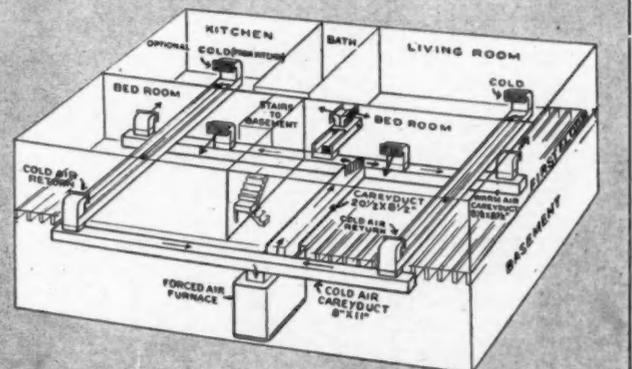
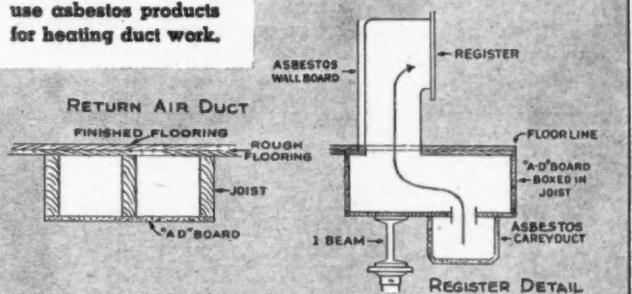
### How to Conserve Metal on Duct Work for War Housing or Repair Jobs

ASBESTOS DUCTS and asbestos faced laminated board are two items which have proved to be satisfactory substitutes for much of the sheet metal work on heating systems.

In the drawing below, the heating system for a typical four-room war housing job is shown with this type of asbestos material indicated at points of use. Main duct furnace is a 20½ by 8½ all-asbestos product; this forms a "T" joint with the 8½ by 8½ inch warm air duct extending the length of the plan, and from which the hot air registers are taken. Leads to the registers are formed by boxing in the joists with asbestos boards, as shown in the register detail. Cold air returns are connected into ducts formed by boxed-in joists which in turn lead into an asbestos cold air duct 8 inches by 11 inches. This detail is also shown.

As well as using these metal-saving materials on new housing jobs, there are many homes which need an extra register or two put in to increase the efficiency of the heating plant—a "must" in these days of fuel conservation.

#### DETAILS on how to use asbestos products for heating duct work.



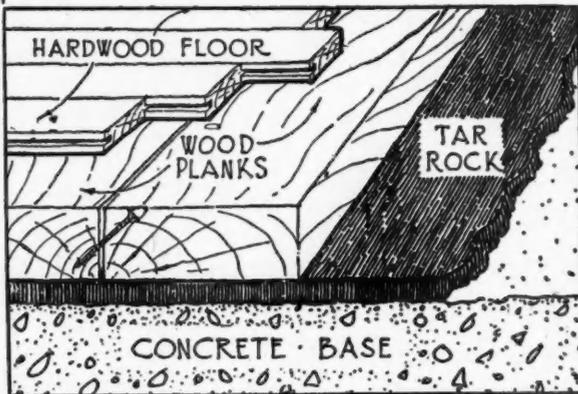
WAR HOUSING HEATING LAYOUT

### How to Lay a Wood Floor Over a Dampproofed Concrete Base

WITH conversions calling for the use of idle space, even in basements, it is sometimes necessary to lay a wood floor subject to dampness. The following method describes how to lay a hardwood floor under such conditions.

If the present concrete base is in fair condition and proper level, etc., a dampproofed course can be applied directly to it; otherwise a new concrete base will be necessary. On the base, a course consisting of fine sand thoroughly mixed with a sub-floor tar in the proportion of between 25 and 30 gallons of tar to each cubic yard of sand. Sand should be thoroughly dry before mixing, and both sand and tar heated sufficiently to make them mix freely. But the temperature should be kept below 225 degrees Fahrenheit. This mixture is spread evenly over the base in a layer from 1¼ to 1½ inches thick, so that it can be compacted to 1 inch and leveled with a straight-edge.

Next, planks are bedded on this soft mixture

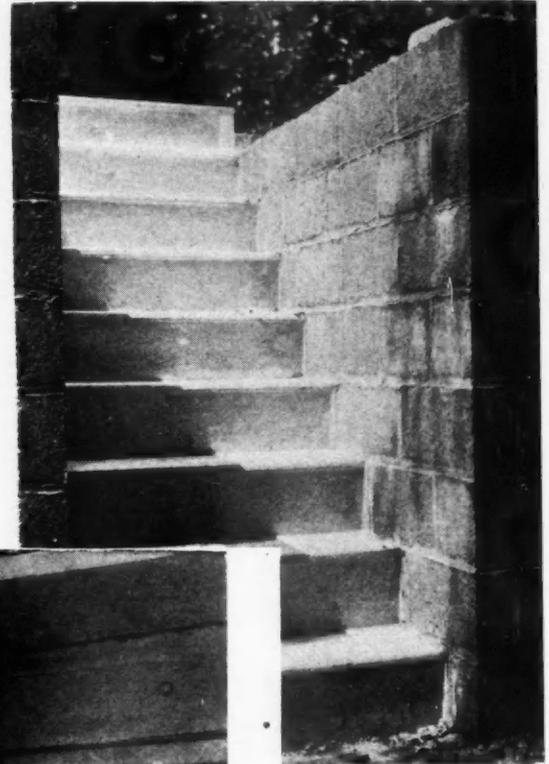


SECTION through dampproofed floor indicates courses.

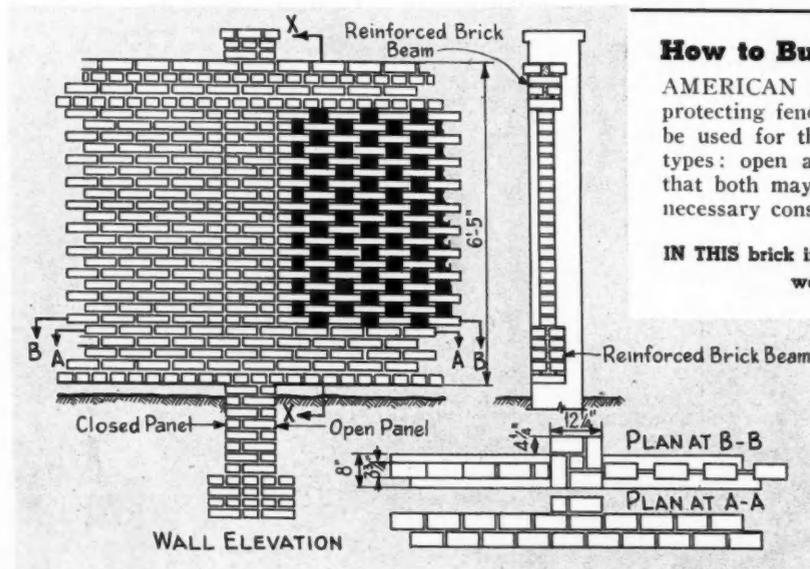
by hammering until proper stability is obtained. Then the plank base is brought to a proper level and toe-nailed together. Over this plank base, the finished flooring is laid. Over earth floor to replace the concrete use 4-inch thickness of gravel or stone from ¼ inch to 2½ inches in size, and mixed with sufficient sub-floor tar so that it will compact under a roller.

### How to Build Non-Critical Fireproof Stairs

FOR installations where fireproof stairways are required, or in other instances where masonry construction is used, a precast concrete stairs is frequently the answer. Shown here are two views of such construction, one from the front and the other from underneath. These precast units consist of tread, riser and end block. It will be noticed that the stairs lay in with the supporting blocks, the top of the treads aligning with the courses being laid into place as the walls go up. Finish can be rubbed or ground, or the stairs can be covered with carpeting, tile or linoleum, following the same methods as would be used over concrete. Also with proper preparation the surface can be painted or color added to mix when units are made.



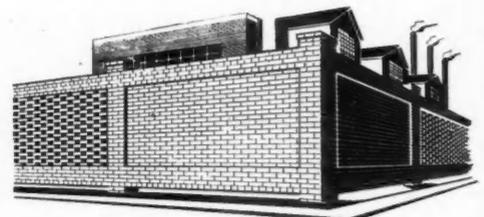
ABOVE: Face of precast masonry stairs under construction; left, view from underneath same stairs showing how masonry courses tie into tread and risers.



### How to Build Brick Industrial Fences

AMERICAN factories turning out vital war essentials need protecting fences, and brick is one of the materials which can be used for this purpose. The one shown here suggests two types: open and closed panels. The small sketch indicates that both may be used on one fence. The drawing provides necessary construction details.

IN THIS brick industrial fence, a continuous footing instead of piers would eliminate reinforcing in brick beam.



*Would it take you 300 years  
to design a post war window?*



It took 300 years to achieve the first basic improvement ever made in windows\*. But no one can have that much time to design windows for tomorrow's homes. It's easy to see what post-war windows will be like—if you consider them in terms of *basic human needs*. So stop just a moment and speculate with us as to what those needs may be...

**WEATHER-TIGHTNESS?** A "must" for every post-war window is complete weather-tightness—truly modern weather-stripping that bars out chills and drafts. For double-hung windows, choose a type of construction that gives better protection from air infiltration.

**LOW MAINTENANCE?** Certainly! That's why you'll find it important to use a window material that is lasting—a *thoroughly tested* material able to stand the most severe demands of time and weather. Wood—as used in Curtis Silentite Windows—is such a material.

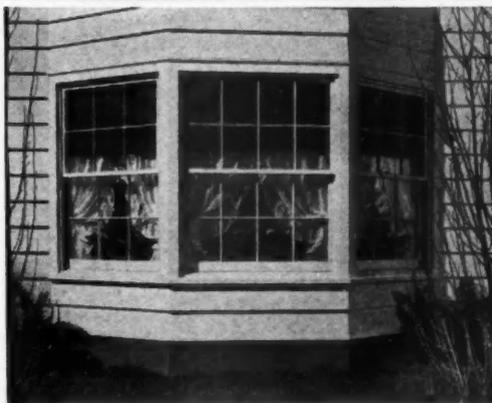
**EASY OPERATION?** Tomorrow's windows must be easy to operate—they must not stick, rattle or bind—they must be absolutely *trouble-free*. That calls for an enlightened conception of window design and construction.

**QUALITY?** Remember, quality can only be determined through years of use, in every type of structure, under a wide variety of conditions. Remember, too, that the *reputation of the maker* will be one of your best guarantees of quality in post-war windows.

\*Introduced by Curtis in 1932

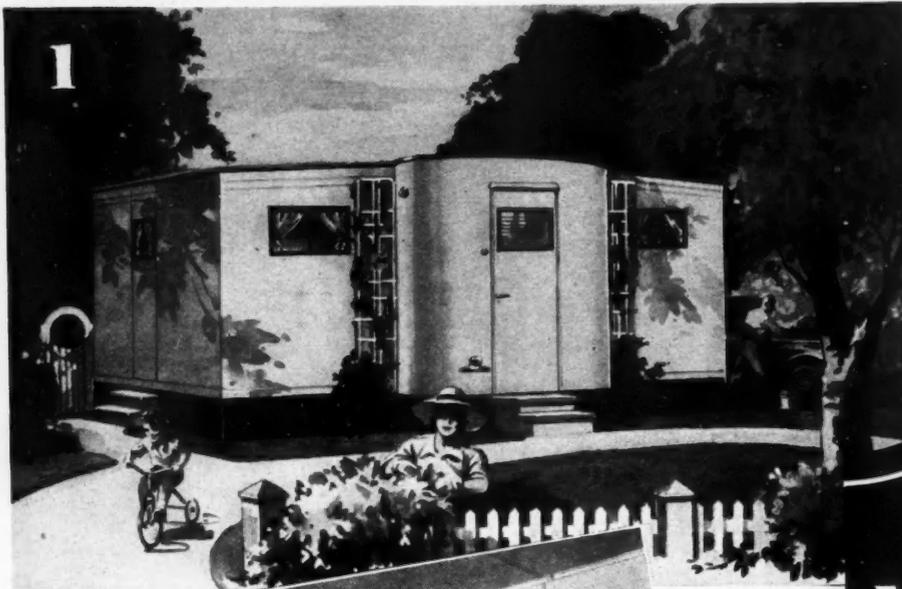


THERE IS ONLY ONE SILENTITE AND ONLY CURTIS MAKES IT  
Its patented features aren't available in any other window



**HERE'S OUR SUGGESTION:**

We think the present family of Curtis SILENTITE Pre-Fit Windows goes further than any other type of window in meeting the needs outlined here. In addition, 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.



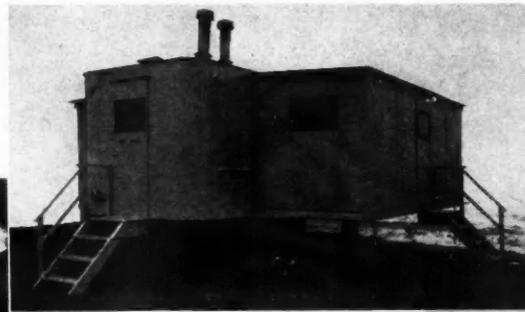
**Single-Family Unit**

*With or Without Complete Bath*

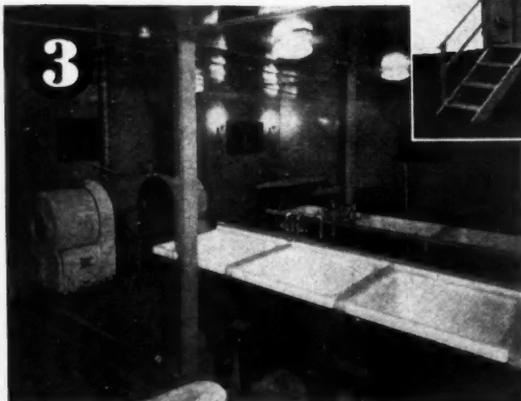


*Complete*  
**WAR-TIME Industrial Housing**  
*Service!*

**Portable Homes and Portable Utility Units**



**Double-Quick Emergency Housing!**



*Two laundry units (as shown at left) and four toilet units (as shown at right) are sufficient for every 100 dwelling units.*

**Palace**

**TRAVEL COACH CORPORATION**

**NOTE: Contractors and Builders**

If new war plants are being built in your locality, or if old plants are undergoing expansion, investigate the possibilities of this new low-cost housing plan.

## Two-Family Unit

*With or Without Complete Bath*



*Four*  
**EXPANSIBLE**  
**UNITS!**  
*Factory-Built*  
*and*  
*Factory-Equipped*

## An All-Comprehensive Housing Plan!

Palace Industrial Housing Service offers a simple, practical and complete solution of the problem of providing emergency housing when a sudden influx of workers in any locality makes necessary a quick increase in housing facilities.

Such needs can now be met almost overnight by means of Palace Expansible Units which are entirely factory-built and can be transported direct from factory to building site, fully assembled, fully equipped, and complete with furniture, floor covering and draperies.

### Both Housing and Utility Units

With both single-family and two-family dwelling units, and also two types of utility units, a laundry unit and a combination toilet-and-shower unit, the Palace building plan not only provides all the neces-

sities that make for comfortable living but also meets the requirements of state public health codes. The housing units may, if desired, be had with private utilities incorporated.

### Quality Housing at Low Cost

Palace portable housing and utility units make it possible to provide emergency housing of unusually high character with record speed—and at a new low cost per worker housed. Constructed with a minimum of non-critical materials, they are now available for factory housing projects and subdivision building projects in war industry areas upon the approval of the National Housing Agency.

Arrangements may be made whereby our company will handle a building project complete, including erection work and installation of sewer, water and electric lines, or furnish only the dwelling and utility units, delivered at the building site.

### Write for Complete Information

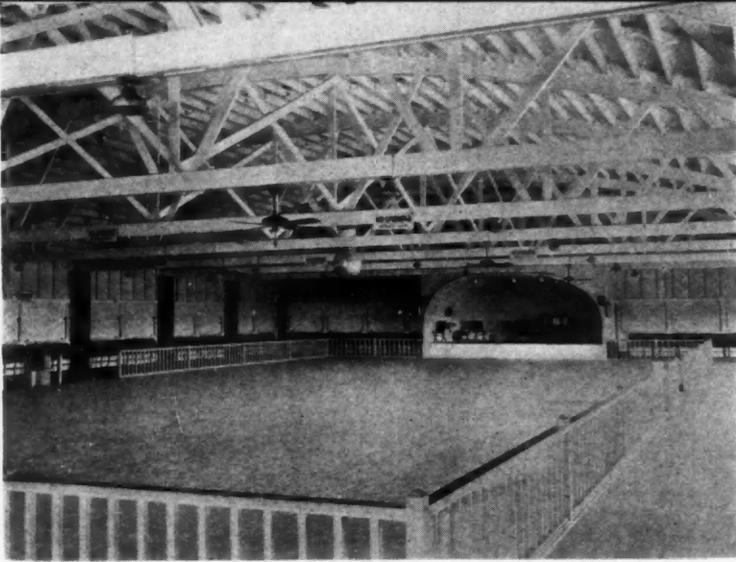
PALACE TRAVEL COACH CORPORATION  
FLINT, MICHIGAN

# Palace

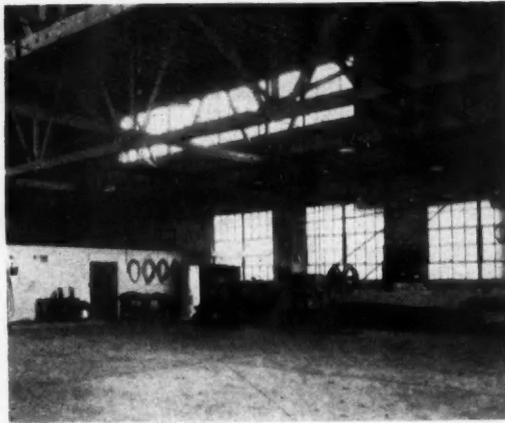
## TRAVEL COACH CORPORATION

*Lumber May Be the First  
Available Material*

## Wood Trusses May Open the Door to Post-War Building



USE of wood trusses is not a new thing but the war has offered an opportunity to use them for large industrial plants and for airplane hangars. The American Roof Truss Company, Chicago, Ill., has allowed the use of their pictures to show some of the developments possible with revived building after the war.



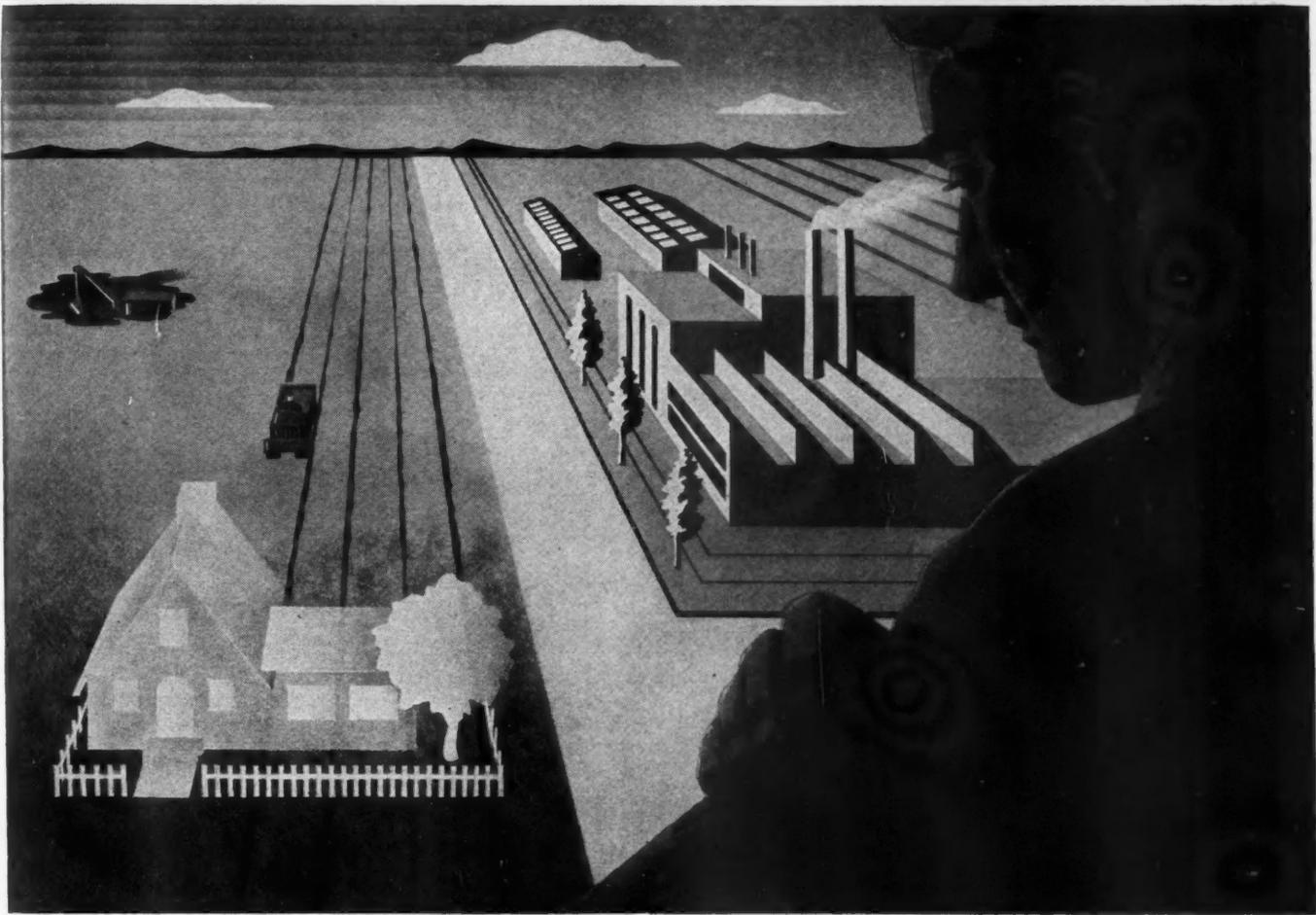
THE first three pictures from the top down, show possible commercial installations that are worth consideration in the post-war period. Top picture, a country dance hall; at left, a garage; below, a church. At bottom, left, an industrial application of the wood truss and at right a picture showing the bearing strength of charred wood trusses.

**H**ERE are some instances where wood trusses might solve a problem. One: a commercial building housing several small establishments is difficult to keep rented because the supports holding up the roof do not allow partitions to be placed where needed. Wooden roof trusses, 25 to 150 feet long may be the answer. For a roof can be supported by the trusses, the posts knocked out, and partitions placed where needed. Two: a building with several partitions may be needed for industrial or manufacturing use. It is unsuitable for manufacturing as long as the walls and supports remain. Trusses overhead, creating one large area, may produce new business.

While it is possible that some buildings in your town can be made available for war production work through the use of wood trusses today, it is not too early to consider the use to which local buildings will be put in the post-war period and to develop plans for their proper utilization.



## Mr. Chekovski looks at his new home



**If this war housing project comprising up to 100 or more houses were in your hands, you probably could complete it faster with Atlas High-Early cement—and save time in wartime.**

STAN CHEKOVSKI and thousands of others enrolled in our industrial "army" must have new homes so that war production can be increased in nearby plants. But how soon? Uncle Sam wants war production on the double-quick. New housing for war workers was needed yesterday.

You know an answer to the question. *Atlas High-Early cement.*

Despite cold weather, this speedy cement will help hurry up completion of war housing. This cement has had an important role in helping to place

this country on an all-out war basis not only in housing, but in factories, airports, naval bases, cantonments, access roads.

Check the facts in the adjoining box. Use Atlas High-Early cement whenever you need durable, serviceable concrete—in a hurry. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

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

### CHECK ON ATLAS HIGH-EARLY for Wartime Construction

Atlas High-Early cement gains strength rapidly—produces serviceable concrete in one-fifth the usual time on some jobs. So it—

1. Permits earlier use of concrete, and thus gives owner earlier occupancy.
2. Saves manpower when such conservation is needed most—releases men for new jobs more quickly.
3. Conserves lumber. Forms may be stripped sooner—often in 24 hours instead of from 3 to 5 days—and re-used. Hence fewer sets of forms may be needed, saving time, labor, and lumber.
4. Shortens time required for protection and curing as much as 70%. This saves fuel and releases tarpaulins and salamanders for other work.
5. Reduces overhead by saving time, manpower and equipment.

AB-H-52



SAVE TIME IN WARTIME WITH  
**Atlas High-Early Cement**

A UNIVERSAL ATLAS PRODUCT

## PORTRAIT OF AN IMPORTANT SOLDIER



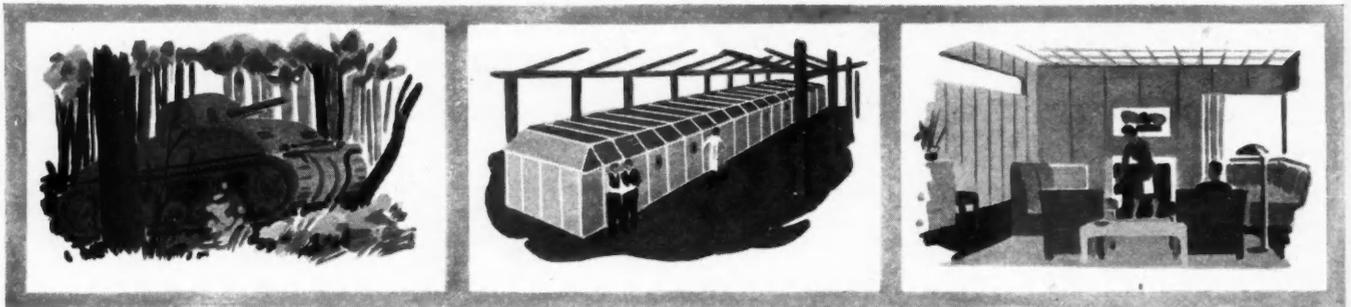
**JUST A NORTHWOODS TREE!** There are millions and millions like it. But this tree is an important soldier in the war of the democracies, for from its fibres comes a product with a multitude of indispensable services, each of which is hastening the day of victory.



● Many years ago scientists, working with lumber, found that the important part of a tree—its strength, its enduring quality—was the *wood fibres*. The question posed itself: "How to utilize these fibres to better advantage to man?" The answer was soon found.

● Logs were put into powerful machines that tore them to pieces—leaving only the vital wood fibres. Fibres were treated with asphalt to protect against moisture. Then the fibres were processed into panels. These boards or panels were called "Insulite".

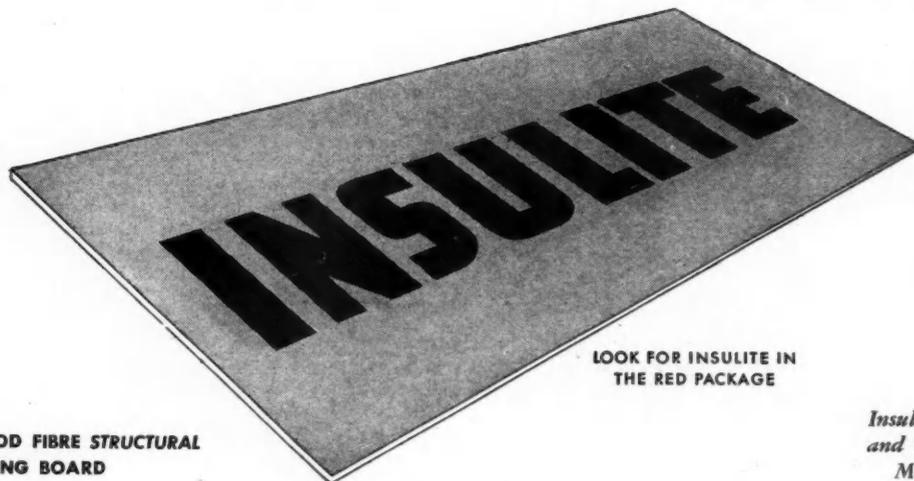
● Insulite, processed from wood fibres, has great structural strength. Its bracing strength is four times that of ordinary wood sheathing horizontally applied. Insulite has high insulation efficiency, retarding the passage of heat, cold or vapor.



● Insulite has many uses. Because it is effective insulation and quiets sound, Insulite is used in the construction of certain tanks, which are being used on battlefronts throughout the world today. Insulite helps to keep the tanks cool inside, protects the occupants from burning desert suns, and reduces the roar of guns and bombs.

● With scarcity of shipping and lack of metal for packaging, dehydrated foods are highly important today. Insulite has been found by engineers to be an ideal material for drying rooms in high-speed food dehydration. Today, hungry people in all parts of the world are nourished by foods dehydrated in compartments constructed with Insulite.

● Tomorrow's home—when peace again is ours! In the construction of tomorrow's homes, Insulite will play an important part, for homes built with the Insulite Wall of Protection will have walls that are stronger, more durable, weathertight, windproofed, moisture proofed—with a *double barrier* of insulation, saving fuel in winter, keeping heat out in summer.



THE ORIGINAL WOOD FIBRE STRUCTURAL  
INSULATING BOARD

LOOK FOR INSULITE IN  
THE RED PACKAGE



Insulite Division of Minnesota  
and Ontario Paper Company  
Minneapolis, Minnesota

ere are  
e is an  
mocra-  
ct with  
each of

has great  
four times  
ntally ap-  
cy, retard-

is ours! In  
nsulte will  
it with the  
alls that are  
ndproofed,  
insulation,  
in summer.

Minnesota  
Company  
Minnesota



*For Excellence  
in War Production*

Receiving the Army-Navy Production award in the year of the one hundredth anniversary of The Stanley Works is more than a coincidence. Let us all be mindful of the fact that the men and women of American Industry have a duty above and beyond working for wages and profits. In war or peace, ours is the job of helping build America and keeping her strong and free. If our century of growth and experience had done nothing more than to fit us for our present service to the nation, it would have been worthwhile. The Stanley Works, New Britain, Connecticut.

**"AND WE'RE KEEPING  
AT IT UNTIL THE  
JOB IS DONE!"**



1843

**STANLEY**

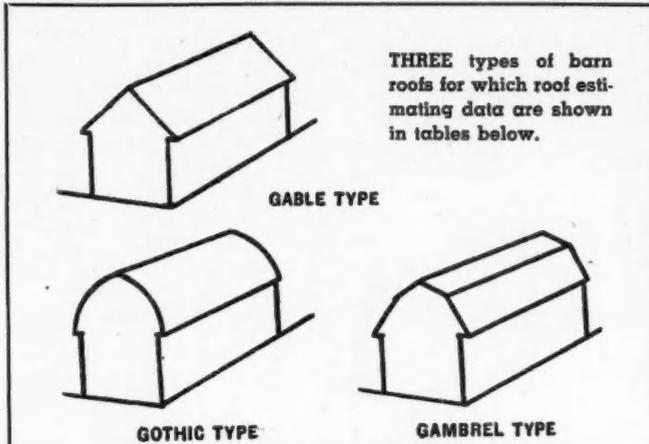
1943

TRADE MARK

# SHORT CUT Estimating Methods For Fast and Profitable Selling

By Herbert F. Lotz, Estimating Expert

No. 2.



## How to Figure Barn Roofing

IN last month's article we showed the basic steps of quick roof estimating, including use of a roof pitch card, and how to figure hips and valleys, ridges, starters, flashing, etc. Similar short cut estimating methods may be applied to Barn Roofs as follows:

To find roof areas, measure width of barn, add overhangs, and find nearest corresponding larger width in tables below.

Multiply roof factor given (for type of roof being estimated) by the total length of barn, inclusive of overhangs; add starters and ridge (figure 1 sq. ft. per lin. ft.) and adjust final total to nearest larger half or full square.

Gable areas are figured solid. For siding estimating, deduct for windows or mow doors. The accompanying tables show

(Continued to page 76)

Barn Width	Gothic Type Roof			Gambrel Type Roof		
	Roof Factor	Ridge Height	Gable sq. ft.	Roof Factor	Ridge Height	Gable sq. ft.
10	17.6	6.5	40	16.0	5.56	36
11	19.4	7.2	49	17.6	6.10	43
12	21.2	7.8	58	19.2	6.76	52
13	23.0	8.4	68	20.8	7.22	60
14	24.7	9.2	78	22.4	7.80	70
15	26.5	9.7	89	24.0	8.33	80
16	28.2	10.4	102	25.6	8.90	91
17	30.0	11.0	114	27.2	9.45	103
18	31.8	11.7	130	28.8	10.00	116
19	33.4	12.3	144	30.4	10.55	129
20	35.2	13.0	160	32.0	11.20	144
21	37.0	13.6	176	33.6	11.80	159
22	38.8	14.3	193	35.2	12.35	174
23	40.6	14.9	210	36.8	12.90	189
24	42.0	15.6	230	38.4	13.50	206
25	44.0	16.2	250	40.0	14.10	225
26	46.0	16.8	268	41.6	14.60	244
27	47.9	17.6	290	43.2	15.20	262
28	49.4	18.1	313	44.8	15.70	281
29	50.6	18.8	338	46.4	16.30	302
30	53.0	19.4	358	48.0	16.90	324
31	55.0	20.0	382	49.6	17.40	346
32	56.5	20.7	410	51.2	18.00	368
33	58.0	21.5	445	52.8	18.60	394
34	60.0	22.2	465	54.4	19.20	415
35	62.0	22.6	487	56.0	19.70	440
36	64.0	23.4	518	57.6	20.20	466
37	65.8	24.0	550	59.2	20.80	492
38	67.0	24.7	578	60.8	21.40	516
39	69.0	25.2	605	62.4	21.95	545
40	70.4	26.0	640	64.0	22.60	578

Barn Width	Gable Type 1/2 Pitch Roof			Gable Type 1/2 Pitch Roof		
	Roof Factor	Ridge Height	Gable sq. ft.	Roof Factor	Ridge Height	Gable sq. ft.
10	12.6	3.33	17	14.7	5.0	25
11	12.9	3.67	20	16.1	5.5	30
12	15.2	4.00	24	17.6	6.0	36
13	16.4	4.33	28	19.1	6.5	42
14	17.7	4.67	35	20.6	7.0	49
15	19.0	5.00	38	22.0	7.5	56
16	20.2	5.33	43	23.5	8.0	64
17	21.4	5.67	48	25.0	8.5	72
18	22.6	6.00	54	26.5	9.0	81
19	24.0	6.33	60	28.0	9.5	90
20	25.2	6.67	67	29.4	10.0	100
21	26.4	7.00	74	30.8	10.5	110
22	27.8	7.33	81	32.3	11.0	121
23	29.0	7.67	88	33.8	11.5	132
24	30.3	8.00	96	35.2	12.0	144
25	31.5	8.33	103	36.8	12.5	156
26	32.8	8.67	113	38.2	13.0	168
27	34.0	9.00	122	39.7	13.5	182
28	35.4	9.33	130	41.2	14.0	196
29	36.6	9.67	140	42.5	14.5	210
30	37.8	10.00	150	44.0	15.0	225
31	39.2	10.33	161	45.5	15.5	240
32	40.3	10.67	170	47.0	16.0	255
33	41.6	11.00	182	48.5	16.5	272
34	43.0	11.33	192	50.0	17.0	290
35	44.2	11.67	204	51.5	17.5	306
36	45.5	12.00	216	53.0	18.0	324
37	46.7	12.33	228	54.5	18.5	342
38	48.0	12.67	240	56.0	19.0	360
39	49.2	13.00	254	57.5	19.5	380
40	50.5	13.33	266	59.0	20.0	400

### ROOFING (Asphalt and Wood Shingles)—Applied Over Old Roofs Local Price Workout per Square

Shingle Price					
Nails					
Cement					
Wood-Stripping—Lath					
<b>TOTAL MATERIAL PRICE</b>					
Labor Cost @ per hour					
Labor Profit %					
Comp. Ins. %					
<b>TOTAL LABOR PRICE</b>					
<b>TOTAL MATERIAL AND LABOR PRICE</b>					
SALES COMMISSION %					
<b>TOTAL SELLING PRICE</b>					

### Helpful Roofing Estimating Form

THIS handy estimating form is suggested for use in quick figuring of roofing jobs. Local labor and material prices are to be inserted. Illustrative examples showing how basic data are arrived at are shown on page 76.

**IN THE POST  
AND 37  
NEWSPAPERS**

**A HOME FOR  
EVERY FAMILY**

*is the aim of post-war planning*



**D. Allen Wright tells  
of post-war designs**

D. Allen Wright, well-known American architect, who designed the famous "circle" house above, states that privacy, controlled light, sound and heat; larger window areas, with greater flexibility in interior arrangements and more sleeping space, are all a part of the plan for the future. Write for your copy of a free booklet on the D. Allen Wright house above.

Four and one-half million new homes will be built immediately following Victory. This is the latest record by the U. S. Department of Commerce. Home and industry will make great contributions to these new homes to ensure more ease and comfort. And Timken will contribute in this better way of living, not only with improved automatic heating and air conditioning, but with other new products for greater home comfort, convenience and health.

**Timken helps you NOW!**



The Timken Factory and Timken Dealers are doing everything possible to keep all buyers abreast of the latest and most economical. You can help by having your home checked regularly by an authorized Timken Dealer. If you own a Timken, you know from experience the extra comfort Timken means are getting over under the most severe winter conditions. Also in the improvement of the Timken Oil Burner. Please the nearest Timken Dealer listed below for a check-up and regular preventive service.

**TIMKEN  
Silent Automatic**

Oil Heating Products for the Home  
Division of THE TIMKEN-DETROIT AXLE COMPANY, Detroit, Michigan

**It's Co-operation that counts!**

In peace times, Timken gives the kind of co-operation that counts with dealers. Strong national magazine and newspaper advertising. Complete dealer sales and advertising plans. Sales portfolios, sales schools, service schools — everything that insures a profitable business for dealers.

**A HOME FOR EVERY FAMILY**

*is the aim of post-war planning*



**FREE!** Existing new booklet describing the merits of post-war homes and giving floor plan and arrangement of D. Allen Wright's charming "circle" house above. Mail coupon for your copy!

What will American homes be like after the war? How will they differ from the average home of today?

You will find some of the answers in a fascinating new booklet prepared by Timken — just for the asking.

Read about the "circle" house and industry have developed under the pressure of war — the new methods and materials, building methods and materials, "Grouped" mechanical systems, "Block" heating, "Scale" versus "Picture" windows.

Timken will make its contributions to this better way of living — not only with improved automatic heating and air conditioning, but with other new products, all built with the skill and experience that Timken has naturally known for their reliability and dependability.

Don't be afraid to dream! Just mail coupon today for your copy of "New Wonder Home of Tomorrow," which includes a floor plan of the house shown above.



**D. Allen Wright**

The "circle" house is a masterpiece of modern architecture. It is a true example of the "circle" house which is the aim of post-war planning. It is a true example of the "circle" house which is the aim of post-war planning.

**TIMKEN  
Silent Automatic**

Oil Heating Products for the Home  
Division of THE TIMKEN-DETROIT AXLE COMPANY, Detroit, Michigan

**SEND FOR YOUR COPY OF "NEW WONDER HOME OF TOMORROW"**

TIMKEN SHEET #1 POWER DIVISION  
300 East Warren, Detroit, Michigan

Send five copies of D. Allen Wright booklet to:

Name \_\_\_\_\_

Home Address \_\_\_\_\_

City & State \_\_\_\_\_

611 528 8020

This complete new Timken program, built around the basic, interest-compelling theme of post-war planning, is currently running in full pages in the Saturday Evening Post and in dominant space in 37 newspapers. Yet this is only a part of present-day Timken factory support for its dealer organization.

**Building for the FUTURE!**

America is fighting for the future . . . planning for the future . . . building for the future. On the lips of every sailor, in the heart of every soldier, in the mind of every worker on the war production front, is the hope of a bigger and better future for all.

The greatest buying volume in American history is now held up, awaiting Victory. When that great day arrives, where will you be? At the post — ready to go? Backed up by a manufacturer whose record of successes is long and brilliant and whose products have proved their ability to *pay out* — in profits to dealers and extra satisfaction to users?

Or, will you be among the thousands who are "looking for a line?" The Timken factory is doing everything possible *now* to keep existing oil burners operating efficiently and economically, and to help Timken dealers in their vital task of keeping the home fires burning. The products we manufactured "yesterday" are adding to their good reputation for thrift and economy today.

After Victory, we will be ready with improved, automatic heating and air conditioning and other new products for the home.

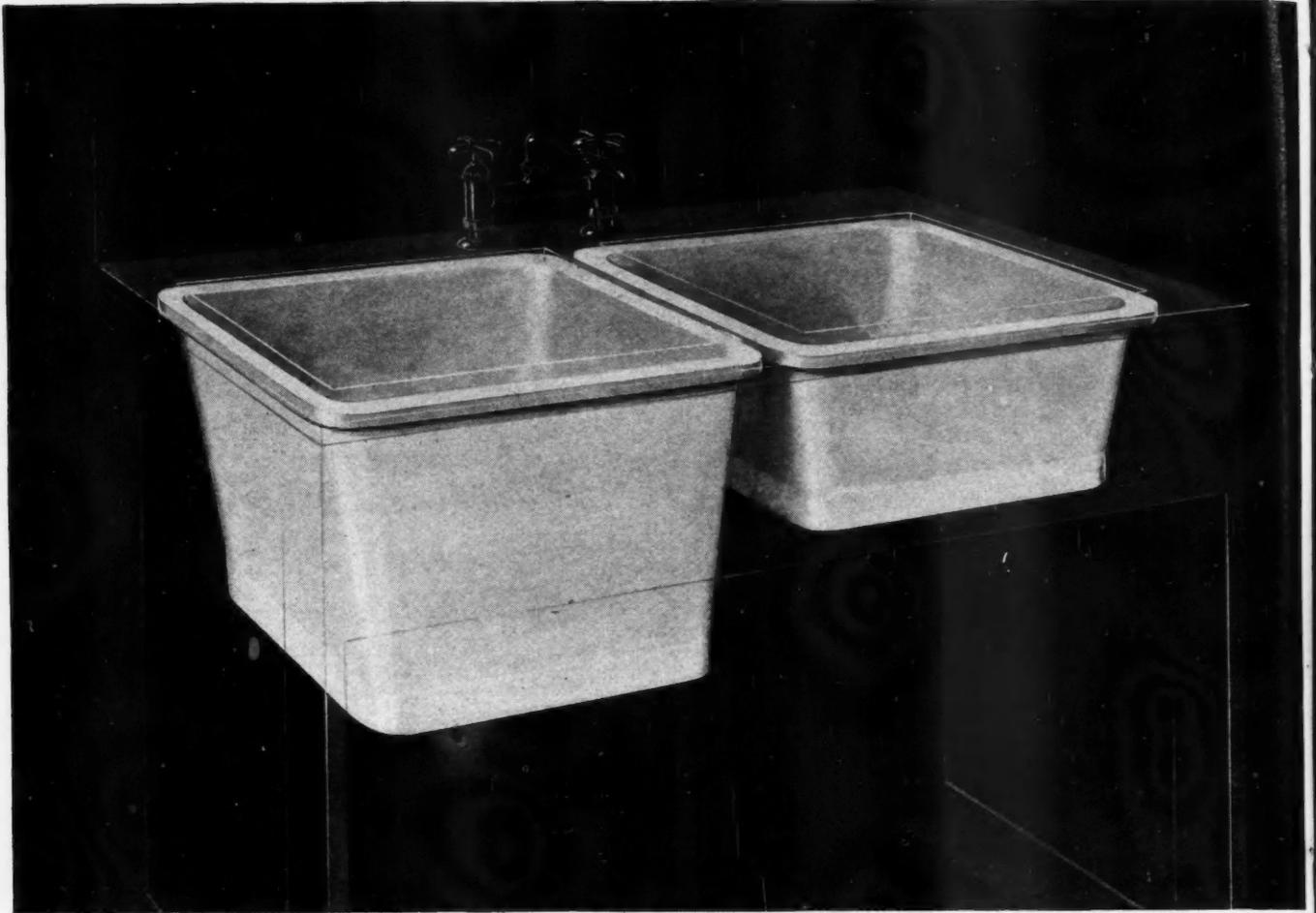
Regardless of your present connections or position in the field, it will pay you to talk to Timken concerning these products and the profit possibilities they offer you.



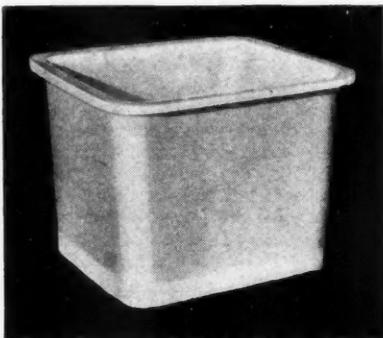
For Production  
"Well Done"

**TIMKEN** *Silent Automatic*

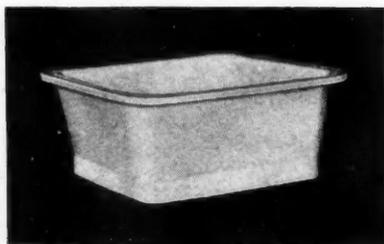
Division of THE TIMKEN-DETROIT AXLE COMPANY, Detroit, Michigan



## VITREOUS CHINA COMES TO **War** KITCHENS



*Above*—No. 2425 Laundry Tray is 20" x 18" x 12" (inside depth).  
*Below*—No. 2400 Sink, 20" x 18" x 7" (inside depth). Case vitreous china fixtures meet F. P. H. A. specifications.



What to do—when people need houses—and war demands many of the materials that would ordinarily go into them? The answer—to meet new problems in new ways, and as they often turn out, better ways!

One of the latest examples of this American ingenuity is the development of Case twice-fired vitreous china kitchen sinks and laundry trays now being installed in housing units throughout the country. These new Case fixtures are wholly in line with war aims, for no critical material is used in them today. Molded of vitreous china, fired to a permanently hard, gleaming smooth finish, they will not chip, peel or rust. They are easy to clean and keep clean, acid proof, built for hard service and yet light in weight.

Get full details from the distributor of Case fixtures in your city—or write to us for his name and address. W. A. Case & Son Manufacturing Co., Buffalo, N. Y.



# CASE

**VITREOUS CHINA PLUMBING FIXTURES  
WELDED METAL PRODUCTS**

**YOU CAN SEE THE NEED  
for re-roofing jobs right  
in your own community!**



**YOU CAN SELL THIS NAME\***

*\*TEXACO—a name that millions know and trust. Use it to go after—and get—this profitable re-roofing business! Right in your community, at any one time, just about one house out of every fifteen is ready for a new roof. That's good business. And besides, it's good economy to properly maintain homes and farm buildings by necessary repairs and re-roofing.*

Point out the need, tie in a famous name and your selling job is half done for you. The name is *Texaco*—a name that millions know.

Texaco Asphalt Shingles and Roofing are unrestricted in quantity, in availability in the area east

of the Rockies. Supplied by a large network of Texaco warehouses, they are available to and through Texaco Roofing Dealers.

That means quick deliveries, small inventories, fresh stocks, faster turnover and so—better net profits on all of your roofing operations.

Sell *asphalt* roofing—the most popular type in America. Sell *Texaco*—the name millions know.

★ ★ ★

*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 East 42nd Street, New York, N. Y.*



**TEXACO**



**SHINGLES and ROOFING**

ENS

the new

level-ndry ntry. crit-fired

RS SE ICE

URES

# Build and Sell These Farm Aids

Prepared by the agricultural engineers of the Weyerhaeuser Sales Co., St. Paul, Minn.

**FARMERS** these days haven't any spare time to work around the farm building things. They haven't even the time to build labor-saving devices. They are too busy trying to grow things to feed the armed forces and our allies. It is up to the contractor, the carpenter, and anyone who knows how, to build and furnish the farmer with the things he needs. Here are three items that will save time, increase production and save losses. Build and sell them.

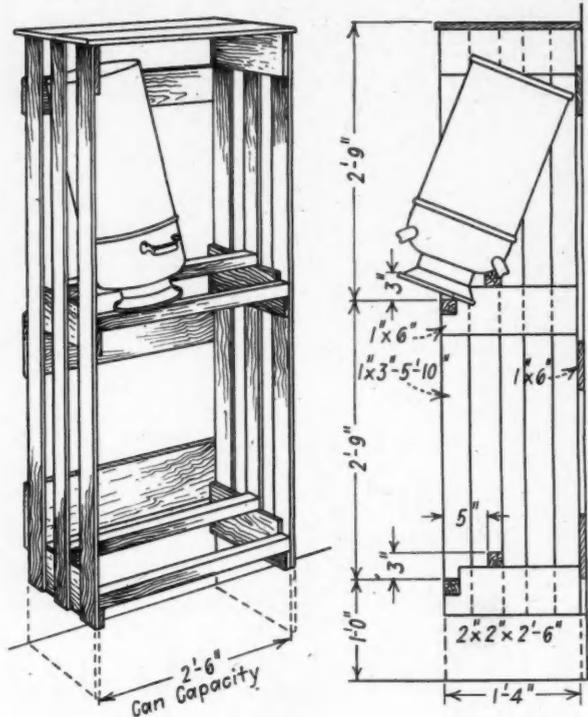
## BABY PIG WARMER

Saving the lives of baby pigs is a patriotic project today. The warmer shown below will protect during the critical time after farrowing. A standard light bulb suspended from the top furnishes heat. The little pigs are attracted by the light and heat and thus are saved from being crushed by the sow. The light bulb should hang just above the entrance; the reflector can be an ordinary funnel or a bent tin can. Care should be taken that the bulb is not within reach of the pigs. If the farm is equipped with electricity, it will pay to have one of these economical warmers. Backboards are 1 x 12's—4' long; front top piece 1 x 4—5' 8" long; front bottom piece 1 x 2—5' 8" long; top boards 1" D&M; 12 FBM matched lumber.

## CHICKEN ROOSTS

Anytime you can save the farmer work you are helping the war effort. The chicken roost shown below saves work because it is easy to clean. Therefore it is an item to be made and sold. Hinged to the wall this roost section can be raised easily for quick cleaning of the dropping-board. This feature also makes it easy to paint or disinfect the board. When the roost section is raised, the dropping-board can be tilted downward to further simplify the cleaning. To take the board outside for sunning, simply unhook it. There is less tendency toward crowding by the birds with the roosts running the short way of the dropping-board. Hanging-type roosts, leave the floor area free for working the flock. For poultry raisers who are increasing their flocks this year, floor area is an important point.

The roosts are 2 x 2's—4 ft. long; the roost legs are 2 x 4's—5 in. high; the roost battens are 2 x 2's—9 ft. long; the roost support at wall is a 2 x 4—9 ft. long. The dropping-board is made of 1 x 6" flange—4' 6" long. Dropping-board, support at

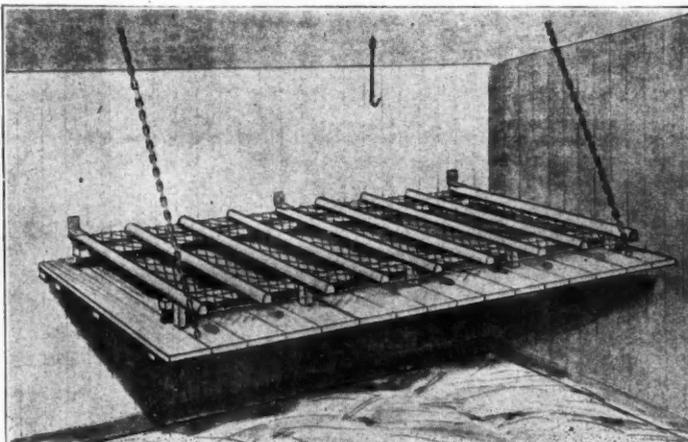


Sanitary Draining Racks Are Needed

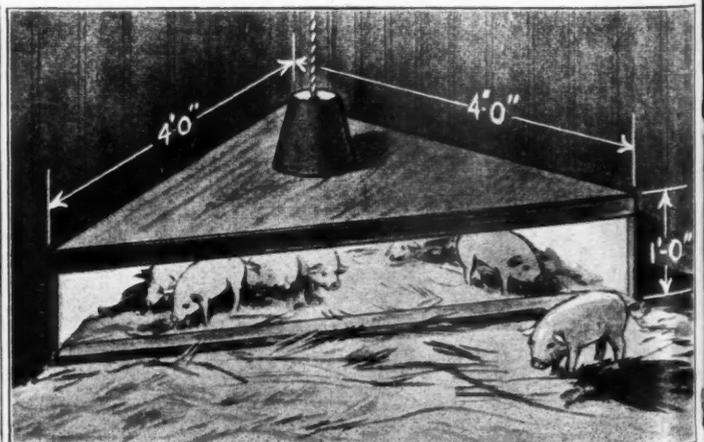
wall is a 2 x 2—10 ft. long. Dropping board battens are 2 x 2's. 4 3/8" x 4" eye bolts and nuts are needed. Two steel chains, rod size are required; 36 sq. ft. of chickenwire mesh; 1 lb. 16d and 1 lb. 8d nails and 1 1/2 pair—3" hinges finish the job.

## MILK CAN RACK

The can rack shown at the top of facing page provides a convenient place for draining and drying milk cans. It is easy to keep clean and is sanitary. Makes a good sunning rack if built outside. The cleats are 1 x 6's—1' 4" long; end boards are 1 x 3's—5' 10" long; backboards are 1 x 6's—2' 7 1/2" long; top shelf is 1 x 8—2' 9 1/2" long; can supports are 2 x 2's—2' 7 1/2" long. 1 lb. 6d nails are needed.



Chicken Brooders Save Farmers' Work



Pig Warmers Save Baby Pigs' Lives



# POST-WAR HOUSING

## Machine-perfect construction

One man with a power swing-saw turns out as many studs as four or five men with hand-saws ... and the power sawyer's work is far more accurate than the best the hand sawyers can do.

The same advantage of greater accuracy applies to: (1) working under the controlled conditions of an indoor plant—as against the unpredictable weather and uneven terrain of the field ... (2) manufacturing walls, ceilings, roof and flooring on flat jig tables—as against slowly building the house, piece by piece, in 90 to 180 days.

The builder who makes use of these elements of efficient prefabrication—power equipment, jig tables, indoor plant—produces, not only more houses, but machine-perfect houses.

To bring efficient prefabrication to the local builder—in other words, to decentralize prefabrication—is a basic principle of practical, engineered housing.

### Engineered housing

For seven years and at a research outlay to date of \$300,000, Homasote Company has been applying sound engineering princi-



ples to the problem of building a home. Homasote's purpose: to help the builders who use Homasote Building and Insulating Board (and the dealers who distribute it) sell more and better houses.

Result of this thorough study is Homasote Precision-Built Construction—a system which:

- (1) enables the local builder to achieve for himself all the engineering economies of prefabrication;
- (2) produces a sturdier house at lower

initial and operating costs; (one benefit of decentralized prefabrication is lower transportation expense);

(3) is based on the use of Homasote Board—oldest and strongest insulating and building board on the market—and other standard materials readily available in the local area;

(4) eliminates guesswork and the profit hazards of inexact estimating;

(5) permits complete design freedom and thus sets no limits on salability.

For more details, write HOMASOTE COMPANY, Trenton, New Jersey

# HOMASOTE

*Precision-Built*

# HOMES

## St. Louis Builders Guild Host to National Home Builders Conference

**H**AROLD A. SCHULENBURG of St. Louis, the new president of National Home Builders Association, stepped into office amid a wave of enthusiasm among association members to make unity of all private builders a goal of organization to be attained soon. He has pledged to member associations to contact them often and to get the support of private builders throughout the country in the drive to attain unity.

Other officers elected were: Vice President, M. Sanford Abbey, Vice President of Rochester Home Builders Association;

Recording Secretary, Mr. J. Dixon, Vice President Alleghany County Home Builders Association (Pittsburgh); Executive Secretary, Wm. J. Guinan, Executive Director Home Builders Association of Metropolitan Detroit, and Treasurer, Joseph B. Haverstick, President Montgomery County Home Builders Association (Dayton, Ohio).

Harry J. Durbin of Detroit, the retiring president, welcomed to the conference delegations of Builder Associations from many sections of the United States including the North, South, East and West.



HAROLD A. SCHULENBURG

Reports made at the Conference by Rufus S. Lusk, National Representative National Home Builders Association in Washington, recorded services to member associations that also advanced the position and saved money for builders everywhere.

When Mr. Lusk had the local FHA Director of Pittsburgh reversed in his ruling that closing charges in the sale of a house were to be included in the top \$6,000 price, this saved Pittsburgh builders alone \$50,000.

And again when Mr. Lusk had the Regional Rent Director in Dayton, Ohio, reversed in his attempt to cut war rent from \$50.00 to \$37.50 (a job done in less than twenty-four hours) this was a profit saving move for Dayton builders, and an example for builders everywhere to follow.

Mr. Lusk, an exponent of the rights of the private builder as versus public housing, works directly at the source of the matter and has been instrumental in convincing some of the Budget Bureau officials to cut down the appropriations for housing agencies.

### Builders Guild Active Group

The Builders Guild of St. Louis has 108 Builder Members and 240 associate and affiliate members. A long list of prominent builders has led the Guild through 10 years of service to the local building industry. The group is responsible for 80% of the residential construction in the St. Louis area, accounting for approximately \$24,000,000 per year.

Harold A. Schulenburg, the new NHBA president, is a member of the firm of Schulenburg & Darr, prominent names for years in the home building field. Since St. Louis is not a critical area for defense houses, the firm is now building government projects at Fort Leonard Wood and elsewhere. It has an organization of 400 people and has set a pace of mass production records that make it successful in completing each contract ahead of schedule and to the complete satisfaction of the contracting officers. All of these government contracts run into several hundred

(Continued to page 70)

# LOW COST FLOORS for WAR HOUSING!



## Save Time! Save Money! With Bruce FACTORY-FINISHED STREAMLINE FLOORING!

No wonder leading architects and contractors everywhere are enthusiastic about this amazing factory-finished flooring for war housing! *It's ready for use the instant it's laid!* Requires no sanding or finishing on the job. The 3 1/4" wide strips lay fast, too! Streamline Flooring saves days of time—expedites the work of

other trades—helps avoid penalties. Costs no more, usually less, than ordinary flooring finished on the job. Widely used on large war housing projects from coast to coast. Write now for further information and your free copy of our booklet, "Low Cost Floors for War Housing."

E. L. BRUCE CO., 1604 Thomas St., Memphis, Tenn.



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

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

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

BUY UNITED STATES WAR SAVINGS BONDS AND STAMPS

# DON'T TURN DOWN REMODELING JOBS BECAUSE OF LABOR SHORTAGES

**Y**OU don't need to turn down remodeling jobs because labor is scarce. You can give your customers the modern walls and ceilings they want by using Armstrong's Monowall. One carpenter can put up this decorative, hardened wood-fiber board by himself with no special tools or training.

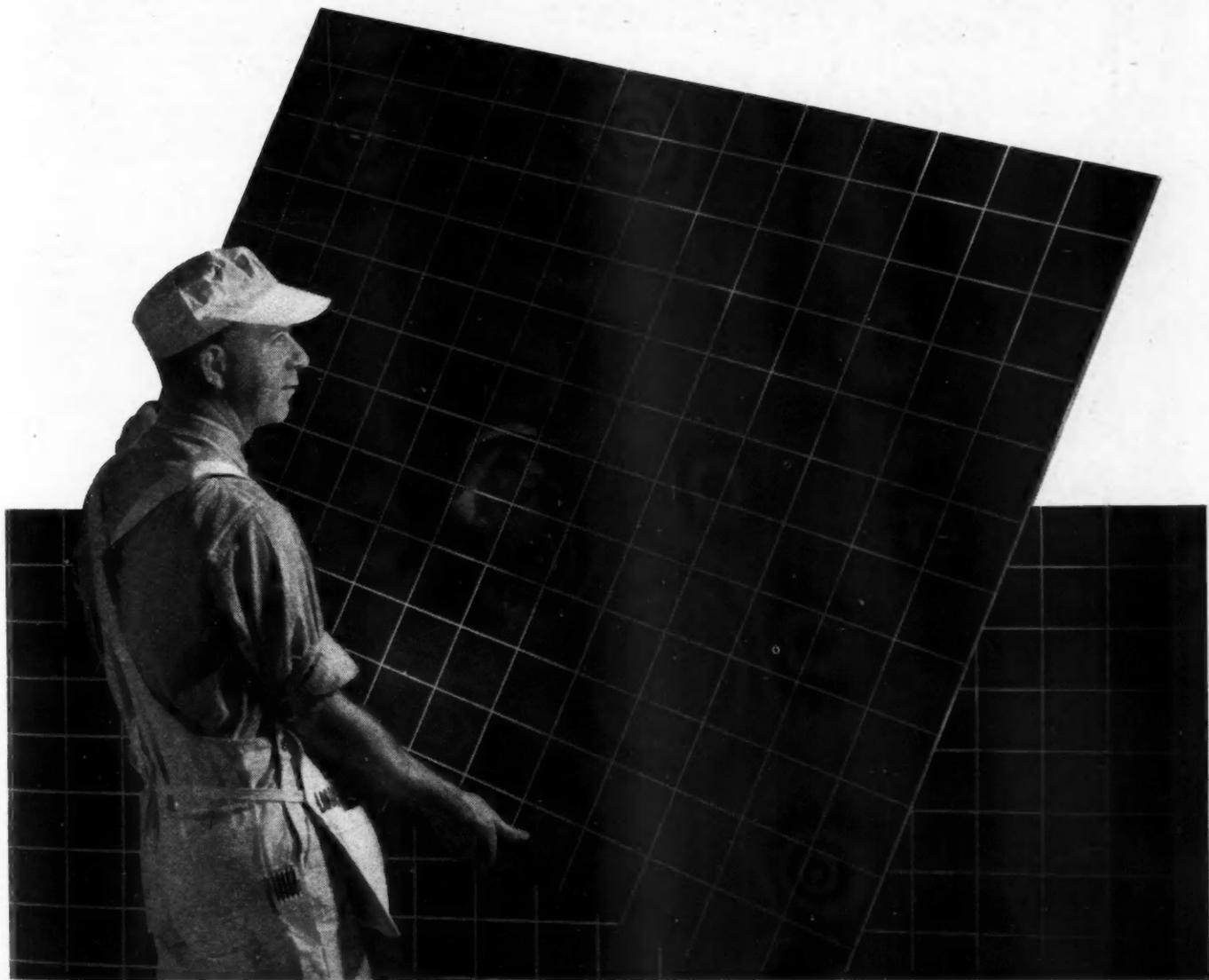
Usually he can complete an average sized room in one working day. That's because the large boards

of Monowall are cemented direct to almost any existing wall or ceiling surface which is dry and firm, such as plaster. Also, there's no finishing to do after installation; Monowall's tough, colorful surface is applied at the factory, ready for years of trouble-free service.

Mirror-smooth Monowall is sure to please your customers, too. The 33 practical colorings (in plain, tile-, wood-, and marble-designs) are right

in style for almost any remodeling or renovating job, or new construction. That's another important reason why Monowall is being widely used in baths, kitchens, and other rooms in homes, and in public buildings of all kinds.

Literature and samples are yours for the asking. Armstrong Cork Company, Building Materials Division, 1603 Lincoln Street, Lancaster, Pa.



## ARMSTRONG'S MONOWALL

MADE BY THE MAKERS OF TEMLOK INSULATION—SHEATHING, LATH, DE LUXE INTERIOR FINISH

## St. Louis Builders Guild

(Continued from page 68)

thousand dollars each and have to be completed in sixty calendar days.

Several of the builders of the St. Louis Guild are in the master builder class. In normal times the Schuermann Building and Realty Company constructs from 800 to 1,000 houses per year, over an average of 15 per week. This record has been maintained for the last 4 or 5 years.

Norman Schuermann has labor crews trained to the nth degree of time saving methods; he does mass material buying, has a large variety of house plans available at all times. In laying out his subdivisions he puts in his own streets, landscaping, street lights and sewers, and al-

ways plans variation of building lines so as to make an attractive ensemble appearance of the houses. These are all reasons why his subdivisions are sold out immediately.

The Webster Building & Realty Company, another member, has created some of the most artistic and livable residences in this area, having developed Webster Gardens, Webster Woods and Webster Acres with all individually planned ranch houses ranging in price from \$6,500 to \$16,000. The firm still has 50 acres to develop after the war. It has at present converted its organization to building very attractive Title VI Victory homes.

With much care and time given to architectural planning and details of better construction, homes in Buder Park

are situated in a 26-acre tract developed by Raymond J. Schrader who has achieved greater attractiveness than the average for these defense houses.

Being prefabricated on the site, all the maximum efficiency and speed of operation used in large scale housing construction have been applied to these home-like houses; hence the savings brought about by engineering processes enable the builder to give the owner more home for the money.

### Sell Bonds For Homes

Looking forward to a surveyed postwar need of 900,000 homes during the first six months after peace, the Builders Guild is selling a "Home Purchase Agreement" to the home owner.

There has been considerable talk of savings plans based on the purchase of War Bonds. This "Home Purchase Agreement" is the first complete contract form which is an actual order for the home owner to the builder, buying a home now, for future delivery when materials and labor can be obtained.

The contract form was written by McCune Gill, Vice President, Title Insurance Corporation of St. Louis, Title Specialist, who is a real estate lawyer and a mortgage banker.

The contract is signed between the home Buyer, the Builder and the Financing Agency.

It has distinct advantages and safeguards for all parties concerned, namely the Purchasers, the Depository and the Builder, and it especially renders innumerable services and protections to the home owner.

St. Louis builders believe that the "Home Purchase Agreement" provides the best definite method to "Buy Tomorrow's Home Today."

\* \* \*

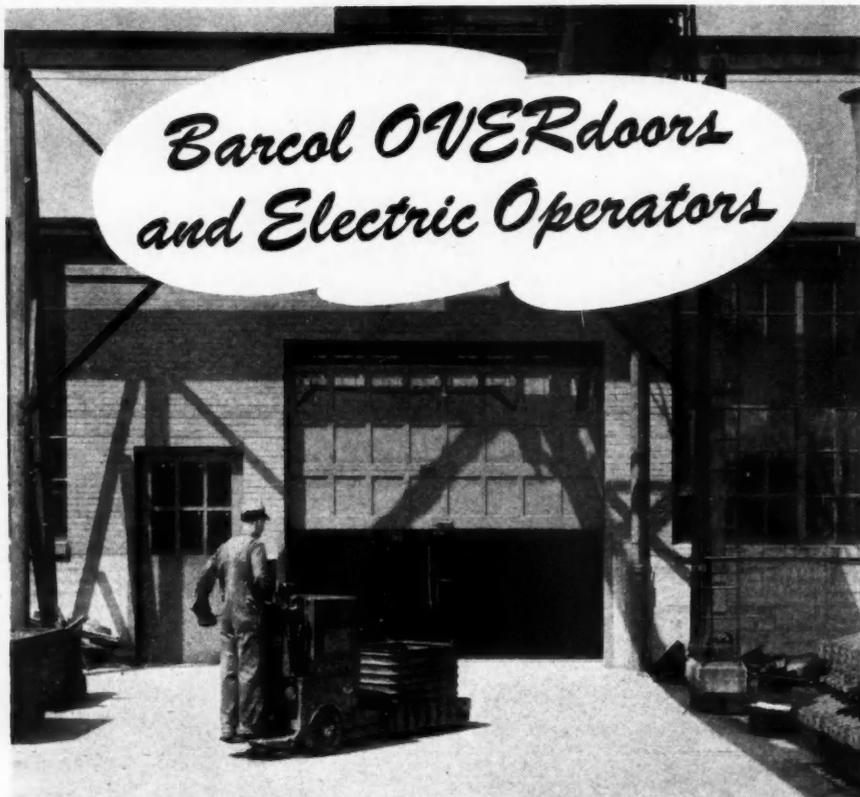
### Ready-Mixed Floor Patch

A RESURFACER which can be applied quickly for the repair of ruts and holes is called Instant-use, and is a product of the Flexrock Co., 23rd & Manning Sts., Philadelphia. Rough floors can be patched quickly and the floors used at once without the necessity of waiting for setting or hardening. The material is durable, resilient, and spark-proof.

All kinds of industrial floors may be patched or overlaid.



INSTANT resurfacer for patching floors.



*For long-lived, trouble-free service in*  
**INDUSTRIAL BUILDINGS...**

Barcol OVERdoors are especially well suited for industrial buildings because they operate easily yet close tightly without jamming, because they can be furnished in large sizes with assurance of dependable operation, and because they include special features and accessories for industrial service. Barcol Electric Operators increase plant efficiency by speeding up door handling and by reduction of unhealthy drafts; they can be furnished for new or existing overhead, swinging, sliding, or rolling doors, and for swinging and sliding gates.

*Factory-Trained Sales and Service Representatives in Principal Cities*

**BARBER-COLMAN COMPANY**

104 MILL ST.

• ROCKFORD, ILL.



#### GET THIS MANUAL

Includes data on the principal features of Barcol OVERdoors, and detailed description of the various types of Electric Door Operators. Write for INDUSTRIAL MANUAL F-1298.



# RPM

REPAIR PROTECT MAINTAIN

# News DIGEST



## SECOND HOME FRONT OPENED!

### NELSON OKAYS CAMPAIGN

Says Conservation Important for Victory

The new Barrett Second Selling Front of Repair, Protection and Maintenance is off to a flying start with the full support of Donald Nelson, Chairman of the WPB.

Apprised of Barrett's interest in promoting the conservation of vital materials through the use of paints, wood preservatives and other Barrett products, Mr. Nelson in a letter to Barrett says:

"Since the conservation of every vital material during the war is of utmost importance, I am confident that this campaign will be of especial interest to building owners."

The full support of the Government of this RPM selling front is of particular importance to roofing dealers, contractors and builders. Backed by the WPB, Barrett and the building industry, this new selling front promises to be a real major offensive.



**"Corny" Cobb**  
SAYS . . .  
"Well, by golly war's sure changin' things 'round here lately. This here RPM front is sure worth a pipeful a' thinkin'!"

"These here restrictions we're yellin' about don't come near to touchin' th' biggest market we got. This here is the Repair and Maintenance market . . . the dad blamed biggest of 'em all!"

Reg. U. S. Pat. Off.



Worn metal flashing is repaired with application of Barrett Plastic Elastigum\* and asphalt-saturated felt.

Clip shortage problem is solved by Dallas Milliken of Topeka. His mechanic uses S.I.S.\* Cement.

Barrett Pitch-saturated Waterproofing Fabric and P.B. Cement provide damp-proof barrier in masonry.

### YANKEE INGENUITY SOLVES PRODUCTION SHORTAGE

The use of practical substitutes to overcome the shortage in restricted materials has presented an ingenious solution to the troubled building industry.

A typical example is that of Dallas Milliken of Topeka, Kansas. Unable to obtain lap clips, he fastens shingles on roofs with Barrett S.I.S. Cement. This product, well-known to roofers everywhere, is a unique ready to apply, self sealing waterproofing adhesive. Milliken's men use a hand pressure gun to apply the cement.

Many Barrett products are saving precious steel and

copper for war uses today. Where brick arches are used instead of steel lintels over doors and windows, and where masonry substitutes for steel, Hydronon provides the necessary damp proofing. Wood trusses and timbers are treated with Barrett Carbosota\*, the recognized high-quality creosote oil. Greater use is being found for Barrett Plastic Elastigum for flashings on roofs and parapets. Every day American ingenuity finds new ways of substituting for critical materials, and Barrett Protective Products play a great part in this increasing trend.

### GOVERNMENT CITES BARRETT FOR WAR BOND AD



This heroic struggle for life that saved lives. See Barrett advertisement.

A recent Barrett advertisement which appeared in the Saturday Evening Post has been cited by the Government "For distinguished services rendered in behalf of the National War Savings Program."

This forceful Barrett advertisement was inspired by the thrilling adventure of three Navy men adrift for 34 days on a rubber raft.

This advertisement is a digest of the eight page Barrett RPM News. It is full of news and ideas to help you sell. Mail the coupon for your FREE copy.

### BARRETT OFFERS HEAVY AMMUNITION FOR NEW SELLING FRONTS

With 30 percent of American homes obsolete and some 12 million houses over 25 years old, leading roofing dealers, contractors and builders are joining forces with Barrett in the opening of a new second home front—Repair, Protection and Maintenance.

Long troubled by material shortages, the men in the building industry see in this new selling front the solution of many of their wartime problems. The market is tremendous, and will widen even more as the pressure of priorities on building materials and construction makes itself felt more strongly.

Today Barrett is helping roofers, contractors and builders to fight on this RPM front by offering ammunition which includes not only a complete line of Protective Products for repairing, protecting and maintaining homes and farms, but also complete and comprehensive promotion material. Dealers and distributors are using Barrett direct mail campaigns, window displays, selling manuals, etc., to widen the RPM front now. Every month from now until the end of the war will see a greater need for repair, protection and maintenance.

The Barrett Division AB-3-43  
Allied Chemical & Dye Corporation  
40 Rector Street, New York City

Please send me my FREE subscription to the RPM News, to help me with new selling ideas.

Name .....

Address .....

City .....

State .....

## Stassen Proposes Building Program by Private Enterprise

IN a series of stirring talks, Governor Harold E. Stassen of Minnesota made building news last month by proposing a private enterprise solution to the nation's Post-War building and housing problems. The energetic young governor spoke of the "three-fold challenge" of the days ahead to several groups of building organizations, including well known retail lumber dealer associations.

One of the first men in public office to propose a solution of housing problems by private enterprise rather than by Government hand-outs, Governor Stassen has already made his program definite by recommending housing bills to the Minne-

sota legislature. Following are excerpts from a portion of his address before the Illinois Material Dealers Association relating to housing.

"The first concern of government in the post-war world should be to create a favorable environment in which free enterprise, by its inventiveness, its management, its mass production, and its distribution, can make the greatest possible contribution to the standard of living of the people.

"Can we not find the way for government to aid and assist private enterprise and capital to furnish more and better and low-cost housing?

there'll be more  
**WHITE CEMENT**  
in tomorrow's buildings



Indications are that White Portland Cement will be more popular than ever as a post-war building material. Ever since Medusa originated white cement

in 1907, this material has grown in favor with builders and architects. Each year has seen new uses develop and a greater volume of Medusa White Portland Cement used. Post-war planning now indicates that white cement will be even more popular.

Walls in "tomorrow's building" will be constructed of stucco, white concrete, cement asbestos shingles, architectural concrete slabs, white-faced concrete blocks, etc. Floors will be laid with colorful terrazzo, white cement topping, cement tile, etc. Stairways and wainscoting will also be of colorful terrazzo made with white cement. Yes, and the trim of many of these post-war buildings will be cast stone of white cement.

Regardless of how it is used, Medusa White is unsurpassed as a building medium for attaining design and color in modern buildings. In view of this coming trend, architects and builders should avail themselves of all data necessary in studying the possibilities of Medusa White in their post-war work. Write for literature on Medusa White Portland Cement and its uses.

# MEDUSA

PORTLAND CEMENT COMPANY

1002 Midland Building • Cleveland, Ohio

Also made by Medusa Products Co. of Canada, Ltd., Paris, Ontario



**MEDUSA  
WHITE FOR  
WHITE CEMENT  
STUCCO  
WHITE FLOORS  
TERRAZZO FLOORS  
CAST STONE TRIM**

"This would mean, first, that government should use its powers of condemnation to acquire suitable areas of property for housing development and then sell these areas at modest cost to private enterprise for agreed development of low cost housing. Government would thereby in the initial stage furnish a subsidy roughly comparable to land grants to railroads when they needed help in developing the vital transportation systems of this country.

"In coordination with these grants or real estate, government should condemn areas of slums, clean out the buildings entirely and make parks and wide arteries for travel.

"Government could guarantee occupancy of approved projects of low-cost housing units and at the same time permit their direct rental and direct sale. To the extent that government must make good on its occupancy, mothers pensioners receiving aid to dependent children, those receiving old age assistance, and those receiving welfare allowances could be placed in living quarters much better than those they now occupy. Government is now paying that rental bill in any event. Government could also assist similar programs in area development in the nature of modernizing and improving some existing structures.

A rebuilding of great areas in our metropolitan centers and the building of millions of units of warmer, cleaner, more healthful homes should be a major part of our post-war domestic program. It should be planned and developed with ingenuity, in keeping with the basic principles of our American way of life—social, economic, and political.

"We, in Minnesota, are embarking upon a low-cost housing experiment in keeping with these principles and methods. We invite suggestions of other methods and means of approaching this problem in keeping with the philosophy that we have enunciated.

"And I say to you that on the basis of what we can see and feel in America today of the opinion of the country, that the job can be done."

\* \* \*

### New Government Regulations

PRICE ceilings have recently been established on asphalt and asphalt products by the issuance of MPR-323. This new regulation is designed to clarify and simplify the ceilings applicable to all grades of asphalt at all points and on all types of sales. It does not change substantially the general level of prices at which asphalt products have been marketed during the past year. Prices are those in general prevailing from August 1 to November 1, 1941. Data necessary for specific dollar and cents pricing has not yet been accumulated for: 1) dealers' and resellers' differential for asphalt; 2) service charge for loading tank trucks; 3) charge for insulated tank cars; 4) specialty products.

Part of a series of changes effected by the issuance of Amendment 6 to MPR-19, adjusts differentials between boards and dimensions in S. P. lumber by raising the ceiling prices for one-inch boards.

# This 1st class fighting man wears the Army-Navy "E"



He's out there in the thick of things. Flying high in bombers. Helping to house troops in the snows of Alaska and the tropic heat of the South Seas. Racing over the water in swift patrol craft.

He's the Masonite\* Man . . . symbol of Masonite Presdwoods\* . . . the modern and versatile ligno-cellulose hardboards that have more than 500 different uses in America's vast War Program.

Recently, at the huge Masonite plant in Laurel, Mississippi, Masonite workers were awarded the Army-Navy "E" for outstanding production.

The major proportion of all Masonite production today goes to war uses. And so it will remain until the war is won. We are sure that you now will have a full understanding of just why Masonite products cannot be made readily available to you at this time. The Army-Navy "E" is an honor, but even more it is a responsibility which Masonite accepts in the full spirit of loyalty to victory. . . . Masonite Corporation, 111 W. Washington St., Chicago.

## MASONITE PRESDWOODS

THE LIGNO-CELLULOSE HARDBOARDS

\*TRADE-MARK REG. U. S. PAT. OFF. "MASONITE" IDENTIFIES ALL PRODUCTS MARKETED BY MASONITE CORPORATION. COPYRIGHT 1943, MASONITE CORP.

### A Few of the 500 Uses



The famous "Quonset" and "Pacific" huts owe many of their "durability" qualities to Masonite Presdwoods.



This sturdy Signal Corps Communications Trailer is built with Tempered Presdwood exterior.



Masonite Products are used extensively in the construction of speedy U. S. Army Patrol Boats.



Numerous parts of the fast Grumman F-4-F Fighter Planes are formed on Masonite Die Stock Dies.



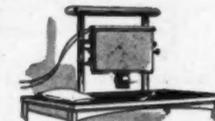
Many thousands of Army tanks are lined with two types of Masonite Products.



Many of the Army and Navy barracks here and abroad use Masonite Products for walls and ceilings.



Many parachute inspection tables are surfaced with splinter-free Masonite Die Stock.



A non-conductor of electricity, Presdwoods have been found ideal for Medical Corps X-ray tables.

Nothing in this advertisement is meant to imply that Masonite Presdwoods are endorsed over other products by the Army, Navy or WPB.

## Real Estate Survey Shows War Trends

THAT real estate prices are higher than a year ago in half the cities covered in the latest semi annual survey of the real estate market by the National Association of Real Estate Boards, was a bright spot in the findings. However, volume of sales has slackened in just about half the cities. Only one town in every four has found war enlarging its real estate turnover.

The survey brings out the following additional facts:

We are undersupplied with single-family dwellings today in 73 per cent of American cities. We are undersupplied with apartments in 63 per cent of our

cities. About six cities out of every hundred—those whose workers went to other cities—say they have an oversupply of houses.

But the war has thrown upon the market a definite oversupply of retail business space in 72 per cent of our cities. The remaining cities still have a generally balanced condition between supply and demand. Of the very largest cities 90 per cent have oversupply. Not yet so hard hit is office space. But office oversupply already is reported in over half our cities.

OPA's one-third cash down payment requirement for rented houses is seri-

ously curtailing and often practically stopping residential sales in eight out of ten of the cities where it is in effect. But, as yet, percentage of cities showing residential rents up, down, or stable has been almost exactly the same in areas under rent control, and those not yet regulated.

Business property rents in central districts hold up to last year's level in well over half of the cities. They slid lower, however, in 44 per cent of all reporting cities. In subcenters they took a fall in 54 per cent of the cities. Office rents suffered less. They kept to last year's rates in more than three-fourths of the cities, and lower in only 17 per cent of the cities. Subcenter office rents felt war effects more than those in central districts.

Usable industrial space is still available in more than 60 per cent of all cities replying. New industrial building has gone on during the past year in about half of the cities.

In more than a third of war production centers a large percentage of the wartime in-migrants will remain as permanent residents, in the opinion of local real estate boards. In a majority of the cities they will remain only to a smaller extent.

In-migration due to war has seriously affected public revenues in almost one-third of the surveyed cities, because of increased pressure it is bringing on schools, increased calls it makes on sewer extensions, and the like.

Mortgage interest rates are lower than they were a year ago in one-fourth of our communities. In general, search of capital for good loans is marked. Commonest interest rates for first mortgages on new moderately priced homes is now 5 per cent. That rate is dominant in more than half of the surveyed cities.



RIGHT: Brushing Laucks Construction Glue on studding before applying Wallboard. LEFT: Frank Stepanek, "expediter" of glue and plasterboard walls, for world's largest housing project.

THAT 4-DAY SHIP that Kaiser built is no greater speed miracle than the 10,000-unit housing project for the Kaiser shipyard workers... where glue and plasterboard formed a new dry-wall partnership to speed this world's largest housing job.\*

Working with Laucks glue specialists and U. S. Gypsum Co., Frank Stepanek, sub-contractor in charge of this work, developed the technique of applying USG's predecorated Sheetrock for walls. By using Laucks Construction Glue in place of nails he was able to erect completely finished walls quickly, economically, without defacing the surface... saving critical steel nails at the rate of 17,500 lbs. per 5 million sq. ft. of plasterboard!

\*Wolff and Phillips, Architects.

Perhaps Laucks glue knowledge can help you... whether it's arches, beams, prefabricated houses, or something else you're building. Our 20 years' experience provide us with the "know how" to guarantee the right use of the right glue. (Wire, write or phone if you're interested in facts and figures on this Vanport job.)

### I. F. LAUCKS, Inc. Lauxite Resins - Lauxein Glues

In U. S. Address Inquiries to—  
SEATTLE—911 Western Avenue  
LOS ANGELES—859 E. 60th Street  
CHICAGO—6 North Michigan Avenue

#### Factories:

Seattle, Los Angeles, Portsmouth, Va., Lockport, N. Y.  
In Canada Address Inquiries to—  
I. F. LAUCKS, Ltd., Granville Island, Vancouver, B. C.  
HERCULES-LAUX-MERRITT, Ltd., Stanbridge, Quebec

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



## LAUCKS CONSTRUCTION GLUES

Consult LAUCKS—America's Glue Headquarters

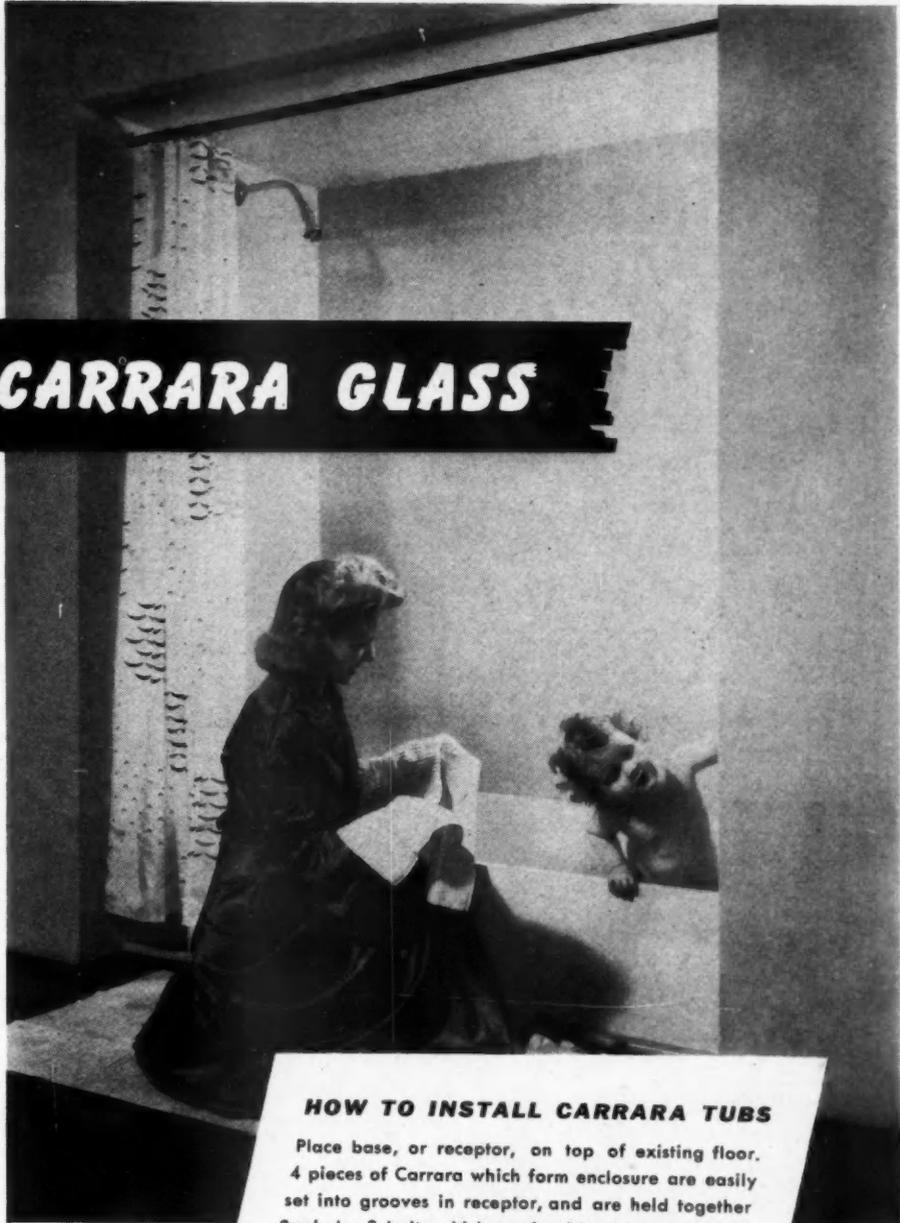
## Urban Land Institute Elects Officers; Maps Post-war Plans

THE new president of the Urban Land Institute, elected at the annual meeting of the organization held in Washington recently, is Hugh Potter of Houston, Texas. Mr. Potter is the developer of River Oaks, Houston's famed example of neighborhood building. He is a past president of the National Association of Real Estate Boards, a former chairman of the Home Builders Emergency Committee, a director of the National Association of Home Builders, a director of the National Committee on the Housing Emergency, a former chairman of the Houston City Planning Commission, and the recently appointed chairman of the Post-War Planning Committee of the Houston Chamber of Commerce.

Calling attention to the acute housing shortage, the Institute Conference cited estimates by responsible Federal agencies indicating that the construction industry of the United States will be called upon to build between one million and two million dwelling units per year for ten years following the end of war.

# NEW!

## TUBS OF CARRARA GLASS



**H**ERE is a practical and timely idea that every home builder can use to good advantage. You can now install smart-looking combination tubs and showers of Carrara Glass at a price well in line for low-cost homes.

No critical materials are required for the tub's construction. The sections of Carrara Glass are put together quickly and easily to form a beautiful, water-tight tub-shower.

Immediate availability, quick construction and low cost make these combination units ideal for war housing projects. They will prove popular with house occupants—especially where children are too small to use showers.

Carrara tubs make bathrooms particularly attractive. There's a wide selection of lovely colors. Carrara won't fade, stain, craze, check or absorb odors. Carrara tubs offer you not only a smart and practical answer to today's tub shortage, but

an eye-catching, sales-getting idea for your small homes of the future.

Send the coupon—now—for complete installation details on the new Carrara tub-shower combination. And in planning for the future,

remember that Carrara can be used in homes of every price class. Complete walls for bathrooms or kitchens can be set on the job. And prefabricated sections are available for bathroom wainscoting around the tub.

### HOW TO INSTALL CARRARA TUBS

Place base, or receptor, on top of existing floor. 4 pieces of Carrara which form enclosure are easily set into grooves in receptor, and are held together firmly by 2 bolts which we furnish. Joint cement to insure water-tight enclosure also furnished.

*"PITTSBURGH" stands for Quality Glass and Paint*

**CARRARA**  
*The modern Structural Glass*  
**PITTSBURGH PLATE GLASS COMPANY**

Pittsburgh Plate Glass Company  
 2038-3 Grant Building, Pittsburgh, Pa.  
 Please send me, without obligation, complete installation details of the new combination tub-and-shower of Carrara Glass.

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

# Burning out the facts

Here in the searing heat of an electrical muffle furnace, the Western Pine research chemist burns Idaho White Pine, Ponderosa Pine and Sugar Pine down to ash . . . an experiment which lays bare additional facts about their composition and is useful in the search for new uses of these woods.



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

## WESTERN PINE ASSOCIATION

Yeon Building, Portland, Oregon

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

THESE ARE THE WESTERN PINES

# How to Estimate Roofing

(Continued from page 62)

roof factors for the three principal barn types: gable, gothic and gambrel.

A helpful estimating form is indicated on which a local price per square of roofing can be entered. As an aid in working out this local price, several illustrative examples are shown. Both the estimating form and the illustrative examples apply to the general roofing estimating methods described in last month's article.

It should be pointed out that the illustrative example includes material and labor costs that are presented merely to illustrate the methods of estimating.

ILLUSTRATIVE EXAMPLE			
How to Figure Basic Roof Estimating Data			
<b>ROOFING (Asphalt Shingles)—Applied Over Old Roofs</b>			
*Base Price Workout per Square			
MATERIAL	12" Giant Individual	16" Weather-lok	12" Giant Dutch Lap
Shingles (pes.).....	225	86	112
Size.....	12x16	16x16	12x16
Weight (lb.).....	325	135	162
Galvanized Nails (lb.).....	4	2	2
Cement (lb.).....	2	2	2
Wood Stripping—Lath (4'0" pes.)..	72	72	72
<b>*MATERIAL PRICE</b>			
Shingles.....	\$10.42	\$ 4.73	\$ 5.33
Galvanized Nails.....	.40	.20	.20
Cement.....	.14	.14	.14
Lath.....	.50	.50	.50
<b>TOTAL MATERIAL PRICE</b> .....	<b>\$11.46</b>	<b>\$ 5.57</b>	<b>\$ 6.17</b>
<b>Labor</b>			
Shingles (min.).....	100	50	50
Stripping (min.).....	12	12	12
Labor Cost @ \$1.50 per hour, 2 man crew.....	2.80	1.55	1.55
Labor Profit *25%.....	.70	.39	.39
Comp. Ins. *10%.....	.28	.16	.16
<b>TOTAL LABOR PRICE</b> .....	<b>\$ 3.78</b>	<b>\$ 2.10</b>	<b>\$ 2.10</b>
<b>TOTAL LABOR &amp; MATERIAL</b> .....	<b>\$15.24</b>	<b>\$ 7.67</b>	<b>\$ 8.27</b>
<b>SALES COMMISSION</b> .....	1.68	.86	.93
<b>TOTAL SELLING PRICE</b> .....	16.92	8.53	9.20
<b>ADJUSTED SELLING PRICE</b> .....	<b>\$17.00</b>	<b>\$ 8.50</b>	<b>\$ 9.25</b>
<b>ROOFING (Wood Shingles)—Applied over old roofs.</b>			
*Base Price Workout per Square			
MATERIAL	16"	16"	18"
Exposure.....	4½"	5"	5½"
Shingles.....	1.11 sq.	1.00 sq.	1.00 sq.
Galvanized Nails (lb.).....	3.25	3.00	2.75
<b>*MATERIAL PRICE</b>			
Shingles.....	7.25	6.50	7.50
Galvanized Nails.....	.33	.30	.28
<b>TOTAL MATERIAL PRICE</b> .....	<b>\$ 7.58</b>	<b>\$ 6.80</b>	<b>\$ 7.78</b>
<b>Labor</b>			
Shingles (min.).....	180	160	144
Labor Cost \$1.00 per hour.....	3.00	2.67	.240
Labor Profit *25%.....	.75	.67	.60
Comp. Ins. *10%.....	.30	.27	.24
<b>TOTAL LABOR PRICE</b> .....	<b>\$ 4.05</b>	<b>\$ 3.61</b>	<b>\$ 3.24</b>
<b>TOTAL LABOR &amp; MATERIAL</b> .....	<b>\$11.63</b>	<b>\$10.41</b>	<b>\$10.98</b>
<b>SALES COMMISSION</b> .....	1.58	1.14	1.21
<b>TOTAL SELLING PRICE</b> .....	12.91	11.55	12.19
<b>ADJUSTED SELLING PRICE</b> .....	<b>\$13.00</b>	<b>\$11.50</b>	<b>\$12.25</b>

\*BASE prices for materials and labor shown are illustrative only, and are used to indicate the method of estimating. Material prices include freight and delivery. Labor is figured on a crew consisting of one roofer at \$1.00 per hour, and one helper at 50 cents per hour for asphalt shingles, and \$1.00 per hour for carpenter labor on wood shingles. Following method indicated above, actual local material and labor costs are to be entered in the estimating form shown on page 62.

# ALADDIN PREFABRICATED HOMES Up to Date and Down to Earth

DATE FROM 1906 . . . .

WHEN ALADDIN DEVELOPED THE FIRST PRACTICAL  
METHOD, AND HAS SOLD THEM CONTINUOUSLY  
SINCE THEN—FROM HERE TO CHINA!

To be able to buy a prefabricated home, "made at the Mill," which could be shipped thousands of miles, put together and be exactly as ordered, was a dream which came true back in 1906.

That year, W. J. and O. E. Sovereign, went into production of what they called "readi-cut" homes and were the world's pioneers in this field. The magic of being able to select a home and purchase it, complete down to the last nail and window light, via a two-cent stamp, inspired them to name their organization "The Aladdin Company."

New methods prove conclusively the Low Cost of Good Construction. In other words, a poorly designed, poorly equipped house will cost More in the long run than the quality-built, quality-equipped Aladdin.

The fame of these homes, so convenient to buy, so easily assembled, spread from the Americas around the world and they have been shipped to Iceland, to Britain, to India, to Venezuela, and to the far interior of China, where missionaries, with no building or construction experience, have enjoyed the solid comfort of American-made homes, in preference to the paper, bamboo and mud available locally—and further enhanced the natives' belief in white man's magic! Continuously in volume production of prefabricated homes from 1906, for 36 years, until the



start of this war, Aladdin is now serving Uncle Sam by providing prefabricated housing for the armed forces at many camps and bases. Again its full facilities are occupied on government work just as they were in World War I.

The speed and convenience of the Aladdin method is illustrated by a recent telegraph government order for housing for 1200 men at an air base. The men were "on their way" when the order was received. But the housing facilities were ready for them when they arrived.

With both the East and West Coast large Aladdin plants working three shifts supplying the military forces with comfortable housing, Aladdin homes are not now available to the public. But when the war is over, Aladdin will again be supplying tens of thousands of Americans with fine, prefabricated homes at low cost, and again, Aladdin will be pioneering—leading the way in the use of new materials, new methods that will continue to assure Americans the highest standard of living in the world.

Our research activities have been increased despite our war work. After this job is behind us, or before, we will announce our new quality-built and quality-equipped Aladdin homes, in which every known improvement in equipment and material will be included.

## THE ALADDIN COMPANY

ESTABLISHED 1906

BAY CITY, MICHIGAN

PORTLAND, OREGON

## Let's Hasten the Day



Each day brings us nearer to that happy day when the boys come home and to the victory that will usher in a new era of peaceful living—an era of new comfort for millions who have lived on the border line of "haves" and "have nots."

This expanded, untouched market, will furnish a tremendous opportunity for the architect and builder who is able to put the most convenience into the home at the most reasonable cost.

When Youngstown Pressed Steel returns to the manufacture of kitchen equipment, it will have new features for added kitchen convenience. In the meantime, if you want to be put on the mailing list to receive information on Youngstown Pressed Steel post war kitchens, just send your name to Dept. AB343.

THOUSANDS of new homes will be built.  
 THOUSANDS of houses remodeled.  
 THOUSANDS of YPS cabinets will be called for to be added to YPS kitchens already installed.  
 THOUSANDS of new prospects will be created by continued consumer advertising.



★  
 TODAY—Invest in Victory by buying War Bonds and PLAN for your Post War Business.

**YOUNGSTOWN PRESSED STEEL DIVISION  
 MULLINS MANUFACTURING CORP.**  
 WARREN, OHIO

**It's OUR WAR let's fight it NOW!**

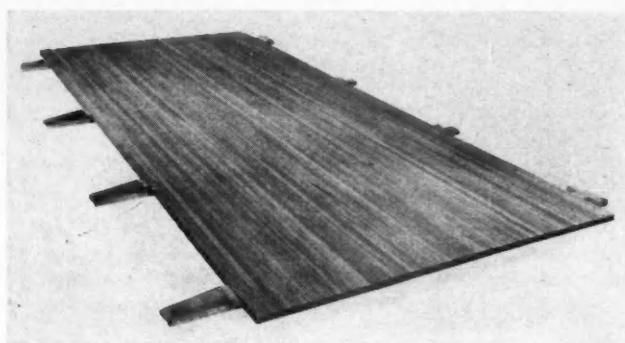
### Glued-up Flooring Unit Developed

A SPEED-UP floor—strong and good looking—for war housing, homes and light commercial structures has been perfected by Timber Structures, Inc., 3400 N.W. Yeon Ave., Portland, Ore. This firm known as a large prefabricator of glue-laminated and Teco ring-connected trusses, beams and other heavy wood structural members, has now brought out a new product for home builders and contractors—a prefab flooring panel.

As illustrated, this new unit is built up of narrow random-length strips of kiln-dried v. g. Douglas fir, 1½" net in thickness, glued into a section 2 feet wide and 20 feet long. Each section has a heavy tongue and groove joint on sides and ends. End joints of the individual strips are made with an ingenious hook-scarph joint which adds to the beauty of the flooring. Gluing is done under controlled temperature and humidity conditions, and I. F. Laucks & Co. tested glues are used.

The vertical grain of the exposed surface guarantees unusual wearing qualities and the rigidity and strength of the product is evidenced by the fact that no floor joists are necessary. Only lightweight girders are used.

The flooring is built to order in units of almost any desired size, and before leaving the factory is treated with



PREFAB flooring panel of random length, Douglas fir strips.

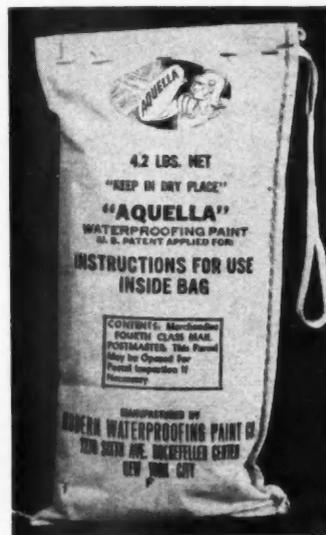
toxic and moisture seal which not only acts as a preservative but also provides a beautiful, natural finish. No further finishing is necessary.

While the product is not presented as a cheap flooring, its durability and low installation cost, together with its insulating qualities, make it extremely economical. The flooring has been approved for use in FPHA projects.

### New Paint for Waterproofing Brick, Concrete or Masonry Walls

A NEW waterproofing mineral paint, called "Aquella," will close the small pores of a wall when applied to the surface of wet, unpainted brick, cement and concrete walls subjected to water seepage, dampness or moisture, forming a permanent bond with the wall itself. It may be applied to such walls in basements, tunnels, storage magazines, piping galleries, pump wells, sumps, manholes, power stations, etc. Aquella may also be applied on interior faces of walls, of either old or new buildings.

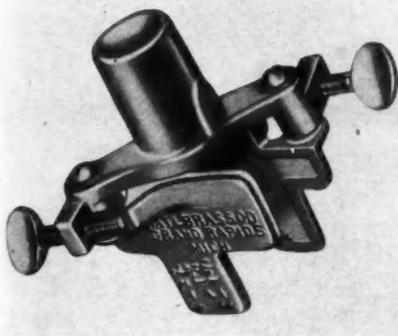
Aquella comes in the form of a white powder packed in bags and drums, and is prepared 15 minutes before use by diluting with water. Two coats are sufficient to make the wall impermeable against capillarization and water seepage.



AQUELLA waterproofing paint is sold in either bags or drums.

**Big Labor-Saving with Small Device**

AMONG the interesting small but important building sidelights of the war has been that the Dexter Bit Guide technique, using the "Drill-Hole" device made by National Brass Co., Grand Rapids, Mich., and shown here, is like a production method of installation, eliminates all chance of error, and reduces application time about one-third.



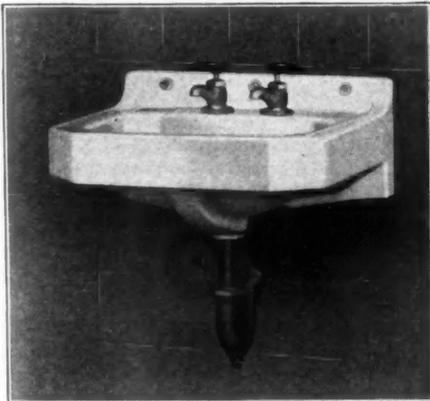
DEXTER Bit Guide speeds installation of Dexter-Tubular locks and latches.

This one-third—the fact that three Dexter-Tubulars are installed in the same time needed for one mortise unit—has meant a total saving of 500,000 man hours to the many war housing and building projects on which Dexters are specified.

**Vitreous China Lavatory**

THE Eljer Co. of Ford City, Pa., is featuring plumbing fixtures which call for minimum amounts of critical materials, one of these being the lavatory illustrated here, which is suitable for today's industrial and housing needs.

This vitreous china lavatory, named The Canton, is designed with a 2-inch back, and two faucets, and is 18 by 15



THE Canton vitreous china lavatory.

inches in size. A similar style is offered, with a unit fitting taking the place of the two faucets.

Another Eljer fixture of particular interest at this time is the Armstrong vitreous china sink and tray (not illustrated) which has a high gloss surface resisting all ordinary stains and acids. The sink is 20 x 18 inches in size, and is 6 inches deep, while the tray is the same size, but is 12 inches deep; both have a center drain.

**Improved Circuit Breaker**

THE Frank Adam Electric Co., St. Louis, Mo., is now offering its improved Thermag circuit breaker, which prevents unnecessary interruptions in service, but provides



NEW improved circuit breaker.

full protection against short circuit or dangerous overloads. This line of circuit breakers is now furnished in all standard and narrow column type panelboards, and in dust-tight panelboards at no additional cost.

The capacities are as follows: 50 Amps. or less, 120 volts AC, single or double pole (individual trip). Sturdy construction for industrial use.

**WHAT'S IN THE CARDS FOR HOME BUILDING,** when Johnny comes marching home?



**"Plenty!"**  
says Mrs. Johnny



Thousands of Mrs. Johnnies are planning now for new homes they're going to build when the Victory parades are over. We know, because thousands of her are writing us for Arkansas Soft Pine's wonderful book of small house plans, *Modern Homes for Modest Incomes*.

Arkansas Soft Pine is helping these future homemakers in a hundred ways, because the book answers every question from beautiful woodwork to good construction and includes 15 well planned small homes, designed by qualified architects.

And here's where you come in. Because, while our manufacturers, today, are devoting their all-out production for war, at the same time they're cultivating this huge home-building market for peace in which you, the builder, will share and profit.



Better send for your copy of this splendid book and see these plans yourself. See, too, what a wonderful value both owner and builder get in soft textured Arkansas Soft Pine. And as a special bonus, we'll also send you, complimentary, a copy of our Builder's Handbook.

**MAIL COUPON TODAY**

ARKANSAS SOFT PINE BUREAU, 386 Boyle Building  
Little Rock, Arkansas

Enclosed find 25 cents for *Modern Homes for Modest Incomes* and a copy of your Builder's Handbook.

Name \_\_\_\_\_

Address \_\_\_\_\_

City & State \_\_\_\_\_



Photo Courtesy U. S. Signal Corps

# TOOLS

## to "Keep 'em Rolling"

Our modern army rolls up to battle in motorized equipment—jeeps, trucks, tanks, combat cars of every description. To build them, and to keep them in service in the field takes *Tools*, millions of them.

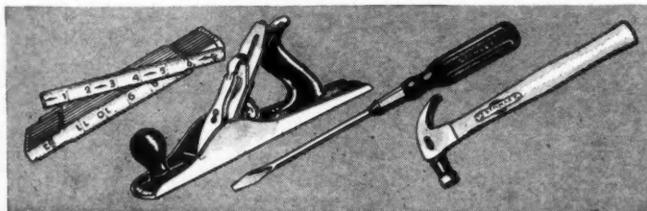
Stanley, "The Tool Box of the World," is supplying a large share of this unprecedented demand. Stanley Tools for normal use are necessarily restricted. Buy them only for *essential* use. Stanley Tools, Division of The Stanley Works, New Britain, Connecticut.

1843

**STANLEY**

1943

TRADE MARK



# STANLEY TOOLS

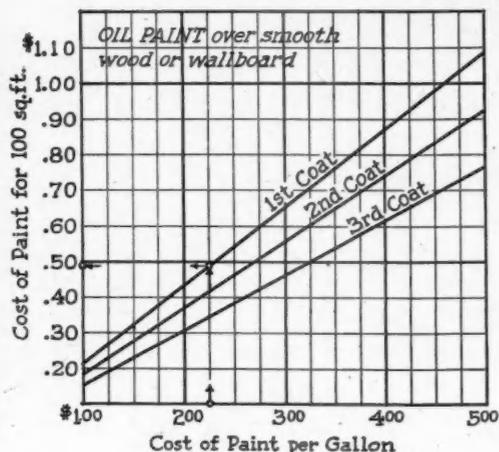
"The Tool Box of the World"

## American Builder

# HANDY-BOOK

### HOW TO ESTIMATE OIL PAINT COST

AMERICAN BUILDER FOR MARCH 1943



**HOW TO USE THE CHART.** Using paint at \$2.25 per gallon as cut with oil and turps (for example) read up to the diagonal line for 1st coat; then read left from the intersection and it is found that it will cost 49c for paint to cover 100 sq. ft.

**TWO-COAT WORK.** In the same way, the 2nd coat can be found to cost 42c for paint to cover 100 sq. ft. For a 2-coat job, therefore, the cost of paint for 100 sq. ft. would be 49c + 42c, or 91c.

**THREE-COAT WORK.** Assume that for the 3rd coat a \$3.50-a-gallon paint is to be used. The chart shows that the cost of paint for 100 sq. ft. is 69c. Therefore the 3-coat job would cost 49c + 42c + 69c, or \$1.60 for paint for 100 sq. ft. of 3-coat work.

**THE SURFACE** to be painted is assumed as wood or wallboard of average smoothness, requiring 1 gallon of paint per 460 sq. ft. for 1st coat; 550 sq. ft. for 2nd coat; 650 sq. ft. for 3rd coat.

### Short Cuts & Time Savers

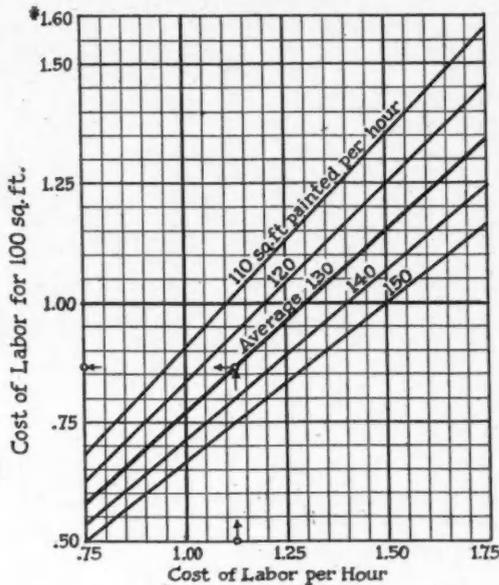
*American Builder's* Job Helps appear each month as part of an editorial series begun in the January issue. The purpose of this series of articles is to provide builders with practical "how-to-do-it" information to use in office or on job.

Subjects covered in the series thus far are: *How to Find Volume of a Pile, How to Make a Secret Door, How to Estimate Roofing, and How to Finish a Damp Cellar. How to Estimate Roll Siding, How to Find Slope of Valleys, How to Estimate Painting, How to Specify Backwards.* Additional sheets on following pages.

# OF JOB HELPS

## HOW TO ESTIMATE PAINTING LABOR COST

AMERICAN BUILDER FOR MARCH 1943



**HOW TO USE THE CHART.** Suppose a painter works for 80c per hour. To this add, for example, 25% for "make ready" time, 10% for insurance, etc., and 5% for profit. The labor cost will then be \$1.12 per hour.

Read up from \$1.12 to the diagonal line for the amount of surface covered per hour, for example, 130 sq. ft. per hour. From this intersection, read left to find the cost of the labor to cover 100 sq. ft. In this case it would be 86c.

The chart does not allow for time required in preparing the surface, such as puttying, sanding, covering knots, etc.

### No Notebooks for Sale

AMONG numerous letters commenting on this "Job Helps" department have been requests from builders for notebooks in which to file the sheets. *American Builder* does not have notebooks for sale.

"Job Helps" is a continuing editorial feature appearing in serial page form monthly. The information is arranged in convenient 3 x 5 notebook page size so that it may be filed or used on the job. The sheets are not for sale or available from any other source than the editorial pages of *American Builder*.



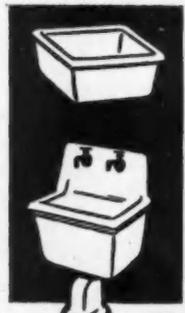
## NEW BUSINESS FOR PLUMBING CONTRACTORS

Increasing employment of women in war plants has created a huge demand for additional sanitary facilities and first-aid rooms. Housing developments for war workers, too, have opened up a fertile new field for the plumbing contractor. The Government, however, has set up very rigid specifications for sanitary ware.

General Ceramic's PERMA-GLOSS and VITREOUS CHINA sanitary ware meets or exceeds every one of these specifications. This sanitary ware is made from carefully selected clays, molded to a uniform wall thickness, sprayed with a thin layer of vitreous china glaze and fired at a high temperature. The result is durable fixtures that will withstand hard usage.

PERMA-GLOSS service sinks, flat rim sinks, sink and tray combinations and VITREOUS CHINA syphon jet bowls, urinals, lavatories and toilet combinations are typical items meeting W. P. B. regulations. For more detailed information on available items, write us.

BUY WAR BONDS



*General Ceramics Co.*



SANITARY WARE DIVISION  
METUCHEN • NEW JERSEY



## Now they're building **BUSSES** of Douglas Fir Plywood

But this is just one of Douglas Fir Plywood's startling wartime applications. Because of its versatility, this Miracle Wood is being used in ways undreamed of even a short time ago. And after Victory — thanks to these unique war jobs — Douglas Fir Plywood is going to serve you better and in more ways than ever before! Keep it in mind!



(At top of page) One of Santa Fe Trailways' smart new 117-passenger Victory Liners. The exterior, interior, partitions and floors are built of Douglas Fir Plywood. Now under construction is a 150-passenger all plywood Victory Liner.

(Above) Exterior-type Douglas Fir Plywood (1/4-inch thickness) is fastened with glue and screws to ash frame of these double-deck busses.

Quarter-inch Douglas Fir Plywood provides puncture-proof, easily-finished, dirt-resistant walls and ceilings. Three-quarter-inch plywood is used for floors and partitions.

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

**SEND FOR NEW WAR USE FOLDER**

Dozens of photographs show many of the war jobs Douglas Fir Plywood is doing all over the world. You'll find it extremely interesting. It's free, of course. Douglas Fir Plywood Association, Tacoma, Washington.

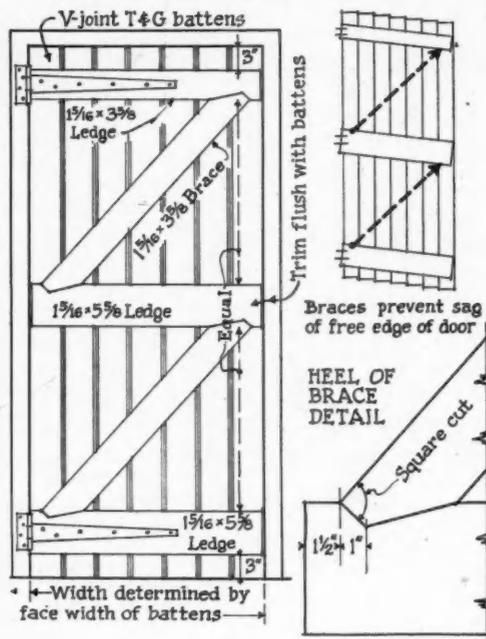
**DOUGLAS FIR PLYWOOD**

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

## American Builder **HANDY-BOOK**

### HOW TO MAKE A BATTEN DOOR

AMERICAN BUILDER FOR MARCH 1943



Ledged and batted doors will sag out of square unless braced with braces slanting upwards from the hinged edge. For best appearance, the slope of the braces should be the same, requiring the center ledge to be midway between the top and bottom ledges. Properly constructed, these doors may be used for openings of almost any width, so long as the height is slightly greater than twice the width. Strap hinges are generally used with doors of this type.

### Canadian Builders Organize

**R**EPRESENTATIVE builders of war housing from all important production centers throughout the Provinces of Quebec and Ontario met in Toronto, Canada, Jan. 28.

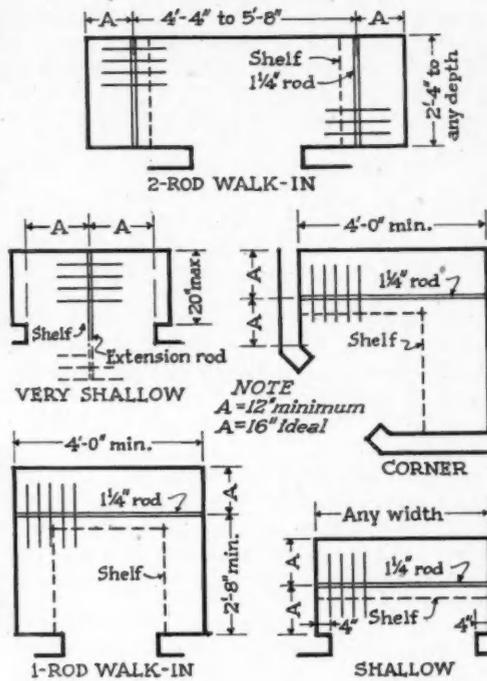
A national builders organization was established, of which Ken. J. Greene, Ottawa, Ontario, will serve as provisional president. Similar meetings will be held to include builders in the Maritime and Prairie Provinces, and British Columbia. With the unofficial blessings of the government, the association proposes to present a united front, both in doing the war job better and in combatting the construction of anything but purely temporary shelter.

A five-point plan of operation was decided: (1) To associate the home builders of Canada for purposes of mutual advantage and co-operation; (2) To improve the quality and character of homes for the Canadian people; (3) To develop and establish standards of practice for those engaged in home building; (4) To exchange experiences and information among those engaged in home building; (5) To represent its members in matters of

# OF JOB HELPS

## HOW TO PLAN A CLOSET

AMERICAN BUILDER FOR MARCH 1943

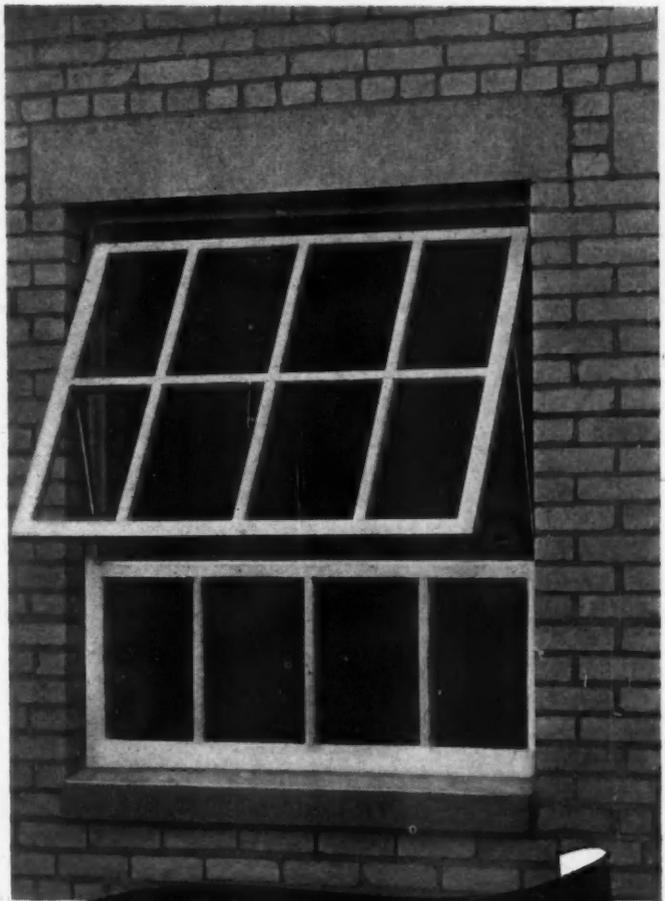


One of the closet plans shown can be made to fit by dimensional adjustments almost any space that is available in remodeling. Closets for adults' clothing are frequently made without sufficient width of hanging space—no closet should be less than 2'-4" clear if garments are not to brush against closet walls. The hanging pole for adults' use should be 5'-8" above the floor to accommodate long coats and long dresses—poles are invariably placed too low.

national, provincial and local policy, as well as legislation affecting home building.

After more than three years of war, the need for Canadian housing still exists. The 50,000 dwelling units constructed seems a modest accomplishment, compared with the more than a million units built in the United States, but proportionately it is a fine job, well done. Two-thirds of these accommodations are detached, largely solid brick houses, built and sold by private enterprise. Half of these received some financial assistance under the National Housing Act; the remainder were privately financed. Wartime Housing Limited, a government agency, accounted for the final third, built for rental and temporary in nature. Cost to the taxpayers is said to be high, and the accommodations seem to be too good to tear down in the post-war period, but not good enough to leave standing.

A committee of the Cabinet, headed by Honorable Ian MacKenzie, has set up the framework for a well-rounded reconstruction program and two groups of sub-committees have already started to function.



- ☆ For factories, hospitals, barracks, schools, low-cost homes. Old or new construction.
- ☆ Sizes for all standard steel sash openings.
- ☆ Genuine white pine frame and sash,  $1\frac{3}{4}''$ .
- ☆ Toxic—water repellent treated (Woodlife).
- ☆ Furnished for either inside or outside glazing . . . and for in- or out-projecting sash.

WRITE FOR FULL SIZE DETAILS

**Pella PROJECTED WOOD SASH**  
 ROLSCREEN COMPANY, DEPT. 333, PELLA, IOWA



# SKILSAW SAWS FASTER!

... SAVES HOURS ON  
WAR CONSTRUCTION TO  
SPEED THE DAY OF VICTORY!

SKILSAW—Saves extra  
time trimming off floor  
and roof decking after  
standard lengths are  
nailed in place.

You'll finish War Projects sooner  
with SKILSAW because SKILSAW speeds  
all sawing from start to finish on every  
job! SKILSAW sizes plywood faster for  
concrete form work . . . cuts structural  
beams and timbers quicker . . . notches  
rafters, trims floor and roof decking in  
less time! On every sawing operation  
SKILSAW saves minutes that mount  
up to weeks saved on vital War  
Construction!

SKILSAW saws faster because  
it is more powerful . . . yet it's  
lighter, more compact for easier  
handling . . . more rugged for longest  
service without time-wasting break-  
downs for repairs. Ask your distributor  
to demonstrate SKILSAW . . . today!  
9 POWERFUL MODELS.

SKILSAW, INC., 5031 Elston Ave., Chicago

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

SKILSAW PORTABLE  
ELECTRIC TOOLS

★ MAKE AMERICA'S HANDS MORE PRODUCTIVE ★

## CATALOGS AND HOW-

16—**FLEXACHROME PLASTIC FLOOR TILE**—A 4-page folder presents this resilient floor covering, which is available in 16 different sized tiles, and in 30 different colors, as shown on the included color chart. Brief specifications are offered.—The Tile-Tex Co., Chicago Heights, Ill.

17—**HOW TO CARE PROPERLY FOR YOUR FLUORESCENT INSTALLATION**—"Timely Wartime Tips on Fluorescent Maintenance" is the title of a 20-page, pocket size booklet. This outlines the setting up of a regular maintenance routine, tells how to determine the frequency of a regular cleaning schedule, and how to figure the number of lamp replacements per month. It gives the steps to follow in a regular checking system before discussing equipment and many other valuable suggestions to keep fluorescent installations operating at peak efficiency.—Sylvania Electric Products, Inc., Lighting Div., Salem, Mass.

18—**NEW CATALOG OF RED DEVIL LINE**—The Landon P. Smith complete line of glass cutters, glaziers' and painters' tools and machines is described in its new 72-page "Catalog No. 18," and illustrated in full color. The many styles of glass cutters are taken up in one section, with wood scrapers, painters' cutlery, roller stipplers, electric paint conditioners, specialties and accessories, floor sanders, etc., described in other divisions. A page is devoted to information on how to cut glass, including circles.—Landon P. Smith, Inc., Irvington, N.J.

19—**THE CARE AND MAINTENANCE OF PUMPS AND WATER SYSTEMS**—This 28-page manual has been prepared for owner guidance in the care and maintenance of various types of pumps in general use, and should be of particular value at this time when new equipment is so difficult to obtain. The booklet is divided up into 25 chapters, some of which are as follows: Needless Service Calls; Inspection; How to Order Repairs; How to Drain Shallow Well Pumps; Priming; Sanitation; Motors; Power Pumps and Water Systems, both Shallow Well and Deep Well; and Hand Operated Pumps. Price 10 cents.—The F. E. Myers & Bro. Co., Ashland, Ohio.

20—**NOFUZE CIRCUIT BREAKERS**—Westinghouse's complete line of Nofuze "De-ion" circuit breakers is described in a new 40-page ring-bound catalog. In this booklet principles of the "De-ion" arc quenching action are explained, and quick facts are given on design and operation of each breaker, available for panelboards, switchboards, built-in applications, individual mountings and separate enclosures. Special attachments are described, and information is given on how to select the "De-ion" circuit breaker best suited for the application.—Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

21—**HOW TO BUDGET FUEL OIL RATIONS**—A wartime help for oil burner users is offered by Timken in a simplified Fuel Oil Ration Budget Form, which provides complete directions for figuring the amount of oil that can be allotted for any given ration period in any zone; it is large enough for entry of the home owner's figures. Included on the sheet is a Fuel Oil Purchase and Consumption Record which enables the burner owner to see just where he stands at the end of any ration period. All data and methods suggested are based on the actual experiences of a number of oil users. One phase of budgeting which often confuses oil burner owners is the allotment of fuel to cover the heating of domestic water when oil is used for this purpose; this is provided for in the new Budgeting Form, enabling the owner to set aside enough oil to meet summer water heating requirements.—Timken Silent Automatic Div., The Timken-Detroit Axle Co., 100-400 Clark Ave., Detroit, Mich.

# TO-DO-IT INFORMATION

**22—IMPROVING FARM OUTPUT WITH ARMSTRONG'S TEM-LOK INSULATION**—This is a 24-page handbook setting forth the importance of adequate shelter to the health and growth of farm livestock and poultry, possible through proper insulation of farm buildings. The hog house, poultry house, dairy barn, milk house, vegetable storage bin, granary, work shop, bee hive, and the farm home itself, are covered in separate sections. Also presented is information on how to install insulating sheathing, insulating lath, insulating interior finish, and insulating board.—Armstrong Cork Co., Building Materials Div., Lancaster, Pa.

**23—MORGAN UTILITY WOOD PRODUCTS**—This new catalog shows several new items in the Morgan line of factory equipment, illustrating and describing such wood products as lockers, both single and double tier, locker racks, work benches, tool boxes, storage cabinets of various kinds, shelving, counter sections, and utility cabinets.—Morgan Co., Oshkosh, Wis.

**24—GYPSUM PRODUCTS**—Two new products for speeding up wartime construction are offered by Certain-teed in a recently issued 6-page folder—Best-wall gypsum exterior board for fire-resisting exterior walls, and Certain-teed gypsum laminated roof decking for fire-safe roof decks. Application instructions are also given.—Certain-teed Products Corps., 120 S. La Salle St., Chicago.

**25—HOW TO SAVE INSTALLATION COSTS AND CRITICAL WAR MATERIALS**—"Orangeburg Fibre Conduit" is the title of a 10-page folder offering reasons for the specification of this type conduit and pipe, and illustrating the uses to which it can be put in various electrical service and sanitary installations.—The Fibre Conduit Co., Orangeburg, N.Y.

**26—FINISH COAT IN COLOR FOR MASONRY**—Colorthru, a pigmented chemical which waterproofs, penetrates and preserves, is a new product which is announced in two small folders. It may be used for all masonry surfaces, comes in seven different colors, and may be applied by brushing, dipping or spraying.—Colorthru Chemicals, 20 W. 45th St., New York City.

**SERVICE COUPON—CLIP and MAIL to CHICAGO**

Readers Service Department, (March, 1943)  
 American Builder,  
 105 W. Adams St., Chicago, Ill.  
 Please send me additional information on the following product items, or the catalogs, listed in this department:

Numbers .....

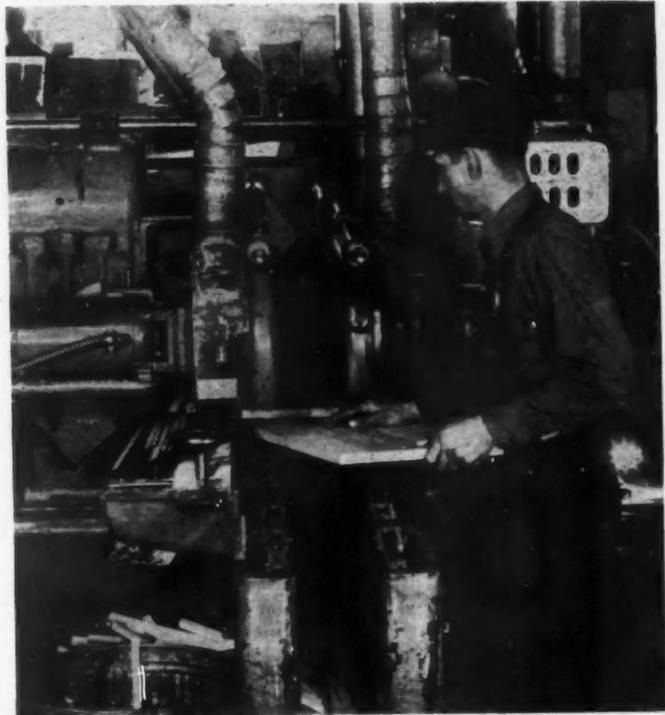
Name .....

Street .....

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

OCCUPATION\* .....

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



## WOODWORK

*built for  
builders*

**Bilt-Well products are made to meet the builder's needs—to conserve his time and money**

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 units remain available for war housing, remodeling and repairs.

**CARR, ADAMS & COLLIER CO.**  
 Dubuque, Iowa



**FEEDING FLOORS**  
 •  
**FACTORY FLOORS**



# CONCRETE aids war production —factory and farm

Contractors can render real service by helping war industries build needed improvements with concrete because:

- Concrete conserves transportation—the bulk of concrete materials can usually be found locally.
- Concrete conserves critical materials seldom needed in pavements, floors on grade and many other concrete jobs.
- Concrete “has what it takes” for war-industry buildings and repairs—strength, rigidity and fire-safety combined with economy of first cost and maintenance.

## Concrete Contractors: Offer Your Services!

The contractor who “knows his concrete” can do his part today by showing food and war industry plants where concrete improvements will help speed war production. Many con-

tractors are helping farmers, too, by building concrete barn floors, feeding floors, milk houses, granaries and many other improvements needed to increase food production.

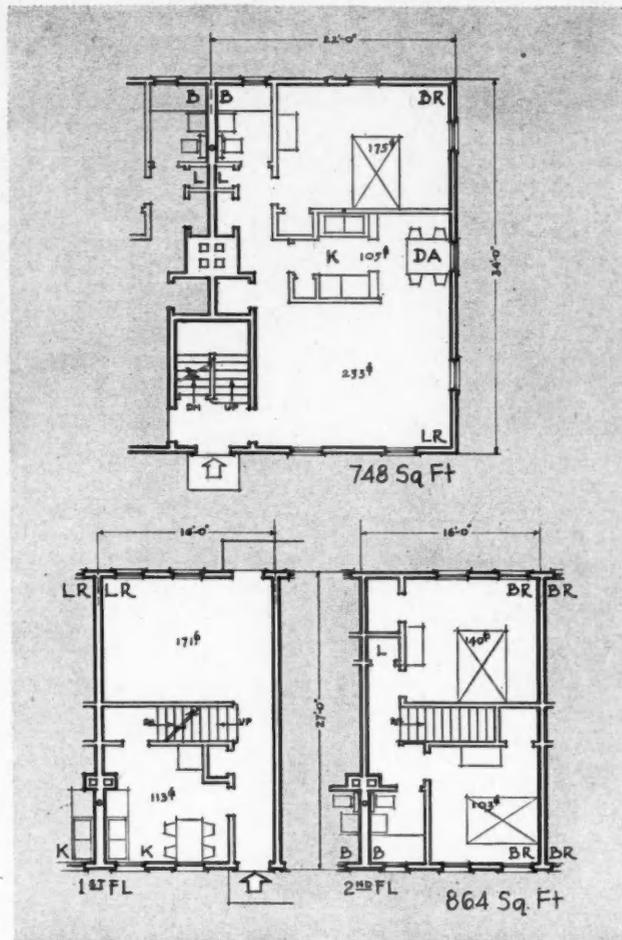
## PORTLAND CEMENT ASSOCIATION

Dept. A3-3, 33 W. Grand Ave., Chicago, Ill.

### Wartime Concrete Improvements

- Floors, foundations and footings • Loading platforms, ramps, teamtracks • Machinery bases and pits • Anti-sabotage walls • Pavement for storage yards and parking areas • Factory additions • Barn floors, other farm improvements

BUY MORE WAR SAVINGS STAMPS AND BONDS



WPB-APPROVED PLANS. Above: Four-family flat unit, two-story one-bedroom, with 748 sq. ft. area. Bottom: One-family row unit with two stories, two bedrooms. Area, 864 sq. ft.

## War Housing Plans

(Continued from page 49)

masonry exterior walls, constructed of clay or concrete products such as brick, structural clay tile, cement or concrete blocks, and cement brick unless the lumber used does not exceed the maximum normally allowed for structures built of masonry exterior walls. This allowance is noted in the standards.

Following is the complete text of the WPB War Housing Construction Standards as amended Jan. 21, 1943:

Effective as of the date of these revised standards, the War Production Board will not issue preference rating orders for new housing unless such construction complies with the provisions of the following paragraphs, and a minimum of critical materials is used, and will not extend the term of preference rating orders previously issued for housing projects except where (a) the preference rating order has been applied to the purchase of materials, or (b) construction of the project has started, or (c) the construction of the project complies with the standards outlined below:

1. Single-family detached units, whether for rent or for sale, shall be constructed only where the essential utilities which require the use of critical materials are contiguous to the lot, except where:

- A. Other permitted types of dwelling units would require a total use of a greater quantity of critical material; or
- B. The war housing programmed will not be provided when needed by other types of dwelling units.

Construction of utility facilities to serve dwelling units shall be in accordance with the Housing Utilities Standards.

2. All projects designed for rent, whether of single-

(Continued to page 88)

No. 102W—Wood Cabinet  
Kiln dried hardwood; joints double locked; glued and tensioned; steel mirror frame.



# MIAMI

## Bathroom CABINETS and ACCESSORIES

### FOR REPAIRS and MAINTENANCE

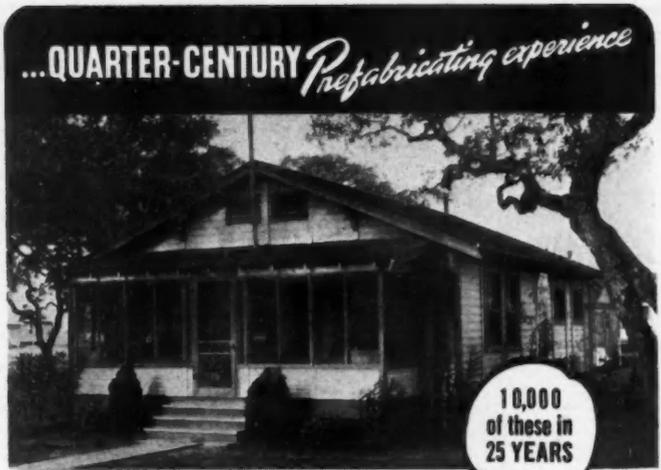
Limited stocks of the famous Miami Steel Bathroom Cabinets and Accessories are available, as long as they last, for repair jobs, replacements and new, essential housing. Further production of steel cabinets will be confined, for the duration, to the requirements of essential marine needs.

### WOOD CABINETS and WOOD FRAMED MIRRORS

For the duration, only wood cabinets and wood framed mirrors will be in production. True to the Miami-Carey tradition, these cabinets are complete in every detail—no doors to hang and fit; no hardware to buy and fit; no mirrors to hang; no painting to do; no shelves to make—even the four installing screws are furnished.

Write for complete details and catalog. Address Dept. AB.

**MIAMI CABINET DIVISION** *The Philip Carey Mfg. Company*  
Dependable Products Since 1873 **MIDDLETOWN, OHIO**



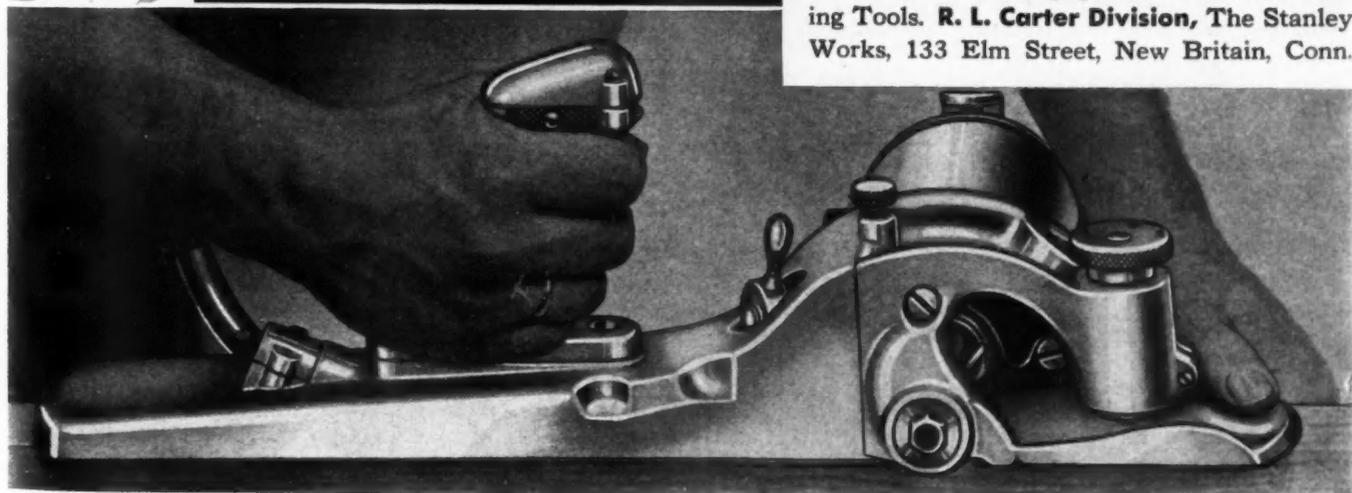
Here is a typical illustration of the industrial house we have built for Southern industry for more than twenty-five years. Durable, and attractive, 95% of it may be salvaged.

● Our large, completely equipped plant is now available for all types of wood fabrication. Inquiries are invited.

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

**DOORS, SASH, SCREENS**  
**FITTED 3 TO 5 TIMES FASTER**  
**with the J-5 ELECTRIC PLANE**

**CARTER TIME-SAVING TOOLS**



There's no time to lose on construction jobs these days. Uncle Sam wants to save all the man-hours possible, and this J-5 Electric Plane helps save a lot.

With its 1 H.P., 18,000 R.P.M. motor, the J-5 is the most powerful electric plane on the market. It will "hog it off",  $\frac{3}{16}$ " at a stroke, or plane a paper thin shaving to a satin smooth finish. Easy to handle—weighs only 16 pounds.

Set up with a bench bracket, it can be used as a joiner for inside trim and similar work.

Write for the Carter catalog. It describes the J-5 Plane and other popular Carter Time-saving Tools. **R. L. Carter Division, The Stanley Works, 133 Elm Street, New Britain, Conn.**



Photo by Maynard Parker

Now devoted to war production . . . we are planning ahead for peacetime business. After Victory, look to Bennett for new advances in fireplace equipment.

**BENNETT  
FIREPLACE COMPANY  
NORWICH, N. Y.**

**CONSERVO  
HAS WHAT IT TAKES  
TO PRESERVE WOOD**

**PENETRATES DEEPLY  
LASTS INDEFINITELY  
ACTIVELY ANTISEPTIC**



WOOD treated with Conservo is permanently protected against moisture, rot, decay and termites. Conservo penetrates deeply when applied—hot or cold—by brush, spray or dipping. It preserves wood and repels termites with its high content of sterilizing Phenols. Lasts indefinitely because it is non-volatile, highly insoluble and does not evaporate below 420° F. Conservo saves inestimable time, money and labor, in the long run, when applied to roof timbers, planks, sills, poles, posts, platforms, small out-buildings, etc.

**FREE FOLDER** Write for your copy today.  
Samuel Cabot, Inc., 1510 Oliver Bldg., Boston, Mass.

**Cabot's CONSERVO  
WOOD PRESERVATIVE**

(Continued from page 86)

family detached, semi-detached, row or multi-family structures, shall be planned without regard to the future separation of a portion of the project so as to use a minimum of critical materials in the plumbing, heating, and electrical lay-outs, and in the utility installations on the site.

3. Floor area for family dwelling units shall not exceed the following maxima, based on the number of bedrooms within the unit.

	Maximum allowances in square feet*			
	No bedrooms	1 bedroom	2 bedrooms	3 bedrooms
1 story structures.....	400	650	800	1,000
Structures having more than 1 story.....	500	750	900	1,100

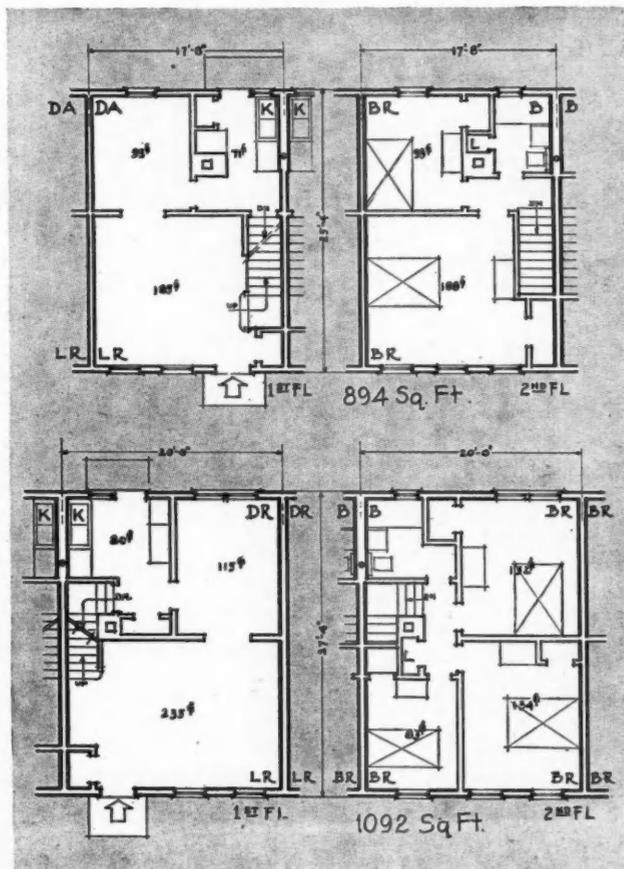
\*Floor area shall be measured at each principal floor level to the outside face of exterior walls and to the center line of common walls. For masonry exterior wall construction, the allowances may be increased to provide usable floor area equivalent to that of ordinary wood frame construction. Floor area does not include the area of open porches, whether roofed or not.

4. The type of construction employed shall be governed by the requirements set forth below:

A. Materials used in exterior wall construction shall be as set forth in Appendix "A" appended hereto, as established by the War Production Board, which may be amended from time to time by the Director General for Operations of the War Production Board except that in any state or area any type of construction permitted by the War Housing Critical List may be used if the total use of dimension lumber (2" nominal size and thicker) does not exceed the following maximum allowances in BOARD FEET per SQUARE FOOT of floor area:

I Story Structures.....	5.0 Bd. ft. per sq. ft. of floor area
More Than 1 Story.....	4.0 Bd. ft. per sq. ft. of floor area

B. In all other states are areas not listed in Appendix A any type of construction permitted by the War Housing Critical List may be used provided that the total use of



TWO-STORY ROW HOUSE UNITS approved by WPB—Two-bedroom model (top) has 894 sq. ft. Three-bedroom model (bottom) has 1,092 sq. ft.

dimension lumber (2" nominal size and thicker) shall not exceed the following maximum allowances in BOARD FEET per SQUARE FOOT of floor area:

1 Story Structures.....6.5 Bd. ft. per sq. ft. of floor area  
 More Than 1 Story.....5.5 Bd. ft. per sq. ft. of floor area  
 except that where masonry exterior wall construction (other than masonry veneer) is used, the lumber allowances given in Section 4-A shall apply.

5. In the use of lumber the following requirements shall apply:

A. Designs shall be based on the use of the most available grades and species of common lumber and the framing shall be so sized and spaced as to effect the most economical utilization of dimension lumber.

B. For all uses of common lumber, the lowest available grade in any species which is suitable for the purpose shall be specified and used.

C. Designs shall be based on the use of standard sizes. All off-standard workings shall be avoided.

D. Wall sheathing shall be of gypsum, fibre, or insulation boards, except that, if these materials are not obtainable, softwood lumber may be used.

E. Purchase specifications shall not restrict the moisture content.

F. The use of plywood, except for built-in fixtures and gusset plates, is prohibited in dwelling structures, the frames of which are fabricated at the site.

APPENDIX "A"

In the following States all housing structures shall have laid-up masonry exterior walls constructed of clay or concrete products such as brick, structural clay tile, cement or concrete blocks, and cement brick:

New Hampshire	North Dakota
Vermont	South Dakota
Massachusetts	Ohio
Rhode Island	Indiana
Connecticut	Illinois
New York	Iowa
New Jersey	Nebraska
Pennsylvania	Kansas
Delaware	Missouri
Maryland	Oklahoma
District of Columbia	Michigan
Wisconsin	

except that construction started during the first quarter of 1943 in New Hampshire, Vermont, Wisconsin, Iowa, North Dakota, and South Dakota may be wood frame construction with the lumber allowances provided in Section 4-B.

6. Plumbing installations permitted by the War Housing Critical List are further limited as follows:

A. In single family detached, semi-detached and row type dwelling units, bathroom and kitchen plumbing shall be arranged so that not more than one plumbing stack per unit will be required. The bathroom shall be back to back with the kitchen, except that it may be over the kitchen in dwellings of more than one story.

B. In multi-family dwellings, the kitchen and bathroom plumbing arrangements shall be located so as to use the minimum amount of critical materials.

These standards supersede the War Housing Construction Standards issued October 28, 1942.—War Production Board, C. E. Calder, Director General for Operations.

\* \* \*

**Relax Three Plumbing Restrictions**

THREE relaxations in restrictions on use of metals in plumbing fixtures have been announced by the Director General for Operations, War Production Board. They are covered in Schedule XII to Limitation Order L-42, as amended. The first change eliminates "trap standard" from the definition of "plumbing fixture," thus leaving the product to be manufactured as has been customary in the past. The second permits the use of a maximum of one pound of ferrous metal for spuds. The third change increases the limits on weight of metal in component parts of tanks for urinals, heretofore restricted to four pounds.

*For* **POST-WAR HOUSING**

Our planning department occasionally finds a breathing spell from other war work to try designs applicable to the post-war world.

We intend to be ready for adequately housing the great number of workers who want homes, when peace comes to America.

**ILLINOIS LUMBER MANUFACTURING COMPANY**  
 Cairo, Illinois

**NON-TILTING PLASTER-MORTAR KWIK-MIX 6-P**

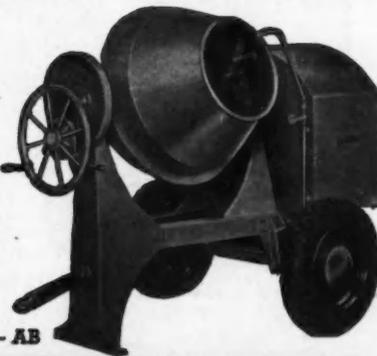


Fast discharge — 7 seconds — no tilting necessary — weighs only 850 pounds — air-cooled engine — V-belt and worm drive.

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**3 1/2-S TILTING KWIK-MIX**

Side discharge — anti-friction bearings — welded construction — discharge either side — spring mounting.



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 PORT WASHINGTON WISCONSIN

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*air-minded*  
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The time has not yet come when we can show you a picture and say—"this is the ventilator of the future". We can assure you, as the largest producers of electrical home ventilators, that the name "V-Line" will represent the best for homes of every size and cost.



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ventilation.

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and Stamps

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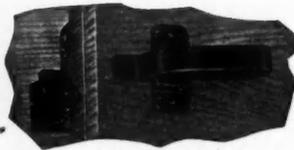
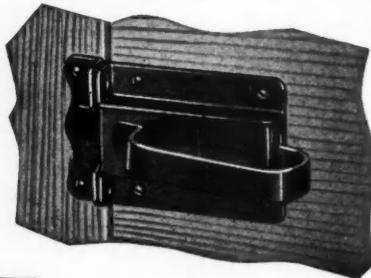
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padlock eye  
for security.



Furnished with back latch to  
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from wind, etc.

Here is a quickly installed, economical and efficient latch for swinging doors. Fits right or left hand doors without changing spring. Long latch bar permits space up to  $\frac{5}{8}$ " between door and jamb.

**WAGNER MANUFACTURING COMPANY**  
Dept. AB-343 Cedar Falls, Iowa



## How to Give Variety To a Street of Homes

**Al Balch uses clever changes in basic home design to avoid monotony; retains economies. See pages 30 and 31 for additional illustrations.**

**W**HEN ALBERT BALCH and his partner, Maury Setzer, prominent Seattle home building developers, undertook their 200-house "Wedgwood" project early last year they determined to make it architecturally attractive in spite of price limitations and government restrictions. They wanted to retain the economies of quantity building to a uniform pattern, yet were unwilling to follow the trend to dull and drab sameness in over-all appearance that has depreciated so many recent "low cost" and "war housing" ventures.

Their success has been so notable that Wedgwood, now practically completed—and sold—is generally regarded by the home building fraternity of the Northwest as an outstanding example of private building enterprise not only to meet urgent war housing needs but also to set a useful pattern for post-war home building in the price class up to \$6000.

Putting up a well-constructed and completely-equipped 5-room house on a 60 by 100 foot lot to sell at \$5,350 means careful planning; and the builder often is tempted, so Balch explained to *American Builder*, to adopt one—or at most two—standard plans and repeat them right down the street, regardless of appearances. Furthermore, the resulting monotony and dreariness are increased by crowding onto narrow lots, uniform positioning on the lot and straight streets in gridiron pattern.

Balch and Setzer had the advantage in laying out the five streets that constitute Wedgwood of giving the middle street a gentle S-curve, and of rounding off the square corners of the other streets. The lots were laid out 60 feet frontage by 100 feet depth; no alleys. The corner lots are larger, 70 by 100 feet; and on the corners slightly larger houses have been placed. Advantage was taken of natural variations in contour and grade in fixing the location of each house on its site. A complete plot plan of the development was prepared in advance so as to harmonize the whole and give each home its best chance for individuality and freedom.

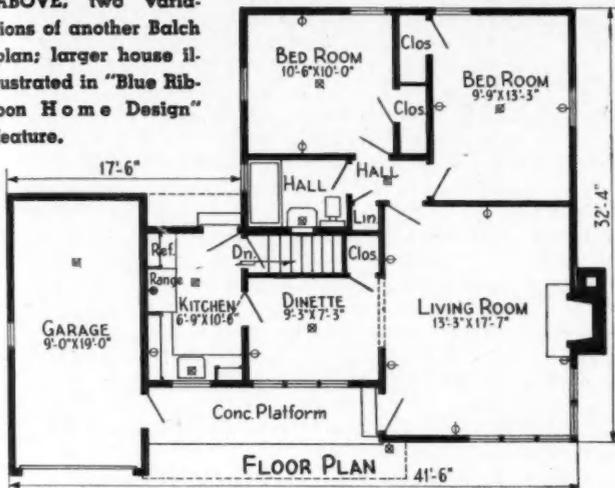
Al Balch, an active builder since 1934 with over 400 houses on his record, was so determined to make this Wedgwood project one of character that his first thought was to have every one of its 200 homes built to an original design. He was dissuaded from this course, however, by his architectural advisers, Thomas Grainger and Thomas, A.T.A.; and to Clyde Grainger of this Seattle firm goes the credit for working out the scheme of basic designs and variations that have been used so successfully.

Mr. Grainger set forth to this writer the salient features of the service in these words: "To have created 200 separate home designs, all original and 'different' would have made the planning cost excessive, both in time and money, besides increasing the construction costs. So we undertook to create, instead, ten basic floor plans, each with five different elevations or exterior treatments. That gave us 50 designs. Then by using four variations of outside wall materials plus color changes we multiplied by four to get the 200 designs needed.

"Our first care was to get an economical 'skeleton' around



ABOVE, two variations of another Balch plan; larger house illustrated in "Blue Ribbon Home Design" feature.



which to build. It is essentially a simple rectangle requiring one row of girders in the basement to support short joists. The typical floor plan shows a compact arrangement of living room with fireplace, dinette, modern kitchen, two bedrooms and bath and ample closet space. Each house has a built-in garage arranged for straight drive-in from street at grade level. Full basements are excavated.

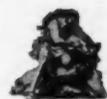
"The variations in exterior design in these houses are well illustrated in the photographs and elevation shown and on pages 30 and 31. (Photos taken especially for *American Builder* by K. S. Brown and drawings reproduced through courtesy of the architects—Ed.) Much can be accomplished by reversing a plan and by changing the prominent exterior design elements, such as roof, entrance and porch, fenestration and relation of garage unit to house proper.

"Agreeing that the several houses on a street or in a neighborhood development should not duplicate each other, still there should be an harmonious and sympathetic unity throughout the whole. For this reason we gave Wedgwood a purely American character—forward looking yet reminiscent of the English, Scotch and early ranch or farm house types. We excluded modernistic shoe-box type as well as Spanish and Mediterranean.

"For pleasing variety of exterior materials, of course we had our ever popular red cedar shingles and shakes, also cedar siding, both wide beveled for horizontal use and 'combed grain' wide boards for vertical application; we also used exterior-grade plywood for flat modern effects, and here and there a little brick work for contrast. Large brick chimneys feature many of these designs. Projecting windows, both octagonal and square bays, are used; corner window groups and fixed sash 'picture windows' in several forms are well liked. Specially designed plant boxes and plant shelves to emphasize window groups give a pleasing touch.

"But with all these variations of exterior style—further assisted by individuality in color schemes and landscaping—the structural parts of these 200 houses were held to uniform sizes, so that all economies of mass production building could be retained."

Al Balch, spark-plug of both the Wedgwood and View Ridge developments in Seattle's popular north east section, is well known to many *American Builder* readers because of the prominent part he has played in the organization of the House Builders Institute and of the National Home Builders Association. He has just completed a term as president of the Seattle Real Estate Board.



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**and Cut Costs in EVERY Direction**

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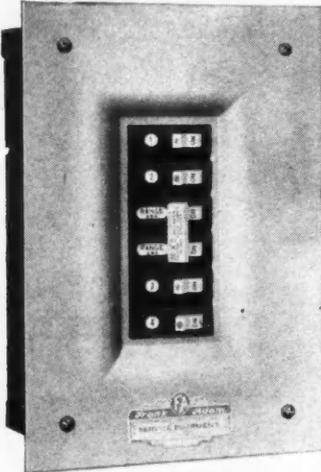
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CABINERY OF COMPOSITE CONSTRUCTION

**PREFABRICATION - Up to Date and Down to Earth**

(Continued from page 39)

packed into a comparatively short period; the prefabricators who really developed a large volume operation were relatively few. With the job of peacetime adjustment and its problems of distribution and selling on a competitive basis still ahead of them, a good deal of water will still have to flow under the bridge before any definite and final pattern for the place of this method in the whole fabric of building is determinable. That large scale operation, thorough engineering, economies in time and, in some cases, money are to have an important place in the building picture of the future, has certainly been assured by some of the astounding operations of the past two years; but the when and how will probably take most of the first five years of building under normal conditions. Certainly the industry can look forward to no overnight revolution; rather the evolution will adopt what is sound in prefabrication, reject that which merely served a war purpose.

What are some of these accomplishments that indicate trends?

There will be an increasing tendency to larger units of construction; increased plant capacity on one hand and a thinning in the ranks of master craftsmen on the other will force such a change if a large volume of building is to be possible. This is merely another step in the progress which gave building the completely assembled, weatherstripped window unit with prefit screen and storm sash.

Less emphasis will be placed on individualized design, more on engineering. While the custom-built house will remain a comparative luxury it also will benefit from better coordinated parts going into its assembly.

In the field of non-residential building, much prefabrication progress has been made both prior to and during the war. Since the approach to such building is from the practical and economic standpoint rather than the emotional, there will be fewer stumbling blocks to distribution and sales than in the home field. For such construction as farm buildings, stores, small utility building, factories, etc., a broader use of materials is indicated as opposed to a constantly narrowing choice of materials in the prefabrication of residential units.

These are some of the highlights of prefabrication as they stand to affect building practice in the post-war period. Certainly all *American Builder* readers will follow further developments with the interest that is due them and with proper importance attached to each.

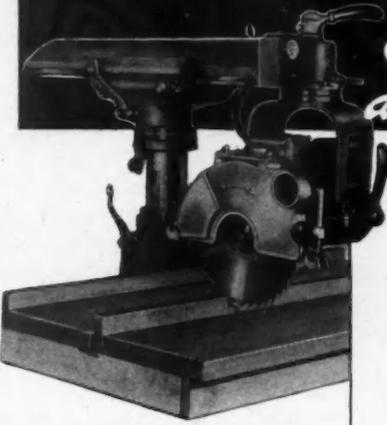
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(Continued to page 94)

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(Continued from page 93)

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\* \* \*

### Local Prefabs Out in Front

(Continued from page 43)

builders are involved. Building codes, local utility problems, labor problems and consumer acceptance are all bound up in the construction and sale of houses. Residential builders with years of experience will be the first to adopt practicable prefabrication methods, it is claimed, when it can be shown that these methods will materially reduce cost and aid sales.

The local, comparatively small building firm which is able to adopt standard, factory-built panels or sections in homes would benefit by better engineering, planning and use of standard parts. At the same time it would maintain local control over the job. Whatever the final outcome, the immediate future effect will probably be the application of more engineering to conventional home construction.

\* \* \*

### Will Create New Post-War Markets

(Continued from page 43)

It isn't difficult to sell houses through advertising. Our experience has definitely demonstrated that not only national advertising, but local newspaper advertising, if properly done and to the right amount, will fill up a moderate sized prefabricating plant with business if the area has any potential whatsoever. If department stores get into the sale of prefabricated houses, and they are very likely to do it, a group such as suggested above, could easily become the prefabricating plant for them.

The department store is the biggest traffic center in any community. Not only that, they are good merchandisers and they are large-scale advertisers. Prefabrication will help them to sell not only houses, but the furniture, draperies, linoleum, ranges, garden tools, lawn seed and many other things that go into a house. And you may even see the public utilities selling prefabricated houses to sell not only their power, but also all types of equipment which use that power.

Unquestionably, prefabrication has come to stay. It is not going to take all the business at once. Whatever the figure, it is going to eventually be a substantial percentage. It is fundamentally sound, no matter how you analyze it, to apply engineering and mass production technique to housing. As long as that is the case, it *must* and *will* succeed.

**National Prefabrication**

(Continued from page 45)

Of all the types of prefabrication, national is the one which would most seriously change established factors in the building field if successful. As frequently described, prefabrication of houses under such a system would be done in very large plants, possibly controlled by groups of manufacturers of basic commodities. Backed by immense capital, it is said that such firms could force prefabricated homes on the American public and could change public opinion by the sheer force of their size and national advertising promotion.

Experienced building men and a considerable number of prefabricators themselves point out however, that distribution, sales and local representation will set up insuperable obstacles to any such system of national operation. In answer to such claims, the national advocates say that they will be powerful enough to over-ride any opposition. Under the system employed by Gunnison Housing, for example, the local dealer-erector would be completely controlled by the national organization which would supply him with sales literature, cost records, a financing plan, instructions on how to assemble the prefab job and even a kit of tools.

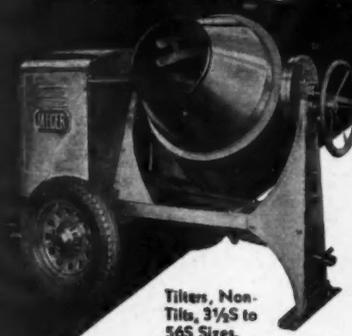
There would be vigorous local opposition to such a plan; yet apparently a considerable number of persons in business finance and manufacturing believe something of the sort possible, particularly as concerns very low cost housing or government subsidized mass housing.

\*\*\*

**Prefabricator Directory Supplement**  
(To complete listings in Jan., 1943, American Builder, page 45)

- ADIRONDACK LOG CABIN CO., INC., 142 E. 45th St., New York, N.Y., Harry Levey, Pres.
- AMERICAN HOUSES, INC., WESTERN DIV., 625 Market St., San Francisco, H. R. Hallsteen, Gen. Mgr.
- ANDERSON LUMBER CO., Logan, Utah; licensee of American Houses, Inc., 570 Lexington Ave., New York City.
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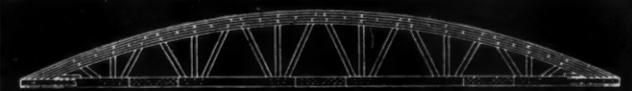


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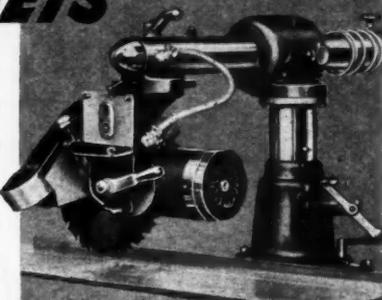
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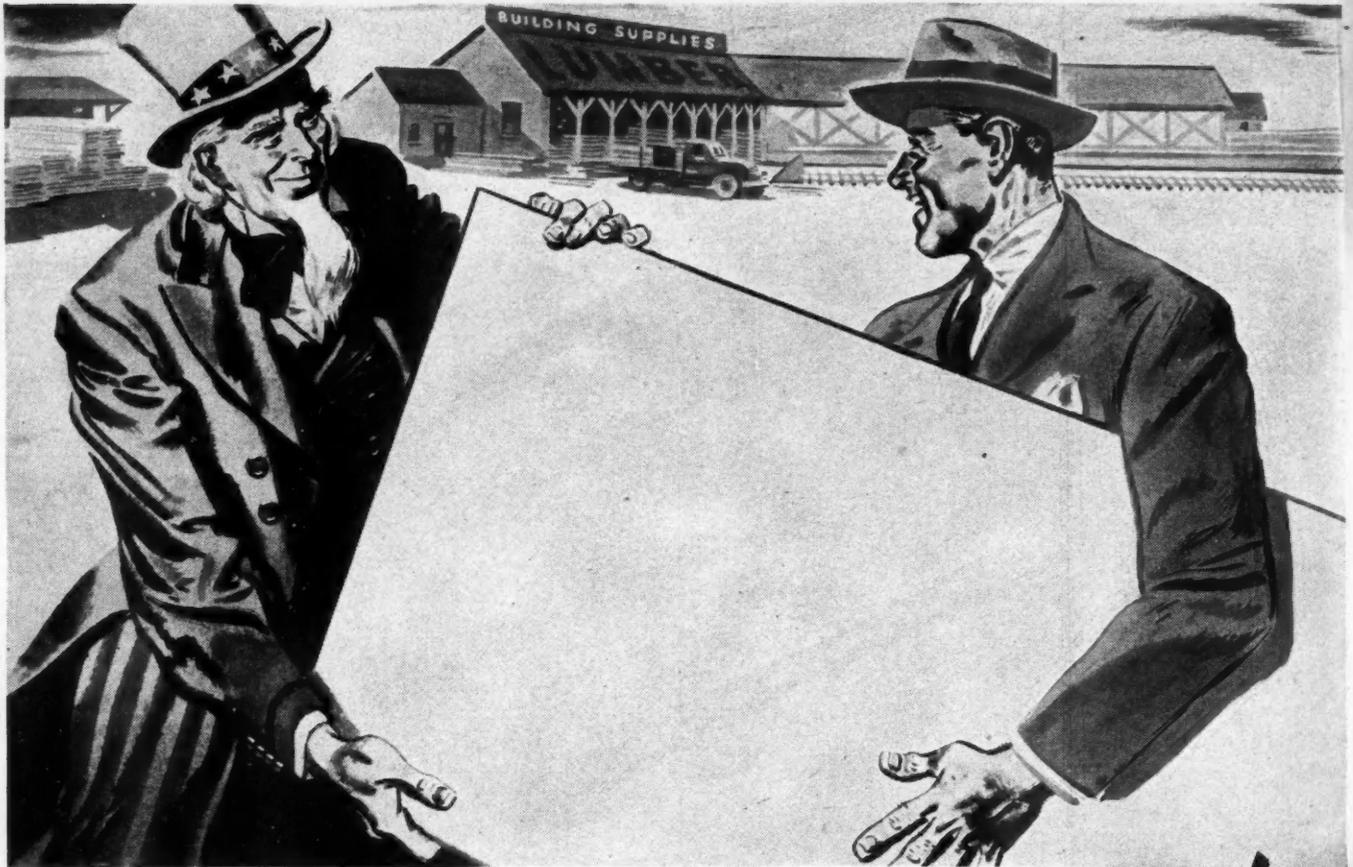
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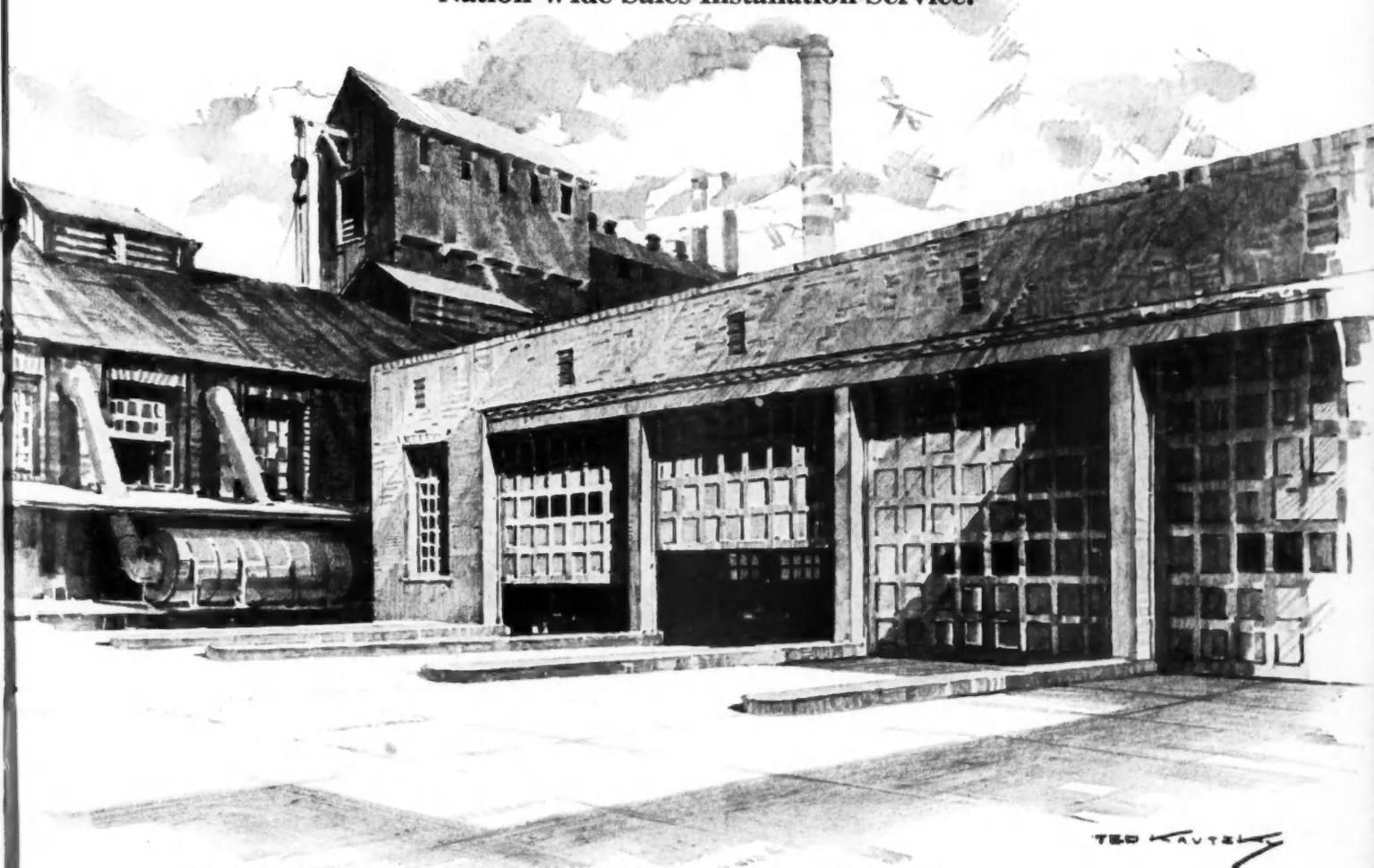
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