

ARCHITECTURE

Your Home When Peace Comes

Post-war, low cost prefabricated house will be a prototype of the conventional home, with modern improvements. Kitchens can be converted into recreation rooms.

By EDITH GOLDMAN

➤ AS THE MODERN streamlined automobile developed from the horse-drawn buggy with the aid of science, so the post-war home, prefabricated and pre-engineered, is expected to replace the old homestead. And just as the technique of mass production slashed the prices of automobiles down to a range which the average American could afford, so will it take the home of tomorrow out of the window-shopper's bracket and into reality for this wage group.

Because of its newness—scarcely out of the idea stage as far as large-scale production is concerned—the layman's concept of the prefabricated home is in many cases extremely distorted. When he thinks of prefabrication, he has a vision of endless rows of box-like homes making up a housing project, set up in the drab surroundings of defense plants.

Or the layman might associate prefabrication with some of the bizarre types of Sunday-supplement houses

which are pictured as suspended from masts or patterned after igloos. And, as far as the average American is concerned, either of these extremes in construction types has a distinctly negative appeal.

The bleak-looking defense housing projects, however, are as far from the post-war prefabricated home as the olive-drab jeeps and Army trucks are from the luxury automobiles of the future. And the revolutionary ultra-modern home of the future is still in the dream stage. The prefabricated home, engineered for super service, is actually a prototype of the conventional home—with modern improvements added.

Partial Prefabrication

For many decades partial prefabrication has been accepted as a traditional part of conventional construction in the form of prefitted doors, windows, prepared roofing and pre-cut lumber. And now, hand in hand with the development of new materials primarily intended for combat use, plans for prefabricat-

ed homes await the utilization of these new improvements and discoveries when peace-time construction will be the order of the day.

Molded plastic-impregnated plywoods and compressed impregnated papers that have been developed to give durability and resistance to the speedy boats and planes of our armed services today have also given the prefabrication industry the opportunity to produce entire wall panels of homes by means of assembly line technique.

Cumbersome and Bulky

Take the wall of the conventionally built home as an example. Cumbersome and bulky, it is made up of six layers—the inside plaster, lath, insulation between studs, diagonal sheathing to steady the frame, building paper to keep out the wind, and exterior boarding as the outside layer. Obviously, a wall of this type could not practicably be prefabricated.

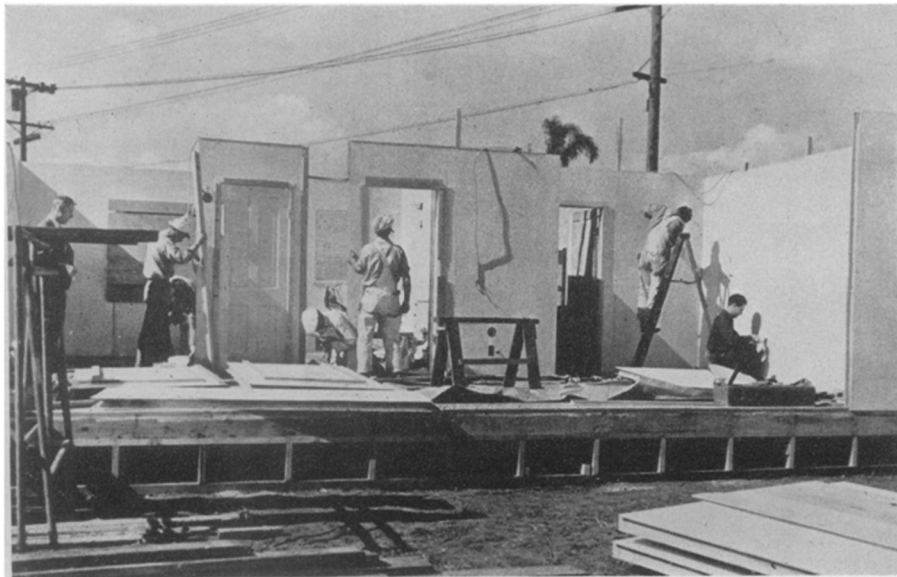
With the development of large-sized sheet materials such as the resin-impregnated plywoods with two-way tensional strength, it became possible to reduce the six- to eight-inch multi-layered wall to a wall measuring only 1½ inches in thickness.

It became possible for the first time to consider the entire cross section of wall or floor as a single integrated structural unit. With the aid of science, the streamlined wall has become stronger and more durable than its bulky predecessor, and perfectly adapted to mass production techniques.

Giving improved service, these engineered homes will be less subject to cracking finishes and sticking doors, and are likely to be better insulated, less drafty, and decidedly easier to heat than houses constructed in the customary "home-made" unscientific manner.

Why They Will Cost Less

Why will these newly constructed homes featuring the most up-to-date modern conveniences cost so much less to the home owner? The answer may be had in simple economic theory. Mass production, creating greater demand and reducing the number of middlemen involved, automatically lowered the price of automobiles, radio sets and wearing apparel. Just so will reduction in the enormous number of middlemen in-



EARLY STAGE—Whole walls of a prefabricated house are shipped from the factory, ready to be set into place. These workmen are well on the way towards producing an attractive home from the pieces.

involved in selling small hardware, glass, paints, and all of the other 80,000 parts required for the construction of an ordinary frame house, slash the cost of the house prefabricated at one focal point.

A survey of the relative costs involved was recently completed by O. B. Allen, Comptroller of the United Construction Workers, an affiliate of the United Mine Workers of America. He points out that the materials and mechanical equipment in a \$5,000 house actually cost \$1,200 at the initial source. Approximately

\$2,500, or 50%, of the total cost of the house is consumed in the middleman transactions.

Breaking the figures down still further, Mr. Allen explains that \$4 worth of glass at the original wholesale source costs the home owner \$47; that \$28 worth of paint costs him \$241; trim worth \$195 costs \$980, and \$230 worth of lumber, \$1,095. All other items in the house are also subject to similar wasteful practices, he adds.

Chief drawback of prefabricated housing, in the (Turn to next page)



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Do You Know?

Plywood *paddles* for canoes may replace the former solid ash types.

Badly adjusted or misaligned steering mechanisms do more to grind tires into shreds than any other *tire-wearing* factor.

Textile authorities predict *cotton* will be exported in the post-war era to the tune of 3 million square yards annually.

Electric *generating plants* in the United States have a capacity of about 65,000,000 horsepower, or nearly 49,000,000 kilowatts.

White *horse-tail hair* is used in Brazil in brushes; the cuts nearest the roots are put in tooth brushes, the rest in shaving and other brushes.

Production of the mineral *fluorspar* for use in metallurgy, acid manufacture and ceramics should total more than a half-million tons for 1944.

Strawberries, blackberries, raspberries, currants, plums, apples, peaches, apricots and some other common fruits contain oil of *wintergreen*.

The rare pancake *tortoise*, Testudo Tornieri, of East Africa has a thin flexible shell and can flatten itself to crawl into crevices to hide.

A new silver *babbitt metal* for machine bearings has been developed which has the same bondability and corrosion resistance as turbased babbitt.

A new *cobalt* ore deposit discovered in Spain shows by recent analysis to be 5.9% cobalt; it is expected production may reach 200 tons a month.

Low-bush *blueberries*, common particularly in Maine, have fruit which is typically blue, but occasionally plants are found bearing white, pink, red or black "blueberries."

A product from *peanut oil* has been developed as a substitute for olive oil as a worsted lubricant in weaving, for lard oil or neat's-foot oil in the leather industry, and for almond oil or similar oils in the manufacture of cosmetics.



POST-WAR LIVING—Emphasis in the kitchen of the future will be placed on attractiveness and efficient planning so that there is a minimum of wasted energy.

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eyes of many who agree to the obvious advantage of lowered cost and increased utility, is the possibility of monotony in design. In this new type of construction, however, although the walls and roofs will be mass-produced and standardized, the prefabricators are providing for a wide range of flexibility in the final set-up of the homes. Competition between pre-fabricators should serve to stimulate the continual creation of new designs for the homes.

Post-war kitchens in these prefabricated units are expected to be a boon to the housewife. The working area of the newly designed kitchens will be so arranged that the housewife will be able to do three-quarters of her work sitting down, rarely ever having to stoop or bend.

When not in use, stove, sink and other working units will be concealed beneath covers that will join to form an attractive buffet. Neat and compact, they will not look like kitchens at all between meals, and can be used as recreation rooms.

Some of the prefabricated units will be of ideal size for the newly married couples, providing room for expansion in the form of additional wings as the family increases.

Traditionally, the lower income bracket group had to be satisfied with cramped apartments or with housing hand-me-

downs—the more expensive structures in various stages of deterioration. With the aid of cost-slashing mass production of prefabricated units, this same group should be able to become owners of new prefabricated homes at locations of their own choosing and at prices they can afford to pay.

After the war, when manpower and material are available and our fighting men come back to live in these new homes, the evolution of prefabrication should progress, taking full advantage of the application of science for better living.

Science News Letter, May 6, 1944

METEOROLOGY

New Kind of Anemometer Uses Electric Eye Device

➤ A NEW KIND of anemometer, or wind-velocity-measuring instrument, is offered by R. H. Packard of Newton, Mass., for patent 2,346,864. Most anemometers make use of some kind of mechanical device for measuring their rate of rotation, but this involves work, and puts a drag, however small, on their operation. Mr. Packard's anemometer lets the vanes pass between a light source and a photocell or electric eye. This accurately records rate of rotation without putting any mechanical load whatsoever on the delicately balanced rotor.

Rights in the patent are assigned to General Motors Corporation.

Science News Letter, May 6, 1944