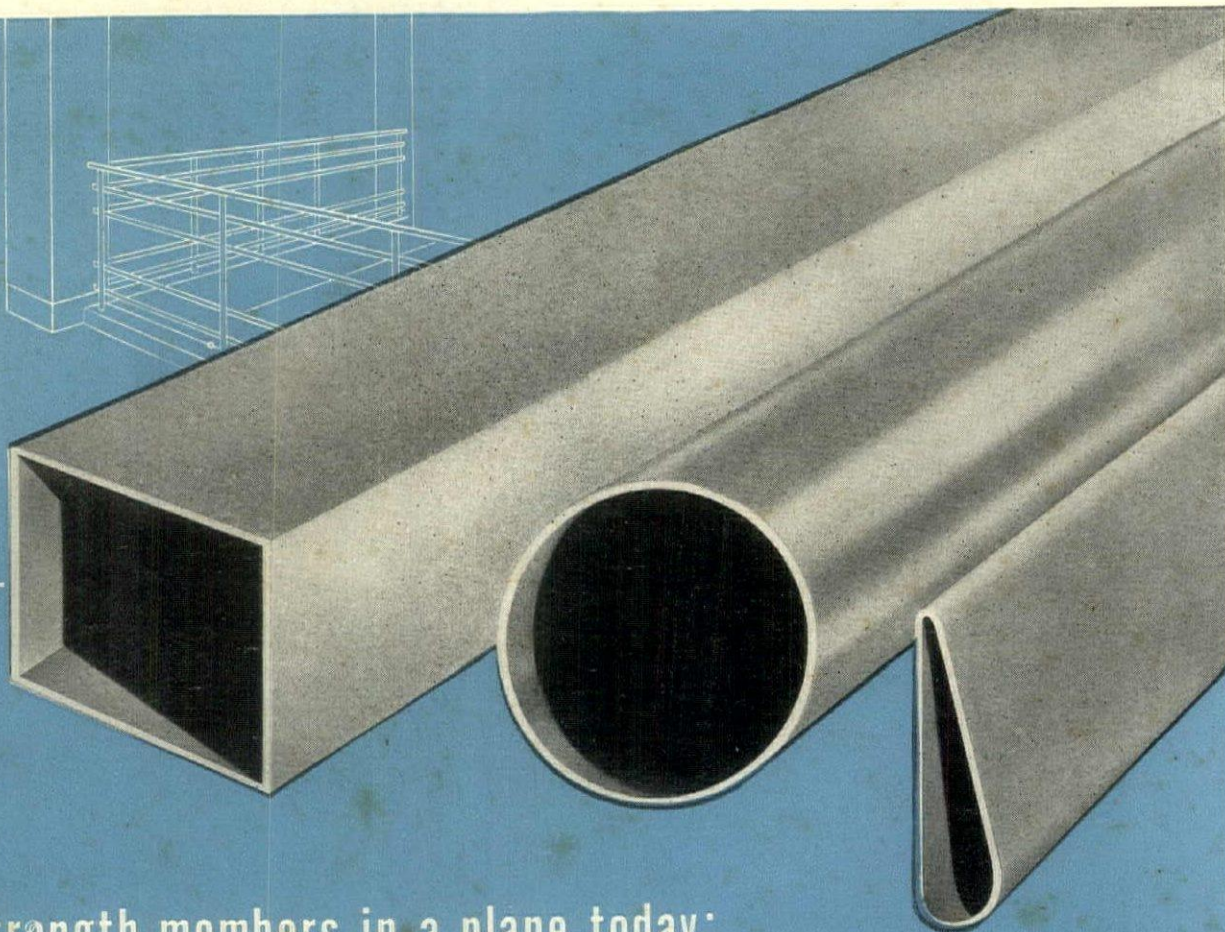


UNIVERSITY OF HAWAII
LIBRARY

THE ARCHITECTURAL FORUM

APRIL 1943



Strength-members in a plane today;

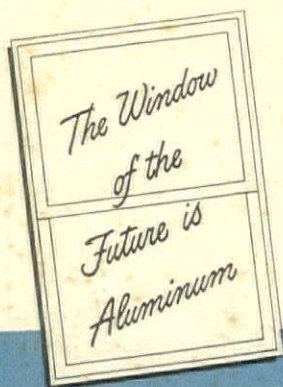
important architectural job tomorrow

You probably knew Alcoa Aluminum tubing, before the war, simply as handrails and similarly decorative-utility items of construction. Metal furniture made of aluminum tubing was fast demanding the architects' consideration. You may have employed Alcoa Aluminum conduit where corrosion was a problem.

The war is opening new vistas to aluminum tubing. Made of high strength alloys, this tubing provides the necessary combination of light weight and high strength required for fighting aircraft. Shapes are simple or complicated, according

to the tasks they are put to. Various methods of finishing the metal have been developed to further increase its resistance to corrosion, to give it fine appearance, or prepare it for painting.

Properties that make Alcoa Aluminum tubing invaluable for war work are also advantages which will appeal to architects and builders for future, peacetime uses. The enormous quantities being produced by Alcoa today, and the developments in fabricating methods, promise greater economies through the use of aluminum tubing. ALUMINUM COMPANY OF AMERICA, 2166 Gulf Building, Pittsburgh, Pennsylvania.



ALCOA ALUMINUM

Reg. U. S.



Pat. Off.

APRIL 1943

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National Resources Planning Board publishes its most important report, dealing definitively with housing, urban rehabilitation, public works . . . Gov. Dewey moves to remove Moses from planning Commission . . . HOLC in danger of losing its life . . . Absenteeism versus housing . . . heavy construction falling off.

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Robert W. Chastaney, Jr.
Robert Hanford
Joseph C. Hazen, Jr.
George B. Hotchkiss, Jr.
S. Chapin Lawson
A. Banks Wanamaker

THE ARCHITECTURAL FORUM
VOLUME 78, Number 4

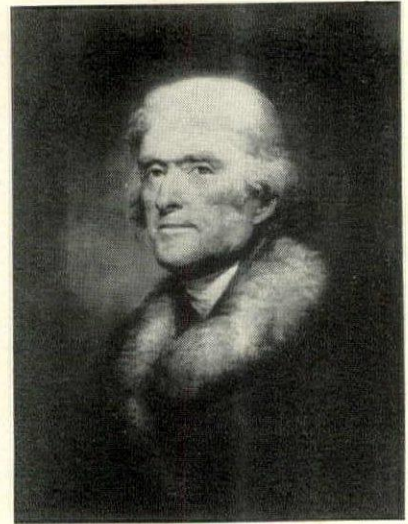
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FORUM OF EVENTS



MONTICELLO



ARCHITECT'S ANNIVERSARY

In 1782, after a visit to Monticello, the Marquis de Chastellux described Thomas Jefferson as "the first American who had consulted the Fine Arts to know how he should shelter himself from the weather." It is a good appraisal to remember at this time, for this month marks the 200th anniversary of Jefferson's birth, and in honoring him as one of the great U. S. fighters in the common citizen's long struggle for the four freedoms, it is easy to forget that the author of the Bill of Rights was one of our first important architects, a confirmed experimenter and inventor and a lifelong gadgeteer. Architecture, in a life so strenuously devoted to public service, was inevitably a secondary activity, but this must not be taken to suggest that Jefferson was an amateur. His sketches for the city of Washington were largely incorporated in the final plans by L'Enfant, he was one of the competitors for the design of the White House and at the age of 81 he completed his masterpiece, the University of Virginia. Jefferson was a master in handling forms and materials. A great admirer of Palladio, he was instrumental in bringing about the Classic Revival, and his support of men like Thornton and Latrobe also helped to establish new and high architectural standards. Jefferson's intense curiosity, and his typically American passion for making things work, found an interesting and highly personal expression in his own home, where he introduced sliding doors, alcove beds, insulated floors and many useful gadgets. One of them, a rotating table with drawers for filing correspondence, is shown at the left. Others appear on the following page.

ROTATING LETTER FILE

Virginia State Chamber



Conditioned WEAPONS

ARE WINNING THIS GLOBAL WAR



BETTER AIR FOR BETTER AIR POWER.

Many aircraft parts must be so accurate that air conditioning is used in manufacturing to provide required control of temperature, humidity and air cleanliness.



TASK TROOPS FROM MARS.

Parachute cloth is tested under government specified air conditions. For this and for protecting stored 'chutes from drying and mildew, air conditioning is used.



MACHINE SHOP IN HADES.

At a huge U. S. Base repair shop overseas, where 120° F. outdoors is common, air conditioning is used to make indoor working conditions tolerable, and for mechanical precision.



BRIDGE OF SHIPS.

To insure perfect fit of matched sets of huge propulsion gears for cargo ships, gears are cut at a temperature held constant by air conditioning through the entire operation of several days.



FOOD IS A WEAPON.

An army fights on its stomach. In processing, storage and in the distribution of food to our fighting forces on distant fronts in every part of the world, Industrial Refrigeration is an important factor.

Planes. 'Chutes. Repair Bases. Ship Gears. Food. Just a few of the countless war essentials on which Westinghouse Air Conditioning and Industrial Refrigeration are usefully employed. More and more producers are discovering how controlled temperature, humidity and air cleanliness mean uniform quality, precision, fewer rejections, faster production.

After Victory, Westinghouse Air Conditioning and Industrial Refrigeration will contribute toward a thousand new-day benefits. Better products at lower cost—and more of them; greater year 'round comfort and convenience—better living for all.

The heart of every Westinghouse system is its exclusive Hermetically-sealed compressor—direct-driven, permanently oiled, powered by refrigerant-cooled motor. Result: economy, dependability, and extra years of trouble-free performance.

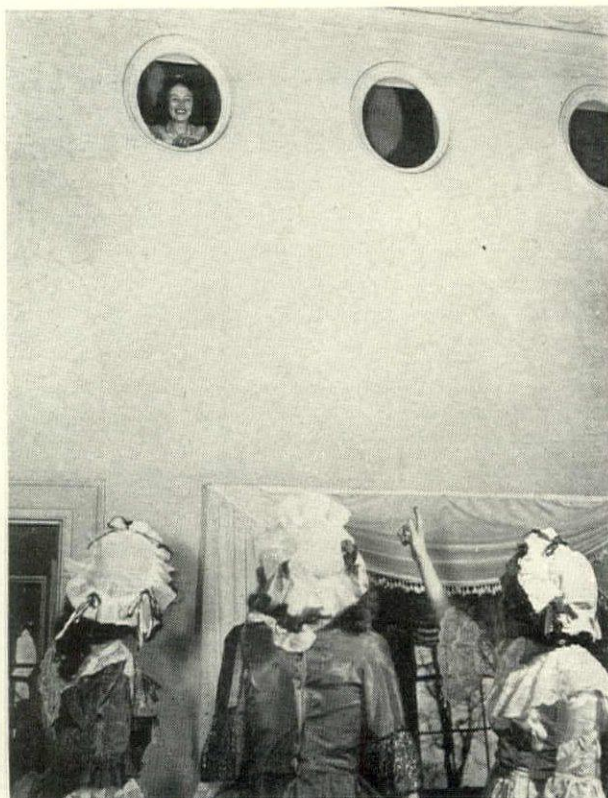
In helping solve "conditioning" problems, Westinghouse offers years of engineering research and development and priceless experience with thousands of widely varied installations. Inquiries are invited from producers of war materials, and from postwar planners. Westinghouse Electric & Mfg. Co., 623 Page Blvd., Springfield, Mass.

Westinghouse Air Conditioning

Geared to a Thousand Wartime Needs



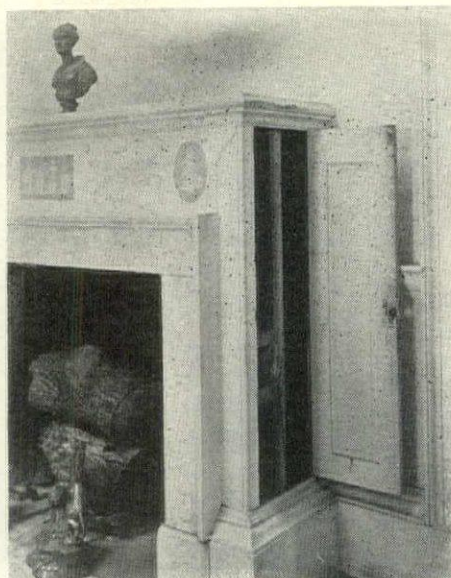
BED ALCOVE



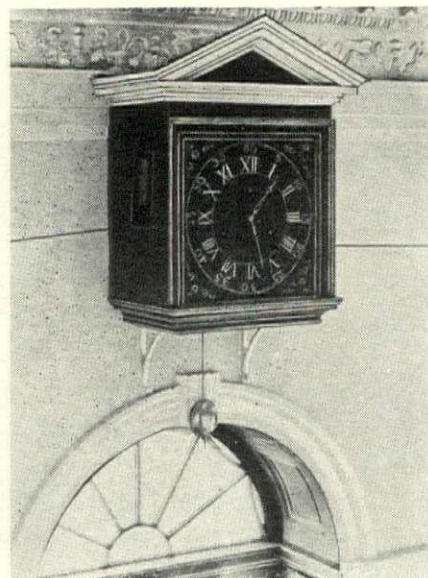
PASSAGE WITH PORTHOLES



DOUBLE WINDOWS



DUMBWAITER



SEVEN-DAY CLOCK

ARCHITECT'S ANNIVERSARY, Continued.

The alcove bed was a type imported from France by Jefferson; the bed shown above, however, which opens on one side to his study and on the other to his dressing room, was his own idea for getting an alcove and cross ventilation at the same time. Above this alcove (top right) there is a passage with open bulls-eyes for light and ventilation, used by Jefferson's personal servant as a "station" to await his master's orders. Double glazing (above) was used at Monticello. In addition, Jefferson installed double doors, geared to work as a unit. The dumbwaiter adjoining the fireplace was used to bring up bottles from the wine cellar; empties on the way down served as counterweights. The clock has cannon-ball weights which mark the days of the week. The writing table which straddles the couch in Jefferson's study is the ancestor of the modern table which slides over hospital beds.

(Continued on page 114)



Take care of your FORMICA for the Duration!



Formica has received
the Army-Navy "E"
Award for Excellence
in Production.



IT'S hard to get now! But the table tops and counters you have will remain beautiful and attractive until the war is over if you see that they are properly cared for.

Clean the top with a damp cloth and wipe it dry. Naphtha, benzol or alcohol can be used for removing any spots which cannot be removed with soap and water.

Don't scrub the top with gritty or abrasive cleaning powders.

An occasional waxing with either liquid or paste wax will protect the surface and assist you in maintaining the original finish of the top throughout the years.

Do not place hot vessels directly from the stove or heating unit on the top. Do not use electric toasters, grills or other devices with electrical heating elements directly on the top without a protective pad beneath it.

THE FORMICA INSULATION CO., 4620 SPRING GROVE AVE., CINCINNATI, O.

*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...

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.

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.

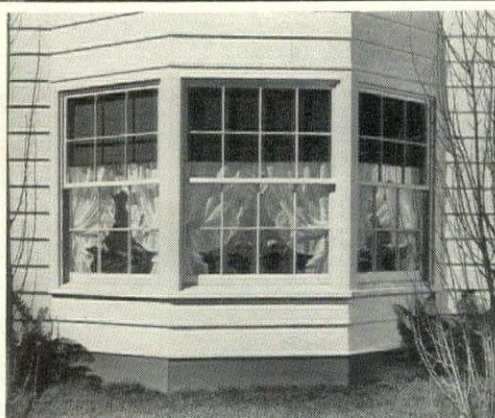
LOW MAINTENANCE? Certainly! That's why you'll find it important to use a window material that is lasting—a *thoroughly tested* material able to stand the most severe demands of time and weather. Wood—as used in Curtis Silentite Windows—is such a material.

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

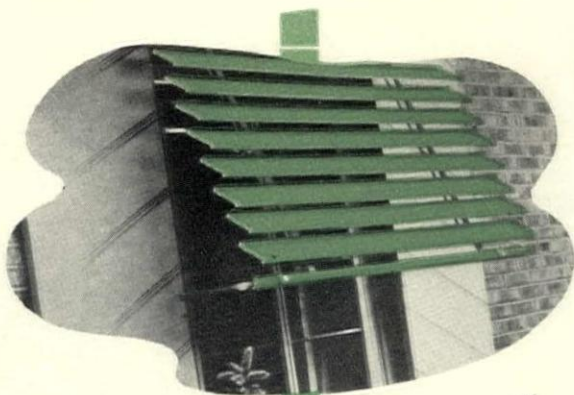


THERE IS ONLY ONE SILENTITE AND ONLY CURTIS MAKES IT
Its patented features aren't available in any other window

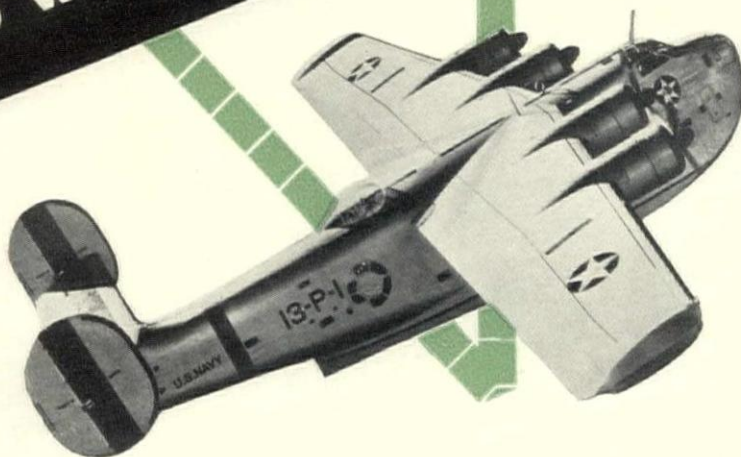


HERE'S OUR SUGGESTION:

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.



What's BUILDING A WARPLANE have to do with METAL AWNINGS?



JUST THIS. . . . The same ARMCO Galvanized PAINTGRIP sheets that manufacturers once used for metal awnings now send a warplane on its way to the air—and Victory!

In many aircraft plants this original bonderized zinc-coated metal makes the templates—the master patterns from which planes are built. Smooth, flat, and easy to

work, ARMCO PAINTGRIP holds fast the paint on which the full-scale design is drawn by hand. Then exact transfers to the aircraft metal are made in a few minutes.

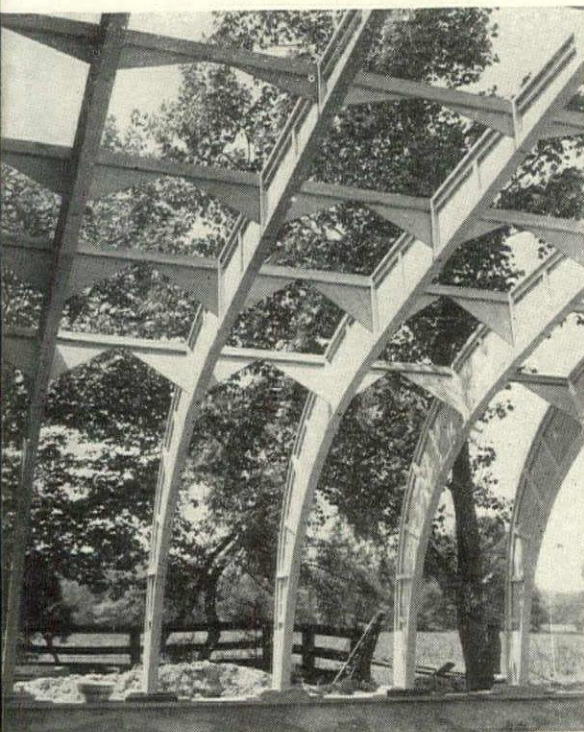
The crucible of modern war is a



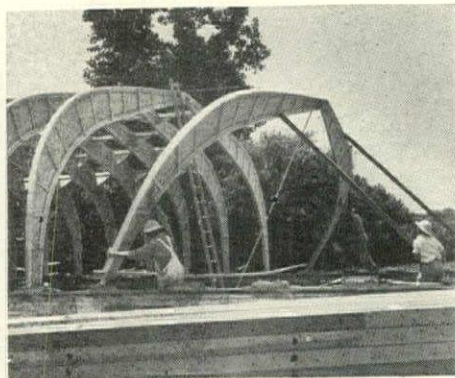
severe test, even for modern materials. PAINTGRIP, like other special ARMCO metals, is "making the grade" and even improving under the ordeal. We are learning more about producing it better and faster, which will profit you after the war. The American Rolling Mill Company, 471 Curtis Street, Middletown, Ohio.

THE AMERICAN ROLLING MILL COMPANY

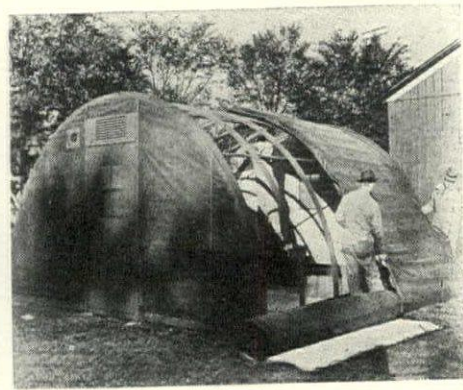
Building Reporter



1. Clear span arches anchored to concrete base



2. Single plywood arch is lifted into place



3. Prefabricated shelter for Arctic flyers

TECHNICAL NEWS

Plywood arches. Inspired by recent developments in wood construction, this experimental dairy barn (above) was built by the Marine-Air Research Corp., Annapolis, Md. Construction is based on prefabricated arches built up from wood I-beam sections with laminated cap strips and plywood web. Illustrated above in two stages of construction, model has a 40-foot clear span arch tested to carry over 140 lbs. per square foot of roof area. Now in use for war buildings, such as airplane hangars, arches will be available in prefabricated form after the war for halls, garages and similar structures.

Arctic shelters: Flyers can now transport their own shelters to advanced Arctic bases through this newly evolved construction system employing a prefabricated cover stretched over a laminated arch frame. Specifically designed to save space, weight and fuel, portable shelter (top 3) has been developed by the James Manufacturing Co., Fort Atkinson, Wis. Laminated wood ribs are covered with blankets of flameproof fabric interlined with Fiberglas insulation. Shelter is 16x16 feet and 8½ feet high in center; complete unit when packed occupies less than 160 cubic feet and weighs approximately 1,200 lbs. Shelters have small gasoline heaters.

Lead coatings: As a result of the war, many industries are turning to lead as a protective coating on iron and steel, thus replacing galvanizing and zinc-coatings. According to the Lead Industries Assn., New York, N. Y., recent improvements in the process of application have resulted in its widespread use on hardware, sheet metal and a number of other items. Unlike galvanizing, such coatings provide an excellent paint base without requiring special treatment. Freely available in a metal-starved world, lead coatings make possible a saving of large quantities of zinc, cadmium, chrome, nickel and tin.

NEW PRODUCTS

NONMETALLIC PIPE for drains and sewers.
Name: Orangeburg Fibre Pipe.

Features: Of interwoven cellulose fiber impregnated with coal tar pitch, this non-critical pipe is freely available for many nonpressure uses. For years Orangeburg fiber pipe has been used for electrical conduits; developments and research have produced a strong pipe of two new types. Perforated pipe is now available for septic tank filterbeds, foundation footing and field drainage; nonperforated for drainage line connections to sewers and septic tanks, downspouts for domestic and industrial roof drainage, and sleeves in concrete forms. Superior in some ways to metal and concrete pipe, it is light in weight but strong; easy to connect by means of tapered joints forming a water-tight coupling; and resistant to moisture, tuberculation and corrosion. Before pipe is impregnated, it can be bent into elbows as in the illustration (left 4). Available in 4-, 5- and 8-ft. lengths, it can be cut by ordinary hand saw, drilled and worked with ordinary woodworking tools.

Manufacturer: The Fibre Conduit Co., Orangeburg, N. Y.

STICKERS replace thumbtacks for attaching blueprints and drawings.

Name: Kum-Kleen Stickers (left 5).

Features: Paper thin, these new stickers offer less resistance to the T square than tack heads, require no moistening and will not affect surfaces to which they are attached. Stickers can be used several times and come in a variety of sizes and shapes.

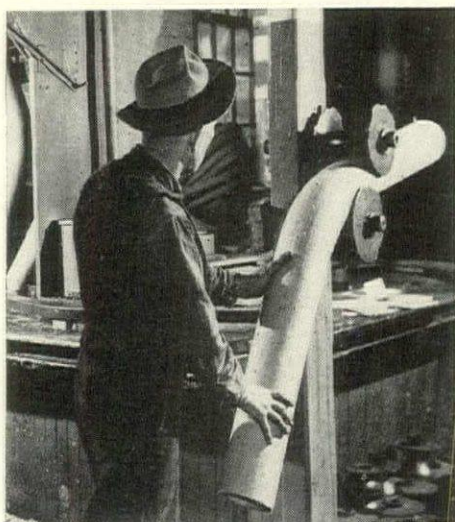
Manufacturer: Avery Adhesives, 451 East Third St., Los Angeles, Calif.

UNBREAKABLE PENCIL saves time.

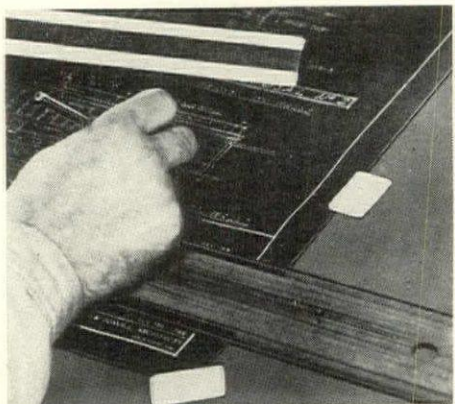
Name: Templar DuroLead Pencil.

Features: Extra-strong pencil has a breaking point of nearly 9 lbs., as compared with an average of 4 or 5 lbs. for most other

(Continued on page 126)



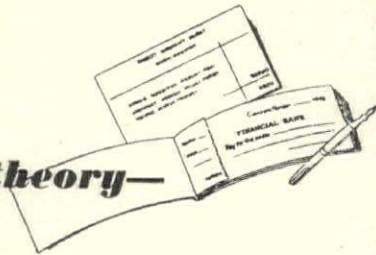
4. Forming bend in cellulose fiber pipe



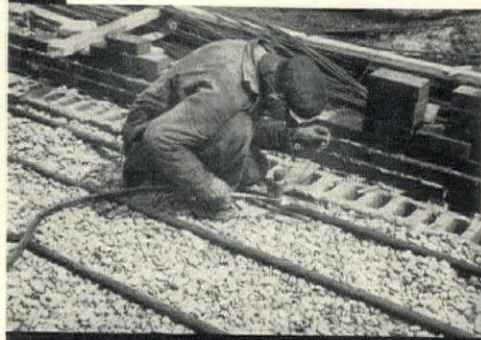
5. Paper-thin stickers replace thumbtacks



Are you asking theory— or Experience



for answers on



RADIANT HEATING?

Probably there always will be design problems to discuss in connection with Radiant Heating . . . progress to be reported . . . experiences to be shared.

But one subject of conversation that once occupied many architects and engineers—"is Radiant Heating a good system?" . . . has been settled by a multitude of answers to these matter-of-fact queries:

. . . Do the people who live or work in Radiant Heated structures *like* it?

. . . Do the people who pay the heating bills, whether occupants or owners, think costs are reasonable?

Once experience answers these questions, all theorizing falls rather flat. And experience has: the following report is representative.

One day in February when the temperature (after an overnight 10 below) was 4° below zero, a group of engineers went out to spot-check two installations.

In the first—a Library—the group reaction was that the temperature was a little high. The thermometer read 74°, when 70° would have been ample. Charts from recording thermometers show the following readings at 4:00, 6:30 and 11:00 A.M., respectively. Floors, 85°, 87°, 87°; 4½-feet above floor, 72°, 73°, 74°; ceiling, 72°, 73°, 74°. Floor covering was linoleum. Gas bills covering an estimated 75% of the heating load for the entire winter were \$64.83.

In the second—a Tavern—recording thermometers were not yet installed, but here again the group reaction

was that temperatures were unnecessarily high. Although plaster had been applied directly to uninsulated cinder-block side walls and brick front wall, and although there was heavy air infiltration at top and middle of the double doors, gas bills for an estimated ¾th of the heating season, (including the coldest December in 8 years), were only \$66.58. In both installations, the occupants had nothing but good to report of comfort conditions.

In material selection also, experience has eliminated any need for uncertainty or theorizing. Byers Genuine Wrought Iron has served for years in Radiant Heating installations, as well as in other applications where corrosive conditions were identical. Its unique and superior serviceability is a matter of engineering record.

Our technical bulletin, "Byers Wrought Iron for Radiant Heating Installations," digests the what-where-how of the subject into handy, usable form. May we send you a complimentary copy?

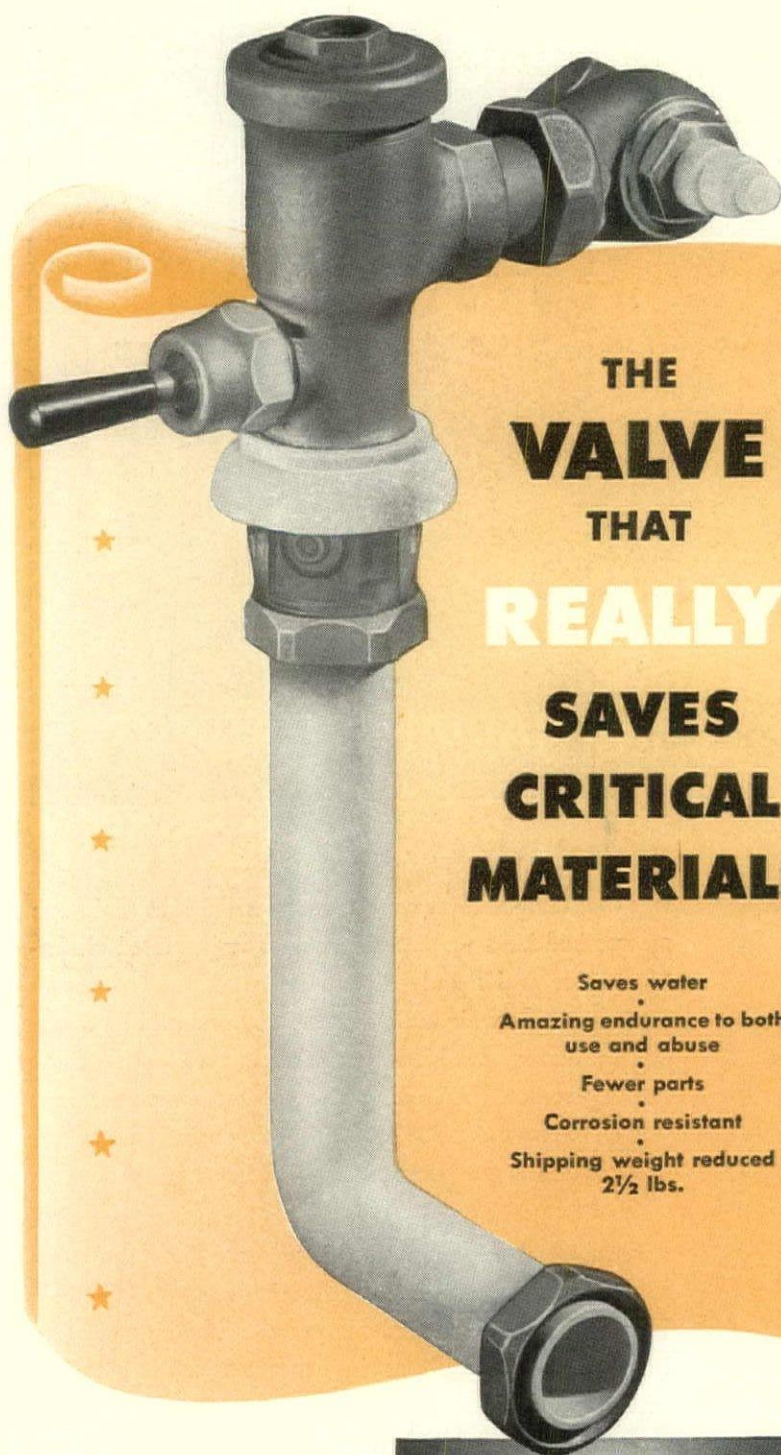
A. M. Byers Company. Established 1864. Offices in Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS WROUGHT IRON

FOR EXTRA SERVICE

IN CORROSIVE APPLICATIONS

CORROSION COSTS YOU MORE THAN WROUGHT IRON



THE
VALVE
THAT
REALLY
SAVES
CRITICAL
MATERIALS

Saves water
•
Amazing endurance to both
use and abuse
•
Fewer parts
•
Corrosion resistant
•
Shipping weight reduced
2½ lbs.

The new Victory Vacuum Breaker is all-plastic; its transparent outer-shell affording *visual* inspection. Instantaneous in action, it prevents back-syphonage and so protects health.



SLOAN ***VICTORY TYPE*** **FLUSH VALVES**

The War Department Specification (PE-623) and Federal Specification (E-WW-P-541a) permit the use of 2¼ lbs. of copper-base alloy, and the Sloan Valve Company has complied with these specifications since their inception in June and July, 1942. However—fully realizing the need for critical copper in the war program, Sloan engineers greatly bettered this limit. *The new Victory valve uses less than four ounces of copper*—which, based on present production, means an annual saving of 4,406,000 lbs.

This amazing reduction in critical materials was brought about through the substitution of plastics and malleable iron. Furthermore, the use of these substitute materials has appreciably reduced the number of parts, and the new valve is 2½ lbs. lighter in shipping weight. All parts have been thoroughly field tested, and the complete valve has undergone laboratory accelerated-time tests equal to 10 years normal service, after which the Victory valve was still working perfectly and without need for repair.

While the new Victory Vacuum Breaker is all-plastic, no change was made in the functional design of the original Sloan V-100-A, which was the first vacuum breaker to be approved by the N.A.M.P. Testing Laboratory at the University of Iowa. Its outer-shell, now of transparent plastic, permits *visual* inspection, thus assuring the ultimate in protection against back-syphonage.

SLOAN VALVE COMPANY
4300 West Lake Street
CHICAGO



"GLAMOR GLASS" for fighting light



● There is glamor in the glass that houses the electronic miracle of fluorescent lamps. These long light sources provide the cool, shadowless, glarefree illumination that works a "charm" in speeding war production in plants all over America.

There is glamor, too, in the careful "beauty salon" treatment of glass at Sylvania. Before acceptance it undergoes 16 different inspections for

possible imperfections. It is handled with gloves—to avoid possible contamination from contact with human hands. It is even washed, dried, brushed, and vacuum-cleaned in air-conditioned rooms.

Sylvania "glamor glass," like the development of the "Mercury Bomb" method of precise mercury measurement, is a formula that conserves vital metals for war. But all the material

and process changes, made continually at Sylvania, must and do step up fluorescent performance and effect important economies.*

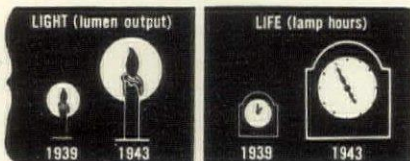
It is because of Sylvania's many years of independent and aggressive research that fluorescent, today the best industrial lighting, is destined to light our homes, offices and stores when Victory is won.

To obtain research dividends of more light output, longer life and uniform color, specify Sylvania Fluorescent Lamps—each one better than the last—for replacements.

SELL SYLVANIA AND GIVE YOUR CUSTOMERS FAR MORE LIGHT AND LIFE FOR THEIR MONEY

*Compared with 1939 a dollar invested today in Sylvania Fluorescent Lamps buys more than four times the lumen output and approximately five times the lamp life.

**SYLVANIA
FLUORESCENT
DOLLAR
BUYS:**



(Based on decreasing price and increasing efficiency and durability of Sylvania 40-Watt White Fluorescent Lamp)



SYLVANIA

ELECTRIC PRODUCTS INC.

Formerly Hygrade Sylvania Corporation
Salem, Mass.

*Incandescent Lamps, Fluorescent
Lamps, Fixtures and Accessories,
Radio Tubes, Electronic Devices.*

BOOKS



CHURCH AT PARAGUASSU, 18th CENTURY



TYPICAL MODERN CONSTRUCTION



WATER TOWER AT OLINDA

BRAZIL BUILDS, Architecture Old and New, 1652-1942, by Philip Goodwin. Photographs by G. E. Kidder Smith. The Museum of Modern Art, New York. 198 pp. 8½ x 11. \$5.

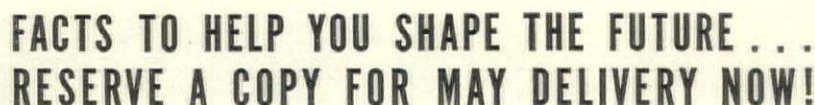
This book, like the exhibition for which it serves as a kind of super-catalog, is the result of a trip to Brazil made last year under the joint sponsorship of the Museum of Modern Art and the American Institute of Architects. It is the second publication of modern architecture in Latin America which meets the highest standards for both content and format. The first was Esther Born's handsome monograph on Mexico, and if the present volume seems to have an edge on its predecessor, it is largely because the younger architects of Brazil have produced a body of work which is unrivalled, in certain respects, anywhere in the world.

Like its sister republics of the Western Hemisphere, Brazil shows in its architecture an accretion of many influences, some native, others European. The latter predominated through many centuries. A colony of Portugal for nearly 300 years, Brazil very naturally took its lead from the mother country, and the buildings for the Church, the land-owning aristocracy and merchants reflected this influence as faithfully as the native craftsmen could copy the original models. Unfortunately for the development of an indigenous architecture, the climate of the new country was not sufficiently different from that of the old to force the development of important modifications in building. Thus the favorite Latin techniques and materials, masonry and stucco for instance, and the colored tiles so popular in Portugal, continued to dominate the scene in a country incredibly rich in wood. An excellent example is shown in the picture of the ruined church at the left. The Portuguese influence was by no means the only one: in 1816 the Emperor imported a number of French artists, and the latter part of the 19th century showed the same confusing succession of fashions in building that took place elsewhere. All of these phases of the architectural background are beautifully illustrated and adequately described.

The beginnings of modern architecture in Brazil by no means ended the infiltration of ideas and techniques from abroad. The Ministry of Education and Health (FORUM, Feb. 1943) is a very direct expression of the theories of LeCorbusier. Equally strong is the Italian influence, with its emphasis on classic regularity, rich materials and monumental form. German architecture of the 1920's has also had its effect. "From the United States," according to Mr. Goodwin, "little came in the way of theory of design, but many practical devices: the bathrooms and the lighting ideas, the skyscrapers and the elevators which made the skyscrapers feasible. . . . While the first impetus came from abroad, Brazil soon went ahead on her own. Her great original contribution to modern architecture is the control of heat and glare on glass surfaces by means of external blinds. . . . As early as 1933 LeCorbusier had used movable outside sunshades in his unexecuted project for Barcelona, but it was the Brazilians who first put theory into practice. As developed by the modern architects of Brazil, these external blinds are sometimes horizontal, sometimes vertical, sometimes movable, sometimes fixed." These different types are illustrated in detail in the book.

The thoroughness with which the various aspects of contemporary Brazilian architecture have been handled is admirable. The photographs, which, incidentally, are extremely

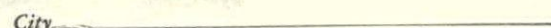
(Continued on page 122)



Yet it is essential these days that no paper or printing materials be wasted—so the booklet is being announced now, a month ahead of publication, and you are asked to reserve your copy now for delivery early in May.

of many wartime advances in plastics materials and molding techniques . . . and many a useful suggestion on how these advances will affect the shape of things to come. The facts are here for the technical man—yet from these pages a complete stranger should get a clear picture of what plastics are, how they are used in industry and what they may offer him in his business or profession.

To make sure a copy is printed for you, mail the coupon below today!



DeWALT

CUTTING MACHINES are pioneers in pre-fabrication



Long before pre-fabrication methods attained widespread attention as a solution to our housing problems... DeWalt machines were *custom-cutting* houses in quantity. DeWalt stands out among the pioneers who set the pace for our building trend today! In the plant or on the job, DeWalt Cutting Machines, for metal and wood, are serving in our nation's war-time building program. Sturdy, flexible, dependable, they do their cutting with a precision heretofore unknown.

DeWALT PRODUCTS CORPORATION
Lancaster, Pennsylvania



1941

The "contact" that calls in the nurse . . . Quickly, silently, her fingertips bring her instant service. Edwards hospital communications are typical of the peacetime equipment that brought added efficiency to thousands of institutions, homes and factories throughout America.



1943

The "contact" that caves in U-boats . . . The shark-like shadow is sighted. The command is given. An Edwards device activates the Y-gun . . . And depth charges doom one more Axis marauder. This is typical Edwards wartime equipment for Army, Navy, and Merchant Marine.

194? How does a Y-Gun fit into your future?

● As American sub-chasers lash through Axis-infested waters, the Y-gun is the grim sentinel that stands guard over Allied shipping. Today, the Y-gun looms in importance in your life. It brings peace just one step nearer. But, here's what it means for tomorrow . . . the Edwards engineering brains that created the Y-gun contact switch and many



other high-speed communications of war will be ready, at a moment's notice, to contribute to the blessings of peace. Amidst 100% war production, Edwards' Post-War Research steadily progresses to assure the mass manufacture of improved communications equipment, signal and alarm systems for peacetime America.

Edwards and Company, Norwalk, Conn.



EDWARDS

SINCE 1872

Communication Equipment for
Homes, Institutions and Industry

LETTERS

FIVE BY FIVE

FORUM:

Let me express to you my appreciation of your article in the January FORUM in reference to the Pentagon Building. It is a great satisfaction to see a magazine which has the courage to give a frank criticism instead of the usual statements as to the number of cubic feet, height of columns, miles of cable and total cost of building. If more articles like yours were published we would probably have less bad architecture in this country.

More power to your arm!

CHARLES BUTLER

New York, N.Y.

REA

FORUM:

I have just read the article about REA in the February FORUM. It sounds like a good thing, but I think the picture is not complete without a study of the long time financial aspects of the project. Of course it is a fine thing for the farmers to have electricity and of course they are for it, since they assume no responsibility.

The article says the cost of power lines has been cut 50 per cent which is an accomplishment. It also says repayment of loans in advance of due date totals \$8,000,000. This is only 1.25 per cent of the \$640,000,000 allocated for REA loans.

Will the project be self sustaining? If so, it is a good thing. If not, will the public benefits be worth the cost? I cannot judge from your article.

We have many Government projects which we are told are for the benefit of the nation. But I notice that most of them are for the particular benefit of groups having large blocks of votes for sale while business generally—and especially big business, without which we could not hope to win the war—has been in the dog house ever since the present administration came to power.

I am sceptical of all those projects. On the other hand, if any of them are worth while, I should like to know it.

LOUIS J. HOTCHKISS

Chicago, Ill.

FORUM's concern with REA lies in its effect on rural planning and architecture; not with questions of public or private ownership of utilities. FORUM editors consider reader Hotchkiss' questions important, point out that REA's claims are open to investigation by citizens. \$640,000,000 was allocated by Congress; considerably less had been spent when war broke out.—Ed.

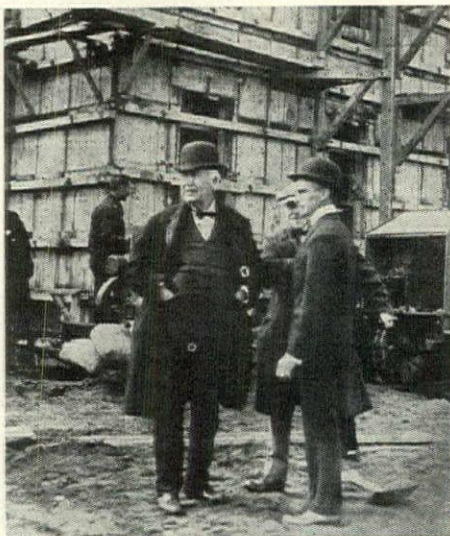
FOWLER FOR FORD

Forum:

May I call your attention to page 67 of your February issue in which you refer to Thomas A. Edison and Henry Ford

inspecting "Edison's early experiment in concrete construction."

I showed this photo to Mr. Frank C. Fowler who called at my office today, and



Photo, I. N. S.

he states that the man you referred to, alongside of Thomas Edison, was himself, and that the house in the background was his own experiment. Edison was present at the demonstration, which took place in 1918, at the invitation of Mr. Fowler, who knew of his earlier interest in monolithic construction.

I hope you will see fit to make this correction. Mr. Fowler, who is considered one of the greatest authorities on cement in this country, can give you some very interesting data.

MAURICE DEUTSCH

New York, N. Y.

Mr. Fowler's resemblance to one of the country's greatest authorities on automobiles is remarkable. Our compliments to both.—Ed.

CHATHAM VILLAGE

FORUM:

Just to prove that I do read things in THE FORUM I call your attention to a complimentary reference to Chatham Village in Pittsburgh, on page 90 of the February issue, under the heading, "Decade of Dividends," which mentions the firm of Ingham & Boyd without mentioning Clarence S. Stein and the late Henry Wright, who were consultants on the project and had a very important part in laying it out.

I hope an opportunity will offer to make this correction.

ROBERT D. KOHN

New York City

Reader Kohn clearly does read THE FORUM, and THE FORUM in turn gladly gives credit to the late Henry Wright and Clarence S. Stein for their work on this eminently successful project.—Ed.

PREFABRICATION:

Forum:

... I should think that THE ARCHITECTURAL FORUM would be more desirous in having all future home building reverted back to the stage of individualism, thereby giving the architects over the country a chance for numerous designs and modes of obtaining same. Of course, we all know that during an emergency mass production is an important factor, and for this reason I am sincerely thankful that we had the men and equipment to turn out housing in this fashion. But in the future I do not think that Mr. Jones will want a house just like Jim Brown. For this reason alone absolute prefabrication would not be practical and to give prefabrication its full significance it would have to be absolute. In the past we have *practically* used various forms of prefabrication in construction.

As a small contractor who specializes in small commercial and residential construction, I do not think that prefabrication in the sense that you are looking at it, apparently, would be the best for me as a building contractor. Always in the past I have attempted to sell customers on the idea of building to suit their individual desires and tastes and at the same time trying to get something different from his neighbor next door. Of course, this would make mass production or absolute prefabrication entirely impractical for me. . . .

W. M. CRAIG

Gulfport, Miss.

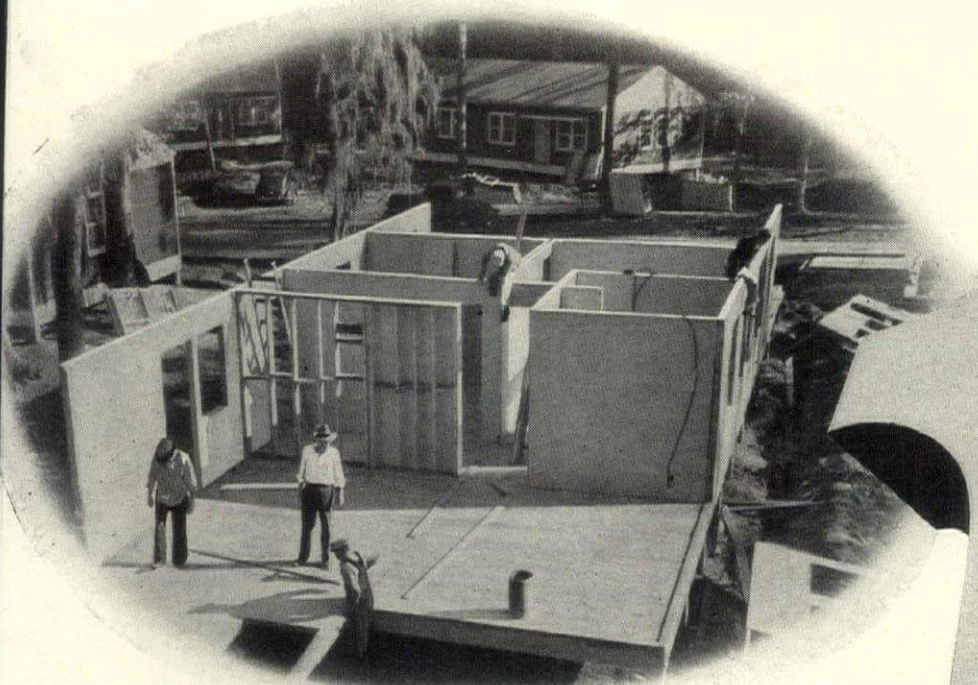
THE FORUM's interest in prefabrication rests solely on its interest in seeing new dwellings made available for millions of Americans hitherto condemned to cast off houses. If prefabrication lives up to its promise there will be more work for building men than building men to do it. And the design possibilities in prefabrication are limitless.—Ed.

FORUM:

Now that the professional architects have given their ideas of the American Home of the future, I would like to give some ideas of mine, from the view point of a manufacturer of lumber and millwork and of a builder, all in a small way. First I will say that I do not believe that the Prefabs will do away with all conventional building in this immediate territory. This for several reasons, the primary ones being that building materials and labor are relatively cheap.

The homes I am giving thought to in this letter are those for the people of moderate income, who want and deserve comfortable, sanitary and lasting homes, of the nicest possible appearance, inside

(Continued on page 96)



1st

Strong-Bilt Panels have been used to line the walls and ceilings of more war housing units, we believe, than any other material providing full-wall construction

THE SAVINGS in time and cost with maintenance of quality construction demonstrated on the building industry's great wartime proving ground are already being figured into many plans for postwar homes. Advantages apply to both conventional and pre-fabricated construction. Write for new informative booklets. The Upson Company, Lockport, New York.

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



THE CRACKPROOF BEAUTY SURFACE
FOR WALLS AND CEILINGS

**UPSON
STRONG-BILT
PANELS**

THESE ARE TIMES THAT PROVE THE WORTH OF GOOD MATERIALS



YOU CAN DEPEND ON COPPER AND BRASS

Wherever guns are firing, wherever planes are flying—American fighting men are proving the worth of copper and brass. Finer ammunition because of it... better ships... more effective planes... more efficient tanks...

It's true of the home front, too. Copper and brass-pipe plumbing is proving its worth again and again

in long-lasting rust-proof, trouble-free service. Likewise copper sheet metal work... bronze screens... wherever copper is in use.

As an architect, you can be proud of the many times you wrote "Anaconda or equal" into pre-war specifications.

With you, we are looking forward to victory and to peacetime

building on a scale never before achieved in America. Anaconda Copper and Brass will be ready for your blue-prints... in even wider fields of application, usefulness and economical maintenance.

4320

THE AMERICAN BRASS COMPANY
General Offices: Waterbury, Connecticut
Subsidiary of Anaconda Copper Mining Company
In Canada:
Anaconda American Brass Ltd., New Toronto, Ont.



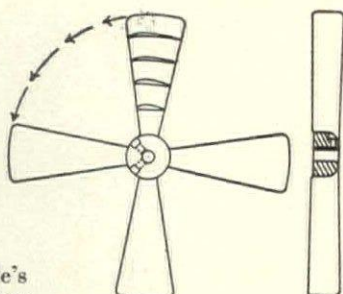
Anaconda Copper & Brass

4 REASONS why PROPELLAIR Fans are Better for Industrial Ventilating Jobs!

1 AXIAL, AIRFOIL PROPELLERS

Deliver Maximum Air with Minimum Horsepower

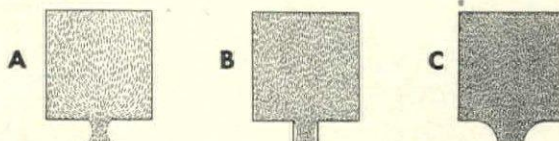
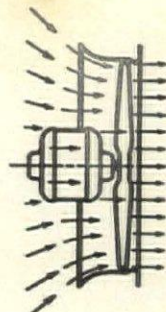
It is obvious that a fan blade's tip moves farther than other parts of the blade. So in order to get even air flow throughout the entire ring diameter, Propellair engineers designed special axial, airfoil propellers with pitch and thickness increasing toward the hub. (See sketch.) The result is maximum air delivery per horsepower because the whole fan works—not just



the tips! These unique propellers are also non-overloading. From free air to complete block-off, horsepower remains virtually constant as long as motor speed remains constant. The number of blades, and their pitch and shape, depend on the job to be done.

2 CURVED ENTRANCE RING—An Exclusive Propellair Feature that Increases Fan Efficiency

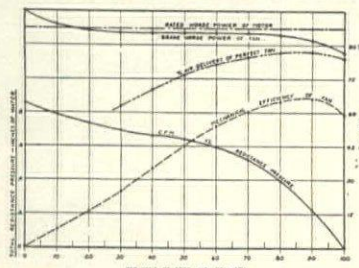
The principle of this feature is best explained by the small sketches below. The square-edged outlet in Fig. A, without nozzle, cuts down air flow to 62% of maximum. The cylindrical nozzle in Fig. B is better, but air flow is still only 82% of maximum. The curved nozzle in Fig. C, which is the principle employed by Propellair, permits air flow 99% perfect! Thus Propellair uses the entrance ring (utilized in ordinary fans only as a mounting device) to increase fan efficiency. This improvement was introduced by Propellair engineers in 1930 as a result of exhaustive tests and experiments.



3 CERTIFIED RATINGS

Assure Peak Performance

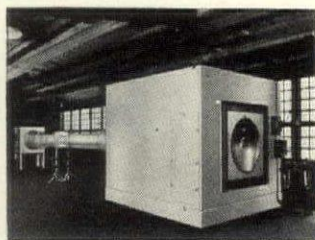
A certified performance curve like this is available on any Propellair Fan



This label is your assurance that Propellair Fans are properly tested and accurately rated. It is issued to a fan maker only after the Propeller Fan Manufacturer's Association (PFMA) is satisfied that the applicant's fans have been tested in accordance with the Standard Test Code as adapted by the American Society of Heating and Ventilating Engineers (ASHVE). Propellair Fans were among the first to receive the PFMA label.

PROPELLAIR FAN-TESTING LABORATORY

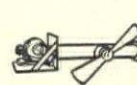
The wind tunnel and fan-testing equipment in Propellair's modern laboratory conform strictly to the revised edition of the Standard Test Code for Centrifugal and Axial Fans, prepared jointly by committees of the National Association of Fan Manufacturers and the American Society of Heating and Ventilating Engineers.



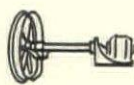
4 A PROPELLAIR FAN FOR EVERY APPLICATION



CD—Direct connected to electric motors. For ducts, hoods, roof ventilators or panels.



CSB—Heavy-duty complete belt-driven unit for ducts or stacks to handle explosive vapors, dust, or high temperatures.



CE—Extended shaft fans for ducts, dryers, etc., where motor must be outside the air stream.



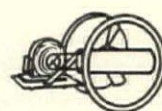
CU—Low-stand, tiltable, portable cradle fan for hardening-room service, product drying or cooling.



CF—For belt drive from separate motors, engines or line shafts. Also with extended shaft assembly.



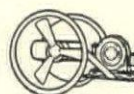
CM—Heavy-duty pedestal blast fan for cooling men and products in heavy industries.



CS—Heavy-duty complete belt-driven unit in duct section. For severe dust, corrosive or explosive vapors.



C—Industrial circulator fan for general air-circulating service of all types.



CSV—Heavy-duty complete belt-driven unit for high temperatures in ducts, pipes, and as stack boosters.



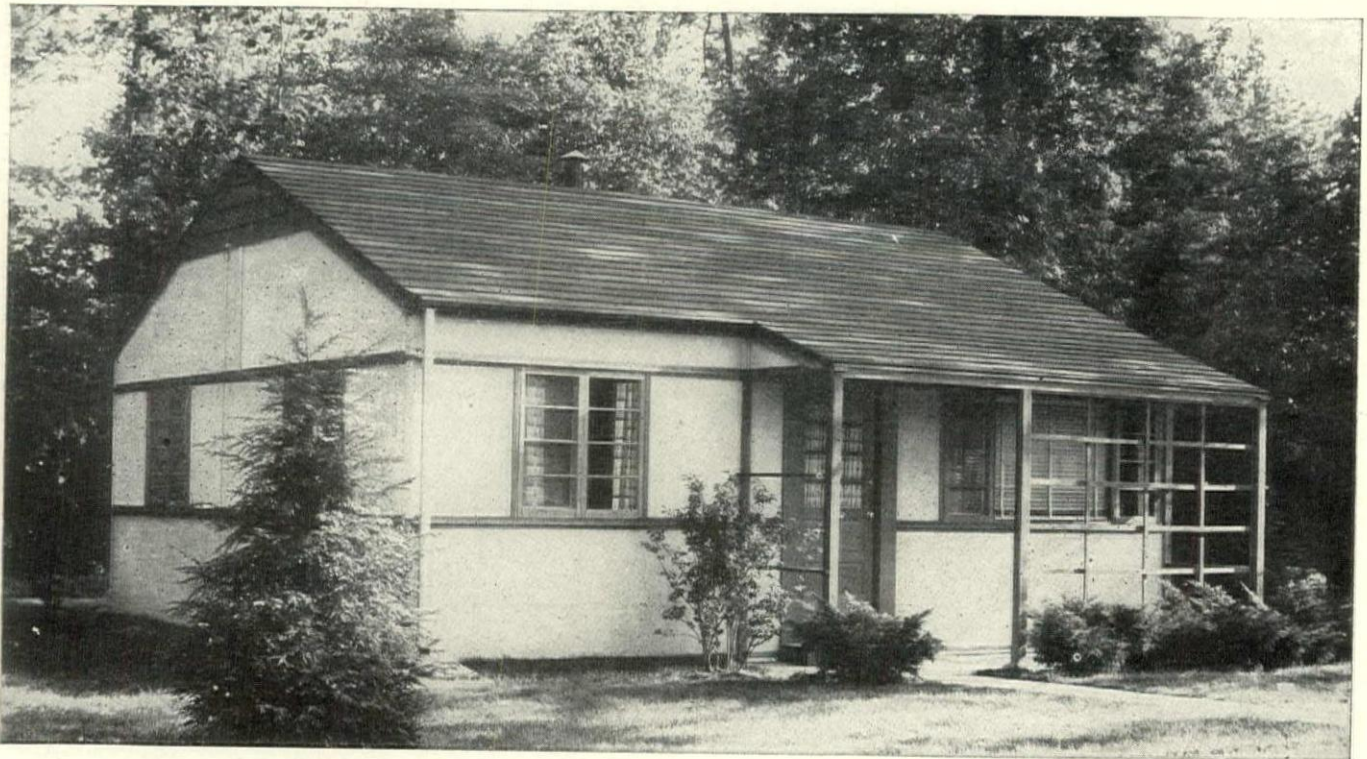
CB—Slow-speed, ultra-quiet complete belt-driven fan. For office or room ventilation.

If you have a pressing industrial ventilating problem, write us! We'll either mail you our complete Propellair catalog No. 10-E—or have the nearest Propellair ventilating specialist get in touch with you—whichever you prefer.

On the other hand, if you'd like more information for future reference, and not in connection with a specific war-production job, see our 20-page insert in Sweet's Catalog for 1942.



Twenty million dollars' **ALREADY COMPLETED**



**Meet All Government Requirements as to Critical Materials,
Structural Stability and Heat Loss Factors**

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

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

CEMESTO 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 products and the Cemesto house they have made possible are the results of twelve years' research.

Up to now more than twenty million dollars' worth of Cemesto homes have been completed and occupied. More are under construction. And these

are all *sturdy* homes, speedily and economically built because they are pre-engineered for mass production.

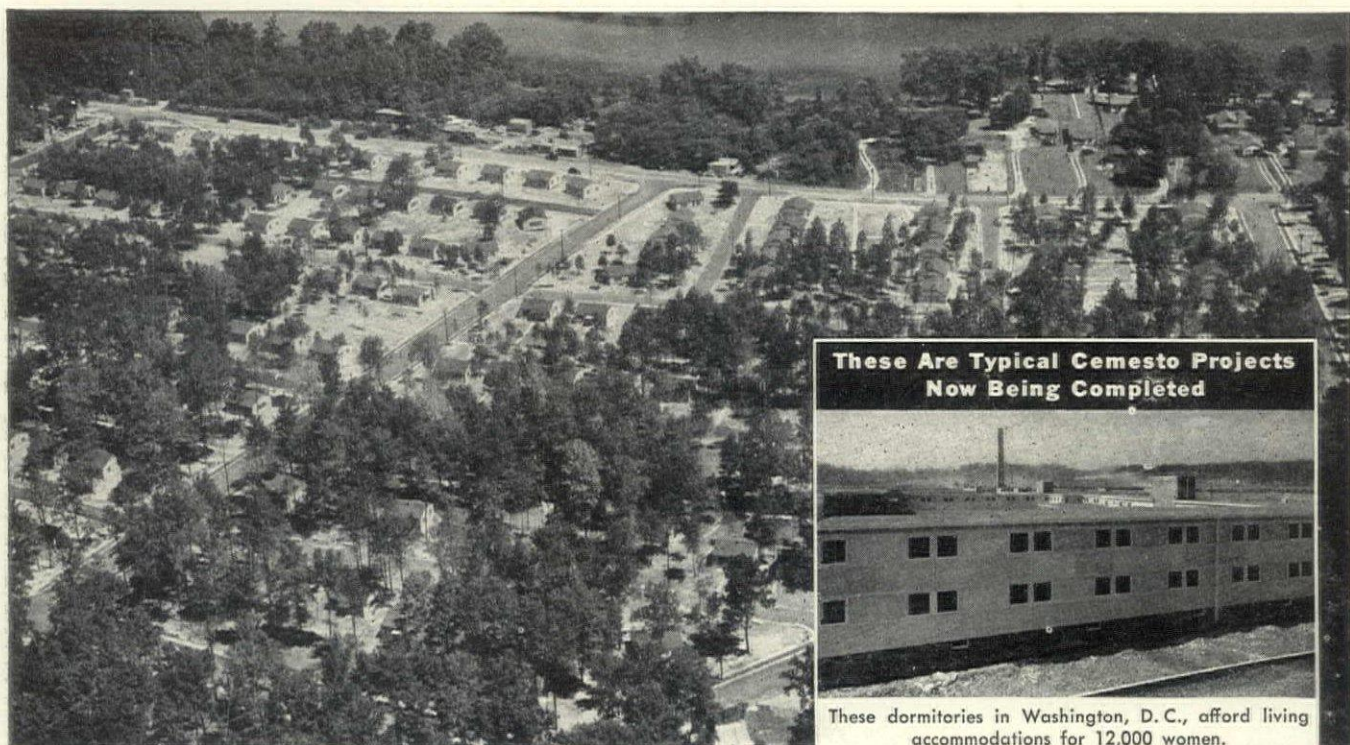
The Cemesto house makes use of ideas used in prefabrication to cut construction costs to a minimum. It meets rigid government requirements as to critical materials, heat loss factors, and structural stability. It is ideally suited to any project involving group housing. A Celotex engineer will gladly call to present full particulars if you will write us describing the project you have in mind.

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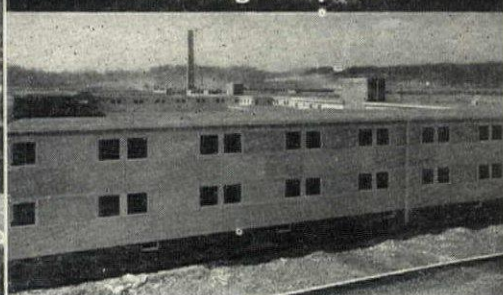
INSULATING WALL UNITS

THE CELOTEX CORPORATION

worth **OF CEMESTO HOMES AND OCCUPIED!**



**These Are Typical Cemesto Projects
Now Being Completed**



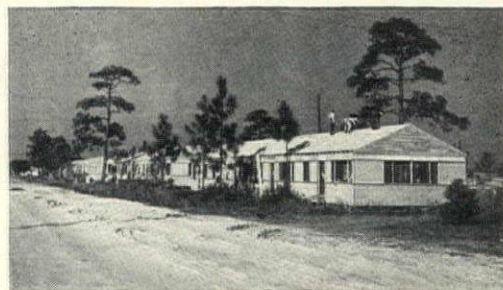
These dormitories in Washington, D. C., afford living accommodations for 12,000 women.

Sturdy, Comfortable, Economical Homes for Thousands of War Workers

**12 Great Housing Projects In These
States: Maryland, Florida, Michigan,
Mississippi, Alabama, Texas, and
the District of Columbia.
Also in Alaska.**

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INSULATING WALL UNITS

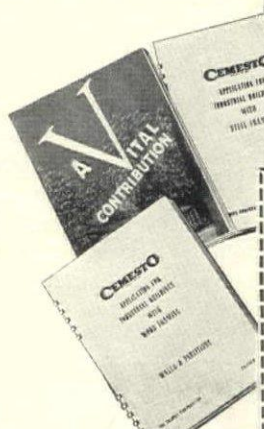
CHICAGO



Here is one section of Cemesto housing units which comprise one Florida development.



Cemesto construction is sturdy and economical. Houses are finished at the rate of 20 a day.



THE CELOTEX CORPORATION, CHICAGO AF 4-43

Please send FREE booklets as checked:

- ☐ "A Vital Contribution"—28-page booklet in full color telling the Cemesto story.
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MEETING SPECIFICATIONS — EXCEEDING EXPECTATIONS

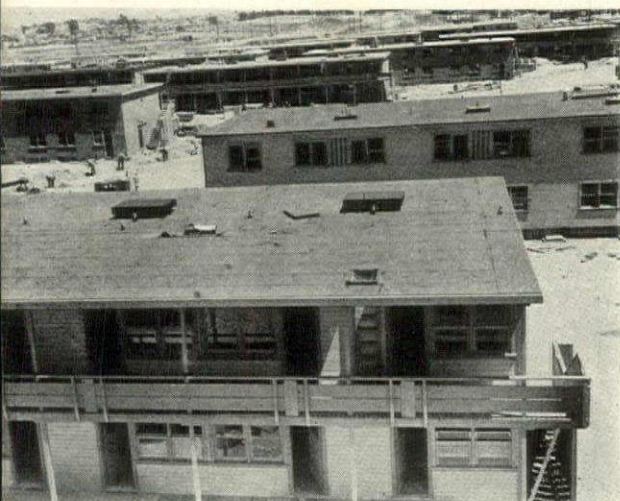


Marlite

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PLASTIC-FINISHED WALL PANELS

...for Victory at Vallejo!



Prefabrication of 1,000 Marlite showers helped speed the completion of the Victory Apartments for 1,000 California war workers and their families at Vallejo.



Vallejo typifies the many war-housing and industrial projects in which plastic-finished Marlite is meeting the specifications of speed, durability, low cost and easy maintenance.



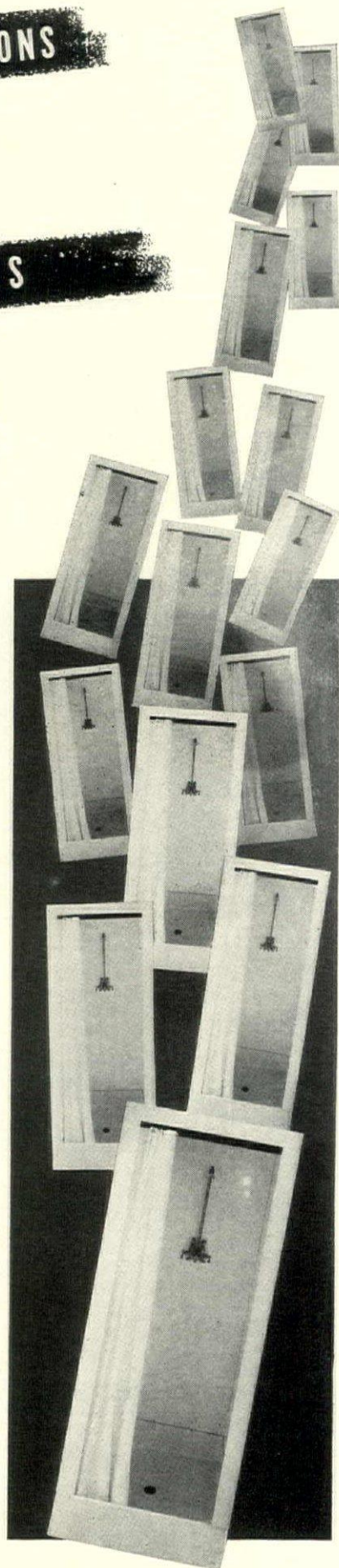
Rose Hill Courts is still another west coast project emphasizing how completely Marlite measures up to the all-out demands of all types of wartime building everywhere.

★ Compare the wall specifications for your next project with Marlite features and advantages! Check expectations against proven Marlite performance! Compare costs and you, too, will find how fully plastic-finished Marlite meets the rigid requirements of war building. That's why you're finding Marlite specified for so many different uses on so many of today's biggest "war jobs."

At Vallejo, for instance, each of the 1,000 Victory Apartments has a Marlite shower. These showers were prefabricated and then installed on the job as complete units under the direction of the Marlite Decorative Company of Oakland and the Diamond Match Company of Chico. This is another use of Marlite that conserves both time and critical materials, and the complete unit is fully approved by the West Coast F.P.H.A. as well as by the Washington (D. C.) office of F.P.H.A.

Product flexibility, plus availability from a west coast warehouse, are just two of the major factors in selecting Marlite to create wartime interiors. Complete line of colors and patterns make possible an endless variety of applications. Large, wall-size panels assure fast, simplified construction. High heat bake finish provides unequalled durability. Factory prefinishing eliminates painting. Thousands of pre-war installations prove substantial reduction in wall maintenance time and cost. Appearance and performance assure repeat business for you.

Thus more than ever . . . to meet today's specifications and exceed tomorrow's expectations, use *Marlite NOW!*



Each of the 1,000 Marlite showers is 32" square and 6' high above the concrete shower pan. Walls are harmonizing yellow and egg-shell Marlite, masticed under pressure to the wood frame.

MARSH WALL

411 MAIN STREET

WEST COAST OFFICE AND WAREHOUSE



PRODUCTS, INC.

DOVER, OHIO

140 12th STREET, OAKLAND, CALIFORNIA

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.



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For Mortar and Stucco

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



*Who Says
You Can't Get
Building Business?*

Sensational Demand in All Markets for New STONEWALL Board



STONEWALL GETS BUSINESS TODAY!

1. **It's Available**—You can really get it.
2. **Quick Installation**—Large 4'x8' sheets made in 3/16"—1/4"—3/8" thicknesses.
3. **All-purpose Material**—Uses almost unlimited. Can be sawed or scored, nailed and drilled.
4. **Low Cost**—Sells in all markets.

• Stonewall is today's big news in building materials! Dealers country-wide are doing a land-office business on this remarkable war-born product.

FARMERS are grabbing it for hog-houses, chicken-brooders, milk-houses and all-around building use.

FACTORIES welcome it with open arms for partitions, ducts, heat barriers and general construction and maintenance.

HOMES find many uses for Stonewall Board for repairs and remodeling—and it's a natural for war-housing.

Stonewall recaptures the business denied to you because of shortages of lumber, plywood, hard-board and sheet metal. Made of imperishable asbestos-cement, Stonewall is a strong, *fireproof*, permanent building board which in many respects actually out-performs "gone-to-war" materials. The field is unlimited—and Stonewall is *available*. See your Ruberoid salesman or write today.

The RUBEROID Co.

Executive Offices, 500 Fifth Ave., New York, N. Y.
Address Dept. A442

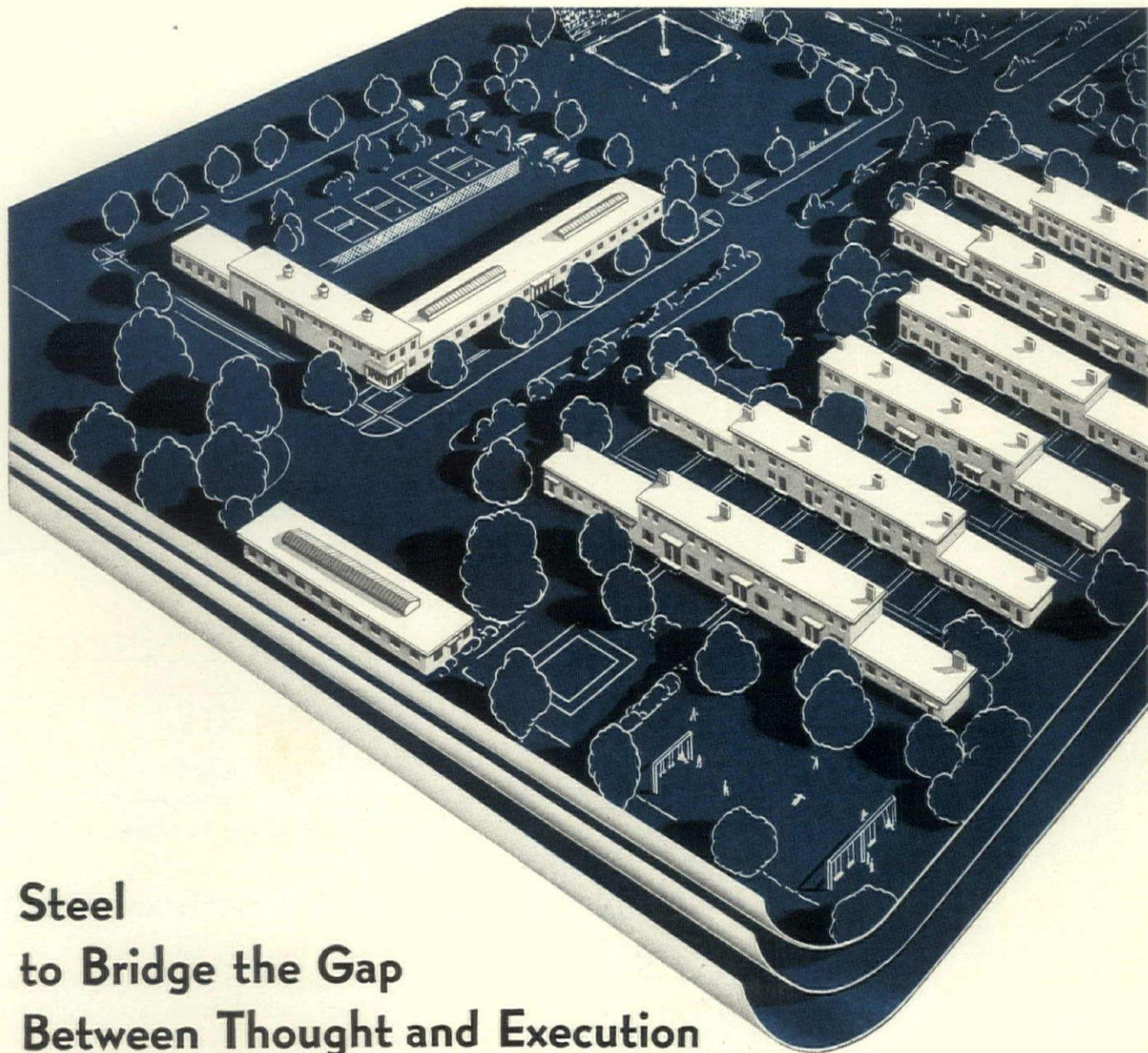
CHECK THESE FEATURES

- ✓ Strong, Durable
Low Cost
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Ratproof
Rustproof
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Needs No
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- ✓ Easy To Clean
Can Be Hosed
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- ✓ And It's
Available



STONEWALL

A Product of The RUBEROID Co.



Steel to Bridge the Gap Between Thought and Execution

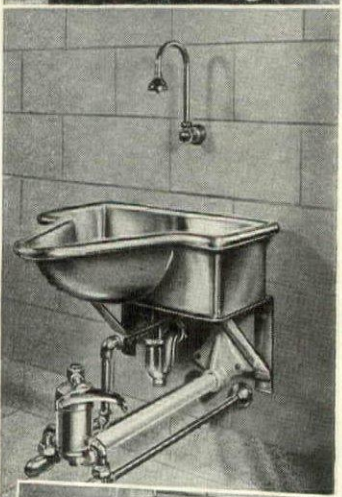
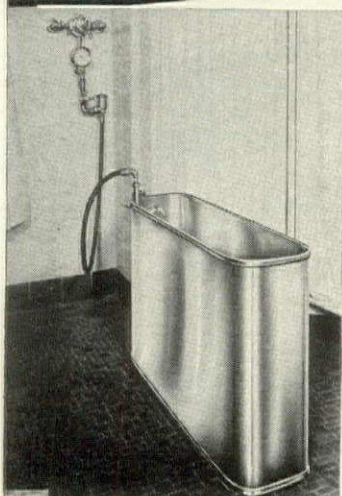
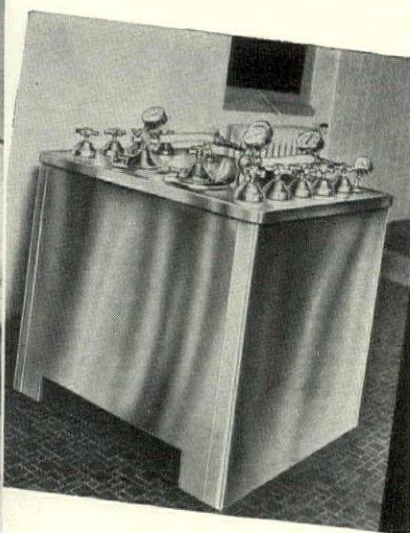
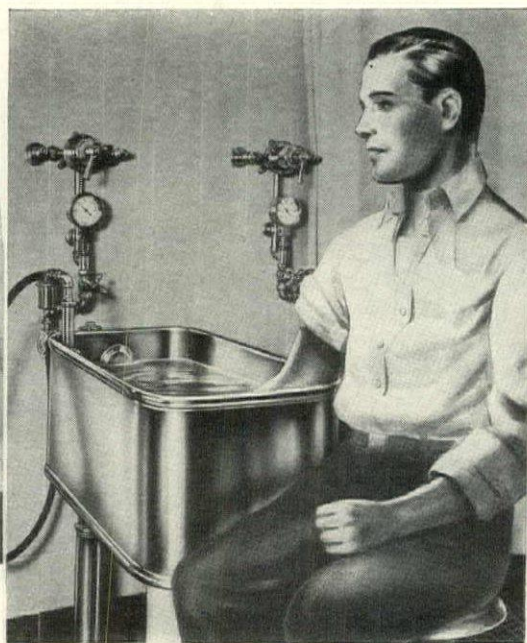
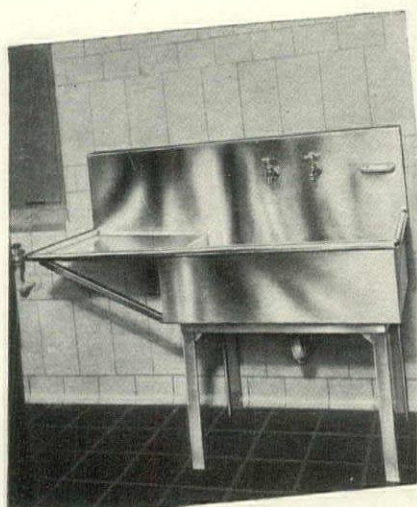
OUT of Stran-Steel's wartime research and developments, steel will emerge as a new medium of expression—flexible as the mind of man, and adaptable to all his concepts. It will take shape tomorrow in fresh and varied forms of architecture, where time-worn limitations are overcome to achieve new scope and efficiency in building.

No less important than the developments which Stran-Steel has already made is the vast fund of technical knowledge that is being acquired. Stran-Steel's broad engineering background will serve the construction industry well in days to come.

STRAN STEEL

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

UNIT OF NATIONAL STEEL CORPORATION



Thanks to Modern Science and Equipment

War brings with it many casualties but, thanks to modern science and equipment, thousands of our disabled men in the armed services will be restored to good health—able and ready to again take their places in active, useful civil pursuits. And,

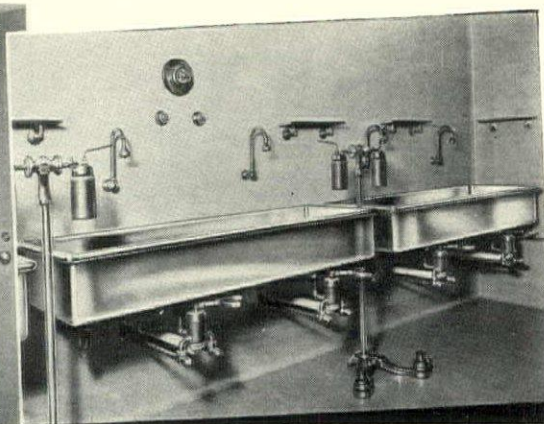
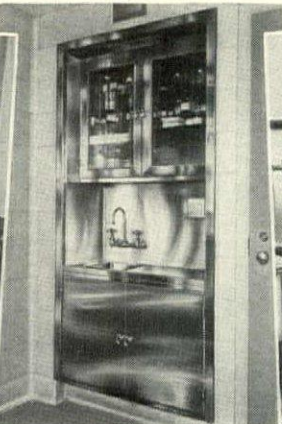
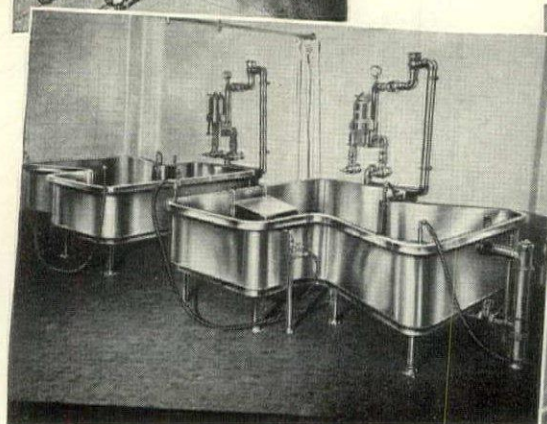
ELKAY "Sturdibilt" Stainless Steel

equipment is playing an important part in many Government hospitals toward helping physicians and surgeons in their rehabilitation work. The installations illustrated here, taken from U. S. official photographs in the National Naval Medical Center at Bethesda, Maryland, show just a few of the many different types of ELKAY Stainless Steel equipment now so widely used in this and many other hospitals.

The stain, acid and rust-resisting surfaces of stainless steel assure the utmost in sanitation, while the sturdy, heavily steel reinforced construction gives a lifetime of service at low maintenance cost.

*We invite your inquiries. Our Engineers
will gladly submit plans and estimates.*

ELKAY MFG. CO., 4703-14 Arthington St., Chicago, Ill.





a good man to have in today's huddles-

Today you are mapping tomorrow's building strategy. You are gearing yourself and your plans to meet the inevitable housing demands which will follow the war. You're working beyond generalities because you want to be ready for immediate action.

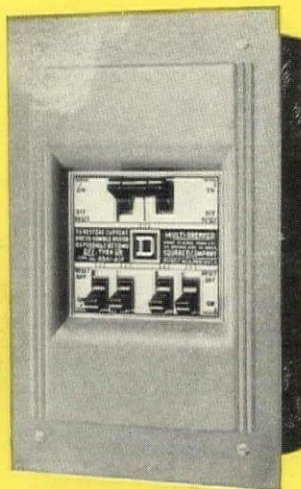
Because electrical specifications are an important part of your post-war building plans, we think you should know the Square D Field Engineer and what he has to offer.

There are several factors involved in arriving at correct electrical specifications. Adequate wiring, of course, is basic. Beyond that are the factors of flexibility, convenience and protection. With multiple housing and prefabrication very much in the picture, the cost factor is going to be important, too.

The Square D Field Engineer, through constant contact with builders and electrical contractors, is a source of sound counsel. There are Field Engineers ready for your call through Square D branch offices in 52 principal United States and Canadian cities.

★ ★ ★

for tomorrow's homes—**SQUARE D MULTI-BREAKER**



Currently, every Multi-breaker we produce is assigned to war-time service. But the same features which make it so valuable to the war effort, earn it a place in the homes which will be built in the future.

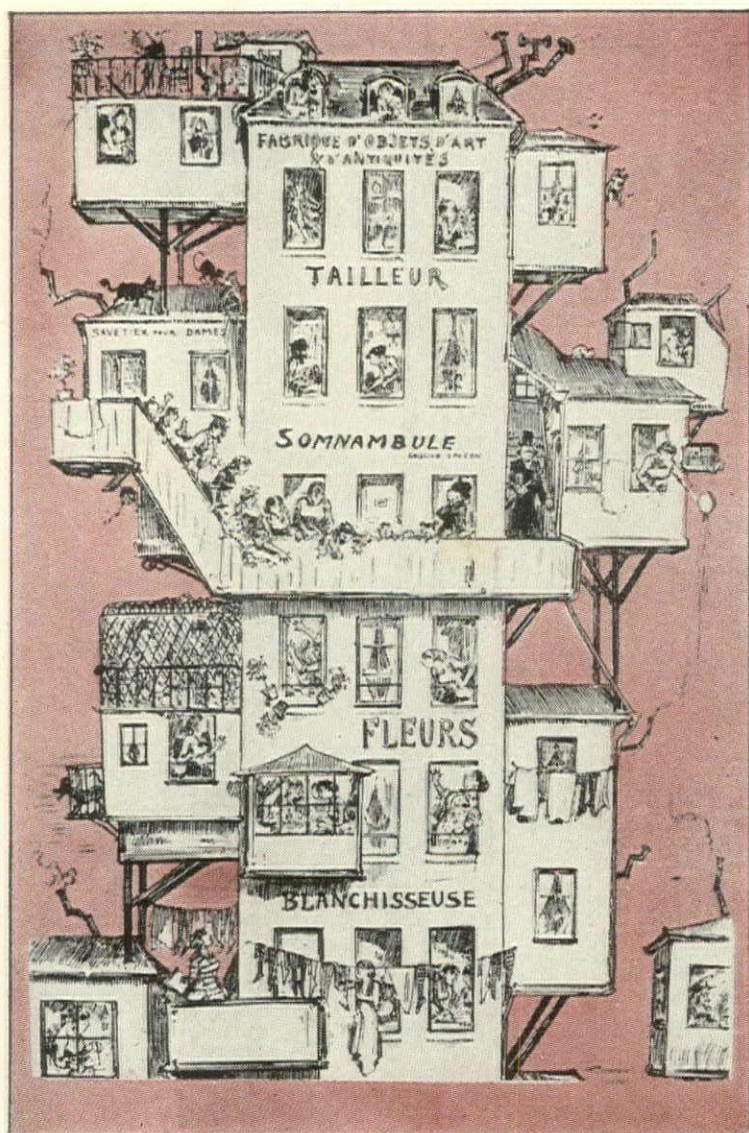
The Multi-breaker eliminates fuses completely. When a short circuit or dangerous overload occurs, the circuit is cut off automatically. A simple movement of the shockproof lever restores current. There are no delays—nothing to replace. Yet the Multi-breaker costs little, if any, more than fusible equipment—often actually less.

SQUARE D COMPANY

DETROIT - MILWAUKEE - LOS ANGELES

KOLLSMAN INSTRUMENT DIVISION, ELMHURST, NEW YORK

IN CANADA: SQUARE D COMPANY CANADA LIMITED, TORONTO, ONTARIO



DOODLED IN PARIS, 1882. Even in Paris 61 years ago the need for new housing had artists dreaming, architects planning, builders seeing rosy visions of fat contracts to come. Here the French caricaturist Albert Robida anticipates a skyscraper 18 floors high made of a new substance called "papier agglomere."

Are you Doodling or Planning for that Building Boom?

IF YOU'RE COUNTING on a building boom after the war—counting on it just because there is a big need for new housing—maybe you're just building castles in Spain.

There was a crying need for new dwellings before the war—but no boom. Remember?

The fact is, need alone does not necessarily mean demand. So, to help you *create* demand as quickly as possible after Victory comes, we offer this

Plan for building Post-war Building markets

1. Get ready to make sales the minute peace comes.
2. Prepare to stimulate confidence in new techniques, materials, designs.
3. Interest both men and women, because they jointly decide when and how to build a house.
4. Stir up prospects for non-residential building.
5. Get the middlemen on your side.

You can do all five of these jobs in one magazine, TIME. For through TIME:

You can tap the dammed-up post-war buying power of over a million TIME-reading families with 2½ times the income of the average U. S. family... you can get your new product known to America's most important people*—the men and women whose lead others follow.

You can stir up the house-building urge in both men and women readers (TIME is read by over 1,000,000 men and

over 1,000,000 women—they prefer TIME 7 to 1 over all the other magazines they read that carry advertising)... you can reach not only home prospects, but the bankers and executives who decide yes or no on non-residential building (again and again they vote "TIME is our favorite magazine").

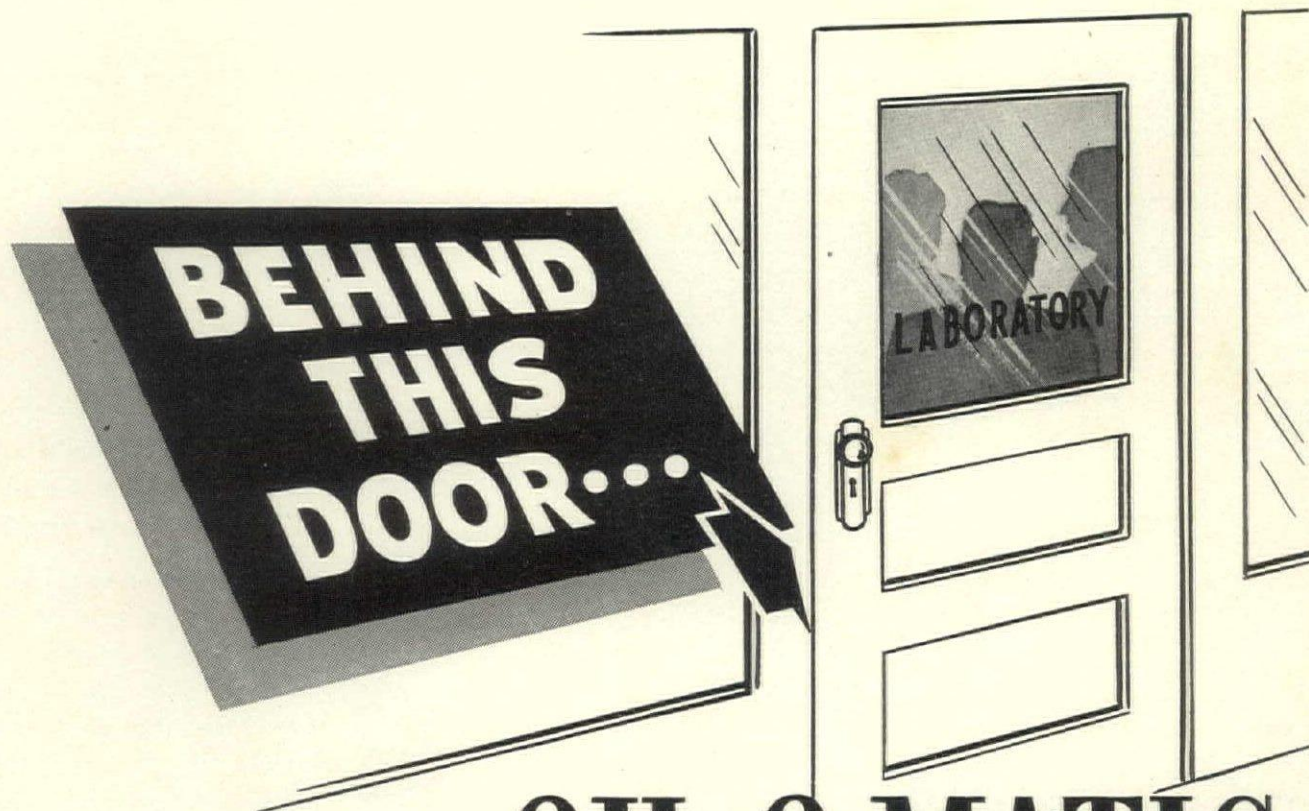
And in TIME you back up your trade paper advertising with extra impressions on thousands and thousands of the top men in construction and finance.

As you know, TIME's advertising pages are rationed for the duration of paper curtailment. But TIME will continue to present certain facts about its audience in this space—for we feel that such information is important right now to your thinking about your advertising program after the war.



GATEWAY TO THE BUILDING MARKET • 9 ROCKEFELLER PLAZA, NEW YORK, N. Y.

* These people include executives and editors, congressmen and college presidents, government officials, mayors, radio commentators and 21 other groups of leaders—all of whom have recently voted "TIME is America's most important magazine."



TOMORROW'S OIL-O-MATIC IS IN THE MAKING!!

TODAY the technical skill and precision production facilities that earned world-wide acceptance for Williams Oil-O-Matic Heating have but one job and one purpose. They are joined with all America in working for Total Victory.

It is perfectly natural, however, that engineers with more than twenty years' pre-war experience and leadership in designing and building fine heating equipment

should visualize many of today's precision production innovations in terms of your Oil-O-Matic of Tomorrow.

New war-born skills and techniques, added to the tried and proved peace time experience of more than twenty years, will bring even greater efficiency and dependability, even more remarkable performance to Williams Oil-O-Matic products of tomorrow.

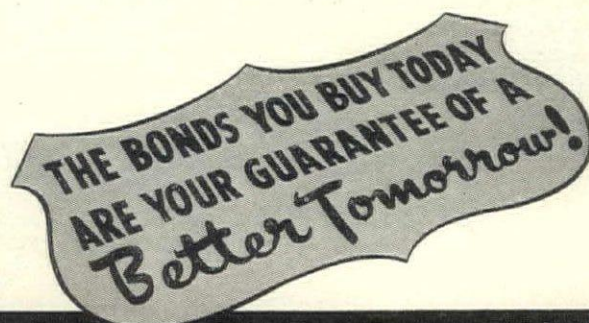


This Army-Navy "E" pennant—symbol of the "Know-how" that has won fear and respect for American War equipment on all fronts—flies proudly over the Oil-O-Matic plant.

WE SALUTE Oil-O-Matic dealers and all other oil burner dealers everywhere whose valiant service is paving the way for a great industry's tomorrow. It is to these dealers we dedicate this message—the first in a series appearing in March and April issues of national publications.

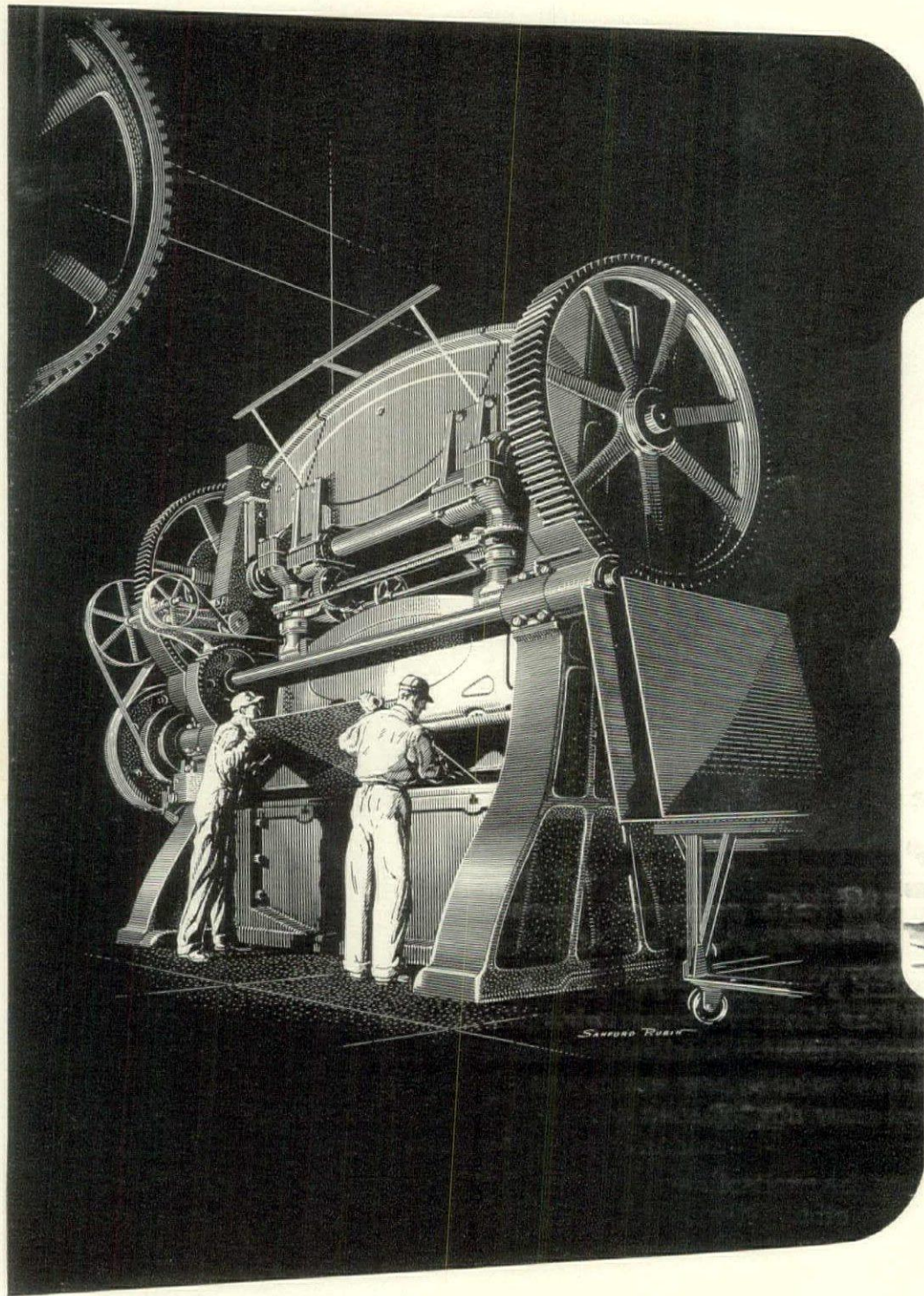
★ ★ ★ ★ ★

BUY WAR SAVINGS STAMPS & BONDS



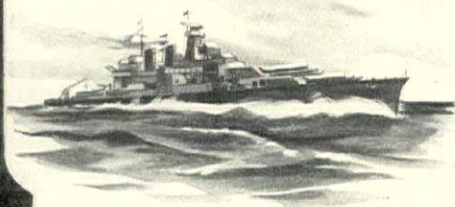
WILLIAMS OIL-O-MATIC HEATING CORPORATION
BLOOMINGTON ★ ★ ★ ILLINOIS

EVERYTHING WE ARE DOING TODAY...



**Some Facts We'd Like
You To Know About
Mesker's New Facilities**

200-Ton Presses, like our "Big Bertha", can be found in more than one plant. Not so common are its many new uses that Mesker men are daily devising, to expedite war production today ... contribute to better windows tomorrow.



Mesker Engineers...the country over...

YESTERDAY AND TOMORROW

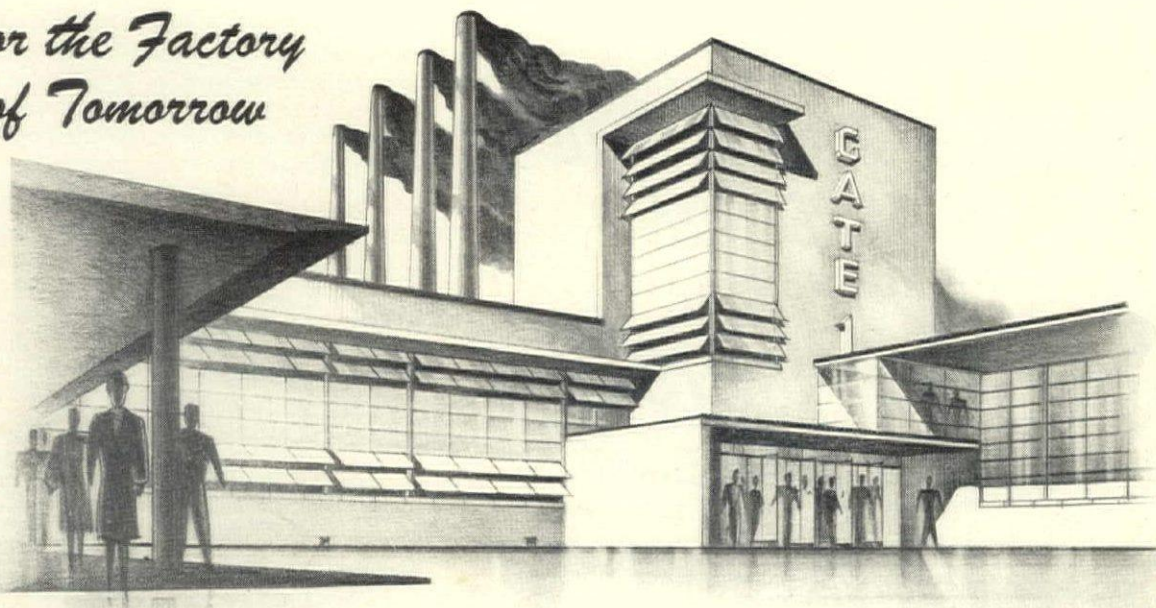
CASEMENT WINDOWS • MONUMENTAL WINDOWS • INDUSTRIAL WINDOWS • SCREENS • INDUSTRIAL DOORS • DETENTION WINDOWS • REINFORCING MESH GRATING...plus ...tomorrow... some other interesting new products!

Mesker

424 SOUTH SEVENTH STREET

IS DESIGNED TO HELP YOU TOMORROW

*For the Factory
of Tomorrow*



D. F. McMAHON

MESKER METAL WINDOWS



Ever hear of a draft-less, yet 100% *low-cost* ventilated, perfectly natural-lighted factory? Industrial designers have been working toward it for years. For, after all, *windows ARE cheaper than walls*. Properly distributed by the designer in long horizontal runs, they provide abundant natural light and low-cost ventilation; properly weather-conditioned, they assure excellent insulation. Architect McMahon's Factory, planned for Tomorrow, will *be* such a factory. The windows that will make it possible will be a direct outgrowth of the facilities, techniques and processes now being developed in a plant all-out on war production. The "Window Of The Future" is today's window **WITH** a future . . . *Mesker Metal Windows*. They'll be worth waiting for.

Do You Have Your "Red Book of Steel Sash?"

If not, write for this comprehensive volume, personalized with your name. Covers metal windows from A to Z . . . ideal to have at your elbow when working up specifications, details, etc., on post-war projects. No obligation.

Consult Your Mesker Engineer Now!

His job is to help you with your war-time construction problems . . . involving windows or whistles or whirligigs . . . to assist on post-war projects requiring the kind of windows only Mesker can produce. Consult him **NOW**.

In War and Peace . . . at your service!

Brothers

ST. LOUIS, MISSOURI, U. S. A.

TODAY

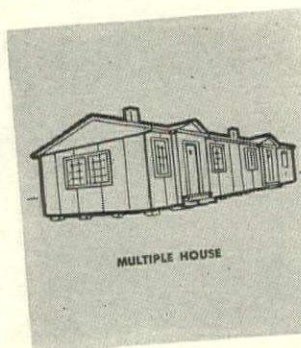
STEEL AMMUNITION CASES • PRE-FABRICATED STEEL AIRPLANE RUNWAYS • OIL AND WATER STORAGE TANKS FOR THE NAVY'S FIGHTING SHIPS . . . other products which necessarily must remain military secrets.

HAVE YOU HEARD ABOUT THE NEW GOLD BOND STRUCTURAL GYPSUM UNITS?

THESE amazing new boards replace scarce lumber for outside walls, roof decks and interior partitions . . . and do a sturdy permanent job!

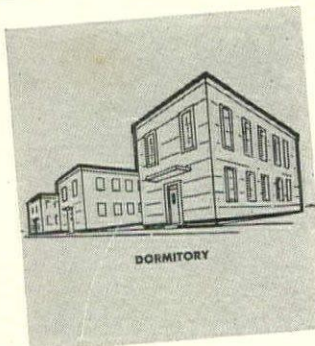
Millions of feet of Gold Bond Gypsum Roof Plank, Exterior Board and Solid Partition Panels are already in service in dozens of army camps, storage depots and other big government projects. Now they're being specified by the mile for low-cost housing and war plants.

Gold Bond Exterior Board completes outside walls in one swift operation, serving as both sheathing and siding. Gold Bond Roof Plank replaces most of the lumber for either flat or pitched roofs, and provides a perfect base for the roofing material. Gold Bond Solid Partition Panels build permanent or demountable partitions in factories, offices and homes. Write today for complete technical information.



MULTIPLE HOUSE

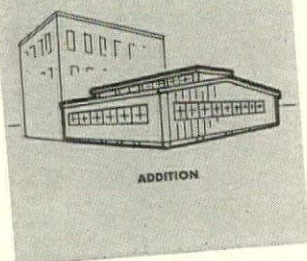
STURDY
PERMANENT



DORMITORY

NO
SPECIAL
SKILLS

REPLACE
LUMBER

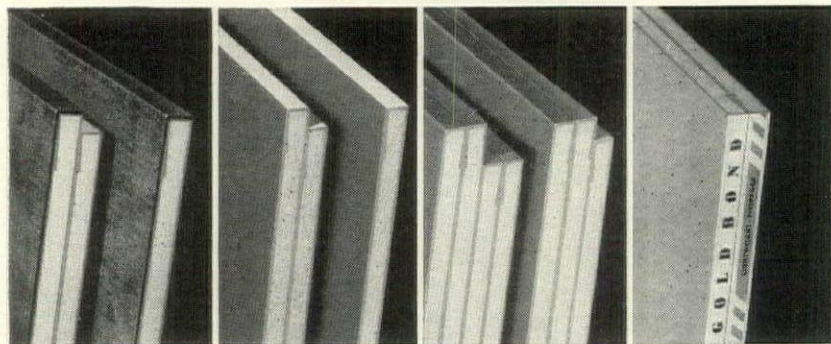


ADDITION

OBTAINABLE
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TEMPORARY OFFICE



Exterior Boards—Large panels— $\frac{1}{2}$ " and 1" thick. This style with asphalt roofing on weather side.

Exterior Boards—Same specifications as to left. This style with tough fibre on weather side.

Roof Plank—Fireproof. Nail to wood joists. 2'x8', 9', 10' and 2", 1 $\frac{1}{2}$ ", 1" thick. Perfect base for roofing.

1" Solid Partition Panels—Rigid and fireproof. New construction method. 4'x6', 7', 8', 9', 10'.



BUILD BETTER WITH
Gold Bond
Everything for walls & ceilings

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

NATIONAL GYPSUM COMPANY . . . EXECUTIVE OFFICES, BUFFALO, N. Y.

21 Plants from Canada to the Gulf . . . Sales offices in principal cities

THE MONTH IN BUILDING... NEWS

Congress cool to Planning Board's Postwar Report (this page) . . . Housing, public works provisions summarized (page 34) . . . House puts HOLC on spot (page 35) . . . Heavy construction off, small plants active (page 35) . . . Hartford store pioneers prefabrication (page 35) . . . Rent control graphs success story (page 36) . . . Governor Dewey snubs Moses (page 100) . . . Senators George and Taft vie with postwar resolutions (page 36) . . . Housing chief cause of absenteeism (page 104).

IN LIKE A LION . . .

March was a month brave with postwar plans. A gallant Senatorial foursome (Ball, Hill, Hatch and Burton) proposed overall Allied postwar planning; Winston Churchill spoke cheerily to the world about England's good intentions ("It is necessary to have projects for the future employment of people and a forward movement of our industries that private enterprise and state enterprise are both able to play their parts."); the Senate created a brace of postwar planning committees (George and Taft each proposed one, see page 36); most significant and far-reaching were the National Resources Planning Board suggestions proffered with the customary presidential smile to the customarily unreceptive Congress. Talk was wide and handsome; nothing resembling genuine and detailed directives appeared.

Housing was coupled with absenteeism as FPHA Commissioner Herbert Emmerich announced that about 92,000 publicly financed units for war workers were placed under contract in the first two months of '43. FPHA, girding itself to action on conversion, announced 121 recently signed leases (bringing the total to 1,300 as of March 1).

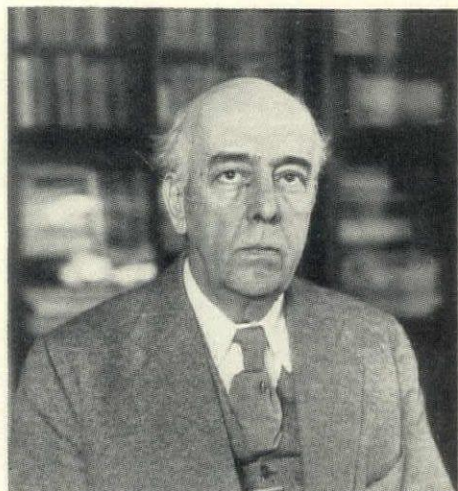
Perils of FHA

The Title VI bill (FORUM, March, p. 35) was approved by the House, at midmonth received Senate concurrence. Help arrived just in time and, as in the old *Perils of Pauline*, accompanied by eloquent drama. On March 15, even earlier than was expected, authorization to issue insurance commitments gave out. A message went out from Abner H. Ferguson, FHA Commissioner, to stop all action. Ten days later, with the passage of the Amendment to NHA's Title VI, the order was countermanded. Provisions of the bill: insurance authorization was extended to \$1,200,000,000, the life of Title VI extended to July 1, 1944.

Tacked on to the bill—and just in the nick of time—was a Title I amendment, extending it to July 1, 1944. Allowing for loans under Title I for converting existing properties to provide additional war housing units, agreement on this Title will add needed vitamin content to NHA's up-to-now anemic conversion program.

NRPB OPUS

For two months the National Resources Planning Board's monumental, 640-page report on postwar security had languished on the President's desk. For two months there had been rumors of its far-reaching proposals, its sweeping social insurance reforms, its out-Beveridging of Beveridge. When, on March 11, it was presented to Congress and to the people, reaction was instantaneous but mixed. Unlike the Beveridge Plan it dealt in principles, not specifics, but also its scope was vastly broader. A sullen Congress growled at what it regarded as usurpation of its leadership; large segments of the public found in its recommendations hope for the domestic four freedoms, high chance of recuperating from the war diseases.



FREDERIC A. DELANO: his nemesis: nepotism.

Challenging to the Building industry, the report dealt decisively with the establishment of a ready reservoir of public works (see p. 34), of objectives and plans for urban redevelopment after the war.

The press, like Congress, was violently unenthusiastic. The *New York Times* said comparison with the Beveridge Plan was flattering to the Report, then paradoxically ". . . that planning should be confined to the first few months after victory, that the longer future should be of no immediate concern." More directly partisan critiques came from Congressmen who felt the report was 1) the opening gun for the fourth term (Republican

Harold Knutson, Minn.), 2) only in favor of Government (Republican Harold H. Burton, Ohio), 3) a guidebook to socialism (Republican Arthur H. Vandenberg, Mich.), 4) a muddling into something that was no one's damned business but the Congress'.

The President's strategy in introducing the Report at the time he did was both praised and questioned. The House Appropriations Committee held hearings on January 11 on items included in its Independent Offices Bill (FORUM, March, p. 33), found the NRPB wanting in immediate concern with the war effort, cut its appropriation for the next fiscal year to zero. The President, knowing the Senate would be no more eager for its continued existence (said Sen. Millard Tydings: "The agency is rife with ideologies and theories looking only toward greater Governmental expenditure"), was perhaps appealing over Congress' head to the people. But still others, conscious that the report contained not one whit new, was simply a 40,000-word condensation of previously issued NRPB reports, blasted the delay in issuing the new one.

Rise and Fall of NRPB

The lifestory of the National Resources Planning Board is a study in personalities, national reaction against the *vista longa* and, sometimes, untrammelled and high-flown prose about planning, housing, employment, national resources, transportation, social security.*



Harris & Ewing

CHAS. W. ELIOT: turn of mind: metaphysical.

Originating as the National Planning Board under the PWA in 1933, its title was changed to the present one in 1934. At first instructed to provide guiding principles to integrate Federal expenditures, the Board was later intended to be "the planning arm of the President." Original board appointed by FDR: Frederic A.

*Recent, most widely regarded reports: *Our National Resources—Facts and Problems*; *After Defense—What?*; *After the War—Full Employment*; *The Future of Transportation*; *Postwar Agenda*; *After the War—Towards Security*.

(Continued on page 96)

NRPB ON HOUSING...PUBLIC WORKS

THE FORUM reprints portions of the National Resources Planning Board's report because, whether they are adopted by Congress or not, they will have considerable influence on any Government planning which affects the Building Industry:

HOUSING

One of the most important outlets for the potential products of converted war plans will be the provision of adequate housing, both urban and rural. The Government should plan to initiate a large public housing program and assist in stimulating both private and public construction activities. Many of the wartime industries are already looking toward housing construction as a major possibility for use of their great new production capacities. The National Housing Agency is responsible for the preparation of plans and policies to develop wholesome housing for the American people.*

Legislation to Provide a Ready Program of Public Construction

The public construction we shall undertake when the war is over should be planned now, and adequate authority and funds for such planning should now be made available by Federal, State and local governments. The program to be planned for should be of such a character that it will facilitate, and carefully avoid hindering, our postwar industrial conversion to peacetime production, and should be designed, first, to bring public facilities plan up to its proper level of serviceability, and, then, to develop further the Nation's economic possibilities.

In order to provide a "shelf" or "reservoir" of public construction projects of tested value, the Board recommends:

a. Continued and invigorated efforts to secure the preparation of 6-year programs or capital budgets by Federal agencies, State governments and local governments.

b. Lists of projects should be prepared and classified according to size of the project, types and locations of skilled and unskilled labor involved, materials needed, rapidity of beginning, and flexibility of termination—all in relation to employment stabilization.

c. Immediate inauguration of surveys, investigations and preparation of engineering plans and specifications for selected projects through allocation of aids to Federal and non-Federal agencies from a fund to be administered by the President through his Executive Office; and reimbursed to the fund as part of the cost of construction of the project—all to permit rapid inauguration of work on projects in times of need.

d. Advance authorization by the Congress of—

(1) Procedures for grants, loans, guaranties of loans, leasing arrangements for aids to State and local governments for non-Federal projects effective

upon appropriation of funds by the Congress; and of

(2) Construction of Federal projects in a 6-year program of selected projects. Such authorization should be effective upon appropriation of funds by the Congress, and not itself involve any commitment for the immediate construction of the project.

e. Appropriation for advance purchase of sites of projects by appropriate Governmental agencies.

f. Development of methods of financing public works projects and studies of related problems of investment, taxation, and the Federal, State and local shares of responsibility for costs of various types of public works.

g. Coordination of public works construction at all levels of Government, with other public policies which affect the level of business activity and employment, such as fiscal policy, social security policy, and policies of aid to private enterprise.

PUBLIC WORKS

We recommend for consideration:

1. Preparation Now for Expanded Programs of Construction.

With Private Enterprise, through the the Reconstruction Finance Corporation or possibly one or several Federal Development Corporations and subsidiaries providing for participation of both public and private investment and representation in management—particularly for urban redevelopment, housing, transport, terminal reorganization and energy development.

2. Plans and Legislation now for:

a. Urban Redevelopment: In order to facilitate city building and redevelopment, improve urban living and working conditions, and stabilize employment and investment, we recommend:

(1) That metropolitan regions and cities set objectives and make plans now, for their whole urban areas and for the human, institutional and physical problems that will follow the war. Federal and State agencies shall provide technical assistance and grants-in-aid to promote such planning, both for the long-time building and rebuilding of urban areas.

(2) The establishment of agencies, authorities or arrangements in metropolitan regions and cities, broad enough to deal with the problem regardless of existing arbitrary boundary lines, and with powers adequate to deal promptly and effectively with the basic problems of urban reconstruction, including: public land assembly, ownership, and control taxation; transportation terminal coordination and redevelopment; elimination of blighted areas, whether residential, commercial or industrial; construction of buildings and facilities to assure adequate housing and working conditions and for provision of essential urban services.

*NHA was created by the President as an emergency war agency, to exist for the duration of the war, possibly six months longer.

HOLC IN A HOLE

That old debbil, the House Independent Offices Appropriation Bill (H.R. 1762) is out for HOLC's hide in its 1944 budget recommendations, may well get it. In 1943, for administrative expenses, HOLC got \$13,500,000. In 1944 the House Appropriations Committee has decided to slice it to \$6,250,000, to limit monthly expenditures to 1) \$850,000 from July 1 to December 31, 2) \$208,000 from then until the end of the fiscal year.

If effective this would mean liquidation of one of NHA's favorite sons. HOLC holds it would be impossible to service its mortgages on the pittance allowed it for the second period, will therefore have to dump them.

Rumor reports that nothing would please the private lending institutions more—they would like to be around to catch the mortgages on the bounce. Unable to effect this pleasant double play in any other way, it is said they thought up this oblique method of using the appropriations cut.

HOLC has other complaints:

►The Government will lose \$300,000,000 if its mortgages are sold over the bargain counter.

►A new wave of foreclosures may be in the offing. When mortgages are sold in blocks, some of the slower-paying ones will go at a discount. HOLC has nursed these along, but is not at all sure private lending institutions will. They may well shift out less desirable ones, dump them after six months or so. (One estimate holds there are 100,000 foreclosures in this category.)

►HOLC mortgages carry a 5 per cent contract interest rate. But for some years the agency has been accepting $4\frac{1}{2}$ per cent. The fate of these mortgages is highly uncertain. Will new purchasers be willing to take less than the amount they are entitled to on the face of the contract? HOLC says no.

Opposition to these arguments, however, points out that now there is a tremendous amount of money available for refinancing, and thus the need for HOLC (a depression agency) is largely over. Furthermore, buildings and the whole real estate field have enjoyed considerable inflation recently. Points out Charles A. Mullenix, Mortgage Bankers Association president there is a great deal of money about, thousands of families will take advantage of this situation to accelerate their mortgage principal payments. This, if ever, is the strategic time for liquidation of HOLC.

HEAVY CONSTRUCTION INDUSTRY

Excluding Army and Navy work on offshore bases and overseas, heavy construction has been falling off. WPB has been squeezing down all but the most essential construction projects. Some \$1,304,055,747 worth of work has been halted since October 23.

Public and private war housing have been exempt from this process. Almost all retrenchment has been on public works. The old WPA was persuaded to postpone projects totalling \$413,000,000.

A new trend is apparent in the recent authorization of the Defense Plant Corporation for expansion of war plants. Giant plant construction is disappearing. A good number of small plants is being authorized for the purpose of rounding out productive facilities.

Determining factor: the flow of supplies from subcontractors to assembly point being bottle-necked through lack of balance.

Contracts for builders

Small builders may be awarded some of the Federal Public Housing Authority contracts if the present plans of Colonel Robert Johnson, chairman of the Smaller War Plant Corporation, are carried out.

Under Act No. 603 his organization is authorized to become the prime contractor and "take any appropriate action necessary to keep small business concerns operating." Given an initial appropriation of \$150 million, SWPC is empowered to make loans under proper circumstances, to enable the small builder or manufacturer to do the job. Contracts will be let by competitive bids except in emergencies.

Many Army and Navy contractors whose work is terminating are bidding for the lump sum contracts being let for war housing. War housing construction has grown more attractive since FPWA has been able to procure blanket priorities from WPB covering many projects built on standardized plans. On this basis the FPWA can immediately extend a preference rating on any project to the regional office that handles the particular award and supervises construction.

(Continued on page 36)



Thousands came to gape, poke at and admire; and in one day, 38 to buy. Bruce Lindsay

EARLY FOX

Almost three decades ago, according to legend, John Wanamaker passed up the chance to sell automobiles. From that celebrated muff came America's greatest mass-production industry.

Late last month Hartford, Conn.'s aristocratic, progressive department store, G. Fox and Company, decided not to muff what may prove America's next great commercial opportunity—the prefabricated house.

Into Fox's spacious furniture department hundreds of people trooped to gape, poke at and admire a quarter-scale model of a Homasote house, seven rooms, precision-built, priced \$4,500 complete without land. The Fox experiment, closely watched by department store executives from other cities, was far from a perfected merchandising plan. Its importance lay in checking current interest in home ownership, current reactions to prefabrication. Feature of the tentative plan is a financing setup for saving the down payment dubbed a "Own Your Own

Home Club." Stores hope that in training customers to presave regularly for major purchases the habit would stick and carry through to the furnishing and furniture departments and into such equipment items as refrigerators and ranges.

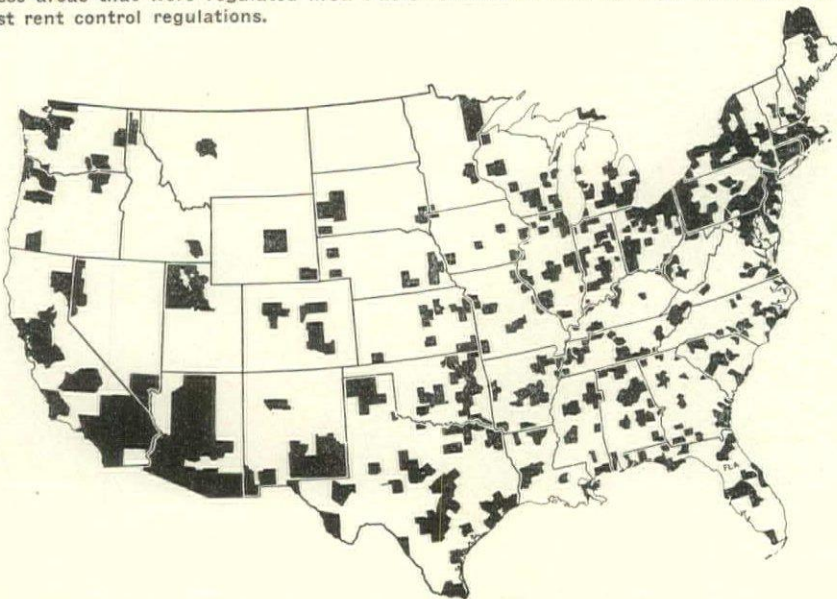
Basis of department store confidence that they are natural outlets for prefabs is their prodigious daily traffic—nearly 30,000 at Fox's, 153,000 in New York's great Macy's; the strong bond between store and customer carefully nurtured by good merchandise and good service over many years, and their merchandising ability.

While the Fox experiment is admittedly superficial, few will miss its implications on the whole future of home building and prefabrication. No one can clearly foresee its impact on the architect, the builder, the dealer and the public. But anyone can see that, when a single store in a single city of 166,000 population draws nearly 30,000 customers a day, the implications are considerable.

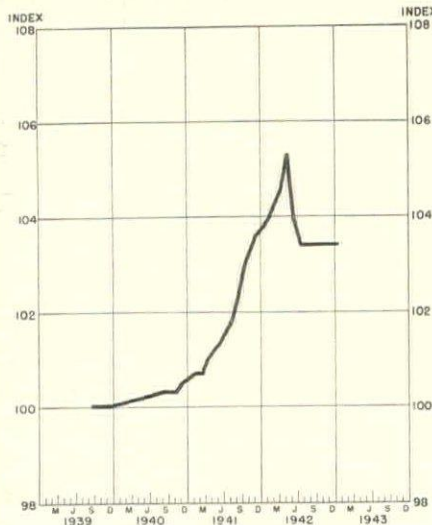
GRAPHIC RENT CONTROL STORY



1) Map shows 265 localities where the average rent increased by 5 per cent or more since June 1939. With the majority of such districts in the east and south of the U. S., it was these areas that were regulated first. Facts revealed in such surveys were basic to the first rent control regulations.



2) Map shows 355 defense-rental areas for which maximum rent regulations were issued, as of January 31, 1943. Here regulated areas are more diverse, and the west and southwest are almost as much affected as the north and southeast.



3) Graph shows index of rents paid by wage earners and lower-salaried workers in 34 large cities (Sept. 1939 = 100).

OPA'S PICTURES-WITHOUT-STORY

OPA's pictures without story on rent control was issued last month by the Program and Analysis office. A graphic presentation of causes and results, the booklet begins with graphs showing total war contracts awarded, migrant rates (illustrating the need), new construction and percentages of vacancy in critical areas (illustrating the housing shortage), follows up with graphic proofs of the rise in rents. With the application of rent-control the graph of rents paid in war-industry cities fell satisfactorily. Meanwhile in the District Court for Northern Indiana, Judge Thomas Slick held OPA rent control to be unconstitutional, dismissed a tenant's suit against a South Bend landlord, a judgment which may well serve as basis for other opinions on the legitimacy of OPA's edicts.

LET GEORGE DO IT

Coming almost parallel with the introduction of the NRPB report to Congress last month were two resolutions, the first from Senator Walter F. George, a followup from Senator Robert A. Taft. With almost indecent haste to insert a Senatorial knife into the postwar pudding, the two contained similar proposals, similarly aimed at confining all postwar planning to the Congressional preserve.

George's resolution called for the establishment of a special Committee on Postwar Economic Policy and Planning. Ten members of the Senate will serve on it (six majority members, 4 minority), its job will be to investigate "all matters pertaining to postwar policy and problems," to keep Congress completely informed on all such developments. (It is to this committee that NRPB's ill-starred child will go for consideration.)

Taft's resolution was far more detailed, specified only the housing portion of postwar work. He proposed that a Committee on Housing be set up (6 members) to study the NHA, its accomplishments and future plans, "to recommend a plan for the disposition of emergency housing" at war's end, "to prepare a comprehensive plan for the construction of housing after the war."

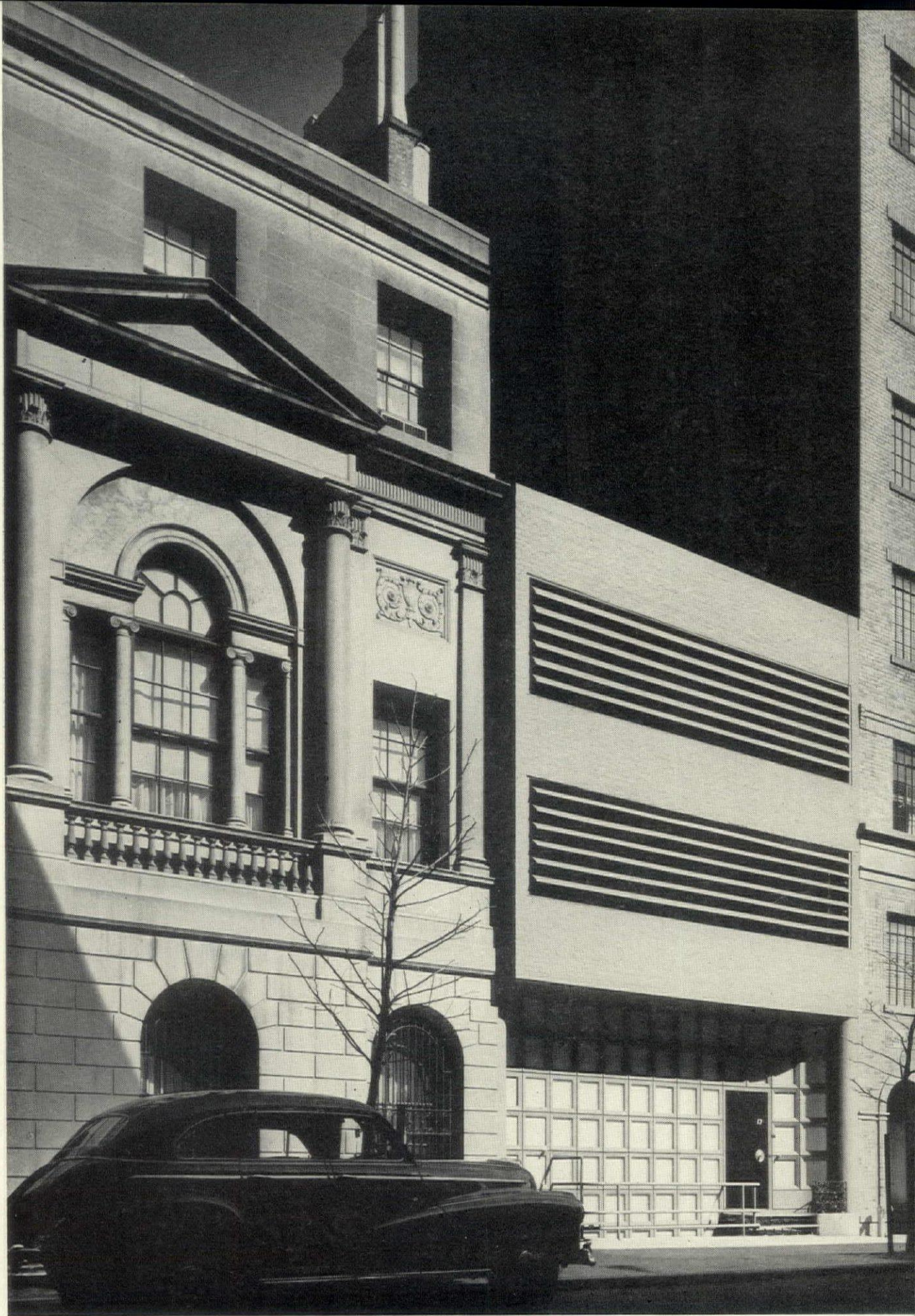
Because George's resolution was more of a coverall, it overshadowed Taft's. Probability is that Taft may withdraw his on the theory that one comprehensive committee is more sensible than many separate ones for each phase of the job.

The Taft resolution is on the Senate's calendar, would certainly pass if it is not withdrawn. George's is already approved. Members named to the committee: McNary, Vandenberg, Austin, Taft (a wise move), Barkley, George, Hayden, Mahoney, Pepper, Lucas.

More resolution—this time from ubiquitous Harry Lanham of the House. Rep. Lanham wanted his committee (House Committee on Public Buildings and Grounds) to use the remainder of its appropriation (about \$6,000) for an investigation of the publicly financed war housing program. Like a man who had contributed a huge sum of money to a good cause, he was curious to see how it had been spent.

The resolution passed the House—making the investigation an actuality. A subcommittee under Rep. Frank W. Boykin (Dem., Ala.) is said to be packing its bags for the trip; mainly, it wants to see (said Lanham to the House) if the fundamental policy of giving private builders the first whack at meeting war housing requirements is being observed.

Basic importance of the investigation is that its findings will no doubt be spotlighted comes the day Blandford goes to the Hill for more money.

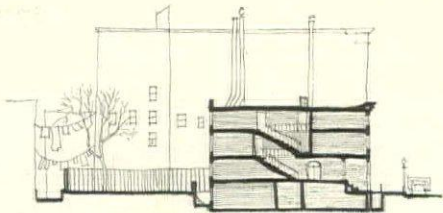


Damora, photos

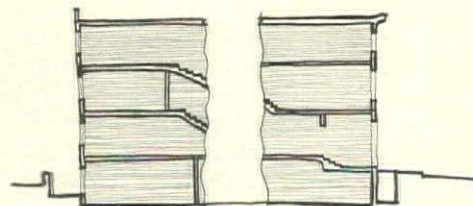
TOWN HOUSE

FOR SHERMAN FAIRCHILD, NEW YORK

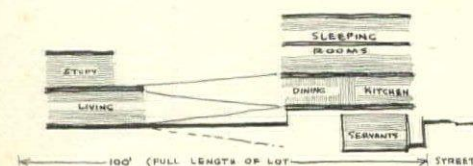
WILLIAM HAMBY AND GEORGE NELSON, ARCHITECTS



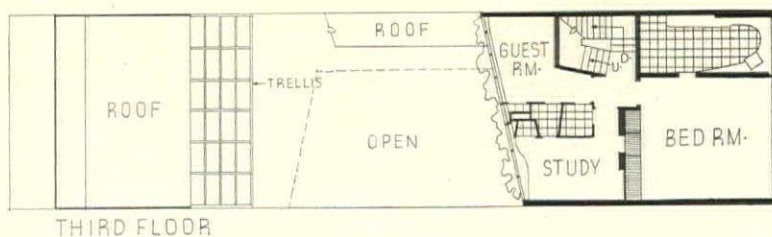
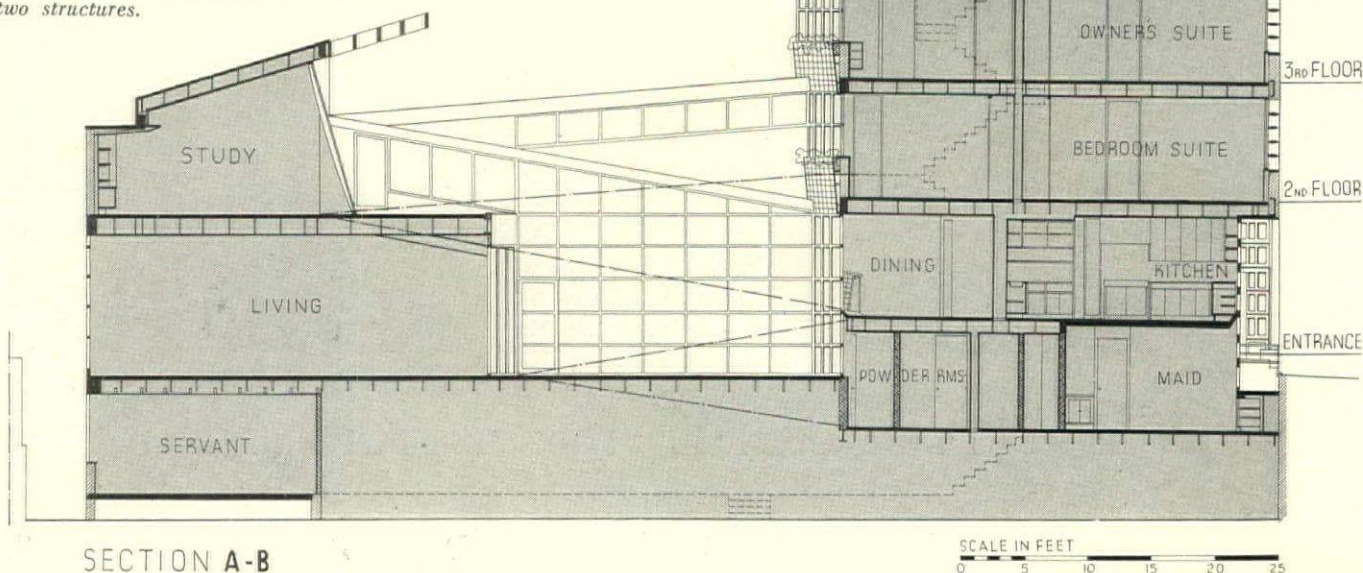
The traditional New York town house is a row unit, 15 to 30 feet wide, and three or four stories in height. It occupies the front half of a lot which is usually 100 feet deep, and is so planned that stairs, bathrooms and other services are buried in the center. Its chief disadvantage is that front rooms are exposed to a frequently noisy and dirty street while those at the rear have a view of nothing better than clotheslines and fire escapes.



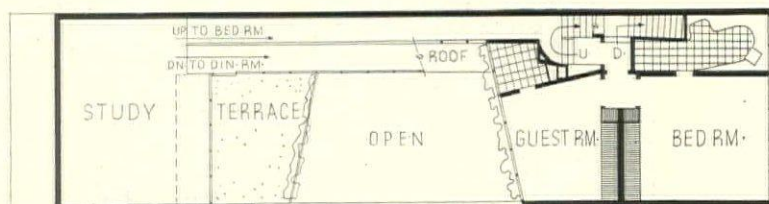
Presented with a 25 by 100 lot, facing south, the architects attempted to solve this problem along with a number of others. Obvious as it may seem in retrospect, the simple solution of splitting the house into two distinct parts did not present itself immediately, and a number of studies along conventional lines were made. A conversation with Henry Wright of THE FORUM, who was then making a series of studies on sunlight, developed the idea that two walls facing south were better than one. Immediately the other advantages of the split scheme became apparent: the length of exposed wall was more than doubled, natural light could be given baths and vertical circulation, while privacy and a sense of spaciousness were vastly increased.



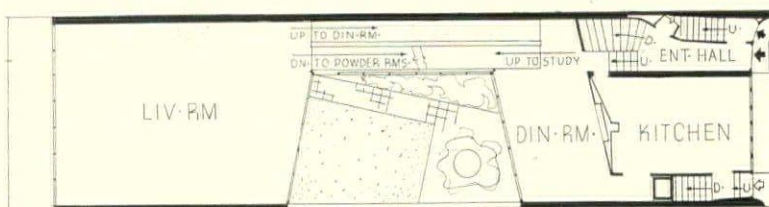
The final allocation of the major elements is shown in the sketch above and the section. The living unit was pushed as far back on the lot as the zoning law would allow, and a central court, all glass on three sides, was created. A ramp was clearly indicated as the only practical link between the two structures.



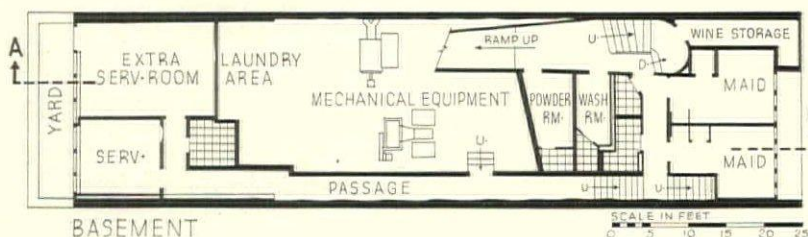
THIRD FLOOR



SECOND FLOOR



FIRST FLOOR



BASEMENT

SCALE IN FEET
0 5 10 15 20 25

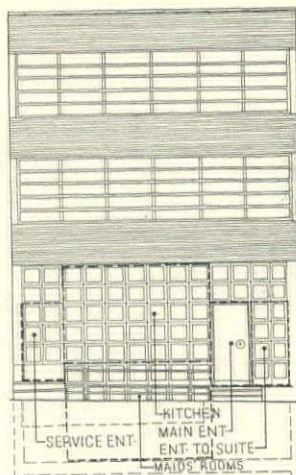
The plan of the Fairchild house is its basic feature. A radical deviation from the customary approach to the city house, its major contribution is privacy and an unprecedented sense of spaciousness. Though the lot is only 25 feet wide, there are clear views within the house of 80 feet and more; replacing the conventional dark stair hall, the glassed-in ramps provide constantly changing vistas as well as easy circulation; the court through which the main views pass has been designed as an integral part of the architectural scheme. Because most of these views look out on the house rather than the neighboring buildings, and because the interiors have been thoroughly sound-conditioned, the sights and sounds of the city seem very remote to the occupant, and the feeling of privacy is virtually complete.

In describing the job, the architects remark: "The Fairchild house is a special-purpose design. It was planned for a bachelor who entertains a great deal and who does much of his work at home. Also special was the requirement that a private apartment, with its own stairway, be provided for a member of the owner's family. Since we were working on a restricted lot, this requirement seriously complicated the process of planning the front unit. . . . The owner, who developed the Fairchild aerial camera and manufactures trainers, engines and other aviation equipment, applied the same rigorous standards to the design of his house as his planes. Every step in the design was examined minutely and critically, and design changes were made right through the

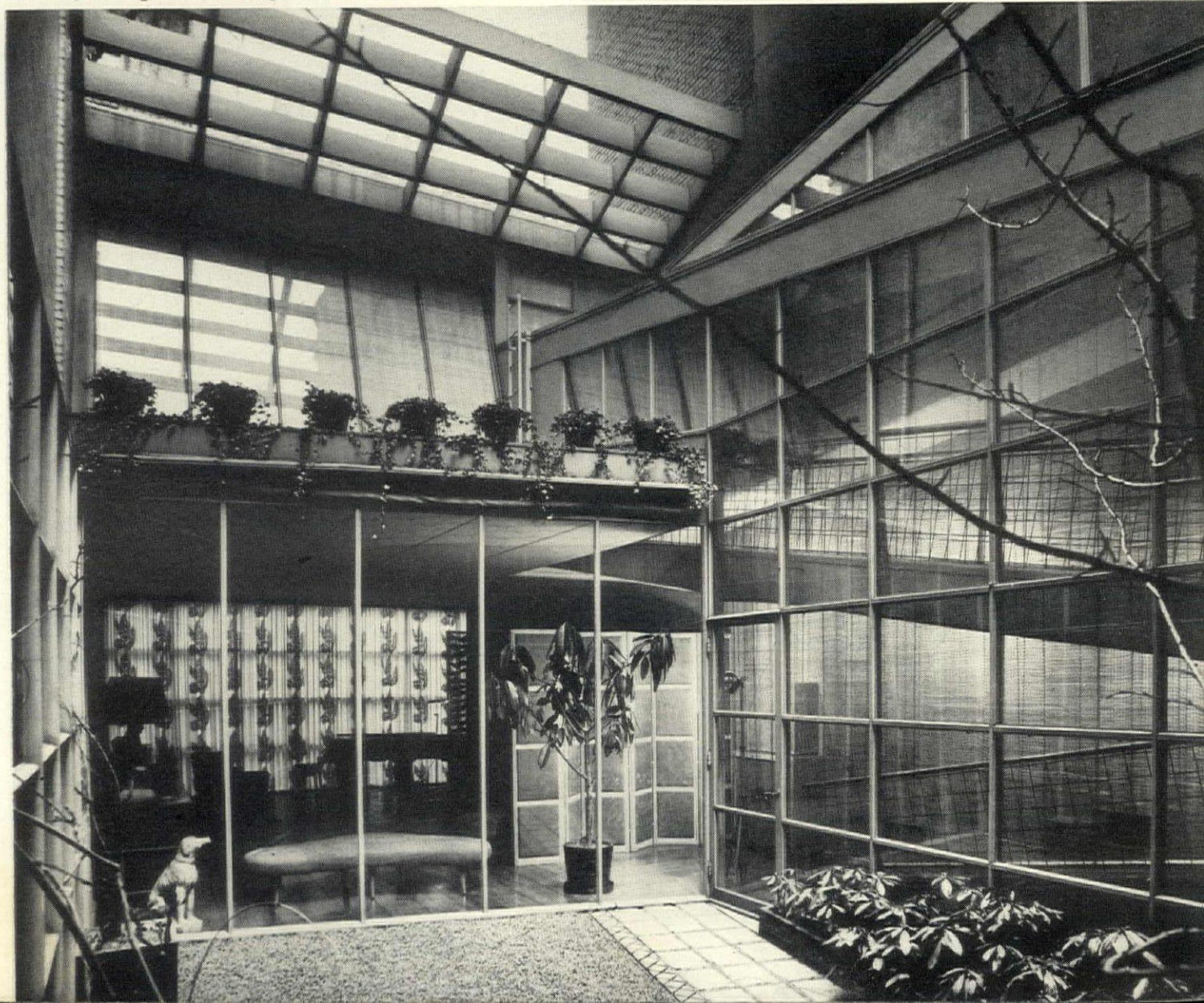
construction period. One result was that the house took a year and a half to plan and almost as much time to build. As far as we are concerned, the job was worth the headaches, for if the client worked us to a frazzle, the reverse was also true, and constant collaboration produced as many good ideas from one side of the conference table as the other.

"Considering the simplicity of the exterior (page 41), it is a little hard to remember that this was one of the worst of the headaches. At street level we had to arrange three doors, the kitchen windows, and the windows of two servants' rooms below.

After many tries, everything but the main entrance was put into a grille of wood and translucent glass. The expression may not be 'functional' but it is at least coherent and unobtrusive. Although there was no possibility of harmonizing the facade with that of the house next door, some of the main lines of the earlier building were carried through by the bedroom block. The large exterior louvers were installed partly for privacy but chiefly to reduce the load on the summer cooling equipment. The vanes are motor-operated, with push-button controls on both floors." (Detail, page 50).

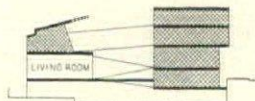
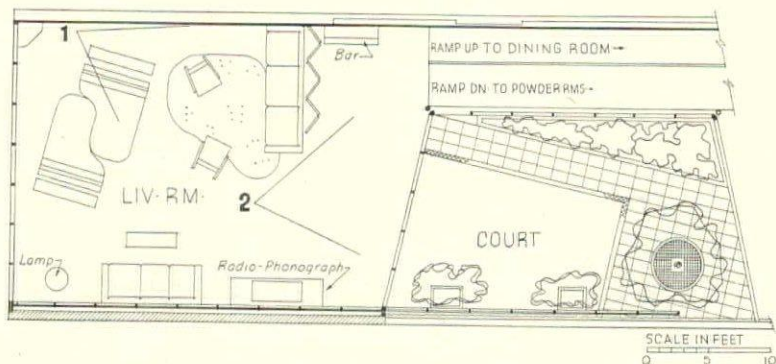


COURT, looking towards living room and library





VIEW 1.



The living room was designed primarily around a set of acoustical requirements. Because of these the glass walls are not parallel; the wall of oak plywood is faced by a "dead" wall (rock wool covered with grass matting) and the ceiling consists of a series of broken surfaces covered with natural linen stretched over wood frames. The photograph above shows one of the devices used to link the front and back sections of the house. The framework of the oak paneling extends into the court as a trellis, while the woven wood background continues into the dining room to become its west wall. A more dramatic example of this same interlocking of elements is the ramp, which breaks through the living room ceiling on its way to the study directly above.



Above, left, the music corner of the living room. The two pianos, supported as a single unit, were designed by Jens Risom. Behind the openwork

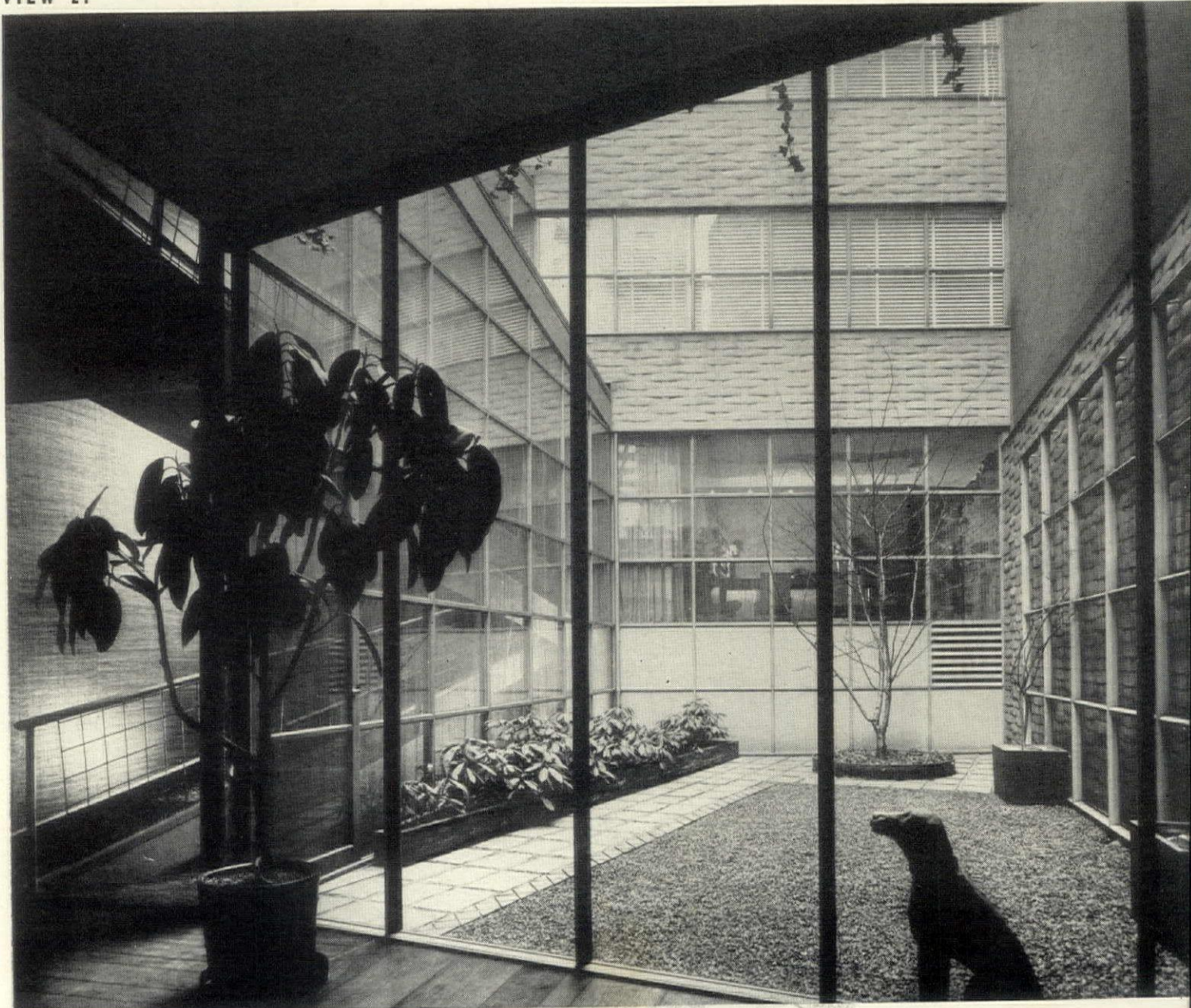


screen are the loudspeakers (center). The bar (right) is contained in a cabinet at the entrance to the living room; its porcelain-enameled



metal counter and end support are removable. The specially designed furniture and interiors, unless otherwise noted, are by Dan Cooper.

VIEW 2.

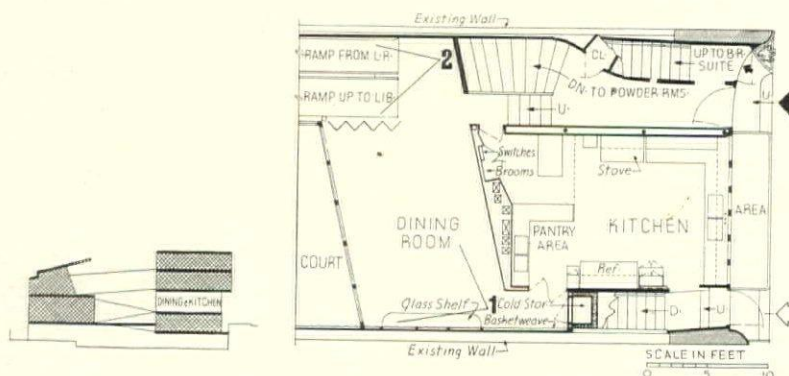




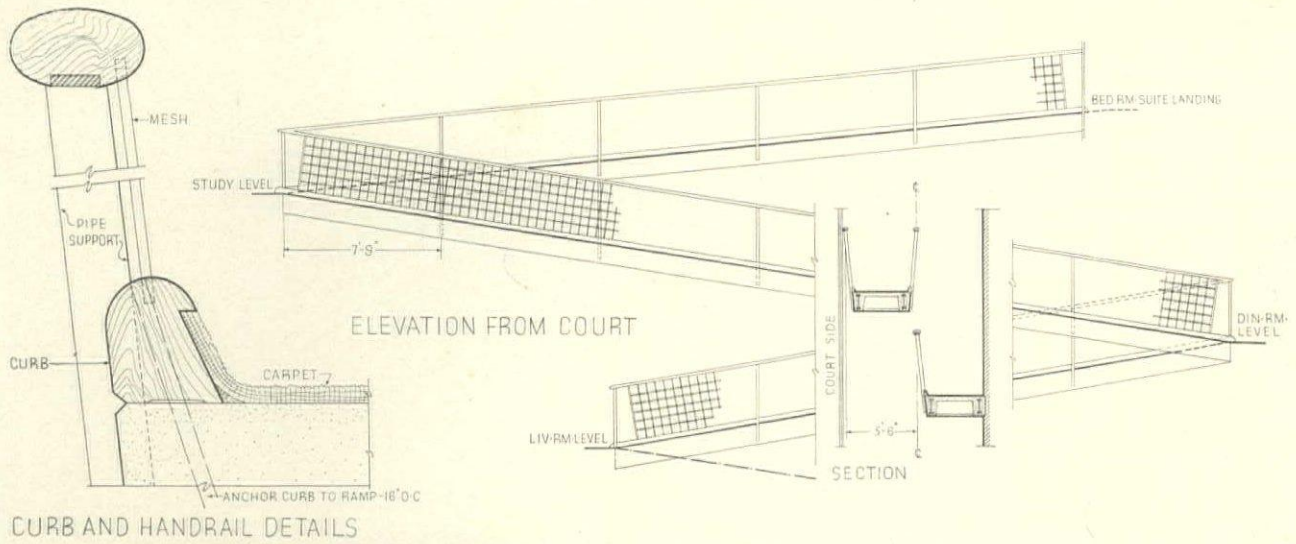
VIEW 1.



KITCHEN



Small and irregular in shape, the dining room relies heavily on its open relationship to both ramps and court for its effect of spaciousness. Focus of the decorative scheme is a long table whose top is made of sections of desert cedar imbedded in a cement composition. Illumination is indirect and direct, with small spotlights furnishing the latter. The plan shows a small alcove which conceals the service door to the kitchen and contains a refrigerator unit used mainly as a wine cooler. The kitchen (left) is a single large room incorporating both cooking and pantry facilities. Its wood and glass grille provides an abundance of natural light. The facing photograph was taken from the dining room level and shows the ramp coming up from the living room and continuing on to the study above. The ramps are covered with carpeting whose texture has been exaggerated by the photographer's lights. Railings are covered with red-painted wire mesh of the type used as reinforcement in concrete pavement.

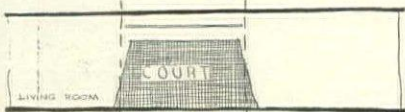


DESIGN VOCABULARY

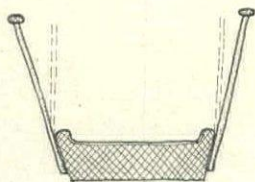
As the design work on the house progressed, it became apparent that a "design vocabulary" was being formed almost automatically, in response to widely varied requirements. During the later stages this vocabulary was used consciously as a unifying factor in the design as a whole. One element—the inclined plane—is shown in the sketches below.



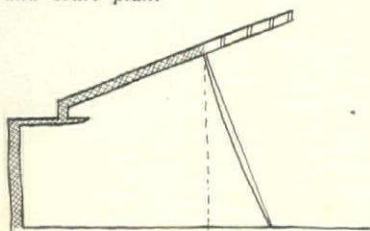
Ramps are harder to go down than up, harder on high heels than flat. The slope, determined by actual trial as shown, should be fifteen per cent or less.



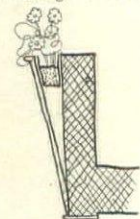
The inclined plane appears in the plan of the court. Originally established to meet acoustical requirements of the living room, the wedge shape made more spacious-looking rooms and court than a rectangular plan.



The narrow lot produced ramps of minimum width. The owner sensibly observed that the railings might be tilted to gain space, since people are wider at the hips than the ankles. Note similarity between shape of ramp section and court plan.



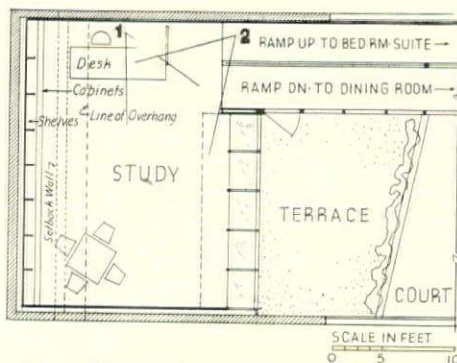
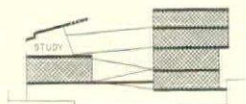
Zoning regulations and a need for floor space produced the sloping ceiling and wall in the study.



To enliven the court wall of the high front section of the house, flower boxes were introduced on both bedroom floors. Here the inclined plane recalls its more important uses elsewhere.



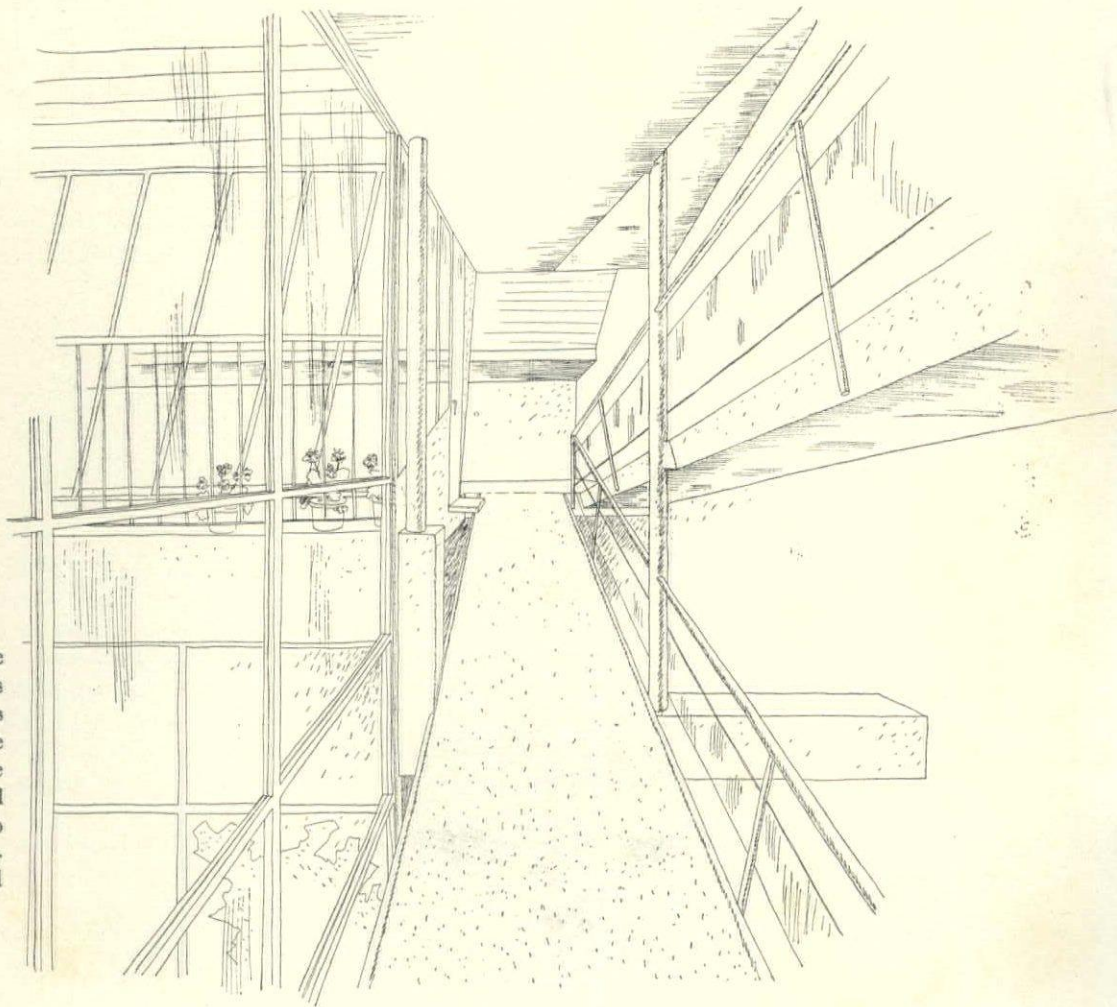
VIEW 1.



The study, perhaps the most successful of the interiors, offers an interesting case history of design conditioned by nonesthetic factors. Zoning regulations permitted the rear wall to extend only a short distance above head height, and forced development of the low book alcove at the rear. To get a usable room it was necessary to slope the ceiling. At this point the owner, anxious to get additional floor space, suggested that the window be sloped as well—and the room was designed. The problem of making Dorothy Liebes' handsome shades stay in place was solved by the use of thin stainless steel wires, stretched from top to bottom. To emphasize the shape of the room, the end walls were covered with grass matting, which contrasts agreeably with the ceiling and floor of polished mahogany. Book shelves (see facing photograph) are tapered in section and supported by glass inserts: both features were introduced to produce an effect of lightness and simplicity.

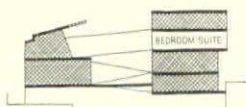
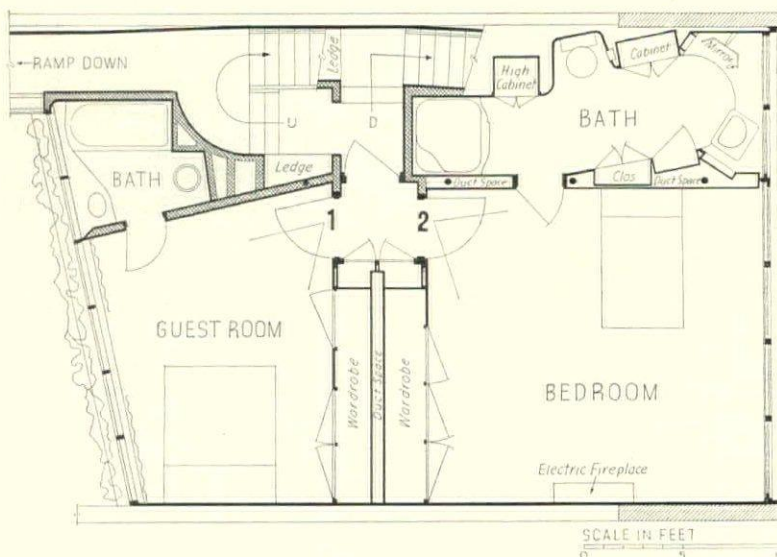
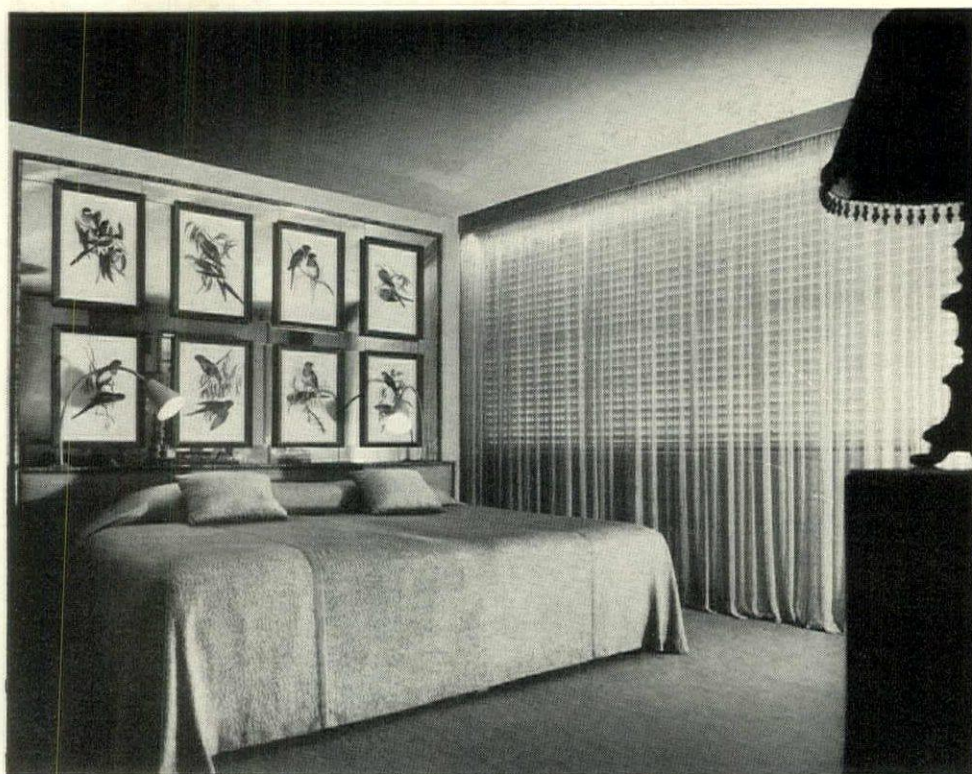


VIEW 2.



The preliminary sketch shows the ramp and the study substantially as they were executed. It also indicates something of the complexity of the design problems involved, for the open relationship of rooms and ramps raised many questions as to the proper solutions for the intersections of straight and inclined surfaces.

HEAD
 WOOD SASH
 FIXED SASH
 PLAN OF LOUVER AT WEST WALL
 C OF DRIVE SHAFT
 JOURNAL BEARING A
 PLAN OF LOUVER AT EAST JAMB
 LOUVER SOLID AT SUPPORT POINTS
 BEARING AT "A"
 LOUVER HOLLOW AT CENTER
 LOUVER SUPPORT
 LOUVER IN CLOSED POSITION
 1 1/2" x 1/2" ANGLE
 5" CHANNEL



SILL

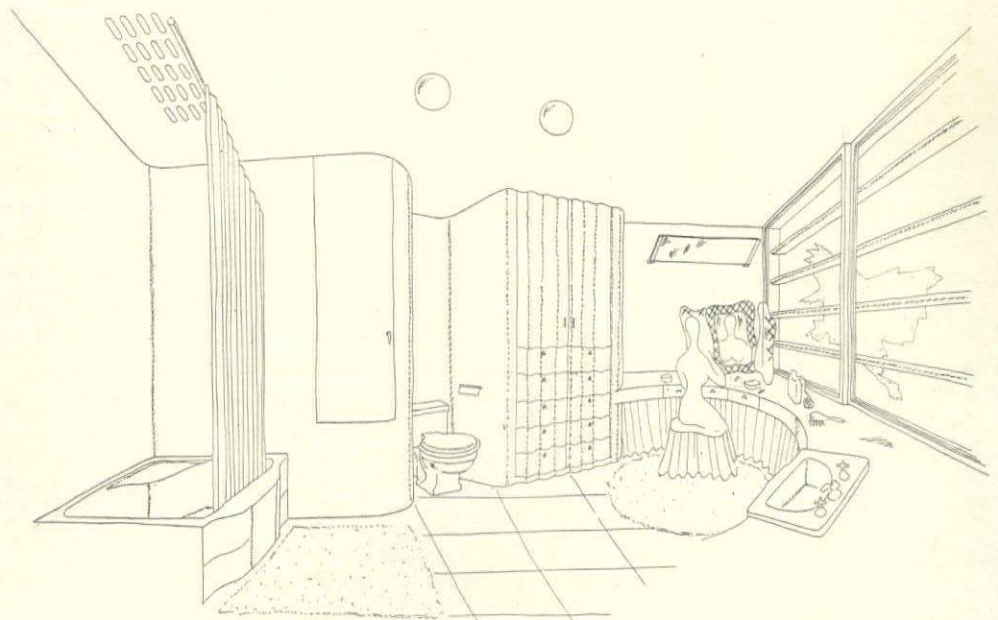
The louvers which screen the front bedroom windows consist of six vanes of redwood, extending almost the full width of the house. Each vane is built of two glued sections, which were cut out of the same plank to equalize stresses and reduce warpage. The operating mechanism is the same apparatus used to raise and lower convertible automobile tops: a small D.C. motor, run on storage batteries, and a hydraulic pump. Controls are identical with those found on car dashboards. The mechanism is almost noiseless in operation and tilts the vanes rapidly and smoothly.

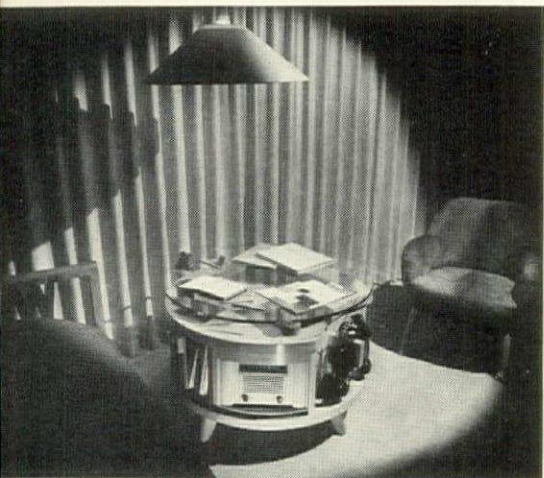
The master bedrooms are located in the front section of the house, on the two top floors; the lower of these floors, illustrated here, is occupied by the owner's aunt. This suite had to be arranged so that it could function as an integral part of the house, or as a completely private living unit with its own stair and outside entrance. The guest bedroom faces the court; its bath has outside light. The room, which is comparatively small, has been decorated in an architectural manner; the beds and the mirrored wall behind form a single unit with no other furniture in the room except a bureau. The main bedroom offers a sharp contrast with its use of old as well as new furniture. Its very feminine character makes few concessions to the modern background, suggesting that the contemporary house will permit as wide a variety of decorative schemes as any other type.



VIEW 2.

The master bathroom-dressing room occupies a long and narrow space at the front of the house. Dressing table and lavatory form part of a single curved counter, finished in a plastic tile which was brought out shortly before the war. Lighting fixtures are aluminum bowls, set flush with the ceiling, with silver-bowl lamps. The foreground wall, which does not appear in the sketch, is equipped with cabinets and closets.

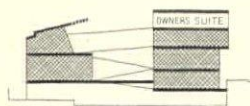




VIEW 1.



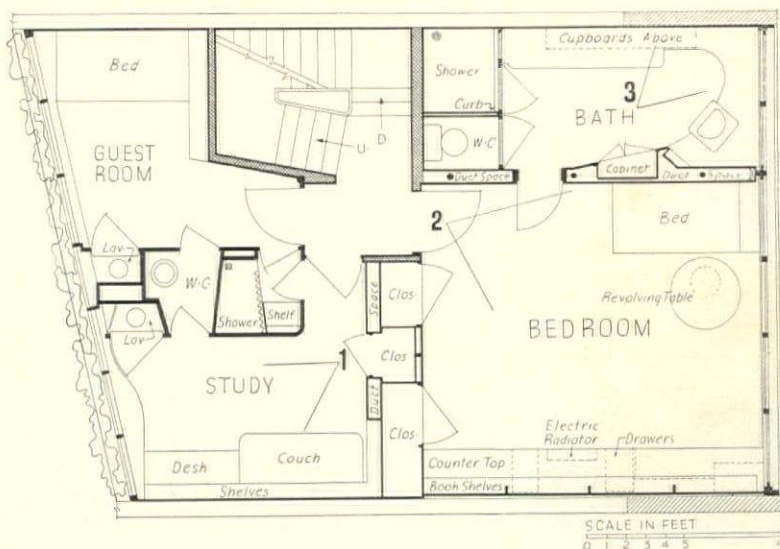
VIEW 2.



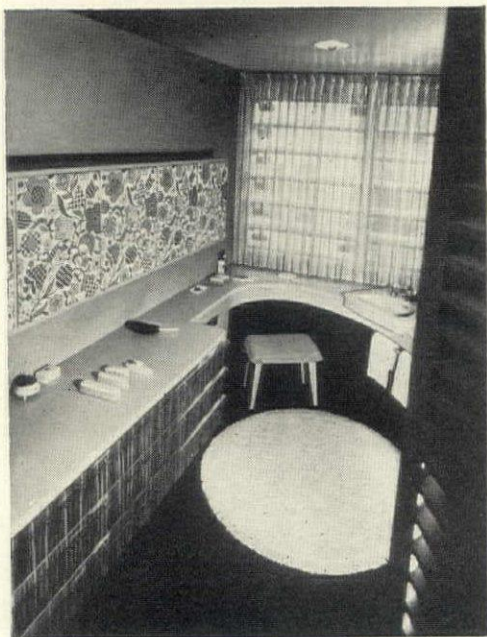
LAVATORY CLOSET

Each of the small rooms contains a lavatory-closet, equipped with a large mirror, tube lights, a bowl set in a counter, and a linen hamper. This type of unit is one which could be used to advantage in less expensive houses. The study (opposite page) was designed by Jens Risom. Its tilted glass magazine shelves are good-looking and practical; concealed fluorescent lamps illuminate the shelves. The circular bedside table, designed by the architects, is a rotating unit which contains a radio, telephones, and space for phone books, thermos jug, etc.

The original scheme for the owner's floor was similar to that of the bedroom suite below. When this was changed to provide an additional room, it became necessary to break up the guest bath into the compartments shown on the plan. The master bedroom is a combination study and sleeping room; its coffered ceiling, required by the owner, is made up of specially cut sections of cork insulation. The bath-dressing room is similar in shape to the one on the floor below, but has a shower instead of a tub. It contains drawers for shirts and underclothing, and closets for shoes, etc. The high cabinets which appear in the photograph are covered with printed linen. There is a small enclosed space under the curved counter (below) which houses the operating mechanism for the exterior blinds.



VIEW 3.



BATH



HEATING AND AIR CONDITIONING

The system now operating in the house was developed in three stages. The original installation, designed by Daniel and Wallen, Inc., was set up for heating and ventilating.

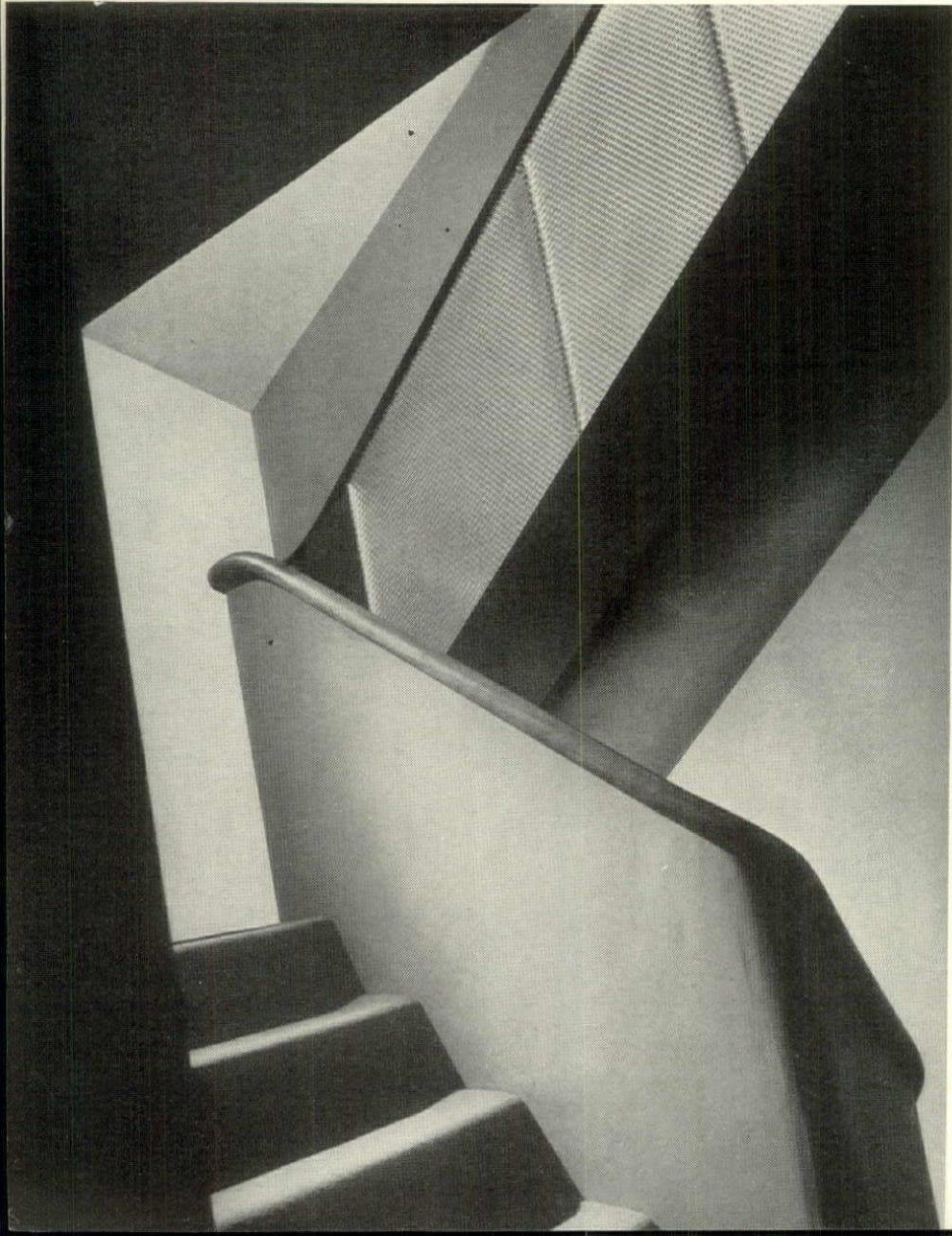
Part of the return air was conveyed by individual room ducts, the balance by relief to halls with group return. Outdoor and return air were mixed in the basement apparatus room, passed through electrostatic precipitators, humidified by steam and flowed to the fan inlet. A static pressure regulator was provided to keep the fan discharge pressure constant. The system was zoned to take care of the front and rear sections of the house separately, and each of the two branch ducts contained a steam heating coil with a face and bypass damper. Beyond these heaters the ducts branched to the various rooms. A thermostat in each zone controlled the dampers on the heaters. The outdoor air damper was controlled so that it would

start to close after the face damper of either heater was wide open. The oil burner operated under pressure control whenever heat was needed. Thermostats were provided with time-clocks in order to maintain lower temperatures at night.

After completion of the heating system, the Adams Engineering Company was employed to install summer cooling. This comprised a 7½ H.P. compressor and cooling coils in the two branch ducts. The cooling coils were installed below the heating coils so that the existing damper arrangement could be used for either summer or winter. The controls were then arranged so that the compressor would start if either of the thermostats or humidistats were not satisfied. The system was further modified by the installation of a pump and forced hot water system for the heat supply to the two heating coils. The circulating pump operated whenever either thermostat called for heat, whether in

summer or winter. Steam heating was restored for cold weather operation.

Subsequent modifications to the system were made by Charles S. Leopold. Due to the complexity of the plan, the system included a number of small ducts whose surface area is large in comparison with the volume of air carried, and the temperature rise or fall in these ducts was therefore considerable. The air supply was recalculated and rebalanced to allow for temperature changes within these ducts. The method of reheating by hot water was changed by the addition of thermostatic control valves in each of the two heater supplies. Calculation indicated that the heat available by circulating hot water was sufficient for all but a very few cold days, and this was verified during the past winter when for a few days the outdoor air inlet was closed in preference to switching over to heating by steam. Other controls were added to make operation of the system fully automatic.

STAIR TO ROOF**CONSTRUCTION OUTLINE**

FOUNDATION: Poured concrete. Damp-proofing—Toch Bros.

STRUCTURE: Exterior walls—brick. Floors—Cantelitte plank on bar joists, Concrete Plank Co. Ramps—special design, Massillon type steel joists.

ROOF: Tar and gravel. Ramp roofs—Johns-Manville bonded roofing with Cheesman Elliot Bituseal aluminum finish.

INSULATION: Roof—aluminum foil and rockwool. Sound insulation—Johns-Manville Sanacoustic tile in kitchen; acoustical plaster, California Stucco Products Co.

SHEET METAL WORK: Flashing and gutters—copper. Leaders—cast iron. Ducts—galvanized iron.

WINDOWS: Fenestra metal, Detroit Steel Products Co.; some wood. Glass—Pittsburgh Plate Glass Co. Translucent glass—Blue Ridge Glass Div., Libbey-Owens-Ford Glass Co.

FLOOR COVERINGS: Living room—Teak plank; Library—mahogany, Haskelite Co. Kitchen and bathrooms—rubber and linoleum over Flintkote Co. floormix. Bedrooms and ramps—Mohawk carpet.

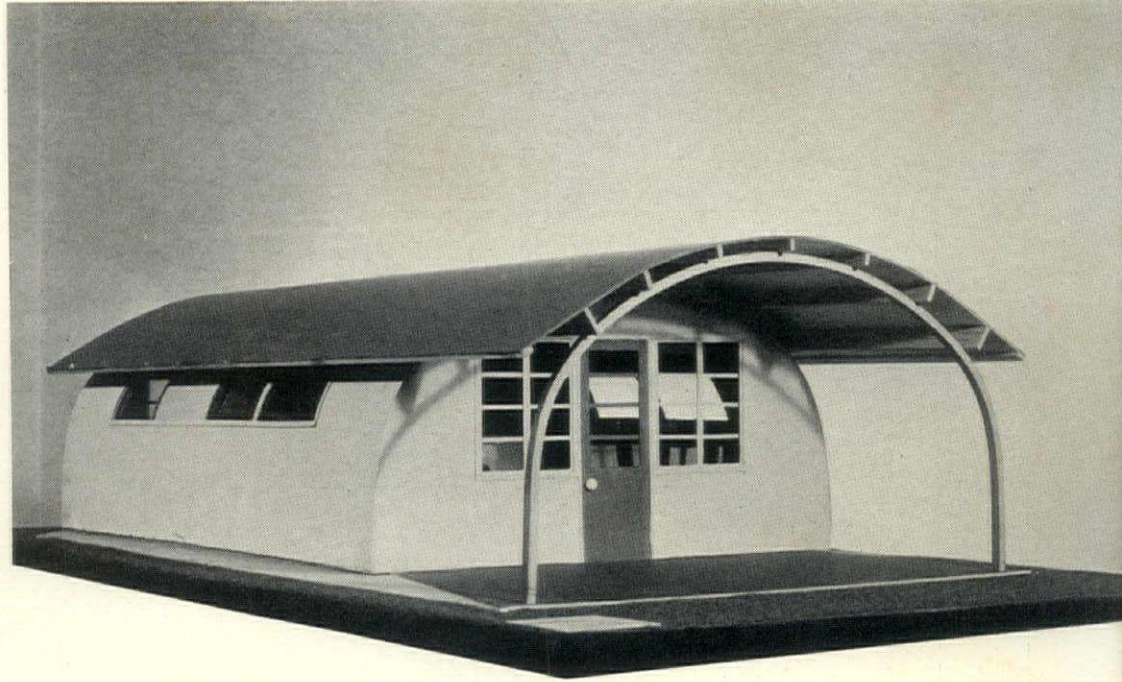
WALL COVERINGS: Library—African mahogany veneer panels. Living room—matting and oak plywood. Bedrooms—wallpaper, linen and U. S. Plywood Co. Flexwood. Halls—wallpaper and fabric. Court wall—interwoven fence, DuBois Fence & Garden Co.

KITCHEN EQUIPMENT: Range—Estate Stove Co. Refrigerator—Westinghouse Electric & Mfg. Co. Sink—Crane Co. Ventilating fan—American Blower Co.

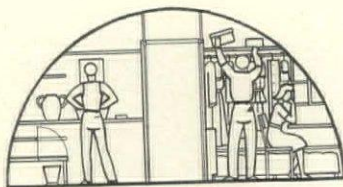
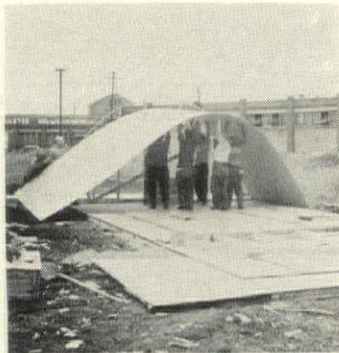
LAUNDRY EQUIPMENT: Washing machine—Westinghouse Electric & Mfg. Co. Drier—General Electric Co.

BATHROOM EQUIPMENT: Crane Co. Accessories—Charles Parker Co. Counter tops—Flexachrome, Tile-Tex Co.

HEATING AND AIR CONDITIONING: Boiler—Fitsgibbons Boiler Co., Inc. Burner—Carrier Corp. Grilles—Tuttle & Bailey Mfg. Co. Blower—American Blower Co. Air filters—Precipitrons, Westinghouse Electric & Mfg. Co.



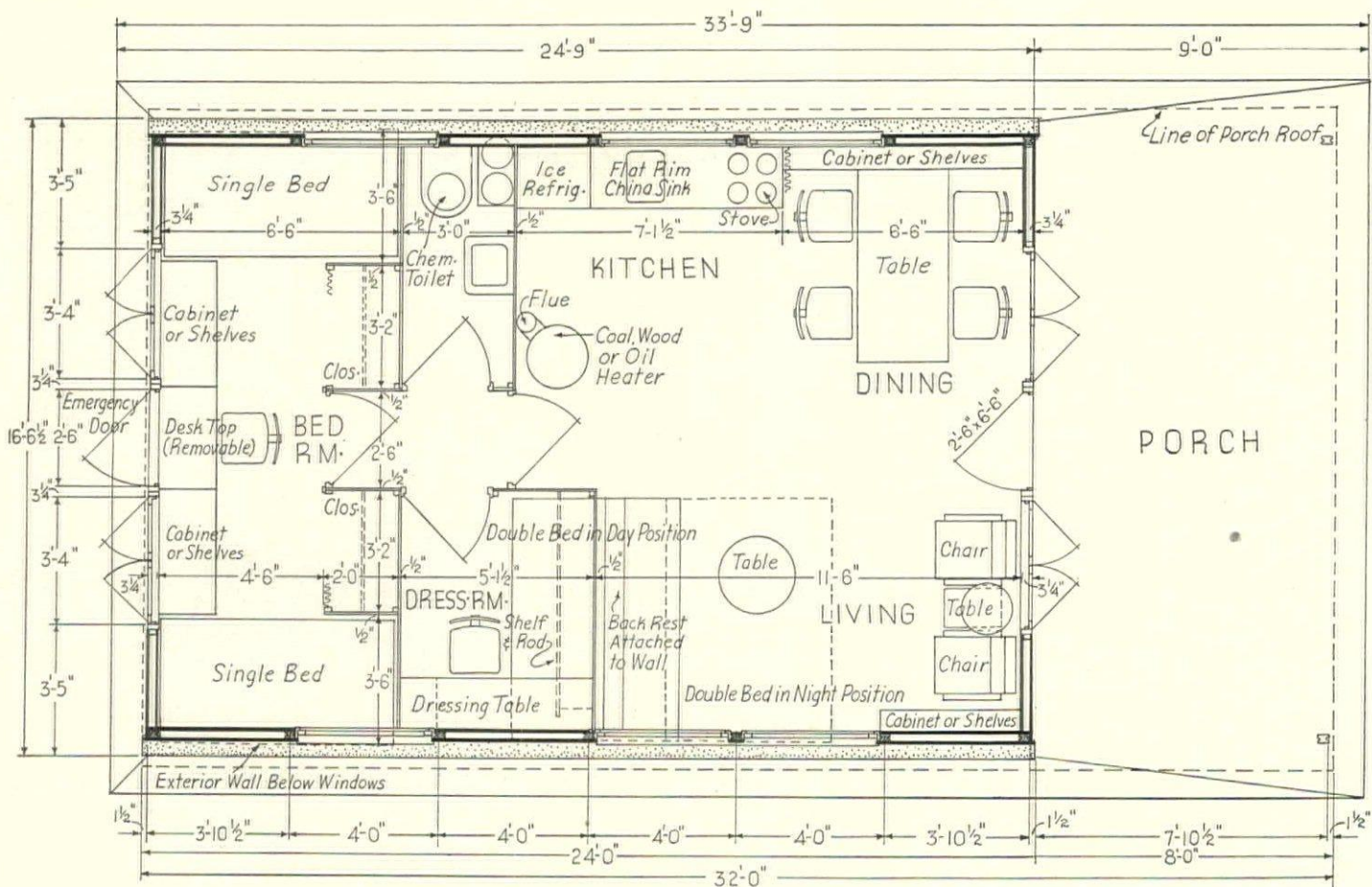
VICTORY HOUSE a development of the JOHN B. PIERCE FOUNDATION



The house shown above, and on the following three pages, is an emergency, minimal unit designed for temporary use in war-swollen communities where acute housing shortages exist. It can be built, and completely furnished, for less than \$1,000. It uses a total of only 118 lbs. of metal, and virtually no other priority materials. It accommodates a family of four, including children of opposite sexes, in relative comfort and without crowding. Essentially, it is a substitute for the trailer, and as such offers a substantially higher standard of housing with less expenditure of money, materials, manpower and transportation.

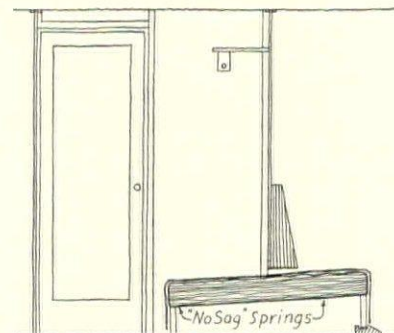
Developed by the Foundation as an offshoot of a study of the possibilities for conserving critical materials in the Army's Nissen Hut, the Victory House is based on the use of self-supporting arch construction, in which sidewalls and roof are formed in a single operation. In the original study (pictures, left), these consisted simply of overlapping, bent sheets of laminated pulp-board, with no framework of any kind. The final design, however, is based on the use of laminated wood arches, spaced about 4 ft. apart and shaped to produce a roomier interior. Covered on both sides with pulp-board, this frame supports a double wall and roof which can be further insulated with batt or blanket materials for rigorous climates. A third layer of pulp-board, coated at the factory with asphalt roofing, is supported above the arch proper with a ventilated air-space between for insulation against sun-heat. This added layer of material, one of the most interesting features of the design, is also used to shield the sloping windows on the sides of the building from sun and rain.

Definitely scaled to the limitations imposed by the war and the housing situation it is intended to alleviate, the Victory House has no plumbing and no electrical wiring. Sanitary facilities consist of a kitchen sink, draining into a dry-well, a washstand and a chemical toilet. Illumination is from kerosene lamps. Reason for these rather stringent limitations is not so much the conservation of materials within the house, as it is the need to conserve utility connections, and to free the house from reliance on such facilities. The fact that many more elaborate war houses have been completed only to stand empty awaiting priorities for utilities attests to the realism of this approach.

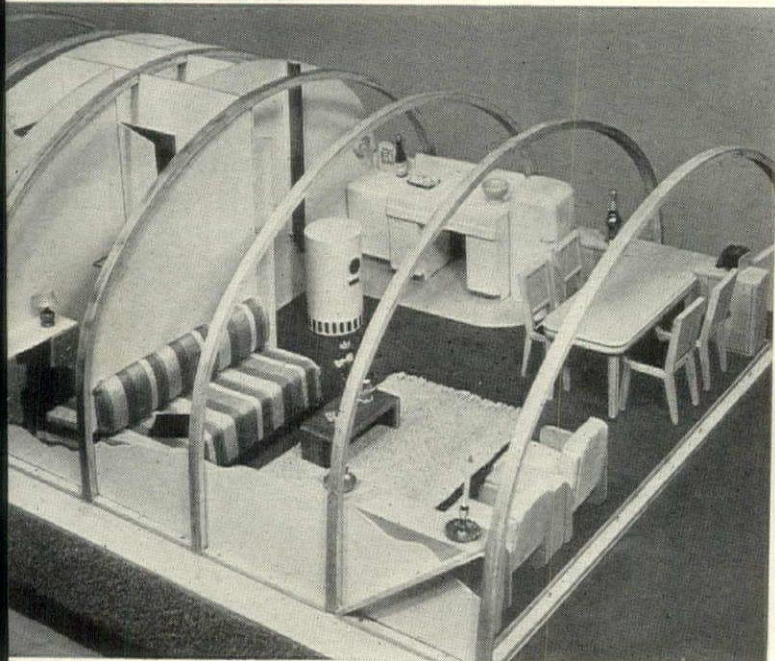


Main reason for the unusual economy of the Victory unit is not, however, the absence of mechanical equipment—which could be added for about \$250—but the remarkable ingenuity of the plan. As the photographs of the model at the bottom of the page demonstrate, an amazing amount of utility, and even spaciousness, has been packed into its 16-by-24 floor area. Provision of “overflow” space on the extremely simple porch, the through-wall bed and dressing room (section, right), and the efficient layout of the back bedroom are commendable features which make this possible.

While the Victory House has yet to receive the backing of any Government agency, it has been developed in collaboration with housing and war production officials, and richly deserves to become an important part of the war housing program. Meanwhile, the design is also available to private builders by arrangement with the Pierce Foundation.

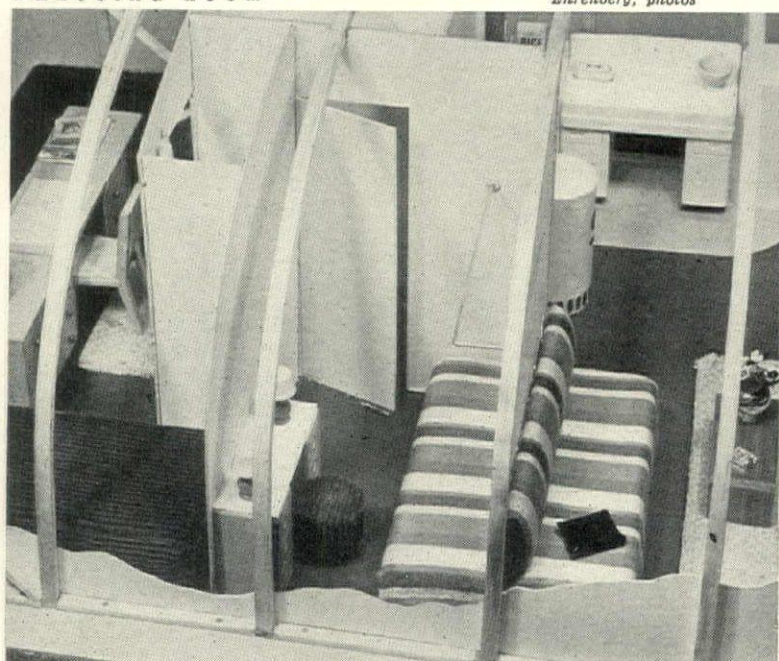


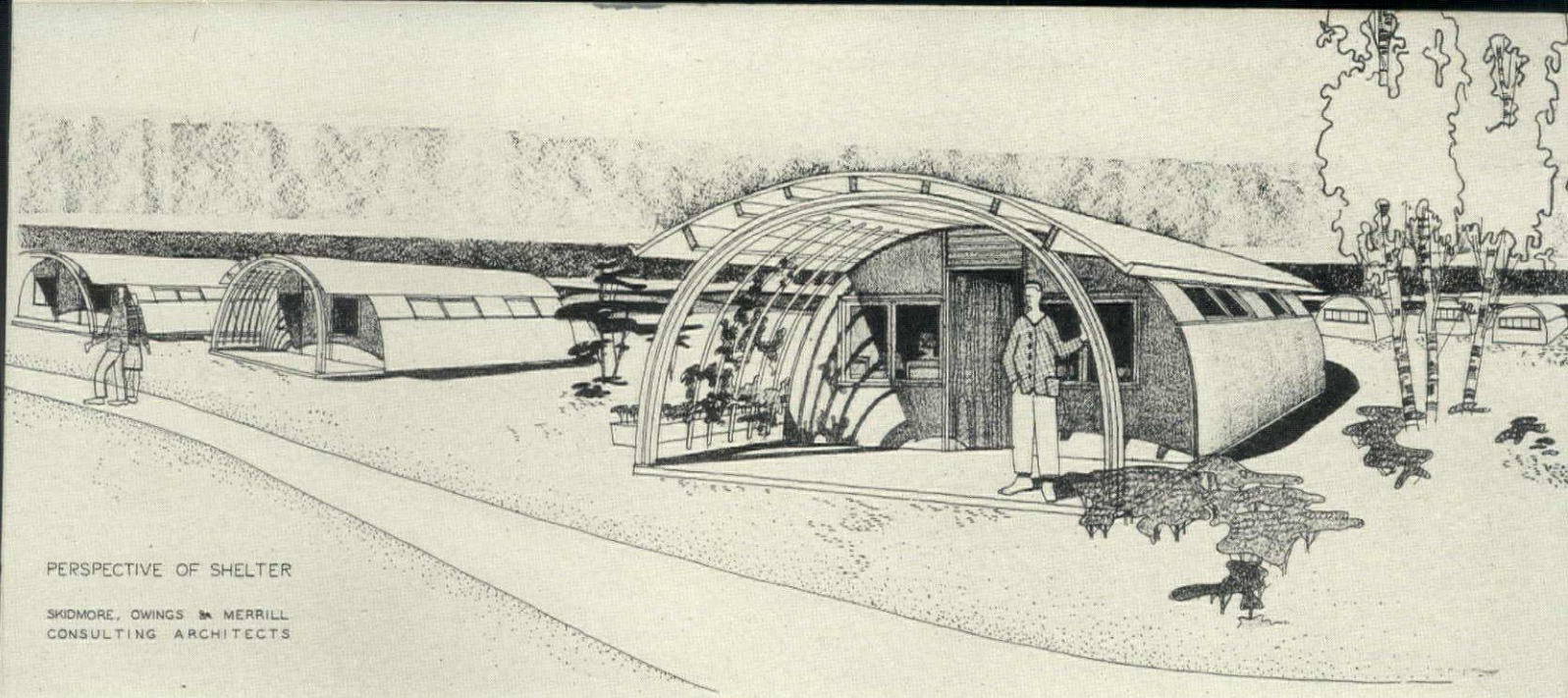
LIVING ROOM



DRESSING ROOM

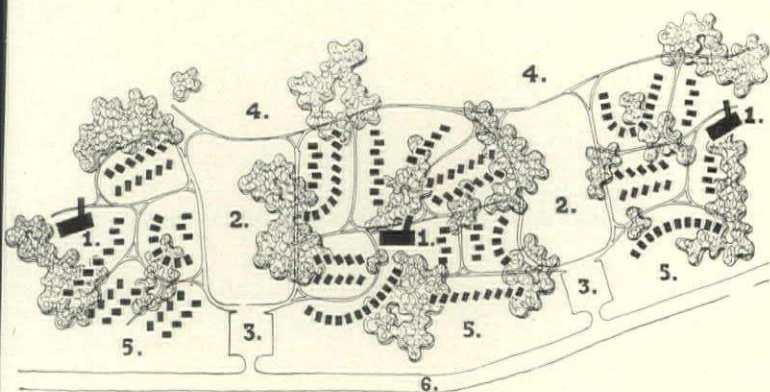
Ehrenberg, photos





PERSPECTIVE OF SHELTER

SKIDMORE, OWINGS & MERRILL
CONSULTING ARCHITECTS

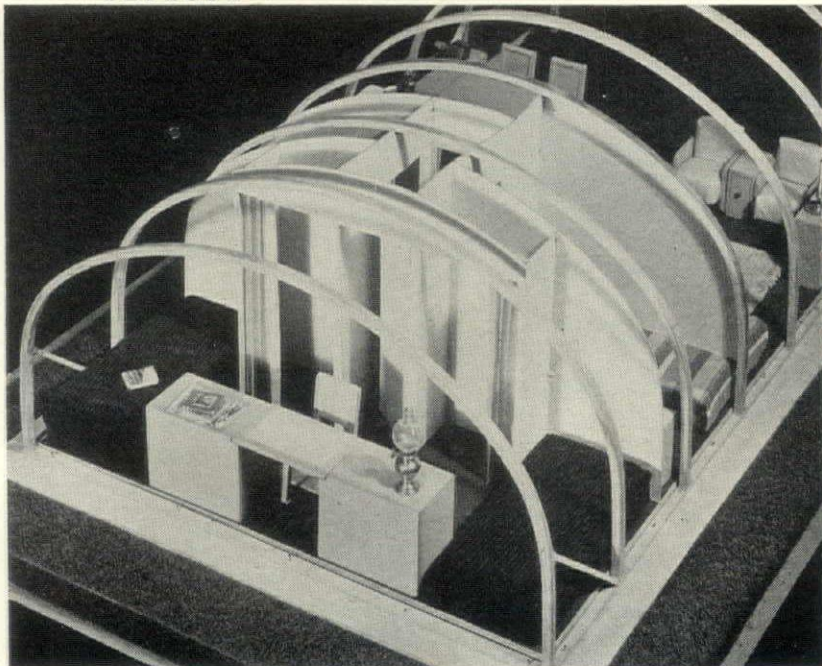


Plot plan, above, shows how Victory houses might be arranged in temporary settlements just outside developed areas. 1. Community lavatories, toilets and laundries. 2. Recreation areas. 3. Parking areas. 4. Gardens. 5. Greenbelt. 6. Highway. Table, right, gives estimated cost including furniture, assuming ordinary conditions. Even allowing for costly delays during building, transportation difficulties, local labor trouble, penalty clauses, overhead and profit, the entire cost should be less than \$1,000.

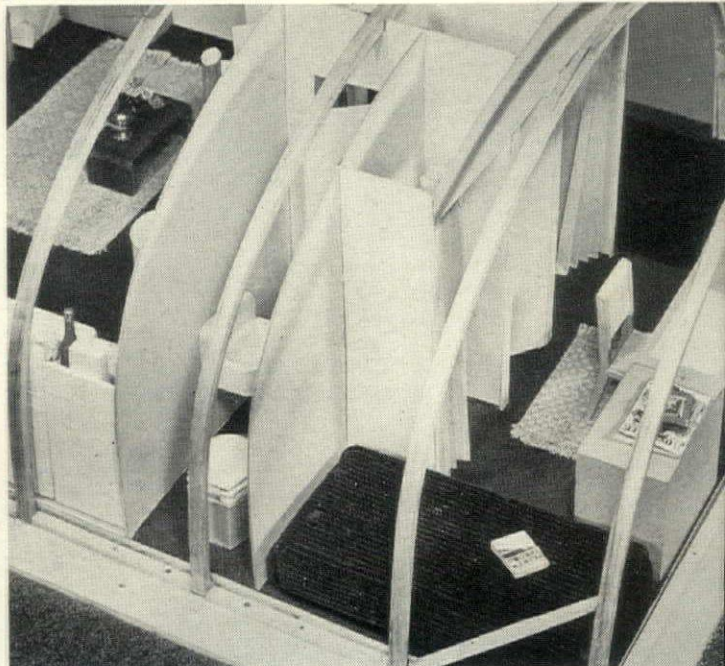
ESTIMATED COST

FOUNDATION AND FLOOR—concrete.....	5.5	CY	@	\$10.00	\$55.00
PORCH FLOOR—concrete	1.6	CY	@	10.00	16.00
EXTERIOR WALLS AND ROOF—pulp board with asphalt roofing on one side	751	SF	@	0.10	75.10
PORCH ROOF AND "FLY"	576		@	0.10	57.60
INTERIOR WALLS—pulp board or similar	723		@	0.05	36.15
PARTITIONS—pulp board or similar.....	266		@	0.05	13.30
WINDOWS — glazed — 2'-0"x3'-7"x1-3/8" including butts	14	pc.	@	2.00	28.00
DOORS—exterior—glazed—2'-6"x6'-6"x1-3/8", including lock set and hinges.....	1		@	11.00	
	1		@	7.05	18.50
LUMBER AND TRIM.....	808	BF	@	0.05	40.40
CHIMNEY—allow					5.00
HARDWARE, rough					
		allow			30.00
MASTIC and roof cover strips.....					
TOTAL MATERIALS					\$375.05
FABRICATION LABOR—ribs, door and window frames, etc.....					85.00
ERECTION LABOR (above floor) 75 man-hours			@	1.00	75.00
TOTAL STRUCTURE					\$535.05
FURNITURE AND EQUIPMENT.....					221.14
TOTAL COST					\$756.19

BEDROOM



BATHROOM



Total amount of metal required in this house is estimated at not more than 150 pounds, including nails, bolts, screws, anchors, butts door latches and lock sets.

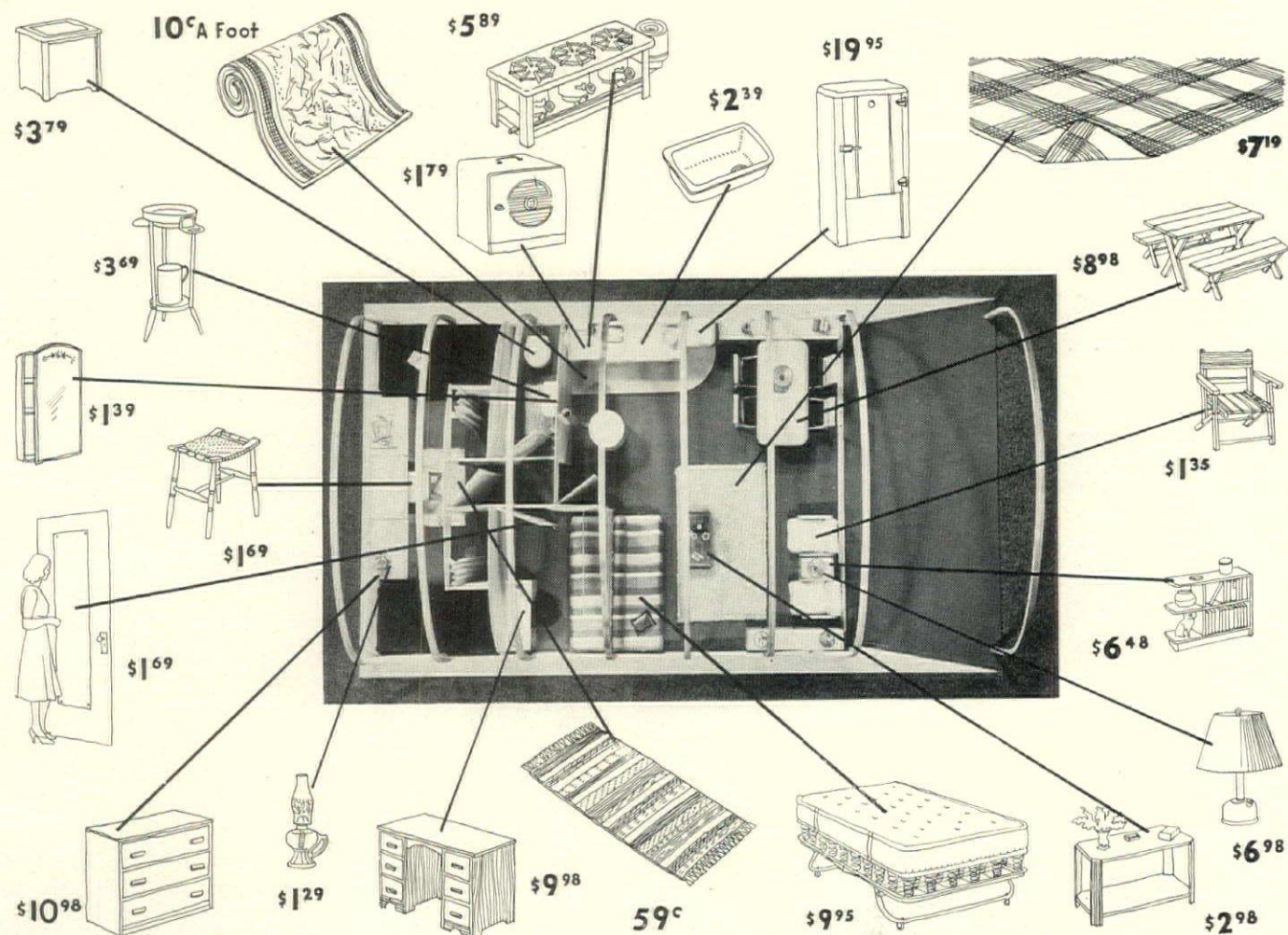
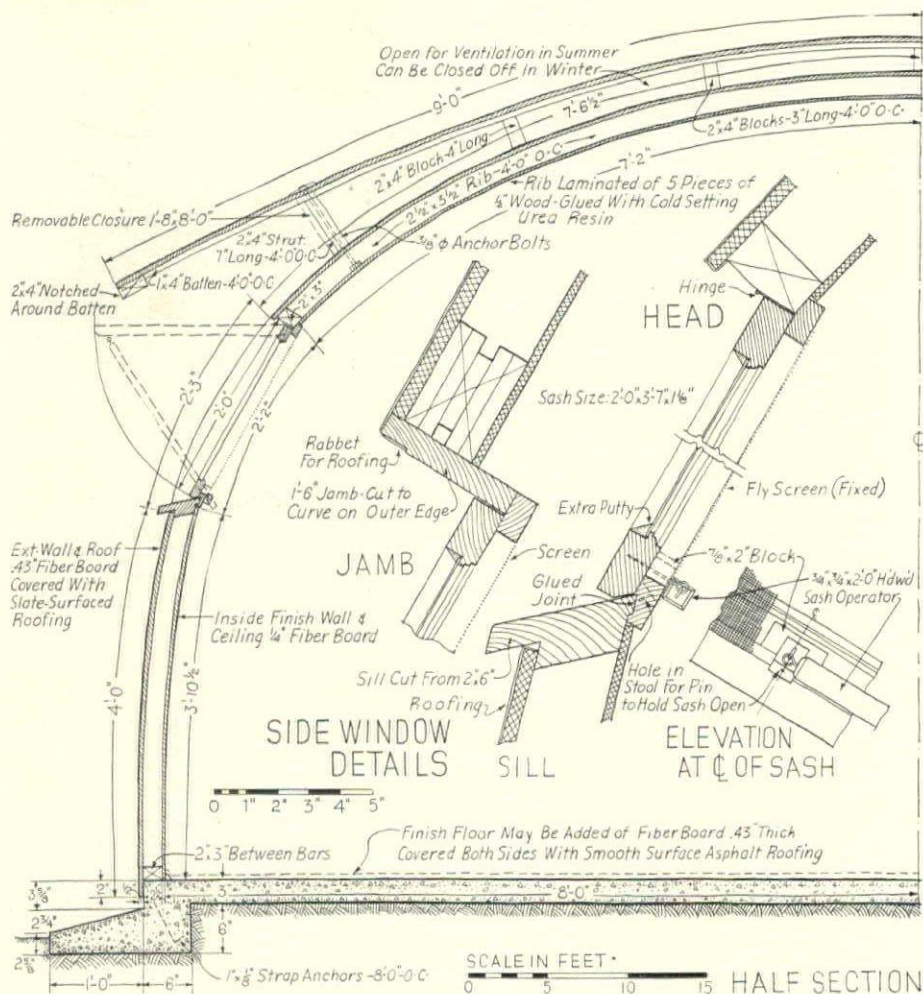
Nails	
Frame	12 lbs.
Exterior wall	15
Roof "fly"	10
Interior wall	15

Door and Window Hardware

14 sash @ 1 lb.	14
6 doors @ 2 lb.	12
5 doors @ 2 lb.	10
1 door @ 5 lb.	5

Bolts	10 pc. 12" long	15
Anchors	20 pc. 1/8" x 1" x 12"	10

Total 118 lbs.



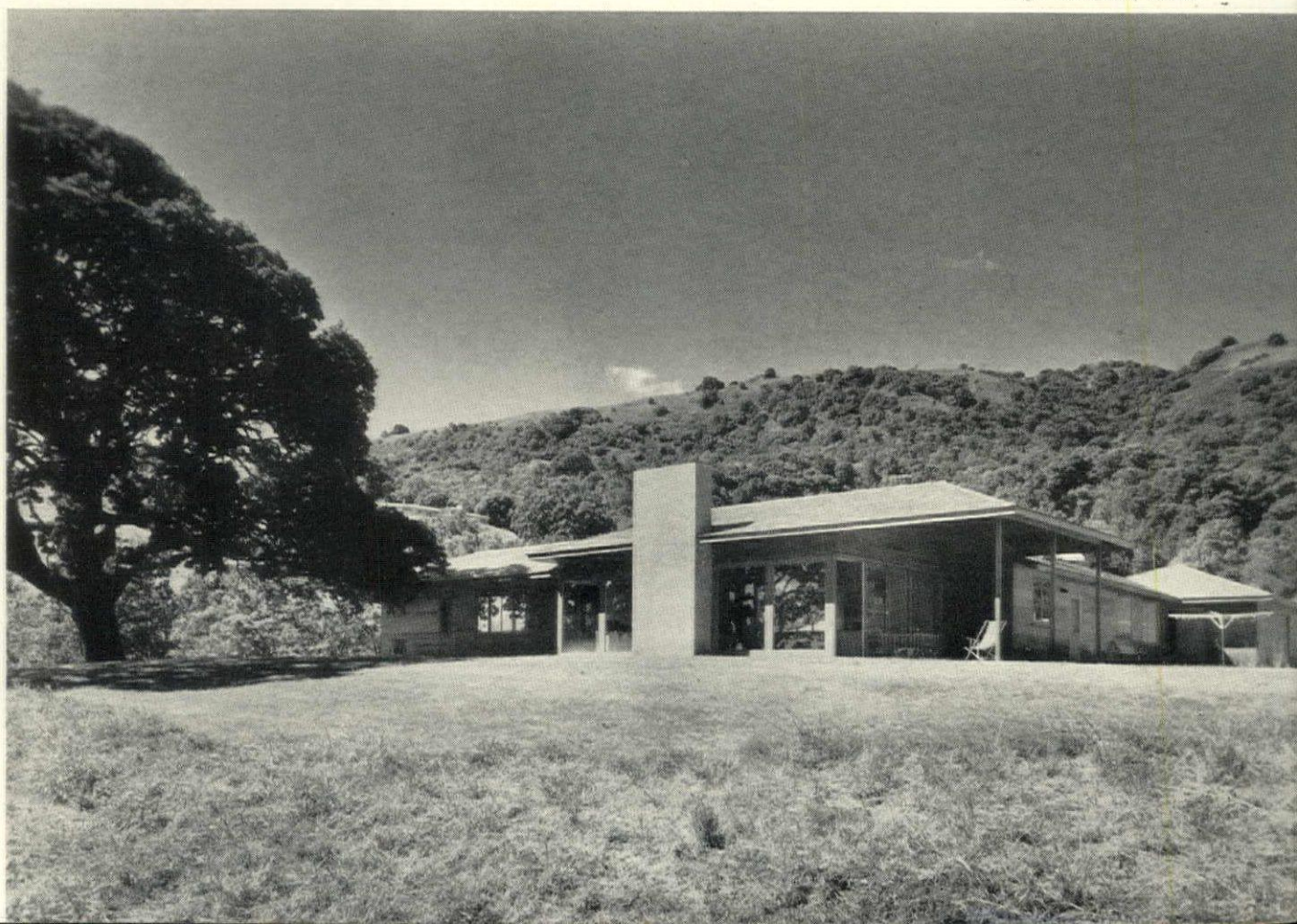
FURNITURE AND PRICES FROM CURRENT SEARS ROEBUCK AND MONTGOMERY WARD CATALOGS

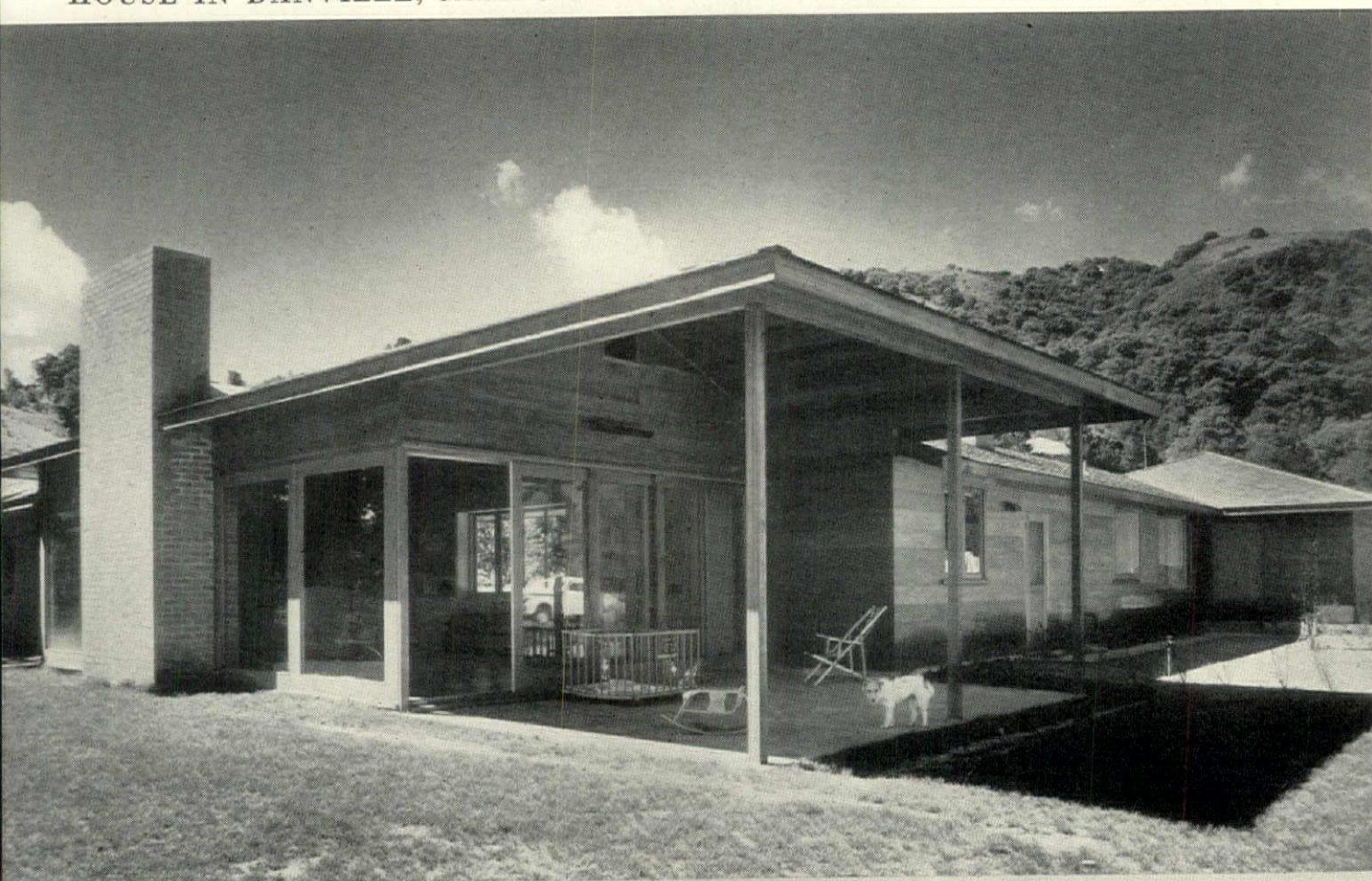
HOUSES

HOUSE IN DANVILLE, CALIF.
CLARENCE W. W. MAYHEW,
ARCHITECT

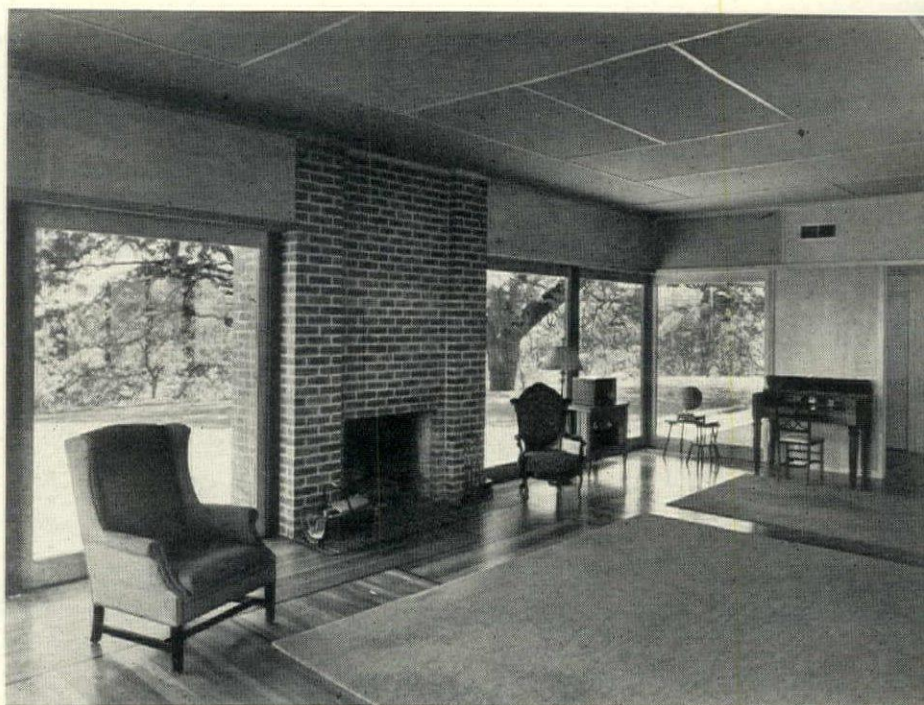
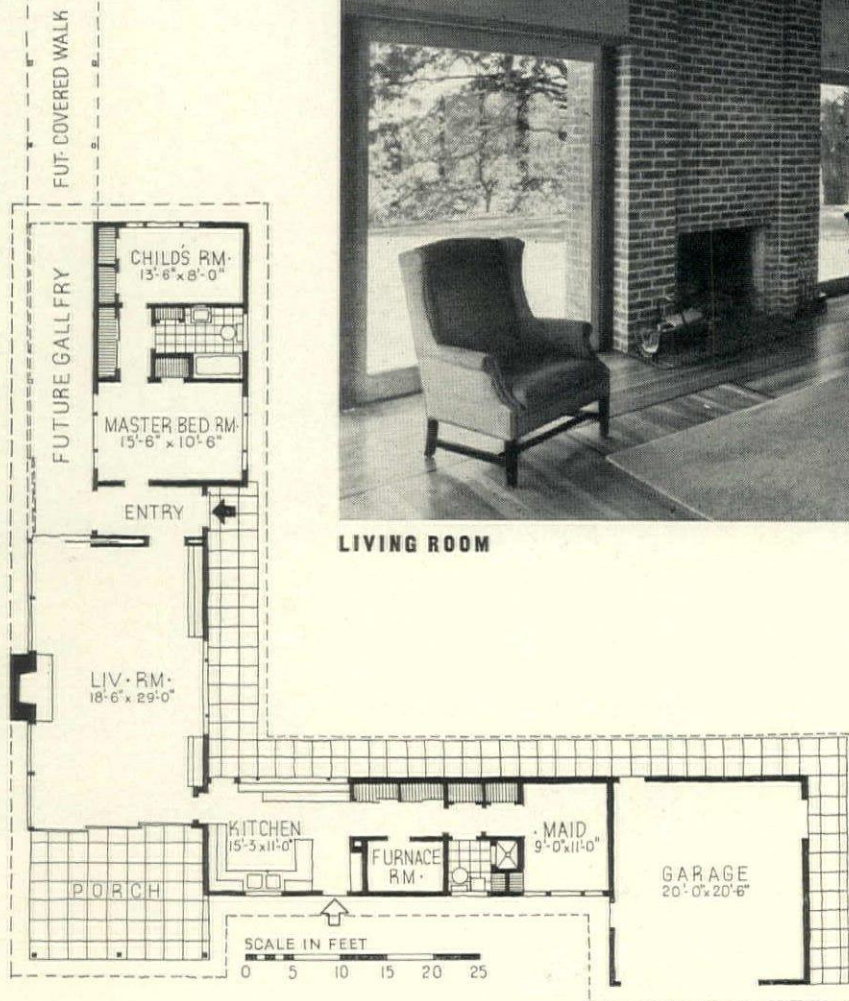
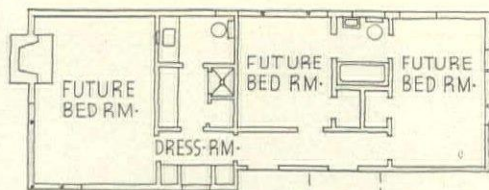


Roger Sturtevant, Photos





Roger Sturtevant, Photos



LIVING ROOM

This house follows an established Californian trend both in the use of simple traditional materials, and in a sprawling open plan, well suited to the climate. There are a number of unusual features. The living area has been treated as a part of the three-acre site, while the sleeping quarters are compact and workable. The informality of the living area makes this a house which could hardly be built in another climate. Such features as a north wall of floor-to-ceiling glass screens, and a virtually free-standing fireplace that does away with the usual furniture grouping, are possible only in an informal house in a mild climate. Magnificent oak trees surround the building, and add to the dramatic effects achieved by deep roof overhangs and frank exposure of the timber structure. Cost: \$9,500 including architect's fee.

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—horizontal redwood siding, 30 lb. building felt, studs; inside—white pine veneer. Floors—oak.

ROOF: Red cedar shingles.

SHEET METAL WORK: Flashing and ducts—galvanized iron.

INSULATION: Attic floor—Insulite Co. board.

WINDOWS: Sash—casement, sugar pine. Glass—Pennvernion, Pittsburgh Plate Glass Co.

FLOOR COVERINGS: Kitchen and bathrooms—linoleum, Armstrong Cork Co.

WALL COVERINGS: Living room and halls—white pine; remainder—plaster.

HARDWARE: Schlage Lock Co.

PAINTS: W. P. Fuller & Co.

ELECTRICAL INSTALLATION: Wiring system—knob and tube. Switches—General Electric Co.

KITCHEN EQUIPMENT: Range, refrigerator and dishwasher—General Electric Co. Sink—Crane Co.

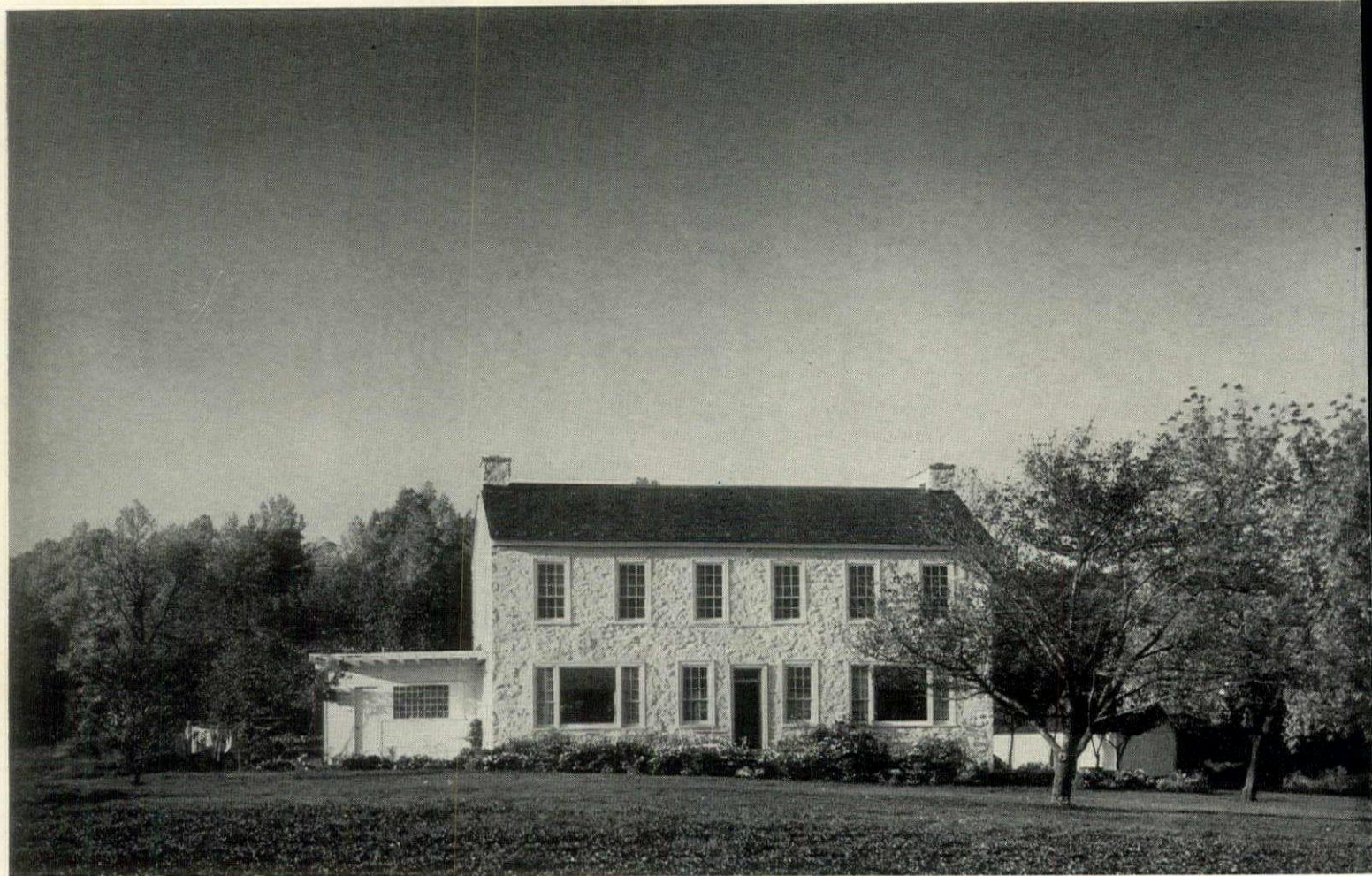
LAUNDRY EQUIPMENT: Washing machine and drier—Bendix Home Appliances, Inc.

BATHROOM EQUIPMENT: Crane Co.

PLUMBING: Water pipes—copper, Muller Brass Co.

HEATING: Warm air, filtering and humidifying, Ray Co. Grilles—Hart & Cooley.

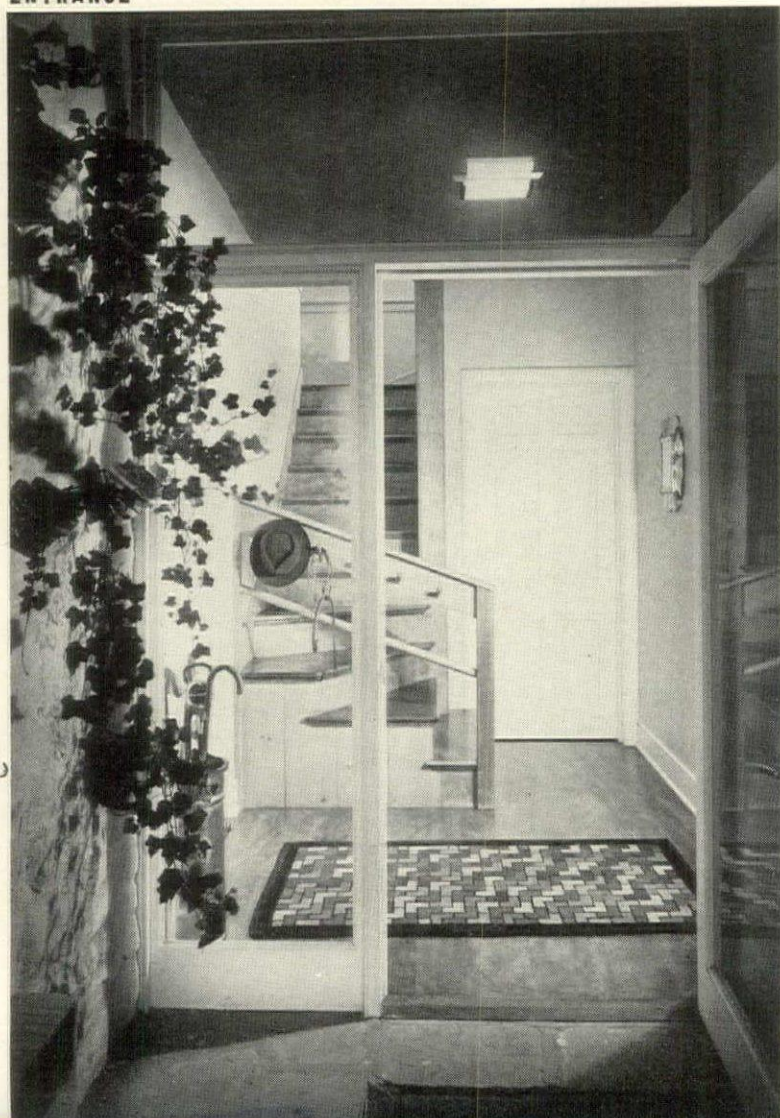
REMODELED HOUSE IN BUCKS CO., PA.



SOUTH ELEVATION

Richard Garrison, Photos

ENTRANCE

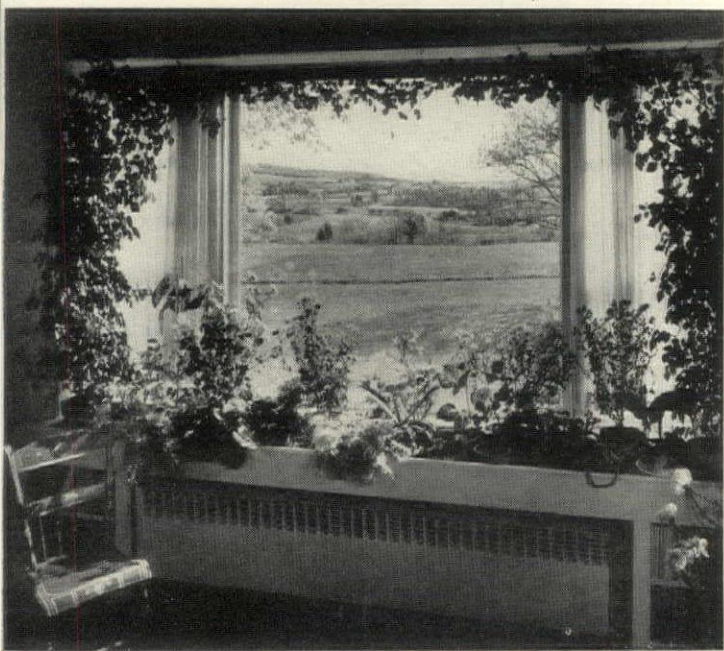


GEORGE KOSMAK, ERNST PAYER, ASSOCIATED ARCHITECTS

Modern architects in this country have long felt that their work had a great deal in common with the Pennsylvania Dutch barns, bridges and farmhouses built over a century ago. The architect of this alteration has therefore been able to blend his structure with the traditional one of the farmhouse without violating his creed. The principal reason may well be that both he and the builder of the original stone house had a very direct, down-to-earth approach. Specifically, the architect discarded almost all interior partitions, created a quiet, ground-floor apartment for the owners' invalid parents, and added a small kitchen wing to the west. A noteworthy feature is the use of standard plywood closets, and the introduction of two large windows toward the best view and the sun. Both outdoor and indoor planting help tie the building to the surrounding landscape. Cost \$11,236.

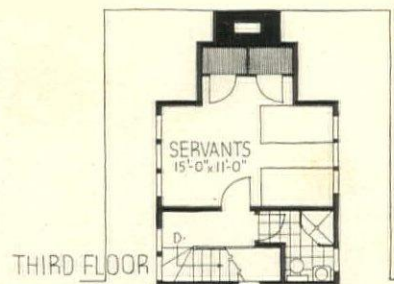


GARDEN ENTRANCE

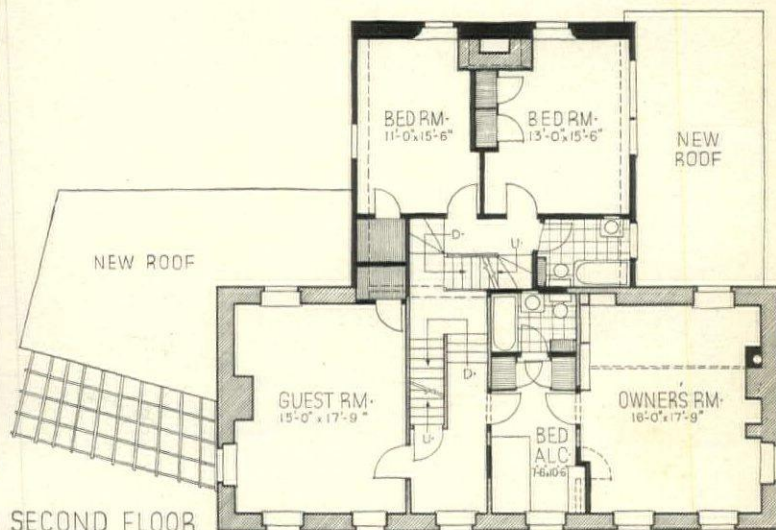


LIVING ROOM WINDOW

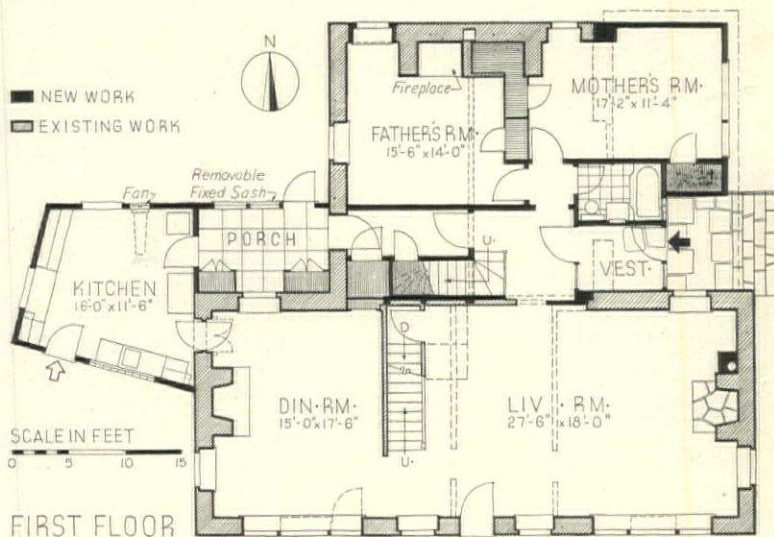
LIVING ROOM



THIRD FLOOR



SECOND FLOOR



FIRST FLOOR

CONSTRUCTION OUTLINE

INSULATION: Outside walls—Bildrite sheathing, Insulite Co. Roof—Balsam wool, Wood Conversion Co. Weatherstripping—Chamberlin Metal Weather Strip Co.

WINDOWS: Sash—pine, double hung, and casement. Glass—Pennvernion, Pittsburgh Plate Glass Co. Glass blocks—Pittsburgh-Corning Corp.

WALL COVERINGS: Wallpaper, Katzenback & Warren and Frederick Blank & Son.

DOORS: Exterior—American Plywood Corp.

HARDWARE: McKinney Mfg. Co. and Yale & Towne Mfg. Co.

PAINTS: National Lead Co. and Benjamin Moore Co.

KITCHEN EQUIPMENT: Complete unit by General Electric Co.

BATHROOM EQUIPMENT: Fixtures — Briggs Beautyware, Briggs Mfg. Co. Shower—Speakman Co. Cabinets—Columbia Metal Box Co. Accessories—Charles Parker Co.

PLUMBING: Water pipes—copper tubing, Chase Brass & Copper Co. Pump—Deming Pump Co.

HEATING: Recirculating hot water system, oil fired. Boiler—Burnham Boiler Corp. Radiators and valves—American Radiator-Standard Sanitary Corp. Thermostats—Minneapolis-Honeywell Regulator Corp. Attic fan—American Blower Corp.



A simple, straightforward house, built on a site which had been rejected by several prospective buyers because of the apparent difficulty of placing a house among the existing trees. The architect not only preserved these trees, but utilized them as an integral part of the design. Together with new planting, they give a great deal of privacy to a limited lot. Another site condition—a slight downward slope to the south—was turned to an advantage by the installation of generous windows in the extensive basement workrooms. The plan of the house is economical, and the circulation is good. The kitchen is clearly the nerve-center, controlling entrances, dining space and terrace play area.

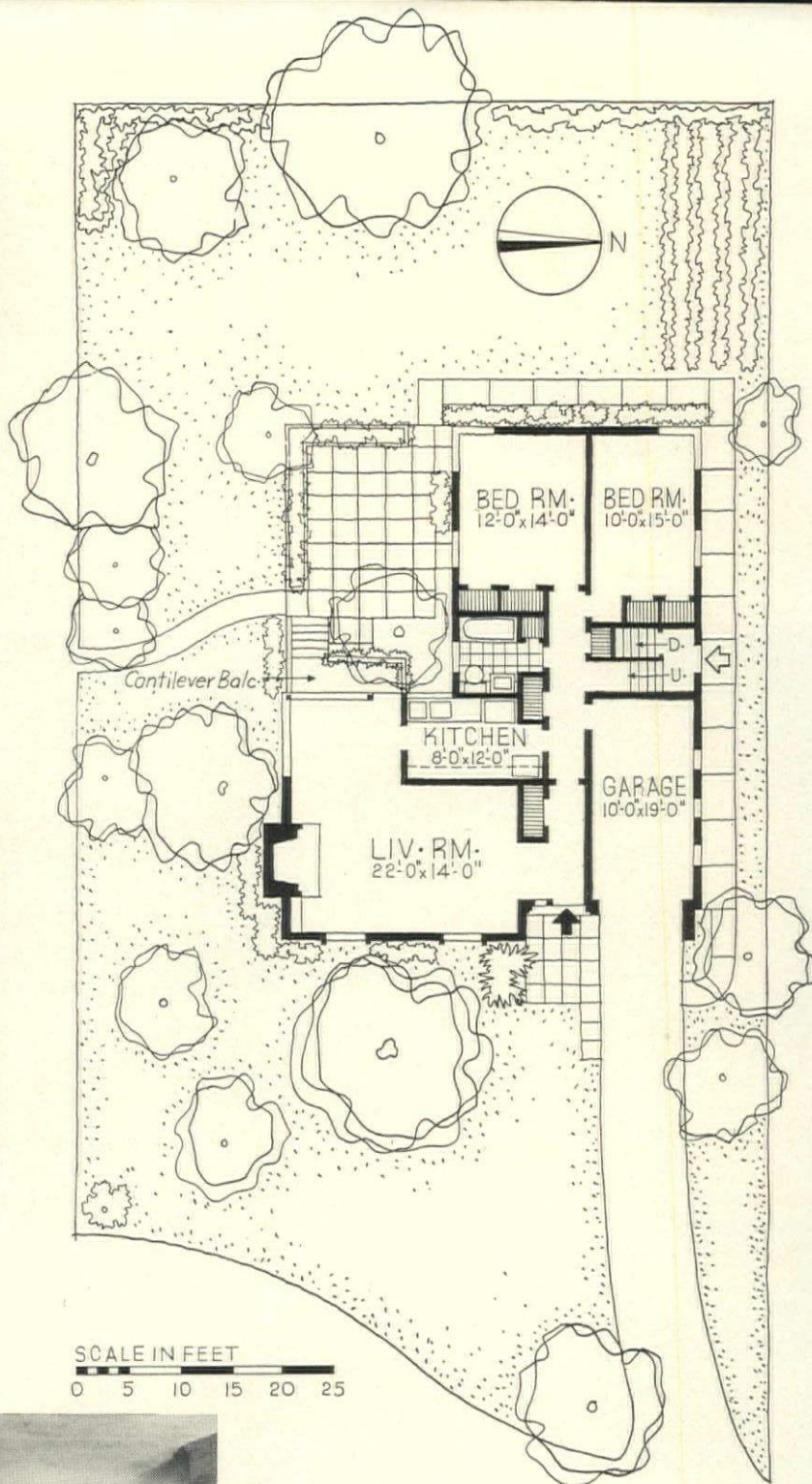


BALCONY



DINING ALCOVE

LIVING ROOM



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—brick. Interior partitions—plaster on Rocklath, U. S. Gypsum Co.; living room—clear white pine.

ROOF: Asphalt shingles.

SHEET METAL WORK: Flashing—copper. Ducts—galvanized iron.

DOORS: Overhead Door Co.

FLOOR COVERINGS: Kitchen and bath—linoleum, Armstrong Cork Co.

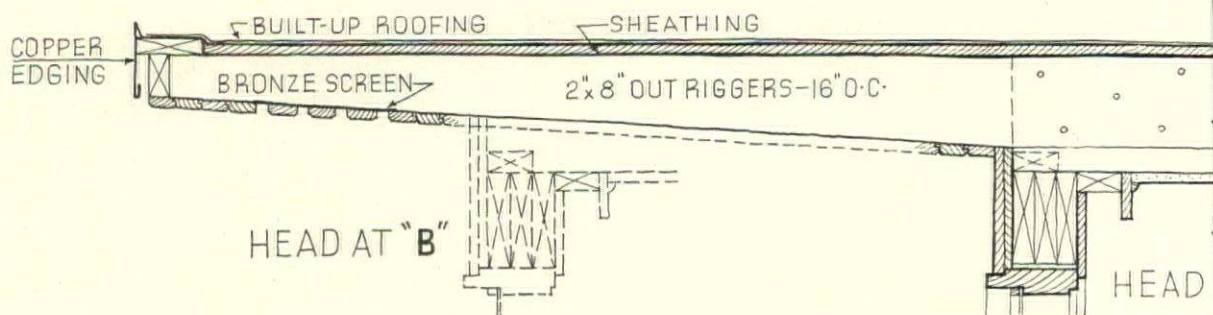
PAINTS: Texolite, U. S. Gypsum Co.

HARDWARE: Barrows Co.

KITCHEN EQUIPMENT: Range—gas. Refrigerator—electric. Sink—American Radiator—Standard Sanitary Corp.

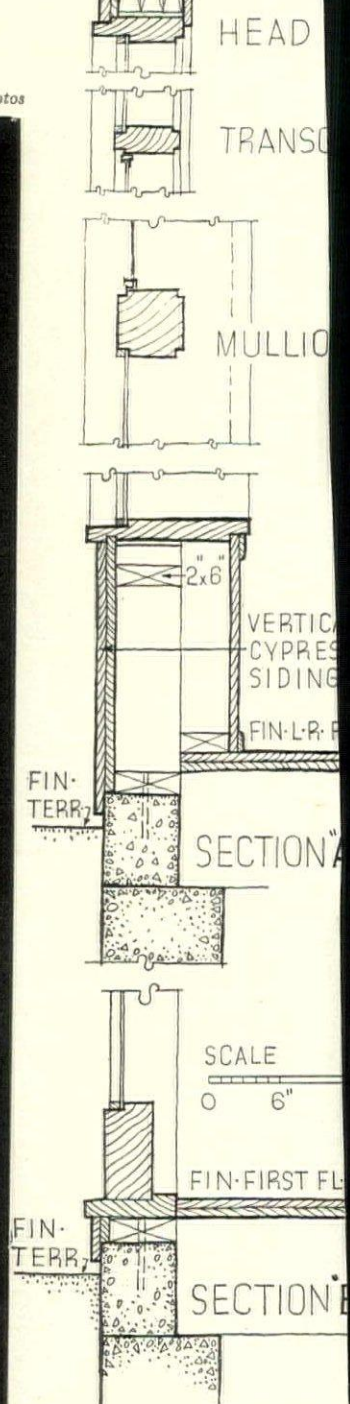
HEATING: Warm air system, Saint Louis Furnace Co.

HOUSE IN CROTON-ON-HUDSON, N. Y.



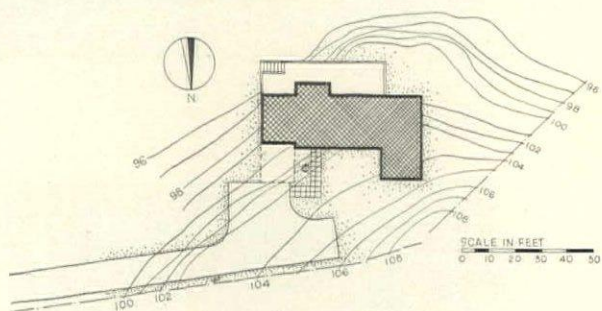
SOUTH TERRACE

Ezra Stoller, Photos

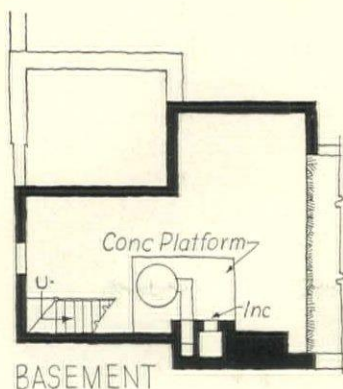
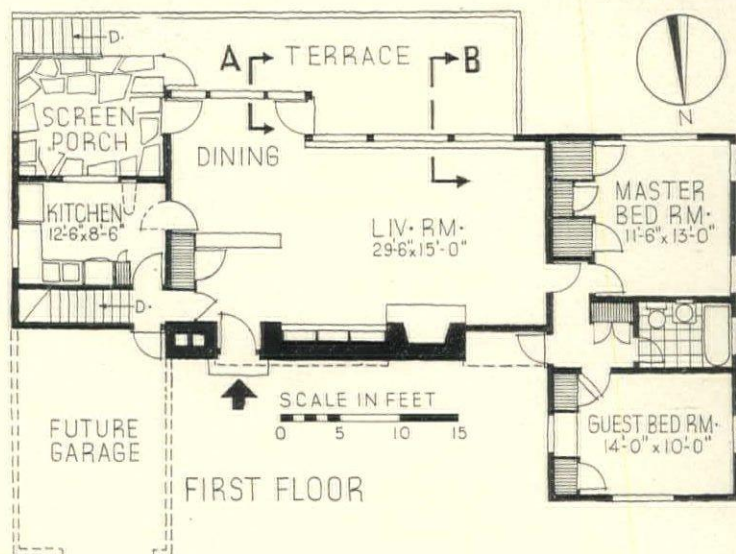




LIVING ROOM



This house is located on a high point, from which it overlooks the Hudson Valley to the south for 30 miles. The small site plan reproduced above explains how the structure, which rests on solid rock, was placed for minimum excavation. Apart from the simple and livable plan of the house itself, there are many unusual features in the construction. The section shows an ingenious and direct use of structural mullions along the south wall, and a deep overhang to throw almost complete shade in the living-dining room in summer, while admitting the sun in winter. The roof holds $1\frac{1}{2}$ " of water to insulate against solar heat, and is ventilated through open joints between slats in the overhang (see detail opposite). This, together with





Esra Stoller, Photos

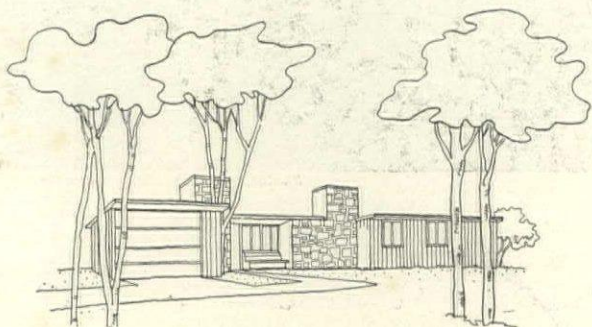
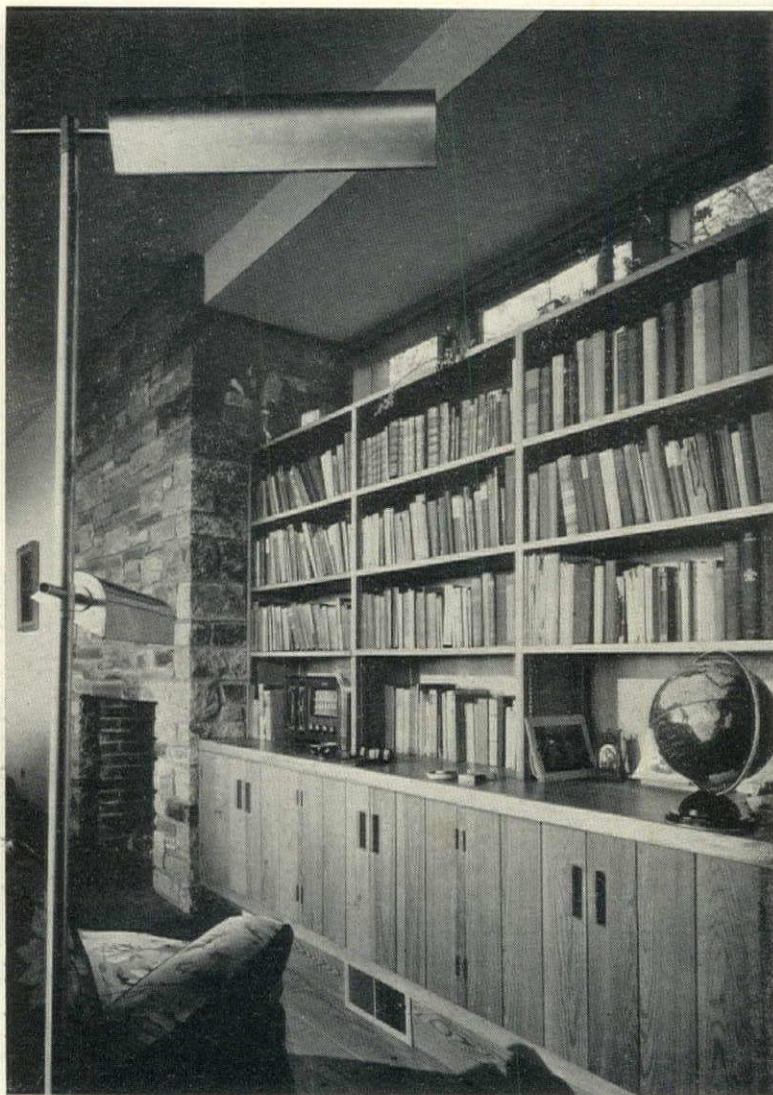
SOUTH SIDE



cross-ventilation through clerestory windows on both sides of the living room, has solved the problem of keeping the house cool in summer. Exterior walls are of 8" cinder block above grade, though originally, as the small perspective sketch shows, they were intended to be of rubble stone and wood frame with cypress sheathing. A saving of approximately \$1,000 was effected by this change. The interior views show very sensitive detailing of cabinet work despite the use of common materials, and a successful blend of traditional and modern furniture.



LIVING ROOM



NORTH SIDE



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—cinder block. Floors—red oak.

ROOF: Built-up, Certain-Teed Products Corp.

INSULATION: Attic floor—4 in. mineral wool batts.

FIREPLACE: Dampers—H. W. Covert Co.

SHEET METAL WORK: Flashing—16 oz. copper.

WINDOWS: Sash—steel, Croft Steel Windows, Inc.

Glass—plate, Pittsburgh Plate Glass Co.

FLOOR COVERINGS: Kitchen and bathrooms—linoleum, Armstrong Cork Co.

PAINTS: Pratt & Lambert, Inc.

WOODWORK: Trim—red cypress. Doors—flush panel gumwood.

HARDWARE: Ostrander & Eshleman.

ELECTRICAL INSTALLATION: Wiring system—BX. Switches—tumbler, Lightolier Co. Fixtures—Lightolier Co. and Kurt Versen.

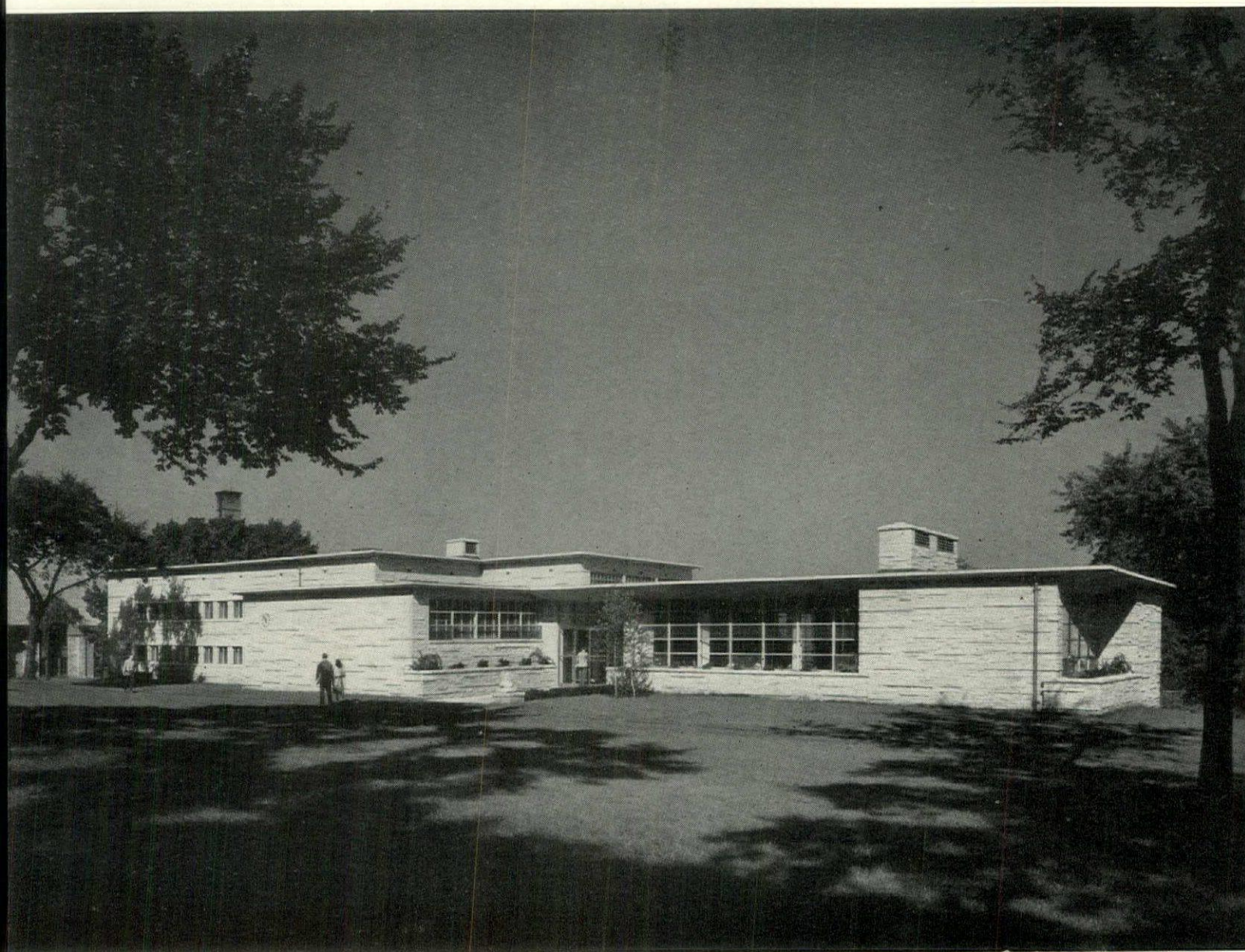
KITCHEN EQUIPMENT: Range—General Electric Co.

BATHROOM EQUIPMENT: Miami Cabinet Div., Philip Carey Co.

PLUMBING: Water pipes—copper, Mueller Brass Co.

HEATING: Warm air system, Thatcher Furnace Co.

DAVID F. JOHNSON, OSSINING, N. Y., GENERAL CONTRACTOR.



Photos, Hedrick Blessing Studio

LIBRARY FOR CARROLL COLLEGE, WAUKESHA, WISCONSIN

IDES VAN DER GRACHT AND WALTER H. KILHAM, JR., ARCHITECTS

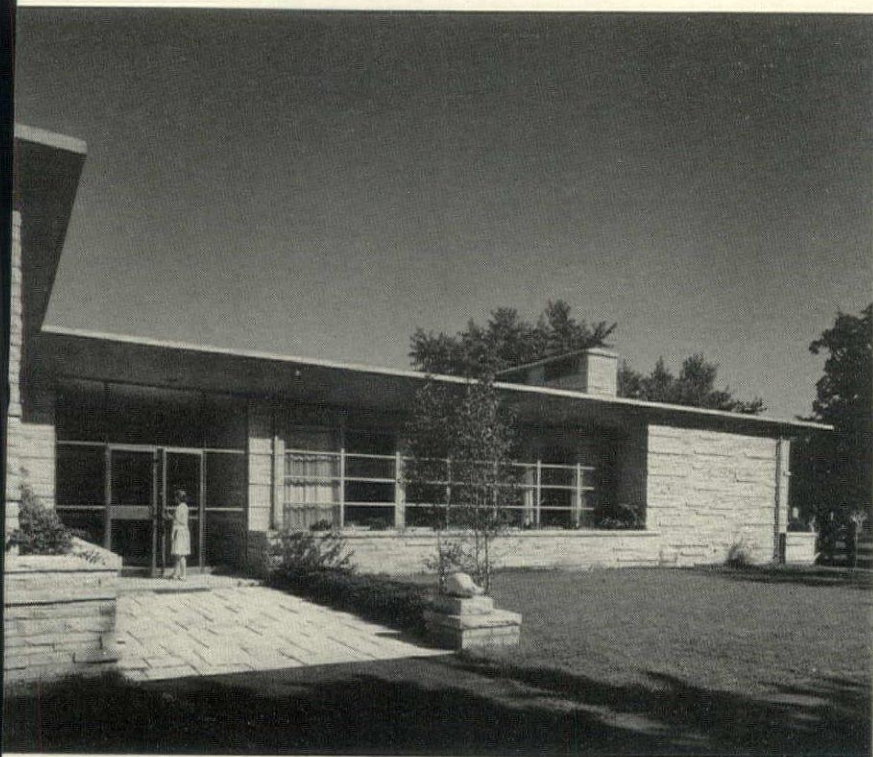
FRANK C. SHATTUCK, ASSOCIATE DESIGNER; FITZHUGH SCOTT, SUPERVISING ARCHITECT

The architects comment: "The program called for a small college library with a limited staff. We located the one librarian, who has part-time assistants, in the center, where she could issue and receive books, and answer questions. She also has visual control over the three reading rooms. The "saw tooth" bays in the browsing room are an attempt to allow visual supervision, and at the same time provide alcoves for more intimate grouping.

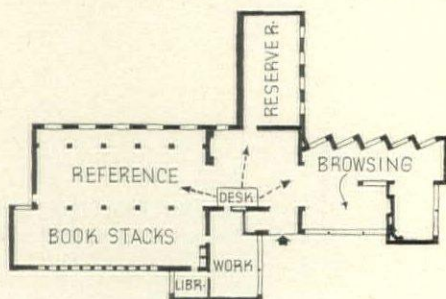
"Behind the desk in the delivery room is the workroom with direct access to the stacks. This library plans to

work on the open-stack principle; therefore, the stacks have been opened out toward the long side of the reference room to encourage the students to use the books. If plans should change in the future, the stacks can be partitioned or screened off without interfering with the function of the library.

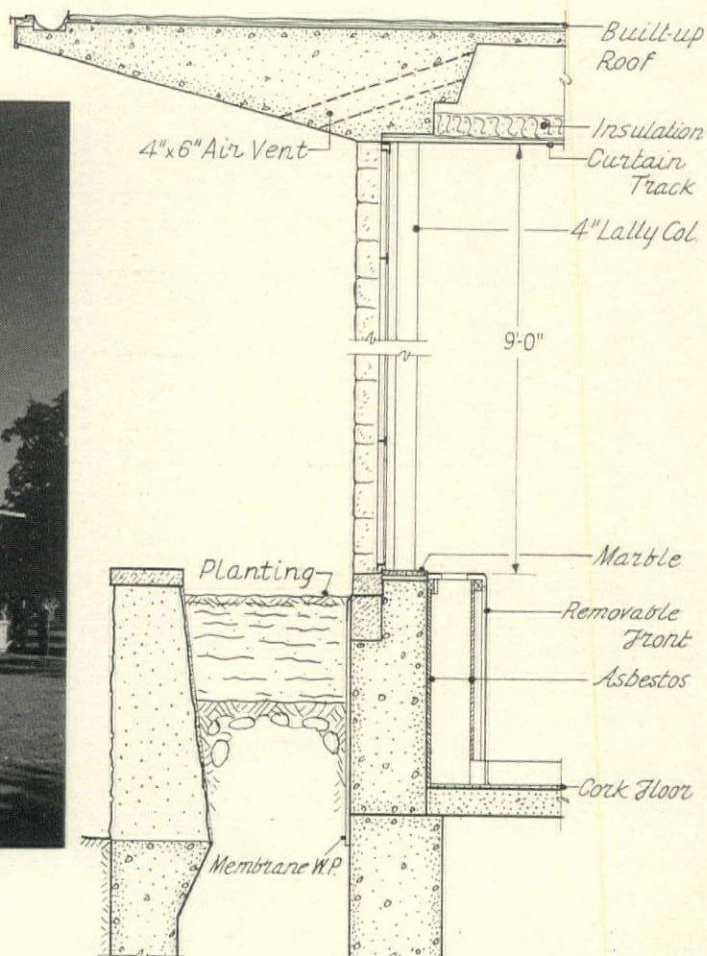
"The College has a maximum of 600 students. It was calculated that 240 of these might use the Library at any one time. The stacks were designed to hold 40,000 books, and expansion to 60,000 books has been provided for, without changes in the present plans."



ENTRANCE



LOBBY



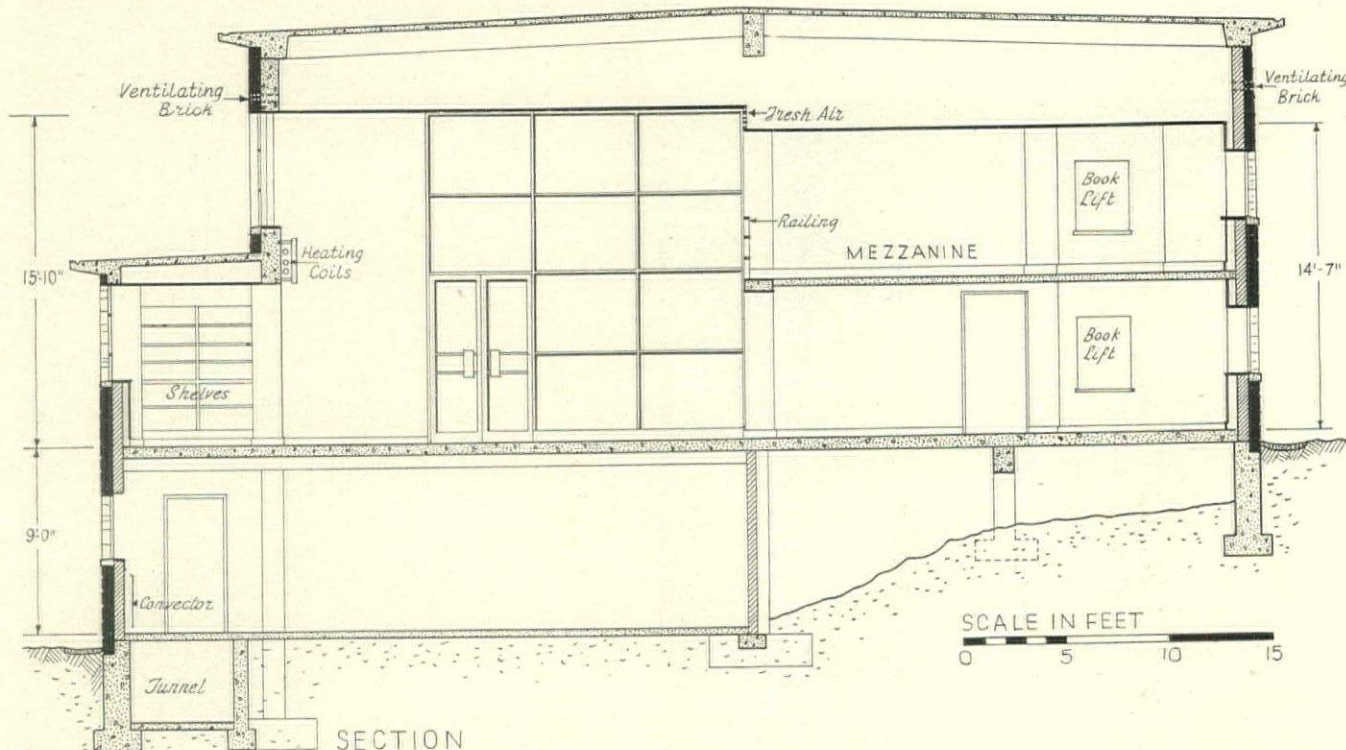
SECTION THRU BROWSING RM. WINDOW

The sketch plan demonstrates the ease with which a difficult program of control has been solved. The photographs of the exterior and the central hall prove that there need be no sacrifice of dignity in a college building of modern design. Noteworthy, too, is the excellent scale of the different patterns in the wall surfaces and glazed areas, and the spaciousness suggested.

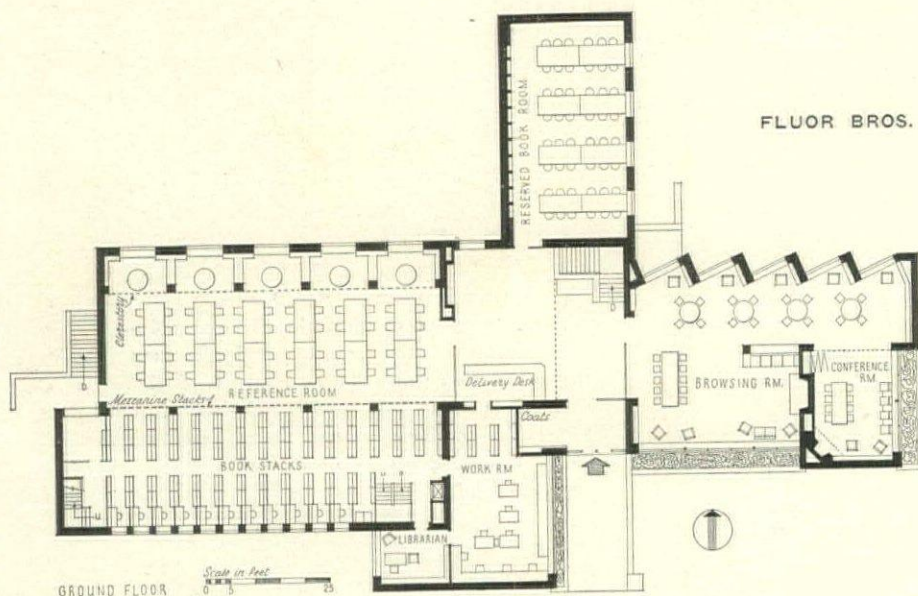
BOOK DESK



LIBRARY FOR CARROLL COLLEGE, WAUKESHA, WIS.



FLUOR BROS. CONSTRUCTION CO., GENERAL CONTRACTORS



CONSTRUCTION OUTLINE

FOUNDATION: Concrete. Waterproofing 3 plies felt.

STRUCTURE: Exterior walls—Waukesha stone; inside—terra cotta tile and plaster. Floors—concrete.

ROOF: Construction—reinforced concrete, metal pan and joist; covered with 4-ply built-up, Koppers Co.

FIREPLACE: Damper—H. W. Covert Co. **SHEET METAL WORK:** Flashing, gutters and leaders—lead coated copper. Ducts—galvanized sheet iron.

INSULATION: Roof—mineral wool, Johns-Manville. Sound insulation—Acoustone tile, U. S. Gypsum Co.

WINDOWS: Sash—steel, Crittal-Federal, Inc. Glass—Mississippi Glass Co. and Libbey-Owens-Ford Glass Co.

FLOOR COVERINGS: Conference rooms—Kentile, David E. Kennedy, Inc. Asphalt tile—Thomas Moulding Flooring Co.

HARDWARE: P. & F. Corbin and The H. L. Judd Co.

PAINTS: Pittsburgh Plate Glass Co., E. I. du Pont de Nemours, Inc., Wadsworth Howland Co., Inc.

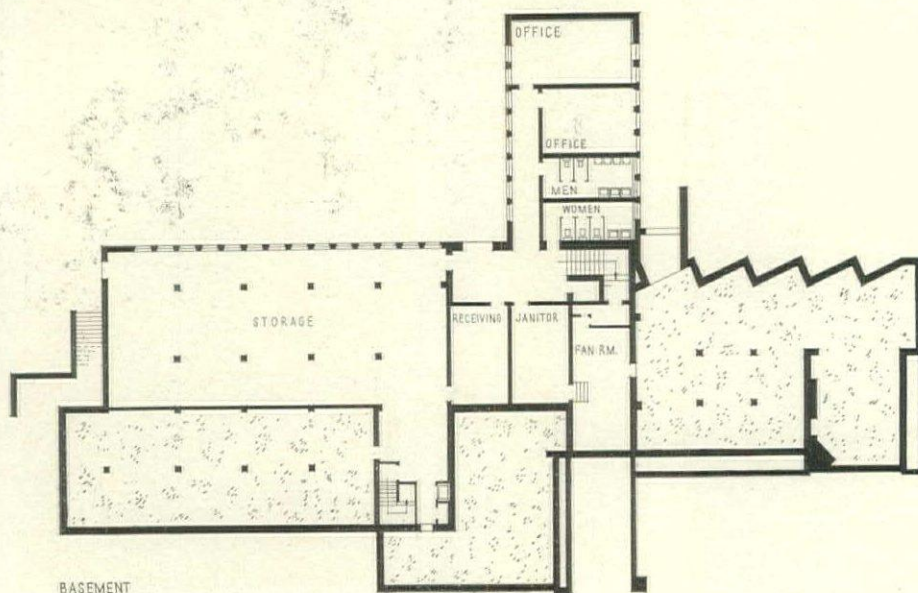
ELECTRICAL INSTALLATION: Wiring system—BX. Fixtures—Kurt Versen.

BATHROOM EQUIPMENT: Kohler Co.

HEATING: Steam system, filtering and humidifying. Radiators and convectors—American Radiator—Standard Sanitary Co.

Grilles—Tuttle & Bailey Mfg. Co. Valves—Jenkins Bros. Inc. Thermostat—Johnson Service Co. Water heater—Strauss Electric Appliance Co. Fans—American Blower Co.

FURNISHINGS: Book stacks—Snead & Co. Desks and chairs—Hamilton Mfg. Co. and National School Equipment Co. Other furniture—Hans Knoll and Artek-Pascoe.



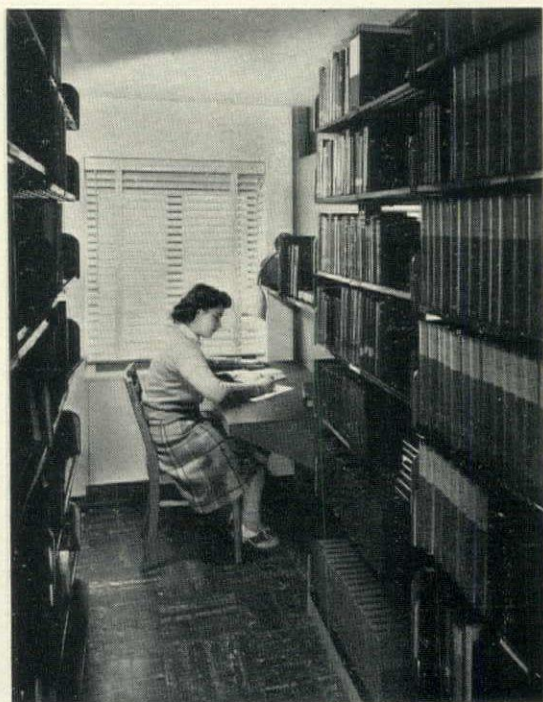


REFERENCE ROOM

The building frame is of reinforced concrete, with exterior walls of local stone laid in ashlar courses. Despite the use of rough stone, the detailing has produced a general effect of sophisticated elegance. This is true, particularly, of the fine roof overhang and the continuous pattern of windows in the browsing room, made possible by transferring the lintel load to free standing lally columns. Most ceilings are covered with acoustical tile, and this, together with the use of cork flooring, assures quiet where it is most needed. An interesting feature of the heating system is the use of convectors along the wall below clerestory windows in the reference room.

The basement opens to the north as a result of the slope of the grade. It includes, apart from the normal facilities, a small classroom that can be darkened for the showing of microfilms. The storage area has been designed to take care of future stack expansion. There are windows along the north wall to light any study cubicles that might be needed, similar to those at the end of the existing stacks.

STUDY CUBICLES

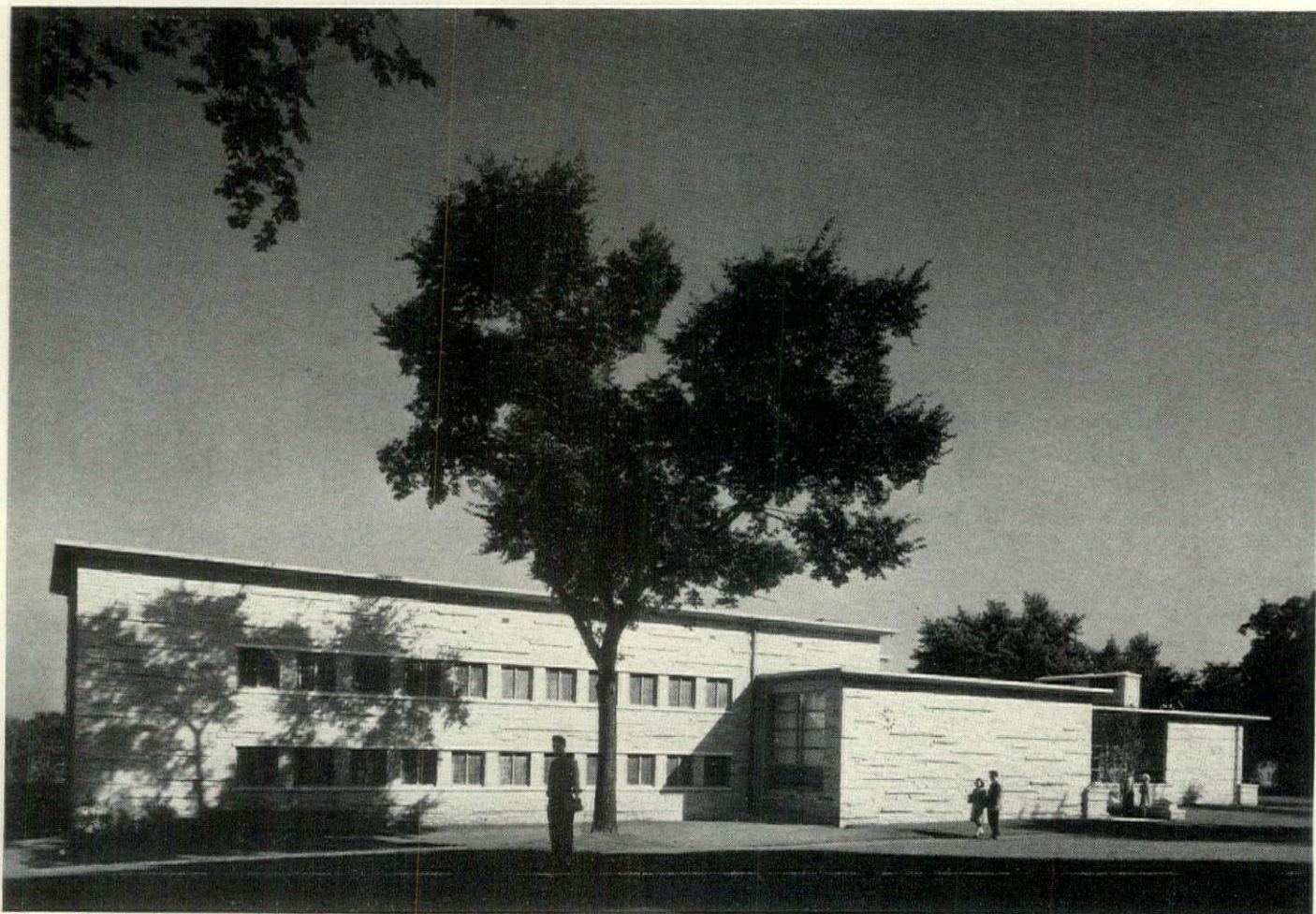




BROWSING ROOM



The arrangement of the browsing room clearly shows the extent to which the architects have abandoned the dry institutional character typical of many colleges. The interiors have a sense of relaxation and an atmosphere of domestic privacy, that extends a persuasive invitation to learning.



PREFABRICATION

To inaugurate this new department, THE FORUM is presenting a series of six articles on the history of prefabrication in America, based on research by the John B. Pierce Foundation. The first article in this series, entitled "A Movement Emerges," appeared in the December issue. Tracing the beginning of prefabrication as a widespread movement to the extensive publicity for factory-produced houses in the early Thirties, this article reviewed the contributions of non-profit foundations and Government agencies such as the Forest Products Laboratory, the Purdue Research Foundation, the Bemis Foundation, John B. Pierce Foundation and other agencies which have exercised a continuous influence on its subsequent development. The second article, published in January under the heading: "Ideas—The Stimulus to Change," covered various radical proposals for "mast" houses, "eggshell" houses, the "mechanical core," etc., which were the initial impetus behind many prefabrication developments and have in certain instances suggested practical solutions of prefabrication problems. The third article, which appeared in February, "Concrete—Forerunner to the Movement," began a house-by-house and system-by-system review of significant prefabrication developments dating back to the beginning of the century. Last month's article, the fourth, reviewed prefabrication in steel, with particular emphasis on the experimental period of the Early Thirties.

THE PREFABRICATED HOUSE

1. A MOVEMENT EMERGES
published December 1942

2. IDEAS
published January 1943

3. CONCRETE
published February 1943

4. STEEL
published March 1943

5. WOOD
material of realization

6. "REENGINEERING"
the measure of progress

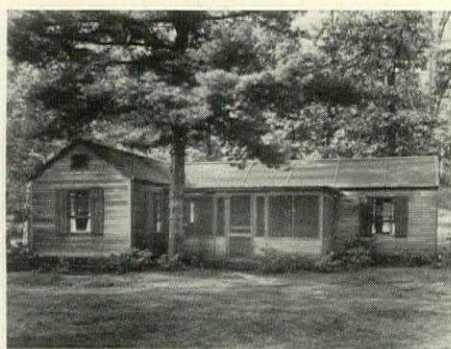
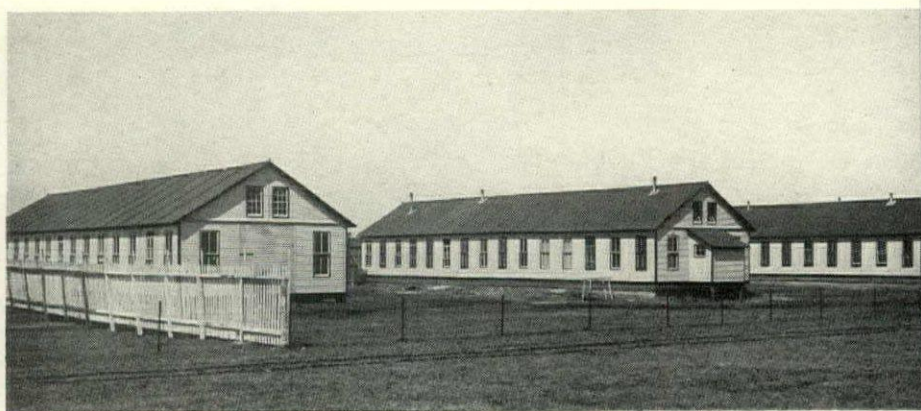
5. WOOD—material of realization

IF THE DEVELOPMENT of prefabrication began with the early use of precast concrete at Forest Hills Gardens and progressed in the early Thirties through experiments in steel construction, it has now finally arrived through the use of wood. Prefabrication of wood houses is no longer a matter of theory or experimentation: it is a practical production technique in use on a substantial scale. In the past two years, some 60,000 factory-made wooden houses have been manufactured, shipped to the site and erected. Almost as many have been site-fabricated in panel form using jigs, templates and other labor-saving devices with much of the speed and efficiency hitherto identified only with factory production. In addition to war housing, scores of other types of light structures are being prefabricated for use on farms and by the armed services. All told, a sizable proportion — if not a major part — of the total light and medium construction since the defense program got under way has involved prefabrication in one of its numerous forms, and in most instances the basic material used has been wood.

It often is argued that this development is the result of war conditions rather than evidence of the fundamental soundness of prefabricated construction, or the superiority of wood for the purpose. The requirement of the Federal Public Housing Authority that much war housing be demountable has, in effect, dictated a great deal of panel-type assembly, just as the materials limitation orders of the War Production Board have compelled a shift to wood from other light materials suitable to this kind of construction. In Army and Navy work, the need for speedy erection and portability have usually been the governing considerations which have resulted in the use of panels and not the claims of economy and improved quality usually cited as prefabrication's major advantages. And, even if these special factors were nonexistent, the wartime demand for *quantity* — five



Benj. Morse



hundred new houses at a clip, for one swollen community, a thousand for another, five thousand troop shelters for immediate shipment overseas—sufficed to bring about a wholesale shift to mass production methods, without necessarily holding any promise that such methods will continue in use after war for ordinary peacetime construction.

Whatever theory you choose to adopt regarding the probable postwar effect of all this activity, the fact of such activity remains, and is important. It is a fact, and one worth pondering, that there are now well over a score of prefabrication plants that have each manufactured more than a thousand houses, and many which are now fabricating houses at the rate of several hundred a month. It is also a fact — although merely a happenstance — that these plants are widely enough distributed to be, collectively, within easy trucking distance of most of the populous parts of the U. S. And it is also a fact that the wartime boom in prefabrication is creating a vast reservoir of prefabrication experience, plant and equipment that will certainly have a trial at the postwar market — with a good chance for vast expansion.

IS IT "PREFABRICATION?"

Faced with these facts, those who refuse to believe that prefabrication is anything but a crackpot idea (as well as those whose particular idea of what prefabrication should be has not been furthered by war demands) have still another line of argument. What is passing for prefabrication today is not, they assert, really prefabrication at all, but merely a special form of conventional construction, developed to meet special conditions. Where, it is asked, are the phenomenal cost savings which the prefabricators always claimed would result from the application of factory techniques to housing? Where, indeed, is there any evidence of cost saving at all, beyond the savings which have always been realized in the construction of several hundred houses at one time? And is it not true, they ask, that most of the nominally prefabricated houses become more conventional all the time, both in external appearance and structure as well?

All of these objections contain at least a grain of truth, and some considerably more. Actually, the present trend toward panel construction in wood has more in common with the gradual development of pre-cut and sectional buildings, which has extended over the past half-century, than with the revolutionary theories of the early Thirties which first popularized the term Prefabrication. Also, it is as much the result of the development of improved materials intended primarily for conventional construction, particularly the various sheet materials such as plywood and the fiber boards, as of jig-assembly and other factory methods.

This is not to say that such current development is a step backward, or without promise. Nor is it to assert that some of the theoretically



Photos on this page show various sectional buildings built by the E. F. Hodgson Co., oldest prefabricators in the U.S. At the top of the page are two types of structures from World War I, a Liberty Bond sales building and a series of Army barracks. Middle picture shows a typical Hodgson camp, lower picture a large house.

more advanced approaches to prefabrication have through this development been proved impracticable. Rather, it is to define most of the currently dominant panel systems as they properly should be defined: the logical further development, under present-day conditions and with presently available materials, of what used to be called the sectional, or portable house—and its still less radically inspired cousin, the “precut.”

SECTIONAL WOOD HOUSES

If this is true, the history of the wood panel house in its present form begins not with the general shift from metal to wood in experimental prefabrication which occurred in the middle Thirties, but with the sectional houses developed much earlier—in at least one case before the beginning of the present century. While not at that time a conscious part of the prefabrication movement as such, the manufacturers of sectional houses have always been active proponents of the idea of factory-produced houses, and have coupled this idea with a practical consideration for real market conditions which the more radical prefabrication theorists might well emulate. For this reason, if for no other, their experience offers much that is of value in appraising the past, present and future of prefabrication.

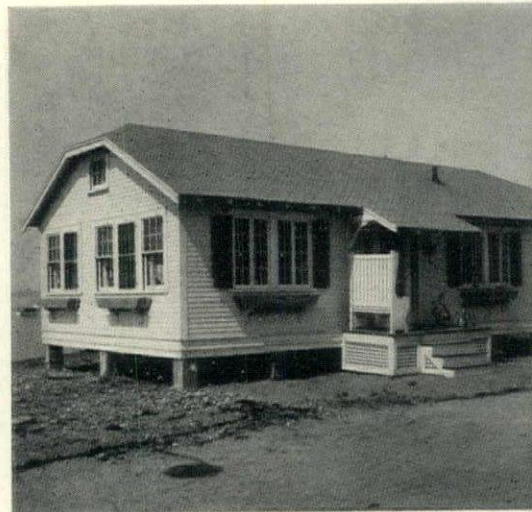
One of the earliest companies in this field was the E. F. Hodgson Co., of Boston, Mass., which began operations in 1892. In common with other early manufacturers of sectional houses, this company has always concentrated on the production of smaller structures particularly suited to this method of assembly such as chicken houses and other farm structures, children's play houses and vacation cottages, although they have also sold quite elaborate houses. With the introduction of the automobile, they undertook the production of sectional garages, and the increased demand for vacation cottages that resulted from the widespread use of cars brought a further increase in their operations. During World War I, Hodgson manufactured a number of special buildings for the Army.

By 1936, this company was offering, in addition to standard groups of 10 ft. wide cottages for camp use, a varied line of houses for year-round occupancy prefabricated in partially assembled wall, floor and roof sections. Panels were assembled in a variation of conventional wood-frame construction using 2 x 3 in. studs set flatwise on 12 in. centers, and covered with matched boarding applied over a layer of felt without sheathing. Floor panels were framed with conventional joists and furnished in 6 ft. wide sections 12 or 16 ft. long, and prebuilt roof panels were furnished in 6 ft. widths and various lengths according to pitch.

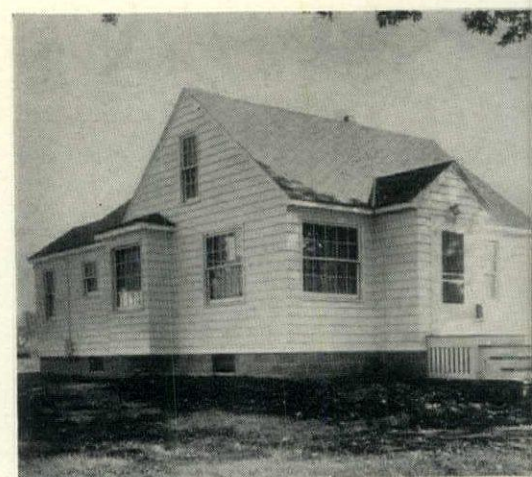
In erection, a group of 6 ft. sections for sidewalls, floor and ceiling were bolted together on the foundation, following which a second group was assembled and wedge-bolted to the first, and so on. End walls and gable ends were added last, joints in the roof covered with batten strips. An interior finish of any type could be applied at the site but the standard recommended by the company was 1 in. insulation board.

Unlike many of the experimental systems of prefabrication, the Hodgson system makes no attempt to provide a universal set of panels that can be used to create any plan. Instead, the possibility of variety that is inherent in any group of standardized panels is exploited in a wide variety of standardized units ranging from tiny cottages to houses with several bathrooms, each with a fixed plan and a package price. These are sold directly to the customer, for erection by factory representatives or local labor, primarily on the basis of speedy erection and known quality rather than low cost. Working on this basis, the company has done a considerable business in the eastern seaboard for more than 50 years.

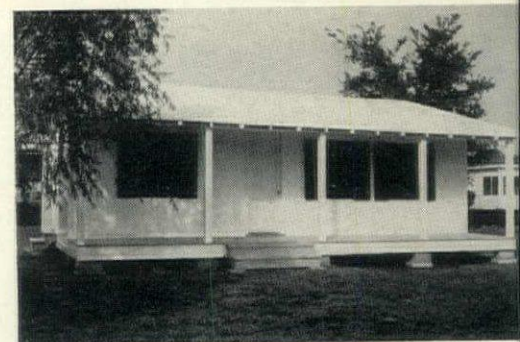
Another company in the same area which has operated on much the



Sectional house by the Prebuilt Co., formerly the Prebuilt Division of Pope & Cottle Co., Inc., of Revere, Mass.



Typical prefabricated house as built by the St. Johns Portable Building Co., St. Johns, Mich.



Assembly and finished views of sectional house by the Houston Ready-Cut House Co., Houston, Tex.



Typical prewar house constructed by the Southern Mill & Manufacturing Co., Tulsa, Okla.

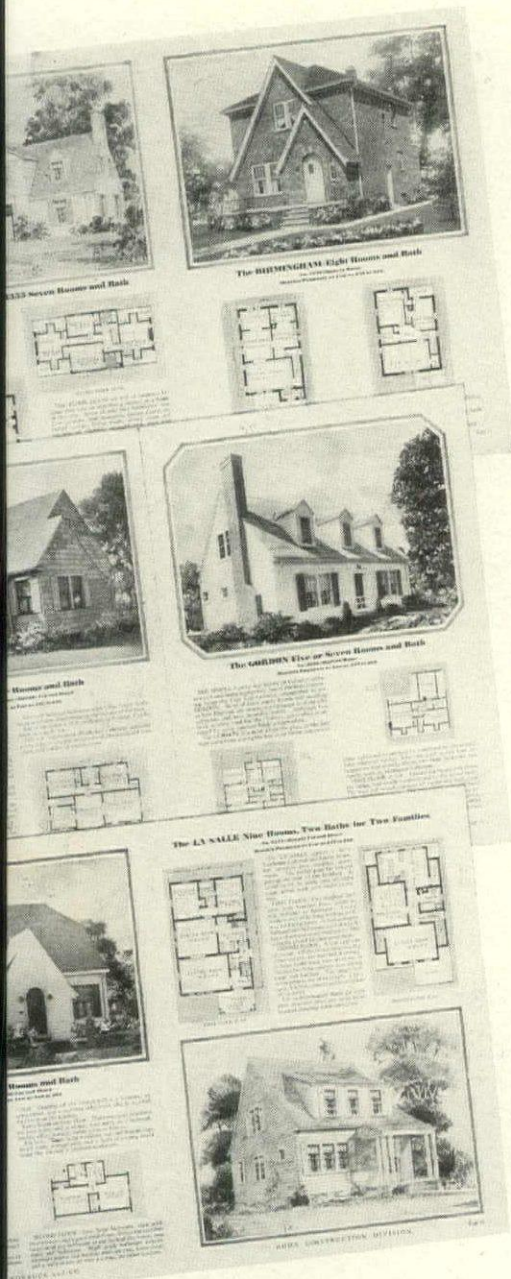
same plan is the Pope & Cottle Co., Inc. of Revere, Mass., now the Prebuilt Co. Organized in 1905 and incorporated in 1928, Pope & Cottle have manufactured a somewhat similar house in 12 ft. sections using 2 x 4 in. studs and sheathing covered with wood shingles. A fiberboard interior is applied at the site; the exterior sheathing, which at first was ordinary shiplap, is now insulating board.

Other old-timers in the sectional house business include the M. B. Kolb Co., New York, N. Y., St. Johns Portable Building Co., St. Johns, Mich., the Houston Ready-Cut House Co., Houston, Tex., Louis Bossert & Sons, Brooklyn, N. Y., and the Southern Mill & Manufacturing Co., Tulsa, Okla., most of which have remained active to the present day. Still another is the Bennett Lumber Co., North Tonawanda, N. Y., which has made sectional houses for twenty years. Comparative newcomers include the St. Elmo Housing Co., St. Elmo, Ill. (1928) and Prefabricated Products, Inc., Seattle, Wash. (1929).

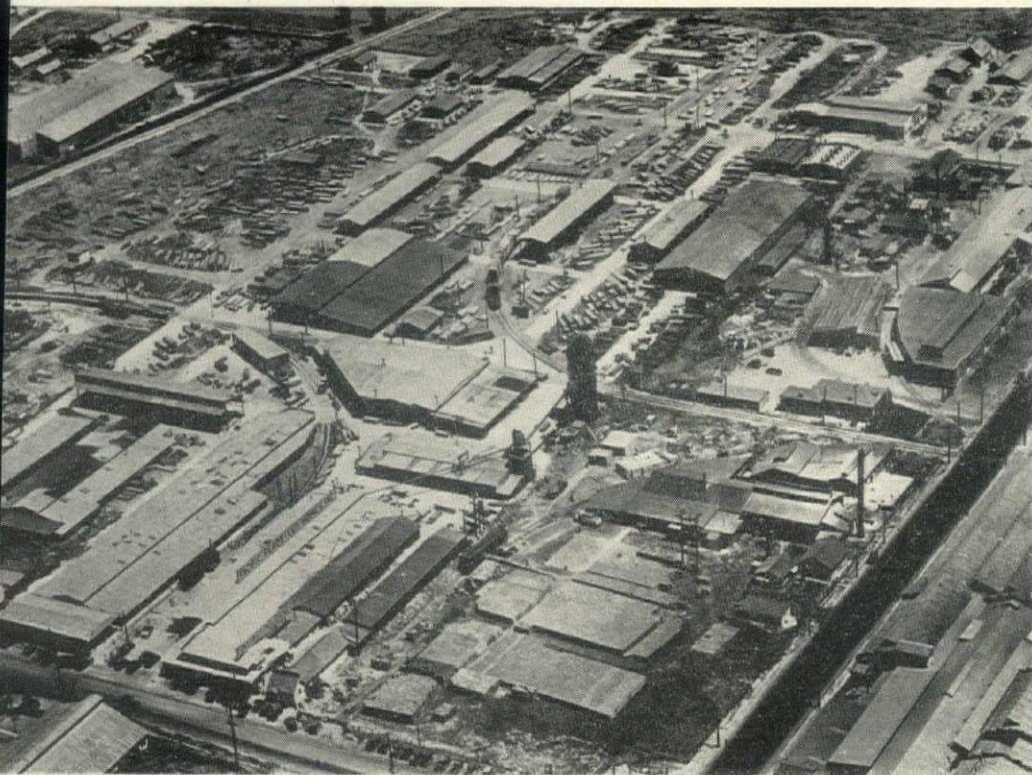
Not only did the manufacturers of such sectional houses continue to be active up to the time of the crystallization of the prefabrication movement as such, and throughout the period of experimentation which followed, but it is also true that the more radical types of prefabrication tended more and more to resemble their prosaic "sectional" cousins. This was the case both with the new systems that were introduced and with the modifications that were made in some of the older systems. American Houses, for example, which started operations with a steel frame, composition panel house, by 1938 had abandoned this construction in favor of wood-frame panels made up on jig tables but shipped to the site with neither interior nor exterior finish. (ARCH. FORUM, July '40). Sheets of 5/16 in. plywood used as sheathing were nailed to conventional 2 x 4 in. studs 16 in. on centers, with 2 x 4 in. top and bottom plates. Each wall section had a half stud on one side and this was nailed to the stud on the adjoining section at the time of erection. Siding, usually asbestos-cement shingles, was furnished for site application, as was the 1/2 in. gypsum board used as the interior finish. Floor panels, without finished flooring, were furnished, and precut roof framing supplied for site assembly. Virtually the only feature of the company's original construction system that was retained was the use of 4 x 8 ft. panels, which—unlike the panels used in most of the sectional systems—could be adapted to almost any floor plan. In some of American Houses' more recent work, even this feature has been temporarily discontinued.

"PRECUT" HOUSES

Closely allied with, and developing alongside the sectional house from the time of its inception has been the "precut" house, also known as the "mail order" house. At first blush this type of construction, familiar to most Americans because of its popularity as a subject for movie comedies of the custard pie era, would seem only remotely connected with the question of prefabrication. This is not actually the case. As a matter of fact, the lowly precut probably represents the most extensive application of factory production to housing made to date. This is true not only because of the great volume of work that has been done according to the precut method in the past 40 years, but also because in most of the widespread applications of this plan house designs were rigidly standardized, with all of the materials sized and numbered under factory conditions by belt line techniques. Still another of the professed virtues of prefabrication—the "package" and fixed-price character of the product—was also present in the precut house to an unusual extent, since the sales plan ordinarily included every item used in its construction down to the house numbers and front door key.



Pages from Sears Roebuck's catalog of precut houses, which were available in a wide variety of standardized designs. More than 110,000 such units were sold in 30 years.



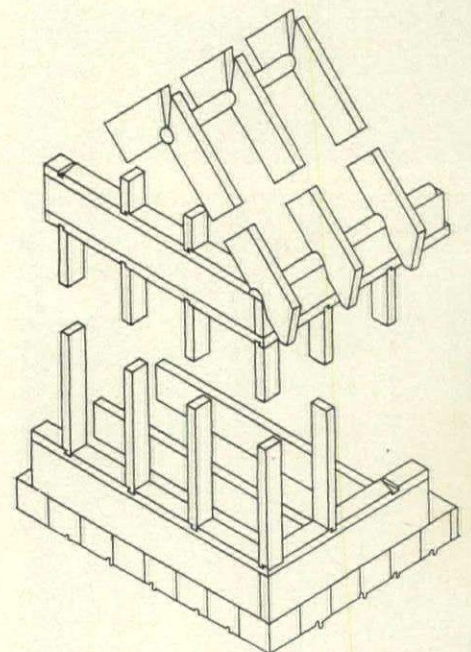
Walter Jakway

Plant (left) and typical product of Pacific Systems Homes, Inc., of Los Angeles. Pacific Systems formerly sold a large number of pre-cut houses on the West Coast, more recently has been making sectional houses for war projects.

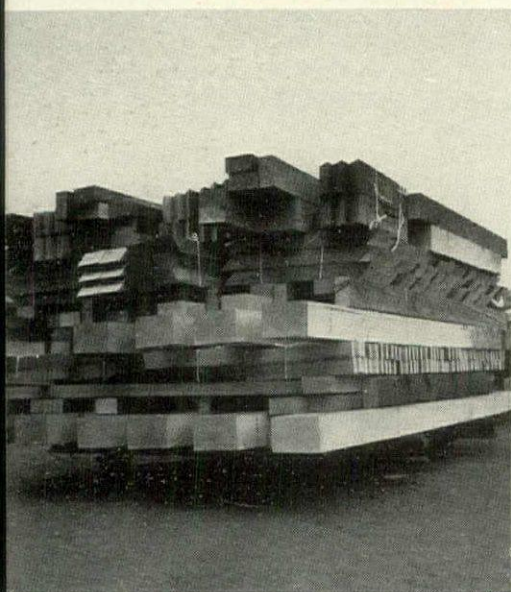
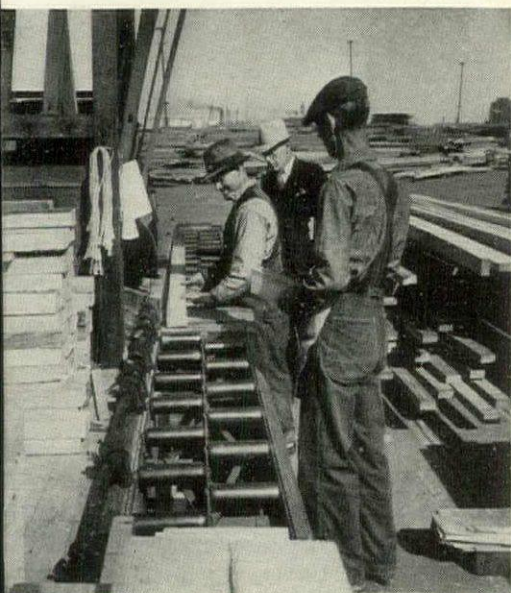
Sears Roebuck of Newark, N. J., reports that it has sold in this way over 110,000 houses in 40 years. The Alladin Co. of Bay City, Mich., reports the sale of 100,000 units since 1906. The Lewis Manufacturing Co., of the same city, has sold 14,000 since 1911; Pacific Systems of Los Angeles, Calif., 38,000 since 1908; and the Gordon-Van Tine Co., of Davenport, Iowa, 25,000 since 1910. All told, certainly a quarter of a million houses have been built according to this method—a number probably in excess of the total number of sectional and prefabricated houses built to date, including the wartime demountables.

In a typical Sears Roebuck house, all of the lumber was furnished cut to length and notched to be fitted together by the local contractor at the site. Detailed plans were furnished, and each piece was numbered on the plans, with a corresponding number stamped on the piece itself. Precut 2 x 4 in. studs to be erected on 16 in. centers were furnished, together with precut joists and precut, prenotched rafters sized according to span and also set on 16 in. centers. Windows and doors were preassembled with trim precut. Shiplap sheathing and cypress, redwood or red cedar siding was furnished precut to be nailed in place at the site over building paper. Roof shingles and lath for a plaster interior finish were included.

Practices of other companies, many of which operated on a regional basis, varied according to construction standards in different parts of the country. Pacific Systems Homes, Inc., of Los Angeles, operating in California where a lighter structure had found acceptance, furnished a precut house with 2 x 3 in. studs to be erected on 2 ft. centers or 2 x 4 in. studs to be set on the same centers where local custom required. Again in conformance with the local practice, siding was furnished to be placed over felt without sheathing, although wood sheathing could be ordered. For an interior finish, precut redwood or fir boards or plaster board was furnished. Where the wood finish was used, it was covered with Sanitas cloth. Precut roofers were included together with shingles for the roof, or alternately roofing felt, asphaltum and 2-ply asbestos roofing. This company was originally known as Pacific Ready Cut Houses, and, in addition to houses of precut lumber, now also offers panel houses produced by the jig-table method in preassembled sections.



Precut framing system developed by the Long Bell Lumber Co. for use in individually designed houses based on a 16 in. module. Round plate and ridge pole permitted roof pitch to vary according to the length of the rafters, without special notching.



Various stages in a system of precutting framing lumber to individual house plans, worked out by Builder Paul de Huff in 1938. Top picture shows special saw table with spacer tabs which permitted simultaneous cutting in various lengths, middle picture packaged members ready for trucking to the job, lower picture assembly of frame.

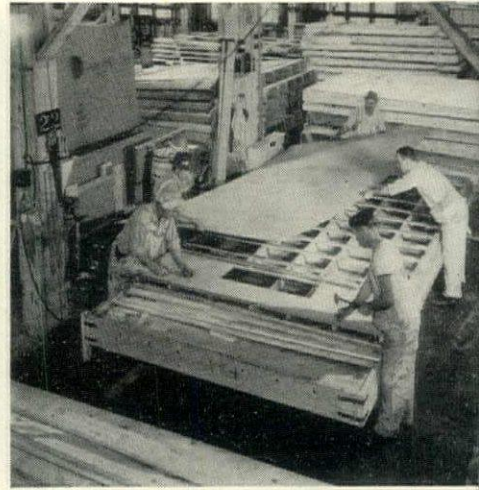
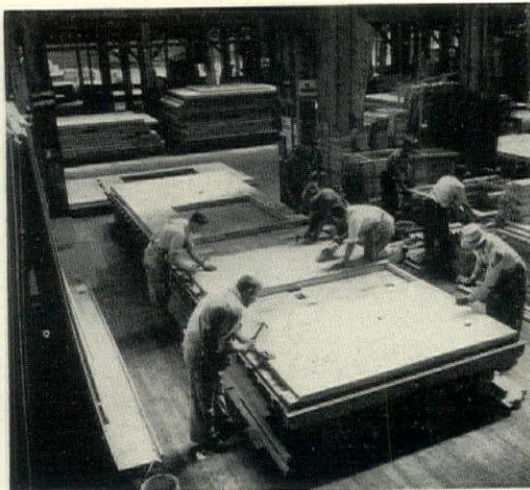
In addition to the standardized precut house, there have also been a number of attempts to develop systems of precut framing of more universal application, for assembly according to individual plans. One such system was that developed in 1933 by the Long Bell Lumber Sales Corp., of Kansas City, Mo. Based on the use of sills notched at 16 in. intervals to receive the specially notched ends of precut studs, this method aimed at a modular system of planning with the 16 in. stud spacing as the basic module, and complete planning flexibility within multiples of this unit. For roofs, a standard precut rafter that could be used for any desired nominal roof pitch was furnished. A round ridge pole and round-top plate was provided to receive round notches in the rafters, which could thus be set at various angles without varying the cut of the notches.

Another attempt at this type of precut framing, designed for complete flexibility in design, was that developed by Builder Paul De Huff under the auspices of the Building Construction Association of Southern California and the Lumber and Allied Institute of Los Angeles (ARCH. FORUM, Dec. '38). In this system, a list of the required framing lumber was made on a set of special forms directly from the architect's plans and given to a sawyer-grader working before a swing saw with a semiautomatic cutting guide equipped with selective stops to control the length of the material cut. At the beginning of the operation, stops were pulled out on the guide corresponding to all of the various lengths of lumber required. Cheaper grades of lumber could be "up-graded," thus absorbing the cost of the precutting operation, because the sawyer-grader could choose a stop for the piece of lumber in hand, eliminating bad parts and cutting required lengths of sound lumber. When the necessary number of pieces of any one length had been cut, an assistant, who stacked the lumber according to length, would remove that particular stop from the guide. Since a large percentage of the framing lumber used in any house is in quite short pieces, the grader was able in this way to salvage a considerable quantity of lumber which would otherwise not have been considered suitable for framing purposes.

INFLUENCE OF SHEET MATERIALS

If the present widespread use of prefabricated wood-panel construction is related at least as closely to the early sectional and precut houses which antedated the prefabrication movement as it is to that movement itself, it is equally the result of the development of a number of new materials intended primarily for conventional construction. Foremost among these are the so-called sheet materials—plywood, fiber board, plaster and gypsum board and other wall finishes made in thin sheets of large sizes. At the time of the appearance of the first sectional houses, no such materials were available. The assembly of wall sections was necessarily laborious, involving the application of numerous narrow pieces of sheathing on the outside of the frame, and, if an interior finish was to be provided in the factory, nailing in place hundreds of pieces of lath or an almost equally large number of thin matched boards. The idea of prefabrication as a theory of construction, at least as applied to the lighter materials such as wood, did not appear until panel construction was itself suggested by the availability of new materials like wallboard and plywood in large, thin sheets.

Not only did the emergence of such materials provide much of the impetus behind the first proposals for panel houses, their further development, particularly as regards weatherproofing and larger sizes, has had much to do with basic prefabrication trends. Most of the early systems that carried the name Prefabrication were based on the use of the 4 x 8 ft. wall and fiber boards available at the time they were developed, and

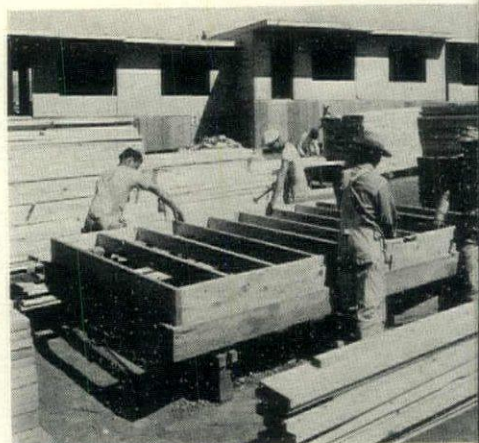


employed panels that were this size or smaller. Today, a majority of the houses being built employ larger panels, frequently the length of an entire room, that are primarily the result of the availability of sheet materials in larger sizes. The effect of this development has not only been to eliminate unsightly (or unpopular) joints on the inside walls, but also the elimination of hundreds of lineal feet of through-wall joints to be weatherproofed, double studs at 4 ft. intervals and a good deal of the trouble which formerly resulted from accumulated errors due to the large number of joints created by smaller sections.

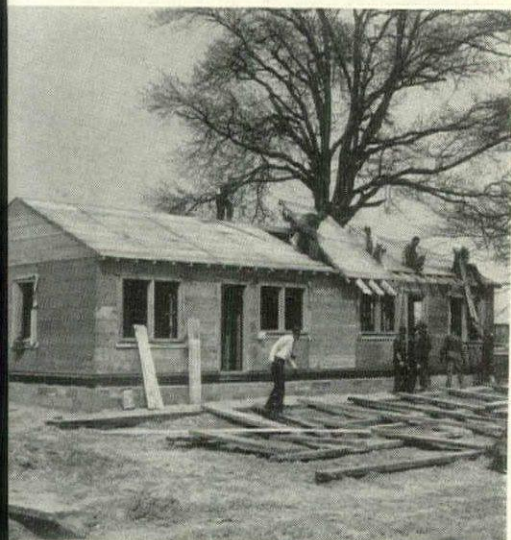
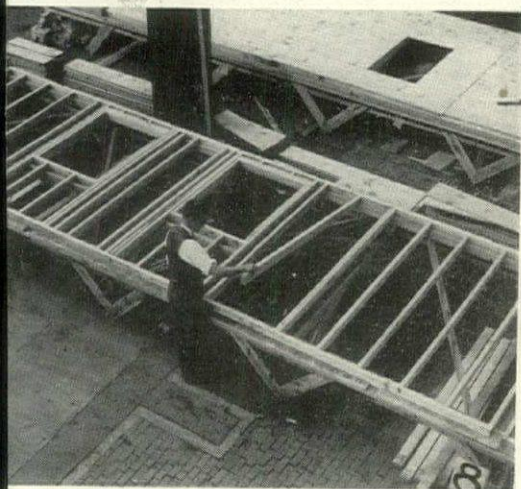
One of the first manufacturers of sheet materials to recognize the importance of this factor was The Homasote Co., of Trenton, N. J. (ARCH. FORUM, Dec. '40). As early as 1936 Homasote developed a system of prefabrication through wall, floor and roof panels assembled on jig tables in local lumber yards and using Homasote's extra-large, 8 x 14 ft. sheets to create jointless, room-sized panels. Based on a carefully worked out system of modular design, the Homasote method could be applied to virtually any plan with only minor changes in dimensions. In war housing this system has been used by a number of general contractors for housing developments of enormous size, most notably for a single community of 5,000 units at Norfolk, Va., built at the rate of 54 houses a day.

On the basis of a somewhat similar plan of operations, the Douglas Fir Plywood Association in 1939 projected a system for use by lumber yards and builders in which room-size sections were preassembled with plywood as an interior finish and as a sheathing on the exterior. Conventional 2 x 4 in. framing was used, and interior plywood finish was glued in place. Doors and windows were framed into the wall section in the shop. Ceilings were assembled in room-size panels with a light, 1 x 2 in. frame, and connections between the various panels were formed with 1/4 in. plywood splines slipped into slots in the framing members. Precut joists and rafters were used, and shingles or clapboard siding applied at the site.

Although large sheets of material were not the basis of the room-size panels used in the DFP system, at least two of the companies to apply the system worked out means of their own to produce such over-size sheets. One of these was the Speedwall Co. of Seattle, Wash., which developed a special scarf connection to join the 4 x 8 ft. plywood sheets into larger panels, and special covering of cotton duck to cover the joints and grain of the wood and provide a base for paint. Another was the Pease Woodworking Co. of Cincinnati, Ohio, which devised a splined connection to join the plywood sheets together and, in some cases, built the entire side-wall of the house as a single unit. As in the regular DFP method, pre-cut roof rafters were used, but floors were factory-assembled in panel form, including finish hardwood flooring.



Application of Homasote "Precision Built" system of prefabrication (Barrett & Hilp, Builders) in war housing. Pictures at top of page show shop assembly, on jig tables, of wall and roof panels, middle picture job assembly of floor panels, bottom picture truck-crane lifting roof panels in place.



Earl W. Reinhold Photos

"Conventional" prefabrication for war housing, as practiced by The Day Housing Corp. (Joseph P. Day). Houses were structurally almost exactly like conventional wood-frame buildings, the only difference being in the method of assembly, which was carried out in the shop.

As the result of the wartime demand for demountable houses, most other manufacturers of sheet materials have also turned their attention to the needs of the prefabricators and are providing their materials in special sizes and special forms to speed and simplify panel fabrication. A notable example of this trend is the work of the Upson Co., manufacturers of extra large, (8 x 14 ft.) prefinished wallboard, which offers a special service for prefabricators and builders of war housing including panels cut to size at the factory for projects of 100 or more units. Another feature of the Upson Strong-Bilt panel is the method of attachment—a special pronged fastener which is nailed to the stud before applying the sheet and secures the panel from behind, thus leaving the prefinished surface unmarred by nails.

"CONVENTIONAL" FABRICATION

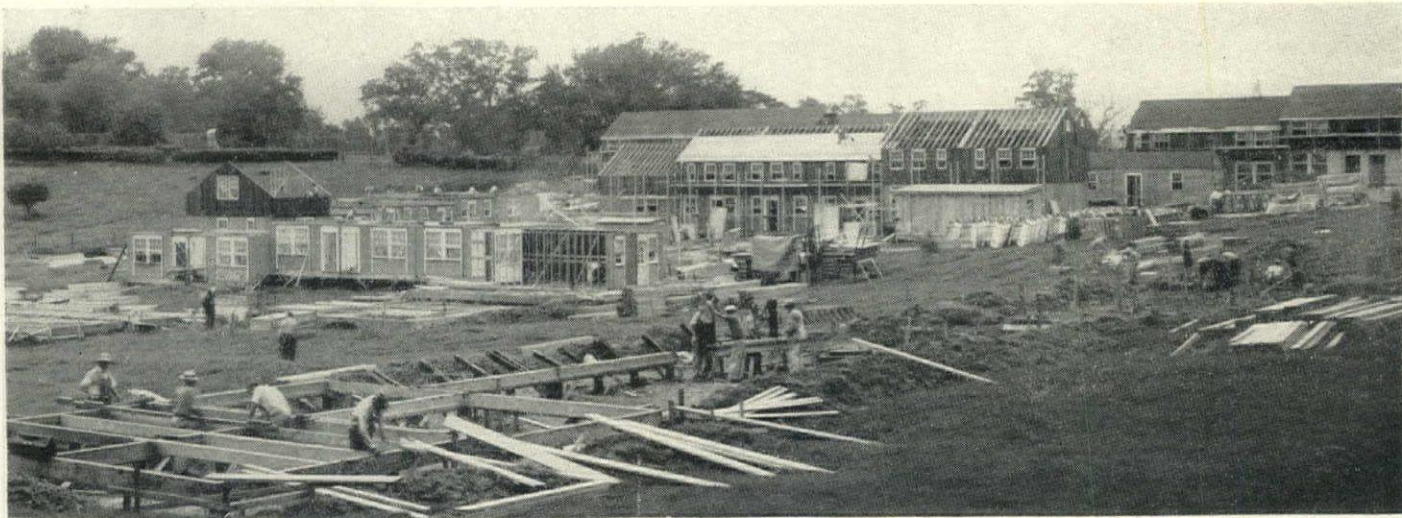
Most of the companies mentioned above, and a majority of those described on the succeeding pages who are producing the bulk of the wood-panel houses for war housing, employ what might be called "conventional" prefabrication, that is, construction systems in which new methods of assembly are used, but the basic structure of the typical wood-frame house remains largely unchanged. While this is not true of all of the manufacturers of war housing, it is true that many of the demountable houses now being built are structurally indistinguishable from ordinary frame houses once they are put together. In this respect they are a far cry from what was generally envisioned as prefabrication in the early stages of the movement.

This fact is no indictment of prefabrication as a whole — as is sometimes claimed — or of either the more-or-less conventional systems or their more radical rivals. Actually, it is primarily an expression of the fact that, while large numbers of panel houses are being built, real mass production has been achieved in only a relatively few instances, and in most of these with little assurance of its continuing for any length of time. Under such conditions, there is little opportunity for those systems involving fundamental "reengineering" of the house structure to prove themselves over more conventional methods—if, indeed, they have yet been developed to the point where such "reengineering" can produce cost savings over regular wood framing.

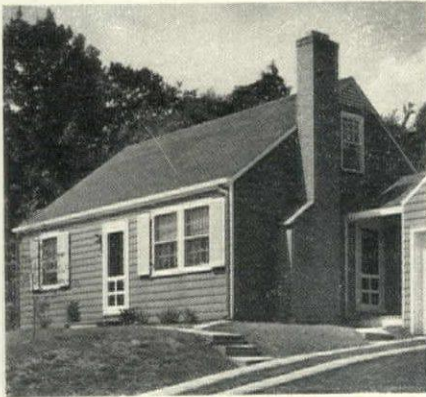
This subject is reserved for the next chapter, which will approach the various systems of prefabrication from the point of view of actual structural changes, as well as changes in method of assembly. The balance of this installment is devoted to a company-by-company review of the outstanding prefabrication organizations — on the basis of volume of work actually performed — which are now making construction history and laying the foundations of the prefabrication industry. Not all prefabricators, and certainly not all of the companies which are concerned with the subject of prefabrication, have been included. Instead, THE FORUM is training its spotlight on those direct producers of houses in panel form who have manufactured a thousand or more such units — the "big frogs" in the as-yet-small puddle which is the prefabrication industry. To theorists of all stripes it directs attention to the histories, methods of operation and underlying assumptions which are behind these most successful operations. To everyone in Building it points to their importance as an infant industry. And, in so doing, it calls attention to still another war building job well done.

(To any reader who is interested in studying particular aspects of the subject further THE FORUM will supply without charge a complete bibliography of 85 FORUM articles on prefabrication that have been published since 1932.)

A DIRECTORY OF WARTIME PREFABRICATORS



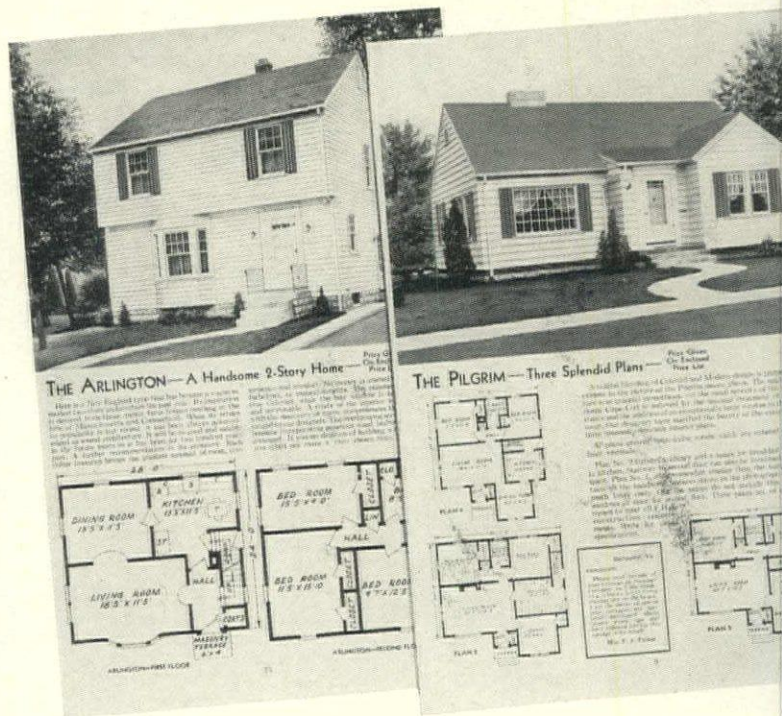
Rodney McCay Morgan, Photos



American Houses, 570 Lexington Ave., N. Y. C., was organized in 1932 by Architect Robert W. McLaughlin. Beginning with modern design, American Houses changed to precut and partially pre-assembled wood panel construction and traditional exteriors in 1935. Recent additions to the American family include New England Houses, Inc., Concord, N. H.; Paine Lumber Co., Ltd., Oshkosh, Wis.; and Southwest American Houses, Inc., 2005 Canal St., Houston, Texas, creating a nation-wide organization with 11 factories in 9 states, capable of serving the entire U. S. Maximum production rate is 2,500-4,000 depending on size of units, and present rate is 2,000 houses a month. They now have 6,000 unfilled orders. Their products go to farms, oil companies, public and private housing projects in war production centers.

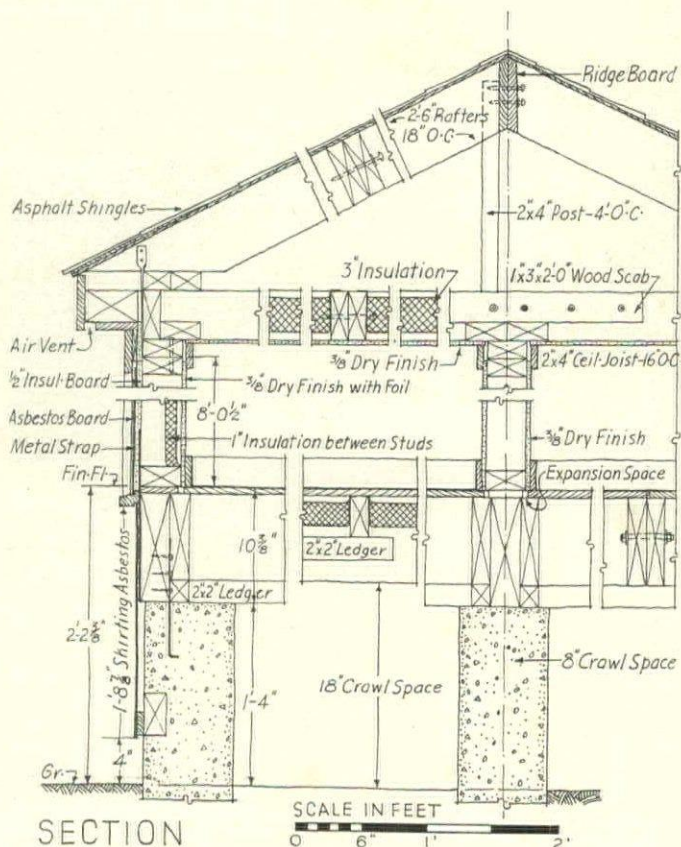


Allied Housing Associates, Inc., Langhorne, Pa., began manufacturing prefabricated and partially-prefabricated houses in 1936. From factories in Bristol, Pa., Norfolk, Va. and Baltimore, Md., they serve the Eastern Seaboard. Prior to 1942 they sold 450 dwelling units for private use. Their factories, with a present production rate of 200 houses a month, and a claimed potential of 600, have produced 2,800 units for public war housing. Present unfilled orders: 550 units. Other buildings produced for war: shelters, dormitories, aviation spotting towers.



Alladin Co., Bay City, Mich., has been in the ready-cut house business since 1906 (typical catalog pages above). During 1942 they concentrated largely on buildings for the armed forces, shipping the units to Alaska, Southwest Pacific, Iceland and Africa. Plants are located in Michigan, Oregon, Georgia and Illinois to produce 3,000 houses in 90 days. Prior to 1942 they claimed sales totalling 100,000. An interesting prewar product of theirs was the mobile "Pullman" house developed in 1937 (AF. Feb. '38, p. 70).

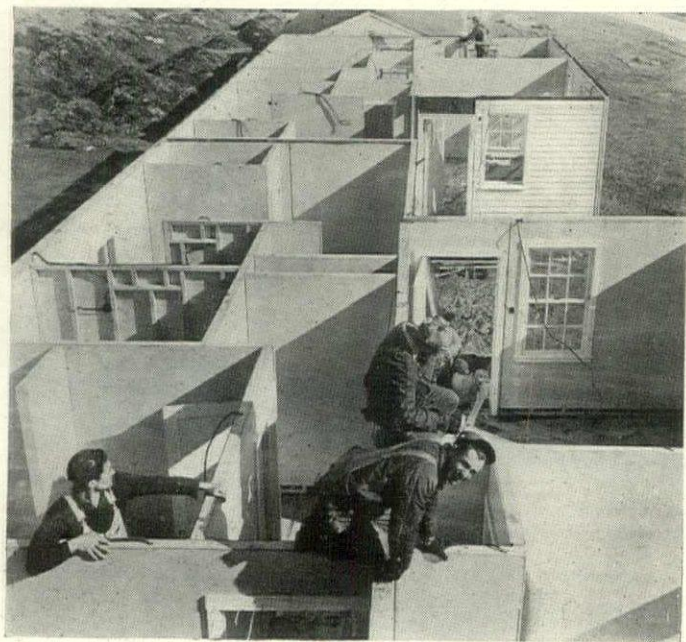
THE PREFABRICATED HOUSE



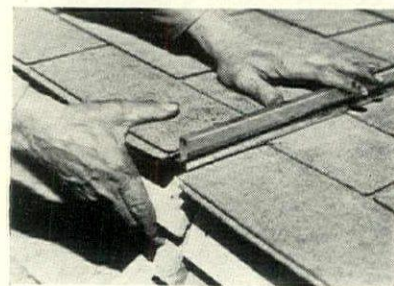
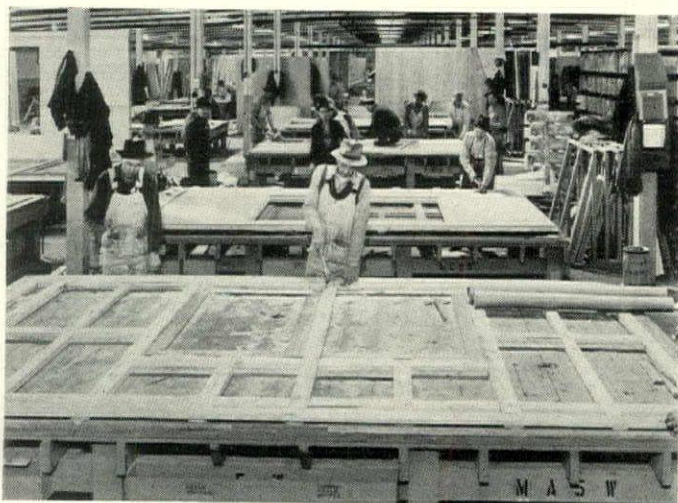
Bank Building & Equipment Corp. of America, 7513 S. Broadway, St. Louis, Mo., started prefabricating houses in 1942 in their factory in St. Louis. Present production rate is only 8 houses a month, with a potential of 375 to 400. Houses are made in panels, with site work restricted to assembly, painting, plumbing, electrical work and roofing.



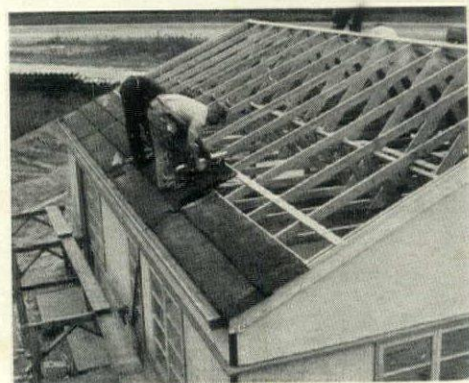
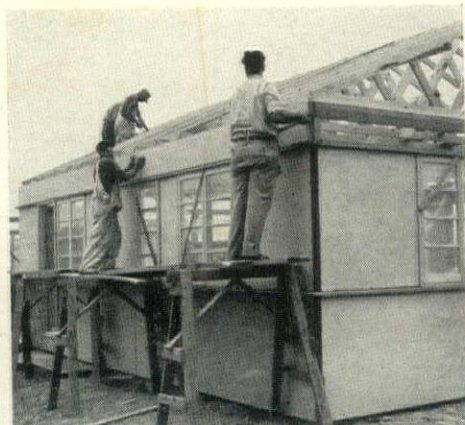
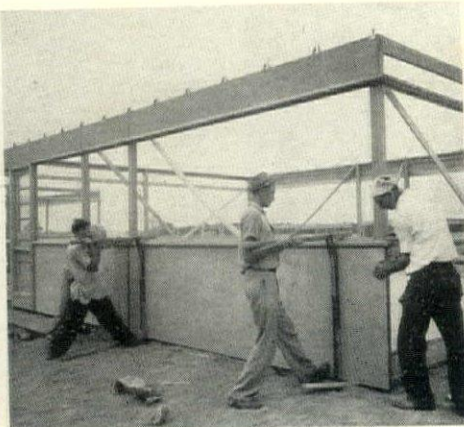
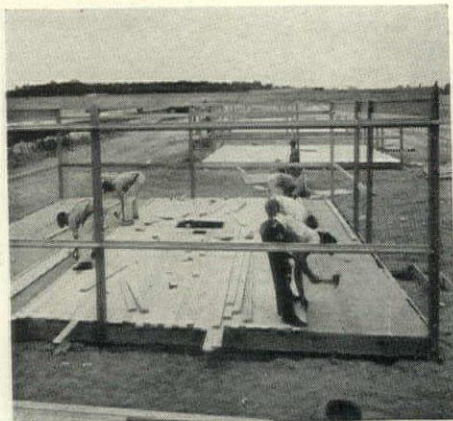
Barrett & Hilt, San Francisco, Calif., building contractors, began prefabricating houses in 1941 using the Homasote system. They built 922 units for FWA's huge Vallejo, Calif., war housing project, designed by Architect William Wilson Wurster, and 5,000 units at Portsmouth, Va., (AF, June '42 p. 370). In the latter project 56 houses were fabricated each day, with an exterior finish of redwood siding. At Vallejo Homasote was used for the exterior. All houses were made in panels and bolted together on the job.



Bennett Lumber Corp., N. Tonawanda, N. Y., has manufactured ready-cut and sectional houses for 20 years. The factory at North Tonawanda has a capacity of 100 units a month, on a one shift basis. Bennett has already produced thousands of houses, and one of the latest projects, at Wright Field, Dayton, Ohio, included 250 units.



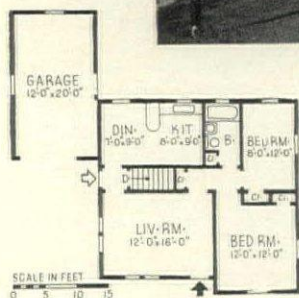
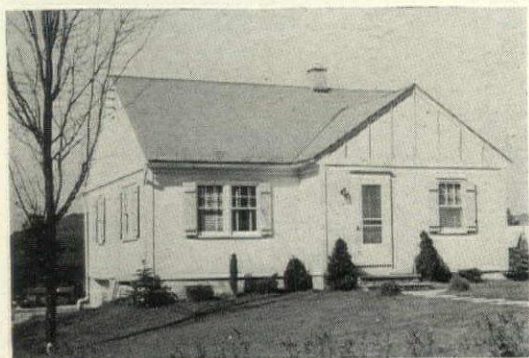
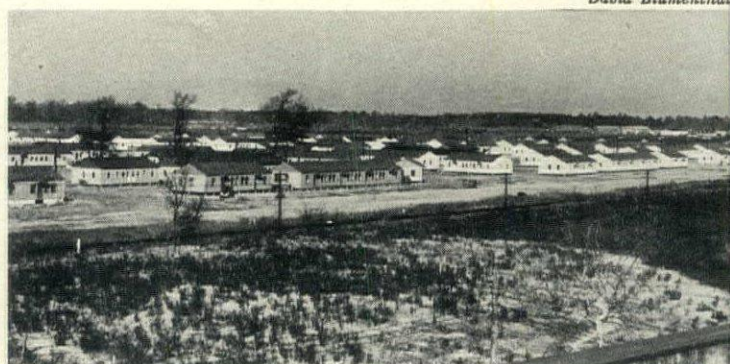
E. L. Bruce Co., Memphis, Tenn. began producing prefabricated houses in sections in July, 1942. Since that time 1200 units for public war housing have come out of their Memphis factory, with a production rate of 200 houses, and a claimed potential of 500 houses a month. Each 2-bedroom house consists of about fifty sections, bolted together on site. Present unfilled orders: 300 units.



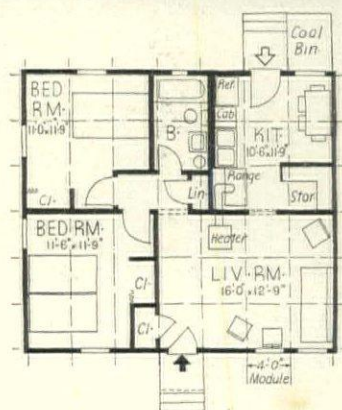
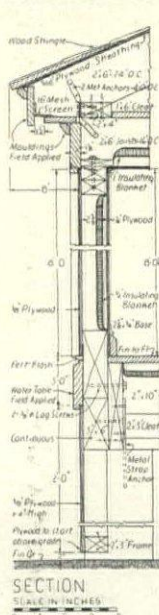
Celotex Corp., 120 S. La Salle St., Chicago, Ill., manufactures precut wall panels for the John B. Pierce Foundation's horizontal method of construction, employed by selected contractors. At two Celotex plants, in Metuchen, N. J., and Marrero, La., parts of 1,500 houses are produced each month. The precutting and assembly of wall frames, floor panels and roof trusses is done in outside mills. The wall panels consist of Cemesto Board,

and window frames with prefitted windows are installed where needed. Prior to 1942 Celotex sold panels for 1,000 units for private use. Since that time 2,500 more houses have been built. Apart from ordinary dwelling units, Celotex has produced panels for 60-man dormitories, Coast Guard barracks, officers' quarters and two-story women's dormitories.

David Blumenthal



Ivon R. Ford Lumber Co., McDonough, N. Y., has been producing sectional houses since 1935. Prior to 1942 it sold 555 units for private use. Since then the factory (potential: 60 units a month) produced 60 houses for private housing. Unfilled orders amount to 26 units.

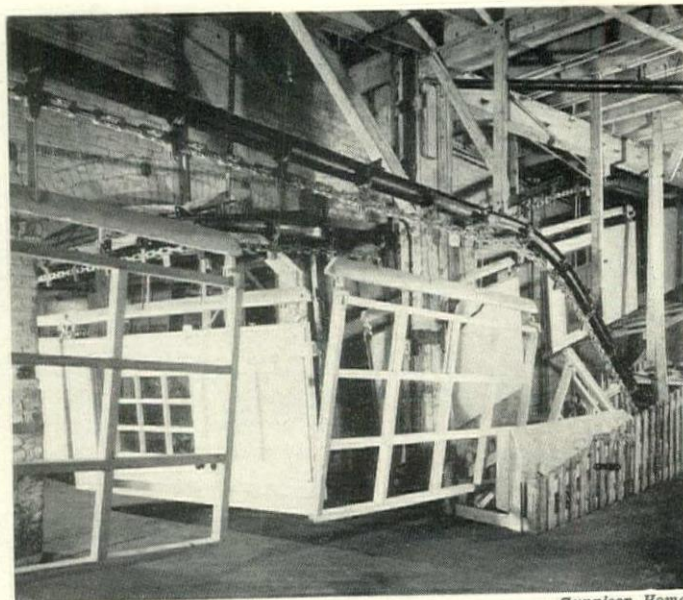
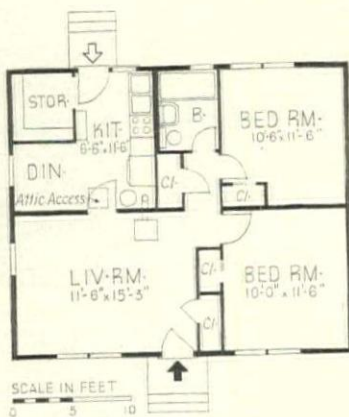


Empire Housing Corp., 369 Lexington Ave., New York City, was formed in 1942, and has been responsible for 2,000 prefabricated units at Newport News, Va. All houses are made in panels, and joined on site with a minimum of bolts. One large plant in Danville, Va. has a capacity of 800 units a month, and is operating at this rate now.

THE PREFABRICATED HOUSE

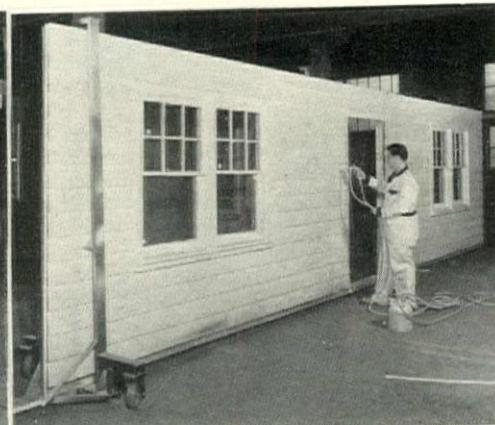
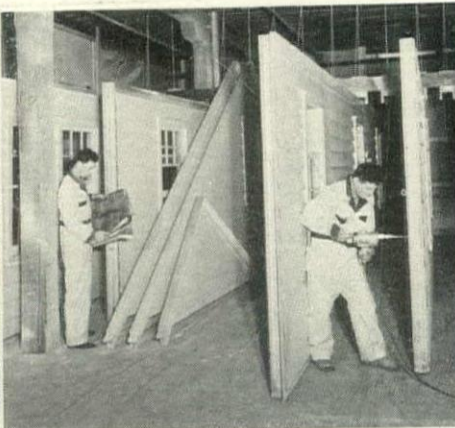


Green Lumber Co., Laurel, Miss., began production of pre-cut and partly prefabricated houses two years ago in its Laurel plant, shipping the units as far as 1,000 miles. It has been engaged in prefabrication of CCC camps and similar buildings since 1934. For the war housing program the company has produced 4,000 dwelling units to date. Productive capacity has been at times 550 houses a month, with a higher potential. At the same time the plant produced 20,000 square feet of barracks per day. Though the company has not entered the commercial markets so far, it has an open mind toward changes in postwar setup, both as to design and distribution.

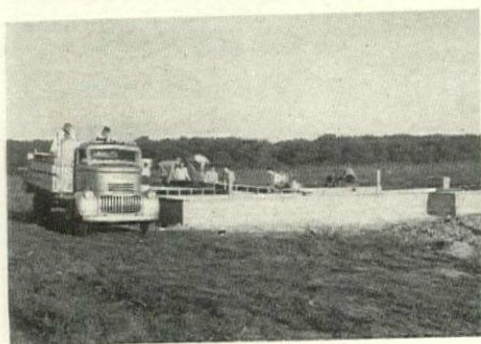


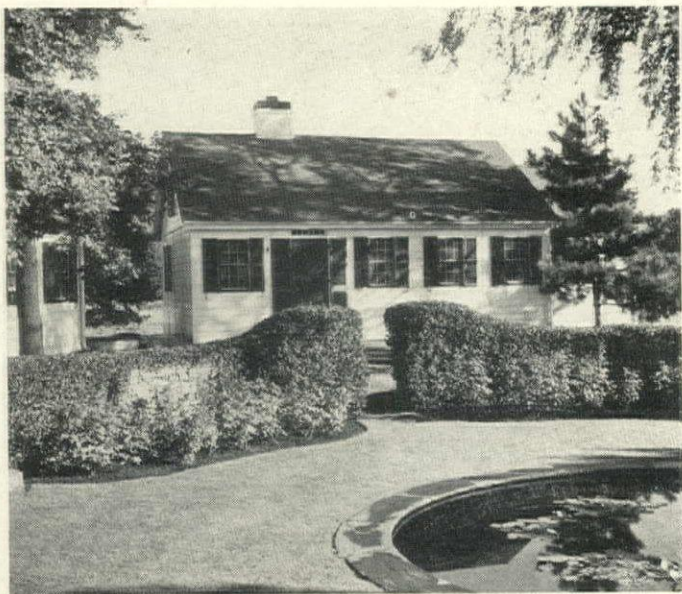
Gunnison Homes

Gunnison Housing Corp., New Albany, Ind., pioneered in the production of stress-covered panels surfaced with exterior plywood. Panels are assembled in hot presses using waterproof plastic adhesive. Hardwood plywood is used on living-room walls for decorative effect. The factory in New Albany has sent out prefabricated houses to every state, and is working at a rate of 600 units a month. Gunnison started production in 1935, and has perfected prefabrication on a true mass-production, assembly line basis. The corporation is now making plywood airplane wings and hutments, together with its normal house production. Gunnison was the first prefabricator to use a moving production line.

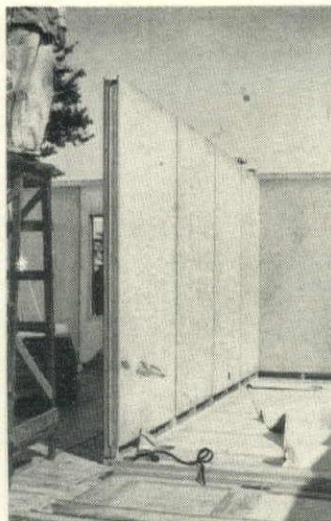
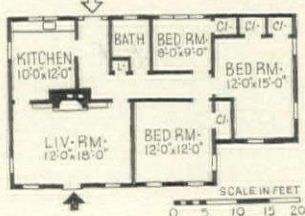


Green's Ready Built Homes, 1221 18th Ave., Rockford, Ill. was organized in 1941 as an outgrowth of the housing division of the Goodwillies-Green Box Co., who developed the glued-plywood, wall-sized panels used in the system. Prior to 1942, Green's sold 100 units for private use, and since that time has produced another 200 units for public war housing projects. The production potential of their Rockford plant is 150 units a month, which sell (without land) for \$2500 for a two-bedroom, \$3,000 for a three-bedroom house. The territories served cover most of the Middle West. They plan extensive changes in their construction method, house design and distribution setup to meet the needs of a peacetime market.





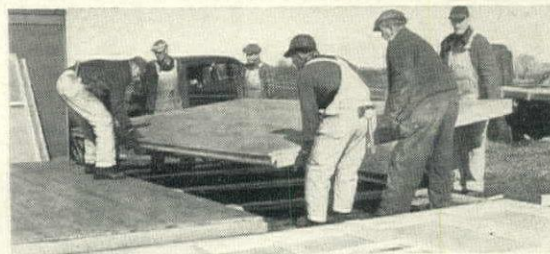
E. F. Hodgson Co., 1110 Commonwealth Ave., Boston, Mass., is the oldest prefabricator in the U. S. It began selling sectional houses in 1892, and had produced well over 100,000 prior to 1942. The houses consist of prefabricated panels, which are bolted together with a special "keywedge" bolt. The factory at Dover, Mass., is turning out miscellaneous structures for the Army and Navy, as it did in World War I.



Houston Ready-Cut House Co., Houston, Tex., was organized in 1917 to supply sectional houses for the oil industry, and had produced, prior to 1942, over 12,000 sectional and ready-cut houses. From its factory in Houston, with a capacity of 600 units a month, the company serves Texas and Louisiana. It manufactured, in 1942, 1,700 houses for public war housing projects, and 400 for private projects. Before the war Houston Ready-Cut supplied many Government agencies such as FWA, FSA, CCC and the Dept. of Agriculture. It also built 4,573 plywood tent frames and a complete flying school for the Army. At present the company is engaged in ordnance work.



Hussman-Ligonier Co., St. Louis Mo., established in 1921, originally manufactured refrigeration equipment. They are now making panel prefabricated houses in two plants, with a total capacity of 350 units a month. Pictures show a project at Norfolk, Va. Other current jobs include projects at Louisiana, Mo., Middle River, Baltimore, Md., and Kingsbury-LaPorte, Ind.

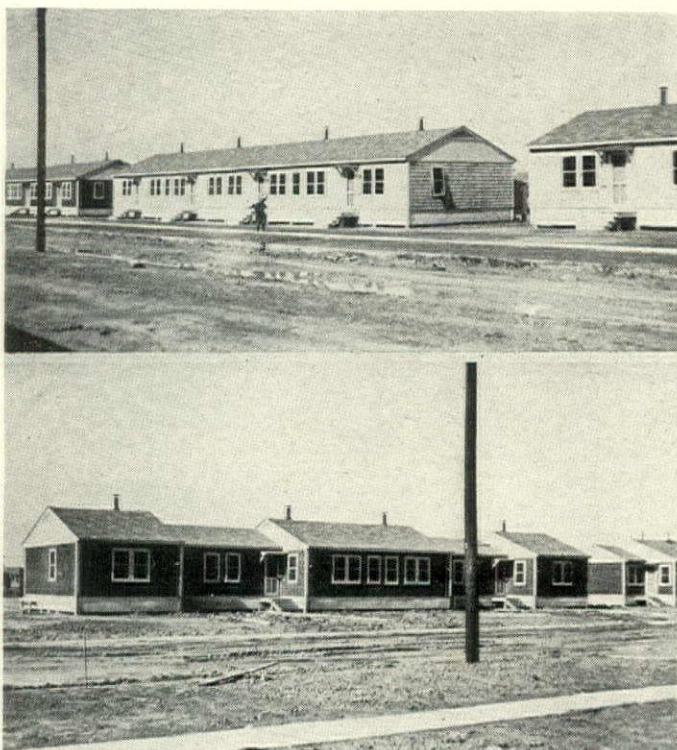


John A. Johnson Contracting Corp., 270 41st St., Brooklyn, N. Y., began producing for sale in 1941 and has since manufactured over 5,000 prefabricated houses for public war housing. Three plants at Pemberton, N. J. serve the Eastern Seaboard with a capacity of 500, and a claimed potential of 960 houses a month. Their products include various Army structures, trusses and subassemblies.

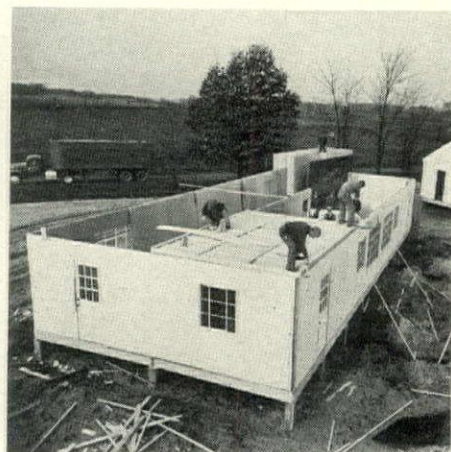
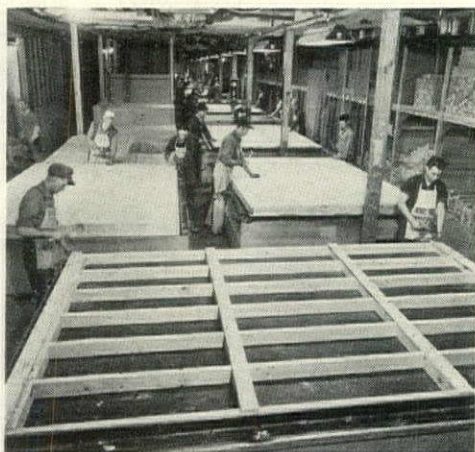
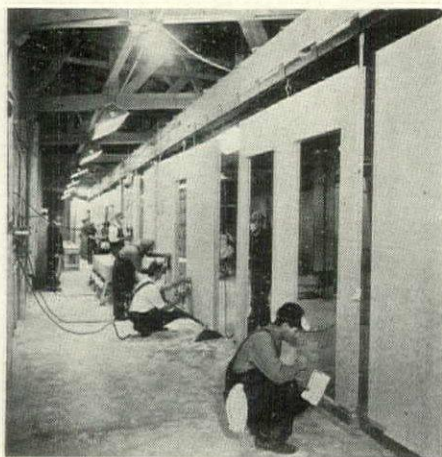


Hedrich Blessing

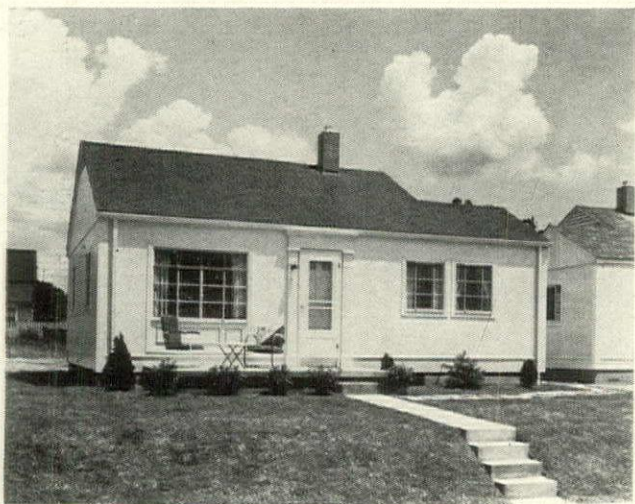
Libbey-Owens Ford Glass Co., Toledo, O., has converted a portion of one glass factory to the mass production of prefabricated war houses to help the Government meet housing shortages in war production centers. The factory makes wall panels of plywood glued to a stud frame. Wall, floor and roof sections are then shipped to the site and assembled in a few hours.



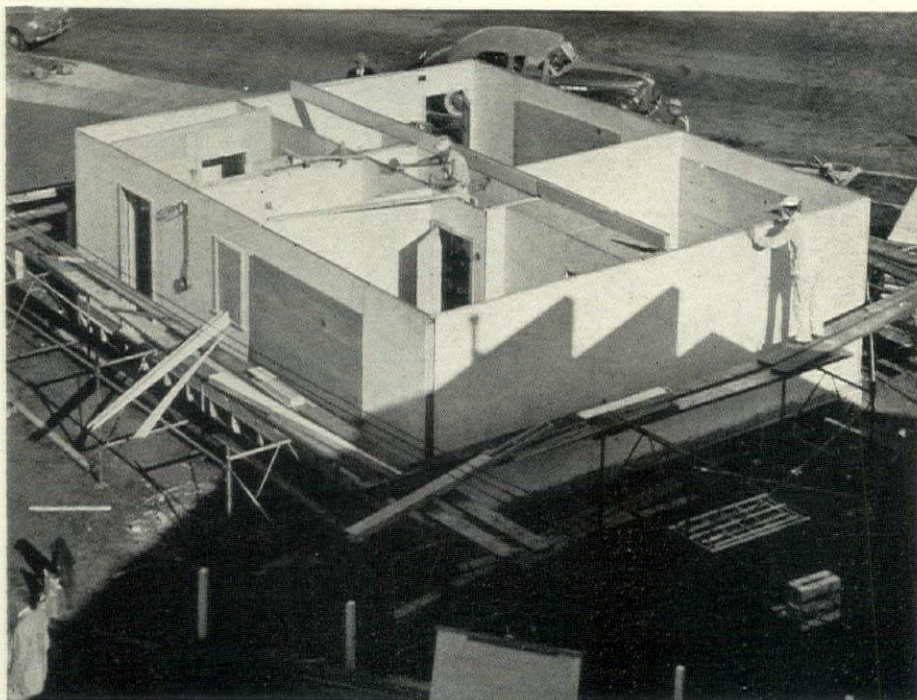
T. C. King Co., Anniston, Ala., began production of portable, demountable buildings in 1935, and had sold about ten thousand units prior to 1942 to the CCC, Army and other Government agencies. Their factory in Anniston produces panels and precut framing members. The capacity of the plant is 500 units per month. Since January 1942 they have prefabricated 2,000 houses for public war housing. 500 units are on order at the present time.



J. C. Allen & Son, Photos

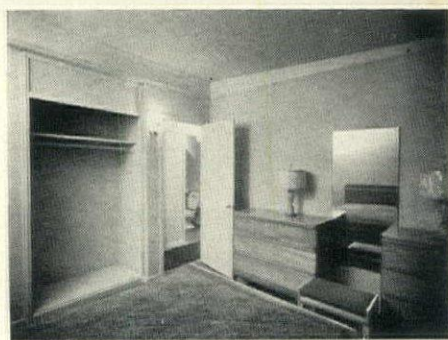
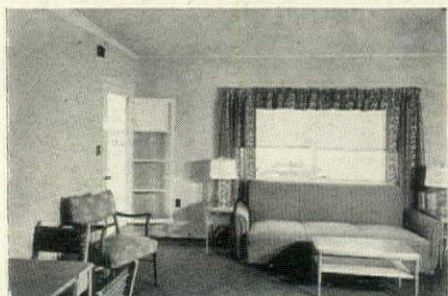


National Homes Corp., Lafayette, Ind., began production for sale in 1940, and had sold 816 units for private use prior to 1942. During the past year they produced 2,665 units for public war housing projects, and 102 units for private projects. Their Lafayette plant is working at its maximum capacity of 750 houses per month, which it sends out over a distance of 300 miles. At present their unfilled orders amount to 2,872 units. The houses are prefabricated in panels on an assembly-line, and grouped into four types: Two 2-bedroom types selling for \$2,000 and \$2,400 and two 3-bedroom types, priced at \$2,400 and \$3,600. Their plans for postwar distribution are not final, but they are emphatic as to their intention to prefabricate after the war. For the postwar period they envisage certain changes in construction, design and distribution, but precise data are not yet ready for publication.



Miles Berné Photos

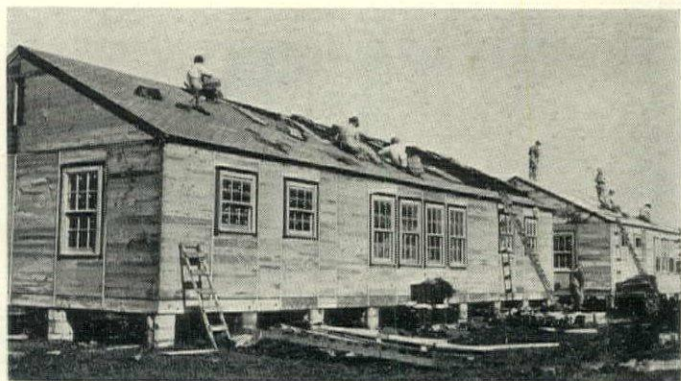
Plywood Structures, 6307 Wilshire Blvd., Los Angeles, Calif., began production for sale in 1939. They license prefabricators to manufacture stress-covered panels and the special connecting spline, introduced by them. Nearly all their work has been done in the West, and, although no houses had been sold for private use prior to 1942, 6,400 units have since been produced for public war housing projects. Apart from individual dwelling units, they have built the first prefabricated dormitories (Vallejo—FSA), and many barracks. At present they have 1,683 unfilled orders, and claim that their capacity is unlimited, due to the fact that all their contracts are sublet. The selling prices range from \$1,500 to \$15,000.



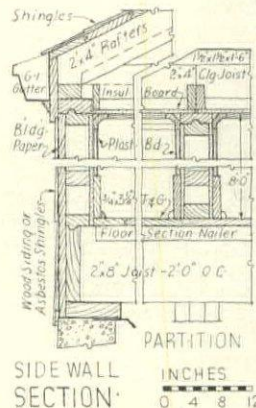
Strasser Photos



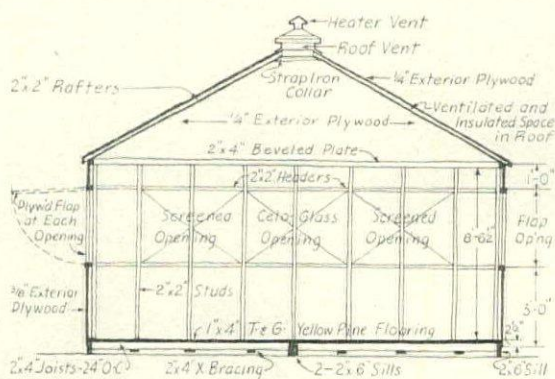
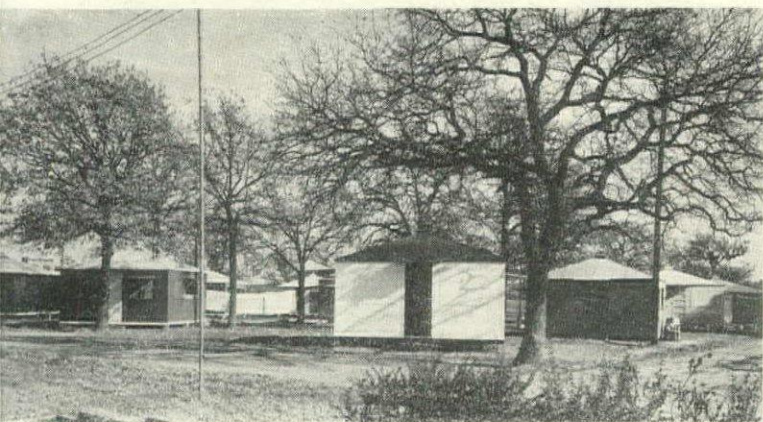
Pease Woodwork Co., Inc., Turrill St., Cincinnati, Ohio prefabricated its first Peaseway House in 1940. The factory at Hamilton, O., produces wall-length exterior and room-length floor panels. All joists and rafters are pre-cut and set conventionally in the field. Prior to 1942, 400 houses were sold for private use, and 600 units have been sold since for private housing. Present production rate is 75 units per month, with a claimed potential of 125.



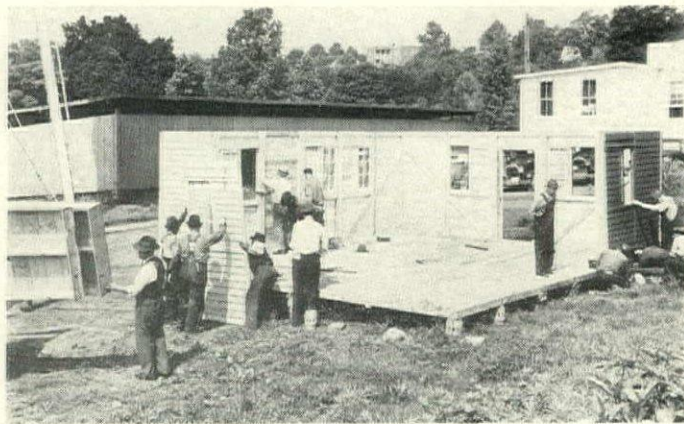
Southern Mill & Manufacturing Co., 525 S. Troost St., Tulsa, Okla., has been manufacturing "Sturdybuilt" sectional houses since 1919, selling principally to oil companies and industrial firms, but also supplying several for the CAA. From three factories in Tulsa, Longview, Tex., and Wichita, Kan., they ship the panel-prefabricated units to the South and Middle West. The factories have a present production rate of 450 houses a month, with a claimed potential of 900. Prior to 1942, the company sold 4,500 units for private use. Since that time 3,420 have been produced for public, and 30 for private war housing. Present unfilled orders amount to 423 units, and the selling price of the units varies from \$3,000 to \$3,800. They plan certain changes in the setup of postwar production.



THE PREFABRICATED HOUSE

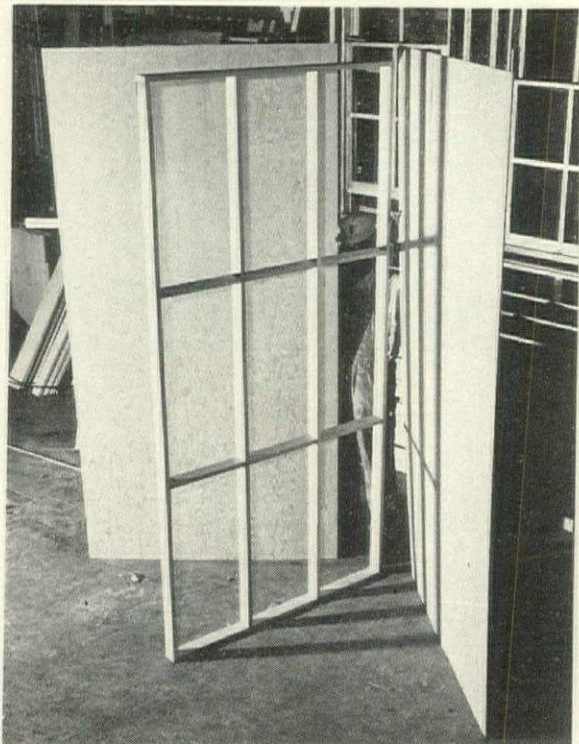


Texas Pre-Fabricated House & Tent Co., Dallas, Tex., began production in two factories in 1941, but planning and experimentation had been going on for some time previously. Its "Victory" hut is fully prefabricated, demountable and portable, and in extensive use by the armed forces.

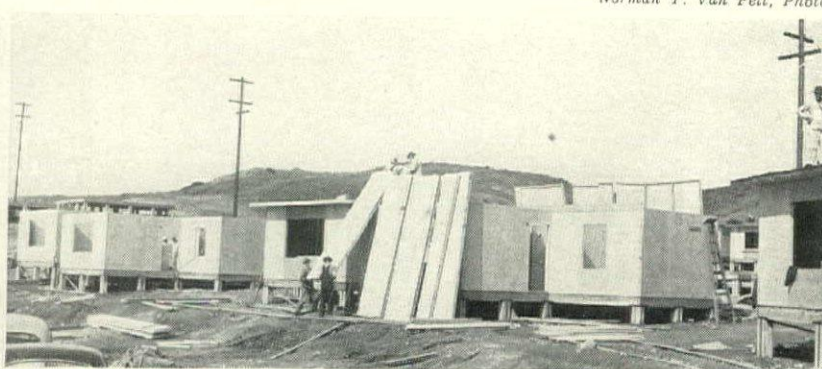


Travelodge Corp., 1120 Madison Street, Lynchburg, Va., started production in 1940, but did not get properly under way until public war housing absorbed 1,000, private housing 300 of its units. Prefabricated in panels, houses include various types for the armed forces. 14 factories in the South produce 840 units a month, with present unfilled orders amounting to 600.

Vernon Heger



Norman T. Van Pelt, Photos



Stewart & Bennett, National City, Calif., are one of the original prefabricators on the West Coast. After research into prefabrication methods they began producing stressed-surface panels, based on experiments at the Bureau of Forestry, University of Wisconsin. In all projects to date, which include those at Chesterton, Chula Vista and Azure Vista, plywood has been used almost exclusively. In the above-mentioned projects a cold glue plywood was covered with shingles after erection. A war-time product is the "Port-O-Barrak", a hutment that can be erected by two men in 45 minutes.

The 24 prefabricators described above include most, if not all of the firms which have been most active in the war period to date. To complete this directory, other firms are listed on page 110.

THE PRIVATE BUILDER AND WAR HOUSING ...

He takes a last look, weighs whether to leap.

Second only to private architects in aspirin consumption are the pain-wracked private home builders. Early in the war the first in a series of restrictive and crippling freeze orders started popping from war production agencies. Any review of these directives in sequence makes it surprising that as many as 300,000 housing units have been privately produced in 1942. That the situation is not worse must be credited chiefly to the activities of a small group of outstanding developers, who, through the National Association of Home Builders, have had a vigilant watch over the private builders' place in the program. Top names on the builders' honor roll include Texan Hugh Potter; Herbert Nelson, Executive Vice President of the National Association of Real Estate Boards; Fritz Burns, NAHB President; Robert P. Gerholz, Flint, Michigan developer; Frank W. Cortright, NAHB's executive secretary, and Henry Price its secretary.

While other industries were "fortunate" enough to become fatalities early in the war, the home building industry, led on by well-meaning, if futile promises, and plagued by its own labor, finance, and supply gremlins, has been rapidly dissipating its working capital. The private builders, determined but groggy, kept sinking increasingly large sums of money in an endeavor to recoup losses. They were eager to carry on—even though the prospect of erecting housing for rental to immigrant war workers offered limited and dubious profits and numerous difficulties. But many were convinced that if they gave up they would be unable to rebuild postwar, the organizations they had painstakingly developed.

Much criticism has been leveled at the private builders for failure to provide their share of war housing. Actually the fault lay largely with the Government. The Second Truman Committee Report, pointing up the failures of the war program, seems to be directed especially toward the housing phase. It placed the blame on:

1. "Inadequate overall planning within Government agencies at the beginning of various programs, and delay in determining basic policies necessary to carry out such programs effectively.
2. "Conflicting responsibility for various phases of the war program, resulting in delays and 'buck passing'.
3. "Hesitancy of Government to adopt unpopular or unpleasant policies long after the facts clearly indicated that such policies were necessary."

BUILDER'S REQUESTS

For the balance of 1943 the industry is making these requests:

►It wants the rules, no matter how drastic, fixed once for all, so that it can plan on known factors.

►It wants WPB, which determines the supply of materials, and NHA, which fixes the minimum construction requirements to coordinate their efforts; it wants the paper work at present routed through FHA, NHA and WPB regional offices simplified.

►It wants the rental housing provisions of Title VI liberalized.

►It wants FHA to take into account in its evaluations increasing labor and material costs. It wants FHA to expand its field offices to expedite building operations.

►It wants OPA to raise the ceiling price of lumber in certain instances, if this step is necessary to insure a continuing flow of the critical material.

►And it wants, from NHA, relaxation of the present requirements that housing cannot be sold until after four months occupancy. Builders feel that the 30-months period to accumulate a 10% down payment affords the war worker favorable enough terms. (Canadian builders however, would welcome the 4-months rental clause since they at present have to rent their units for 2 years.) Under the four-months occupancy clause the builder is unprotected against the war worker who vacates, leaving the house in a mess. From NHA they further ask an early distribution of priorities. They are fearful that at the end of 1943 the private housing situation will still be as acute as now.

The private builder, who ordinarily can turn out a group of houses in 90 days from the issuance of FHA commitments to final inspection, finds Government red tape and

financing difficulties frequently slow him down to nine months.

INDUSTRY HEADACHES

A big housing headache for builders of private war housing is the priorities quota system. Since 1941 quotas sufficient for 417,000 privately built units have been made available. Against this total, 254,000 units have been completed or were under construction as of January 1. These were built under the priority system. The 300,000 units built privately in 1942 included many erected without priority. It is estimated that quotas, out of the supply left, number 170,000 units. The present quota is supposed to be for immigrant workers during the fiscal year ending July 1, 1943. Of the 170,000 units, priorities have been issued on 60,000 units. Fifty-thousand units have been distributed to the various FHA offices for use by builders. The final 60,000 have not yet been distributed. Reason: in many instances the priorities will have to be recaptured from areas where the need has dropped off, or where builders have decided to suspend operations.

Quota Tangles. The builders and NHA disagree to some extent on quota distributions. Priority quotas are often not used up by builders because they are assigned to one-industry towns experiencing temporary war booms, or to outlying areas near large cities where the long-term housing market is dismal. Private builders want additional inducements in order to build homes in these areas: either permission to sell houses so that if the market folds their position may be secure, or a raise in rent ceilings commensurate with risks.

At present only two rental brackets are allowed, one from \$30 to \$40 per month (shelter rent) and the other from \$40 to \$50 per month. The Government specifies



Michigan developer Gerholz



Exec. Sec. of NAHB Cortright

how many units are to be built in each bracket in the various areas. Builders contend that at present too many of the units are spotted in the lower brackets. They feel that there should be an intermediate bracket between \$40 and \$45. (There is a third bracket for housing under \$30 a month, but it applies only in a few southern localities where the cost level is low.)

Possible compromises are indicated between NHA and the builders—especially since Congress has made it plain it wants private builders given the first opportunity of satisfying war housing needs. It is quite likely that NHA, using the new General Order 60-6, will recapture quotas from places where priorities are not being used, and allot them to areas where builders can do the job.

There is still the necessity for more liberal evaluations on the part of FHA. Since it is an insuring agency it has had to be conservative. It has been difficult for FHA appraisers accustomed to peacetime practices to adapt themselves to the liberal valuations necessary to make Title VI effective. Congress clearly recognized a distinction between peace- and wartime mortgages by authorizing their separation.

WAYS OF HOPE

Homebuilders, optimistic by nature see a few rays of hope:

1. The establishment of NHA as a claimant agency under the Controlled Materials Plan. If the plan proves workable, the result will be the end of the present "hunting license" priority system and the beginning of "certified check" allotments.

2. The January 21 amendment to the War Housing Construction standards permitting increases of 10 to 15% in permitted floor footage, removal of the ban on soft wood lumber for flooring and sub-flooring and the extension of the states in which wood frame construction is permitted.

3. The assignment of AA-3 preference ratings to new construction and new rerates with only two industries, rubber and high octane gas given higher priorities.

4. The NHA-WPB agreement expressed in NHA orders 60-2-3-4-5-6, which give the builder greater certainty by clarifying and simplifying the requirements controlling the occupancy and marketing of privately financed war housing. NHA is given sole responsibility for programming the housing requirements of the immigrant worker. The definition of immigrant worker is broadened; central certification of war workers through the War Manpower Commission is provided so that builders are permitted to dispose of their houses to other than immigrant workers. A simple procedure is set up to obtain relief through the modification of the occupancy or marketing requirements or through changes in sale prices or rent levels.

SUPPLY BOTTLENECK

Washington building circles are concerned about the continued availability of certain

key items of equipment—especially space heaters and kitchen ranges. WPB feels certain that manufacturers will produce the needed amounts when the Controlled Materials Plan gets working. However, some FHA officials are inclined to doubt this.

One proposal receiving serious consideration is a plan under which the Defense Supplies Corporation would purchase a sufficient volume of space heaters, ranges and other scarce equipment, and sell it later to builders with priority orders. Using somewhat the same procedure, the Procurement Division of the Government has already accumulated enough equipment for the current public housing program. Private builders feel that they should be afforded the same opportunities especially since part of the reason for the current scarcity has been the combing of the market for supplies for public housing.

Through a recent amendment of L-42, a limitation order previously restricting the manufacture of certain specified fittings, manufacturers are permitted to assemble enough trim to take care of bathtubs minus fittings that have been frozen in warehouses.

NHA POLICY

With many an ear cocked, Commissioner Blandford, no pin-up boy in the private builder's office, issued a statement to private builders.

"The role of war housing is to provide adequate shelter for essential war workers not already housed within reasonable commuting distances of the plant requiring their services . . . If the Commission certifies that immigration of war labor is essential in any given community, it is the responsibility of NHA to provide housing for those immigrant workers.

"The findings of the War Manpower Commission as to the family and financial status of new workers determines the type of housing we must provide. For single workers we must make available rooms in existing houses or new dormitory accommodations. For couples, minimum housekeeping facilities are sought. For families of three or more, we must utilize vacant houses, convert existing structures or build new accommodations. . . . The NHA cannot schedule new construction in any locality except to the extent that its housing needs cannot be met through use of existing structures.

"When a program of new construction has been approved, the NHA calls for private financing wherever there is reasonable expectation of continuing economic need for the housing after this war, and wherever private builders can meet the necessary wartime restrictions on size, location and occupancy. To the extent that private financing cannot meet the need because of occupancy conditions or temporary construction, the NHA specifies Government financing and the projects are built by private contractors under Government contract. There is clearly no sound means for private financing of temporary

projects scheduled for dismantling within a few years."

This policy declaration appears to stake out the ground rules. If the areas of operation are restricted, at least they are fixed. Builders now know where they stand—or do they?

REQUIRED READING

For builders, realtors and architects who are engaged in war housing or who are planning to start housing projects it is important that they familiarize themselves with the Government documents relating to construction materials allowed, construction standards that must be followed, and the regulations governing the occupancy and sale of private war housing. The two most important documents are the following:

► *War Housing Construction Manual*—effective December 12, 1942. It includes the latest War Housing Critical List.

► *War Housing Construction Standards* as amended January 21, 1943, and *Interpretation of the War Housing Construction Standards*, dated February 5, 1943. No priority assistance will be given unless proposed construction, remodeling or rehabilitation conform with the above-mentioned critical lists and standards.

Other Directives with which Homebuilder should be familiar are:

► *Conservation Order L-41*, amended February 19 (original order issued April 9 and later revised on September 1).

Under this order the cost-ceilings listed below cannot be exceeded without the approval of local WPB. (For farms, U. S. Dept. of Agriculture County War Board.)

\$200 for residential and certain individual construction not essential to the war
\$1,000 for multiple residential
\$1,000 for agricultural
\$5,000 for industrial

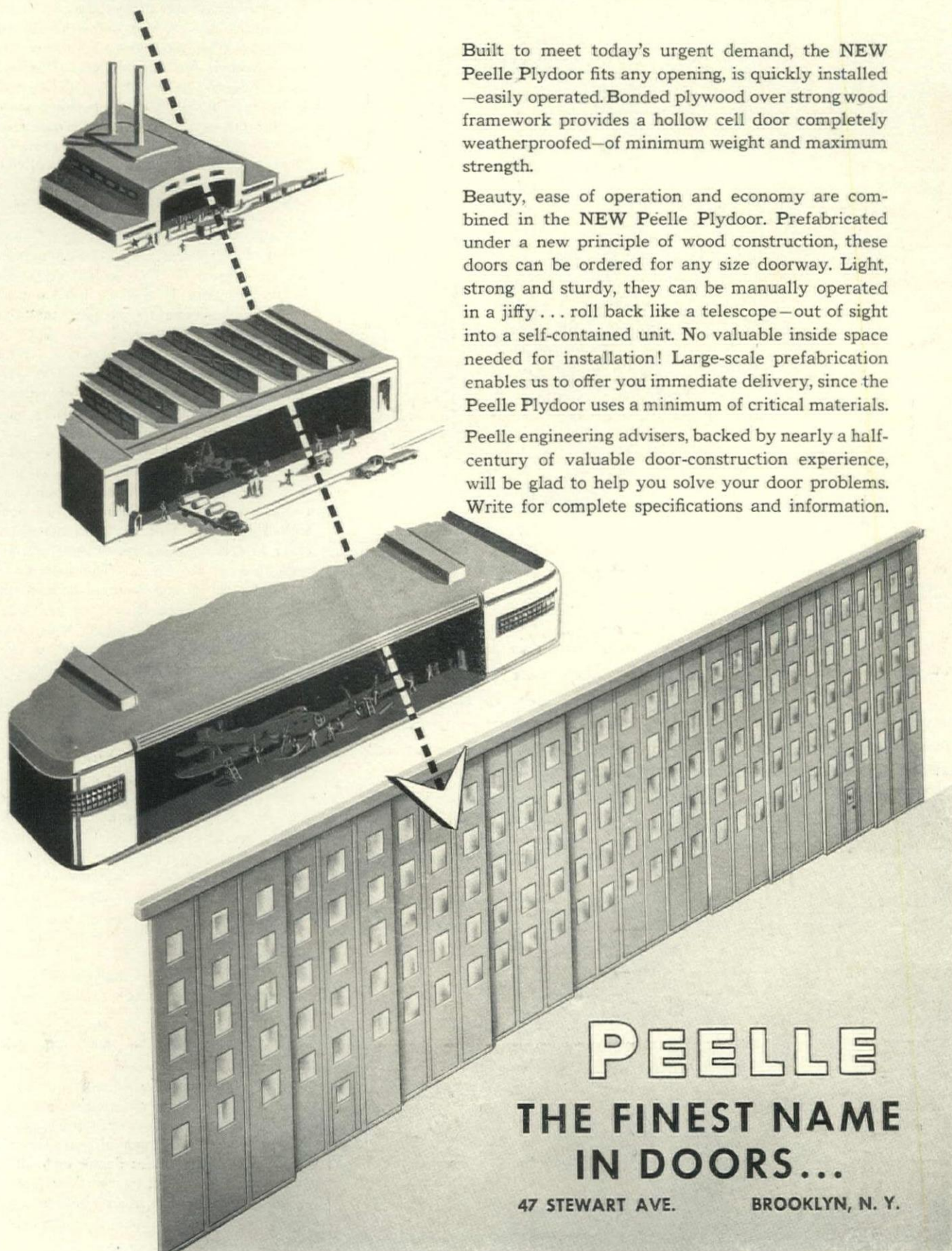
\$1,000 for other restricted construction not otherwise classified. There has been a recently revised procedure for maintenance work on large buildings. Under it, all miscellaneous construction jobs costing up to \$10,000 necessary for the maintenance of large buildings may be included in a single application for blanket authorization.

► *AA-3 Blanket Preference Ratings* were assigned, under a WPB order issued January 11, 1943, for use in purchase of materials for war housing projects. This affects the war housing projects for which preference rating P-55 was issued to private builders and P 19-d and P 19-h issued to public housers. It supersedes any rating given previous to January 11, 1943, whether used or unused. Priority Regulation 12 of WPB must be adhered to in extending the new rating to a builder's suppliers. This uprating applies not only to publicly and privately financed war housing, but also to conversions. In ratings below the AA-4 level no changes are made.

► *PD 105*, revised February 10, now covers every phase of residential construction in-

(Continued on page 90)

You supply the doorway **PEELLE HAS THE DOOR**



Built to meet today's urgent demand, the **NEW** Peelle Plydoor fits any opening, is quickly installed—easily operated. Bonded plywood over strong wood framework provides a hollow cell door completely weatherproof—of minimum weight and maximum strength.

Beauty, ease of operation and economy are combined in the **NEW** Peelle Plydoor. Prefabricated under a new principle of wood construction, these doors can be ordered for any size doorway. Light, strong and sturdy, they can be manually operated in a jiffy . . . roll back like a telescope—out of sight into a self-contained unit. No valuable inside space needed for installation! Large-scale prefabrication enables us to offer you immediate delivery, since the Peelle Plydoor uses a minimum of critical materials.

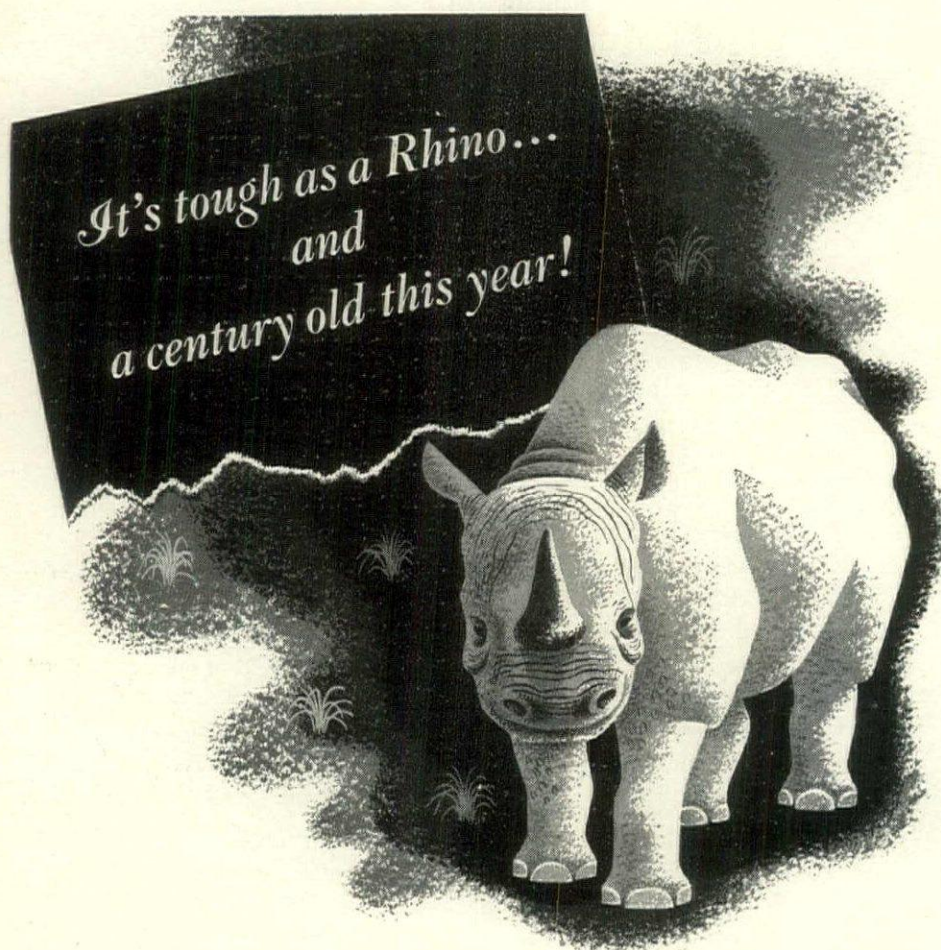
Peelle engineering advisers, backed by nearly a half-century of valuable door-construction experience, will be glad to help you solve your door problems. Write for complete specifications and information.

PEELLE

THE FINEST NAME IN DOORS...

47 STEWART AVE.

BROOKLYN, N. Y.



There is no better paint than white lead, and no better, tougher, more durable white lead than EAGLE... pure white lead ground in pure linseed oil, and a prime favorite since 1843!

In 1943, with a Global War whirling round our heads, and with many standards suffering, Eagle White Lead remains the pure product it always has been—highest quality!

Too, at a time when many shortages are being felt, there is still sufficient Eagle White Lead to go around. And it is the year's best buy in quality paint at that—only \$2.67 per gallon of finished paint, based on national average cost of Eagle White lead and linseed oil!

So we say, recommend that your clients use this paint that will laugh at weather—that will help keep their morale up with its truly beautiful finish—that will save them money on eventual repainting. Recommend pure Eagle White Lead!

THE EAGLE-PICHER LEAD COMPANY, CINCINNATI, OHIO

Member of the Lead Industries Association



**EAGLE
WHITE LEAD**



THE PRIVATE BUILDER . . .

(Continued from page 88)

cluding remodeling. PD 406, formerly used to obtain priorities for remodeling, has been discontinued. PD 105 forms only are to be used, which means that unless a community has been granted a housing quota by NHA, no priority assistance can be obtained for remodeling. Dwelling units produced by private remodeling will be charged against the war housing quota for the critical business area involved on the same basis as new construction. PD 200 is to be used for all other types of construction. Stress is laid on compliance with NHA order 60-2-3. (See below.)

► **CMP 4C** and **NHA 60-6 Supplement No. 1** to Form **CMP 4C** are applications for the allotment of controlled materials for construction. It must be filled out by those builders whose controlled material purchases were not complete by April 1, 1943. The Controlled Materials Plan supersedes the present preference rating system for the purchase of certain designated "controlled materials." The current list of controlled materials consists of carbon-steel and copper products. The preference-rating system will continue to govern deliveries of other than controlled materials. Allotment of controlled materials will be filled ahead of other orders bearing preference rating regardless of the rating. The preference rating for the procurement of other than controlled materials, when identified with the assigned allotment number, take precedence over preference ratings of the same level which do not bear an allotment number.

DIRECTIVES

The statement of policy issued jointly by WPB and NHA on April 15, 1942 established that NHA would provide "housing only for war workers' immigration from beyond the distance of feasible transportation into localities of intensive war production whose activity is indispensable to augment the local labor supply to the extent necessary for securing maximum war production." By Directive of 7/16/42 the War Department, Navy and NHA agreed that NHA shall program only for indispensable immigrant civilian war workers.

► **NHA General Order 60-1**, effective November 27, 1942, broadens the definition of indispensable immigrant war worker. Under the new definition are included essential trades or professional workers needed in a community containing war industries. Example: doctor or health official vital to actual workers' welfare, workers on railroad, if road facilities are needed to expand a factory's output of

(Continued from page 92)

-for the Duration

THE "V" MODEL Watrous FLUSH VALVE

**Conserves critical war materials . . .
Meets War Department Spec. PE-623
Built to give lasting, reliable service**

WAR projects must have flush valves that are highly dependable . . . long-lived . . . water-saving. Yet the critical materials used in the manufacture of such valves must be held to the minimum.

To meet this need, Imperial developed and is concentrating its production for the duration on Watrous "V" Flush Valves. These valves save brass, bronze and other extremely critical metals required for the war. They conform to War Department Specification PE-623 and are approved for use on government projects.

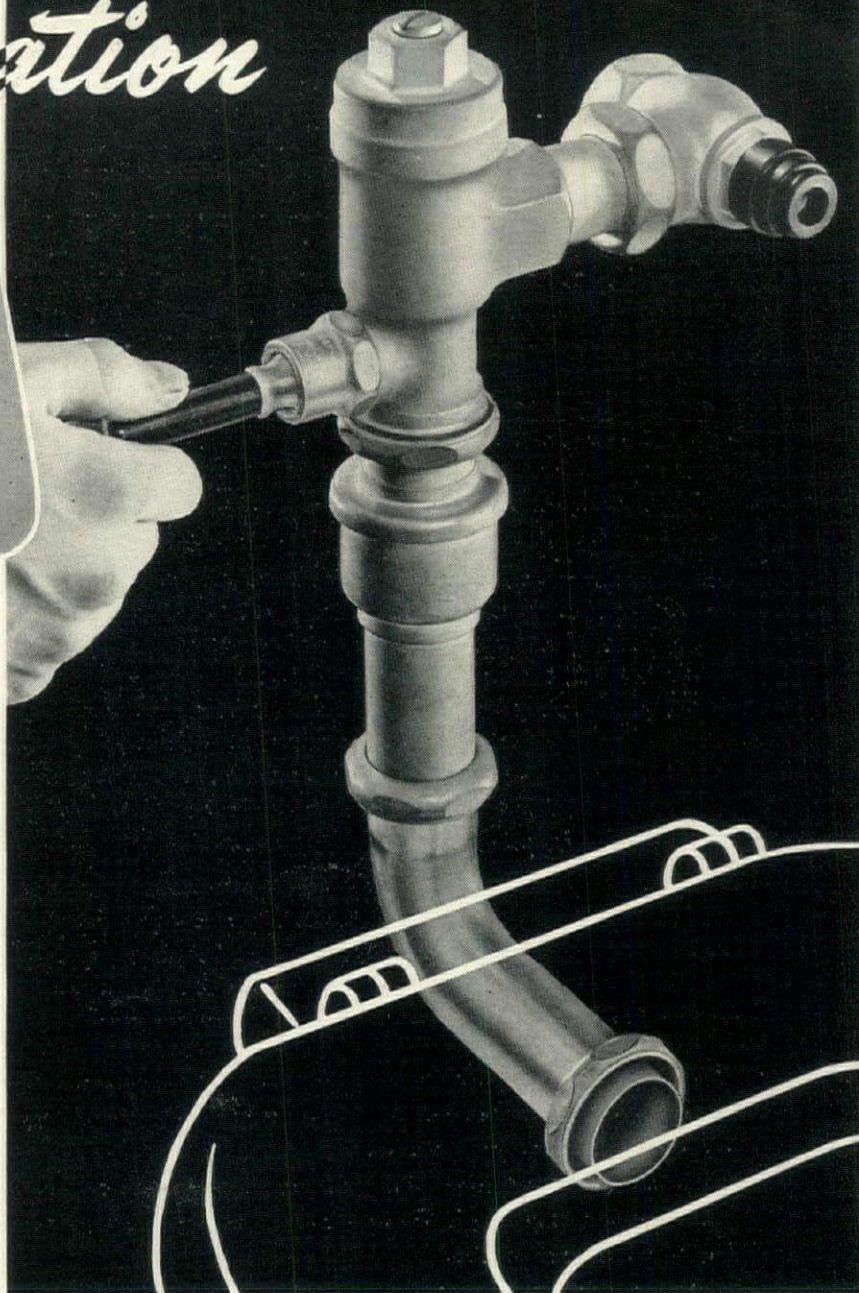
These "V" model valves retain, however, Watrous proved design and excellence of workmanship, and they will give lasting, economical service.

As will be noted from the illustration at right, Watrous "V" Flush Valves are similar in general appearance and features to the well known Watrous "Jewel" Flush Valve. The alternate materials used in place of brass and bronze in these valves have been selected with extreme care to the end that efficiency and dependability will be retained.

It is important to note that all vital working parts of the valve remain brass, a vital point in assuring long, trouble-free service.

For detailed information on Watrous "V" Flush Valves and the combinations to use to comply with War Department Specifications, write for Bulletin 858-W, or see the 1943 Sweet's Catalog File, Section 27, Catalog No. 39.

THE IMPERIAL BRASS MFG. CO.
1238 West Harrison Street, Chicago, Illinois



"V" Model retains Watrous proved design and excellence of workmanship

Like all Watrous Flush Valves, the "V" model offers a water-saver adjustment. This enables valve to be regulated to MINIMUM water requirements of fixture by a slight turn of the adjusting screw.

system complete operating unit may readily be lifted out. This makes possible quick, convenient replacement of worn washers, etc., if ever necessary.

Advantages of Watrous system of "Single-Step-Servicing" are fully embodied in this valve. Under this

Valve is shown complete with vacuum breaker which provides positive protection against back-siphonage.

QUICK REFERENCE CHART

Showing Watrous 'V' Flush Valve combinations which correspond to various Item Nos. in War Dept. Spec. PE-623

War Dept. Spec. No.	Watrous Combination to Use	War Dept. Spec. No.	Watrous Combination to Use
Item P-1	WD-933-WVB	Item P-6A	WD-932-VB
Item P-2	WD-949	Item P-30	WD-939-VB
Item P-3	WD-949	Item P-31	WD-939-VB
Item P-4	WD-949-VBF	Item P-32	WD-941
Item P-6	WD-932-VB		

Watrous Flush Valves

A QUALITY FLOOR BUILT FOR LASTING BEAUTY

It's long-wearing ... beauty-keeping ...
easy-to-maintain Armstrong's Linotile

IT is no news to those in the construction field that most materials are still growing scarcer, and often quality has been lost because of necessary substitution of raw materials. Fortunately, when planning resilient floors, you can specify for real beauty and long wear ... for Armstrong's Linotile (Oil-Bonded) is still available.

There's no other flooring like Linotile. It is made especially to meet the most exacting requirements of long service and ease of maintenance and to keep its original beauty, even under grueling, daily traffic.

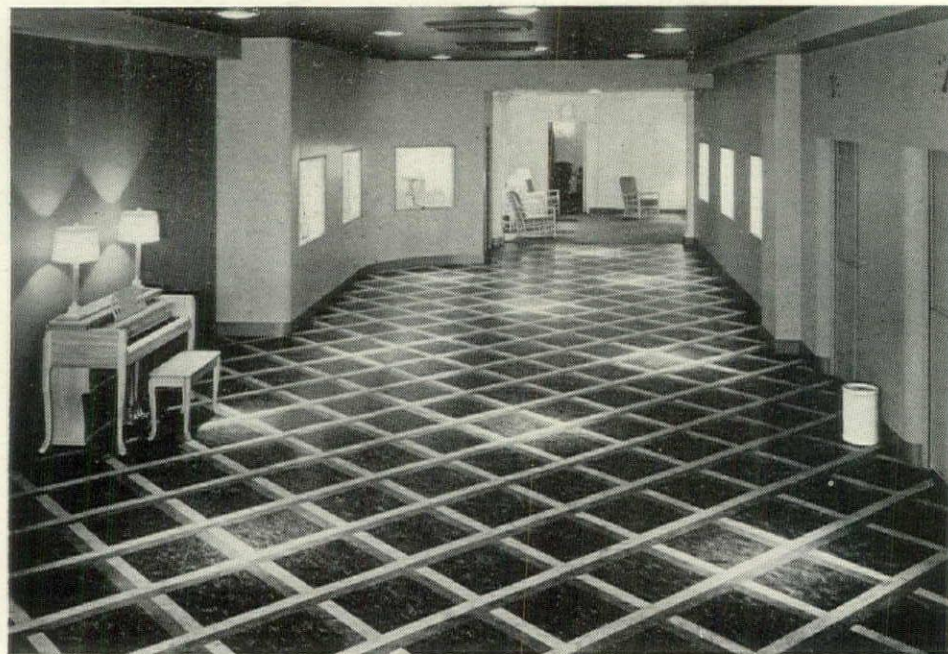
You can specify *this* flooring with

complete assurance that it will back you up with the dependable performance your clients expect of a truly fine product. For more than 25 years, Linotile has been chosen because of its dependability.

For full details see SWEET'S, or write to us for samples and complete information. Armstrong Cork Company, Resilient Tile Floors Department, 2304 Duke St., Lancaster, Pa.



The Army-Navy "E" flies over our Lancaster factories. It was awarded for excellence in the production of shells, bombs, bomb racks, cartridge cases, aircraft parts, floors for war uses, and many other vital materials.



This rugged, beautiful floor of Armstrong's Linotile (Oil-Bonded) is serving well in the lobby of the attractive Tower Restaurant in Sibley, Lindsay & Curr Department Store, Rochester, New York.

ARMSTRONG'S RESILIENT TILE FLOORS

INDUSTRIAL ASPHALT TILE  GREASEPROOF ASPHALT TILE
CONDUCTIVE ASPHALT TILE • LINOTILE (OIL-BONDED)

THE PRIVATE BUILDER . . .

(Continued from page 90)

military products. However, they are further subject to the immigratory terms of certain carefully specified conditions and length of residence in the area.

OCCUPANCY RULES

►NHA General Order 60 -2-3, effective February 5, 1943, according to NHA Counsel Leon Keyserling, "were designed to give the private builder as much certainty as possible in his operation; to coordinate in one place all the scattered rules hitherto issued; to provide for quick decisions at the local level and to give a method of review for particular cases of hardship."

These regulations apply to all private war housing built under preference rating application filed on or after February 10th. Occupancy and marketing of projects built under preference ratings applied for prior to that date will be governed by the requirements on those matters previously in force. However, builders are permitted to use the broader war worker definition effective November 27, 1942 in determining occupancy eligibility. Furthermore, housing required to be held for rent may be sold in connection with new rules at the owner's election, and housing required to be held for sale may be rented after the NHA has approved the initial rental.

For projects covered by the new regulations the following principal conditions are established.

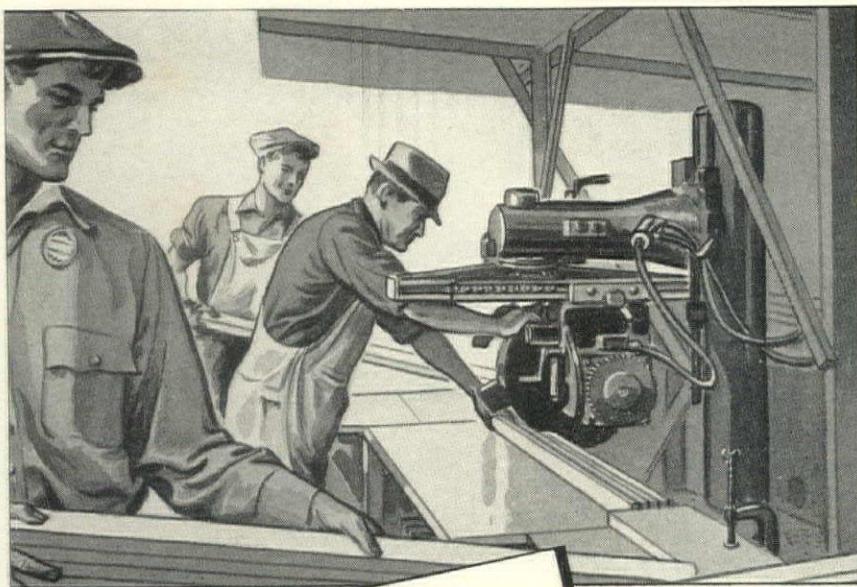
1. For the duration of the war emergency, the housing must be reserved for rental occupancy by indispensable immigrant war workers as defined by the National Housing Agency on November 27. These standards of occupancy also apply if the original owner sells or transfers such housing, as well as to re-occupancy of the quarters.

2. After four-months occupancy, the housing may be made available to the eligible war worker occupants by sale or under the lease option plan, provided that the option applies only to the tenant, that the total monthly payment shall not exceed a fair rental for comparable quarters, that the purchase price shall be a fair market price in no event exceeding \$6,000, and that the option to purchase may not be exercised prior to four months occupancy and shall continue in effect for at least 30 months.

The Purchaser also must abide by the same occupancy and marketing provisions which applied to the original owner.

3. The limitations upon sale do not apply to transfers of ownership other than for occupancy purposes, provided that the

(Continued on page 94)



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.

To the architect, these elements of efficient prefabrication—power equipment, jig tables, indoor plans—mean that his design is translated into a *machine-perfect* home.

At the same time, efficient prefabrication must be available locally—*decentralized*—to make full use of the architect's creative knowledge of the community's tastes and needs. Decentralizing prefabrication is a basic achievement of practical, engineered housing.

Engineered housing

For seven years and at a research outlay of \$300,000, Homasote Company has

been applying sound engineering principles to the problem of building a home. Homasote's purpose: to help the architect who specifies Homasote Building and Insulating Board sell more and better houses, *profitably*.

Result of this exhaustive research is Homasote Precision-Built Construction—a system which:

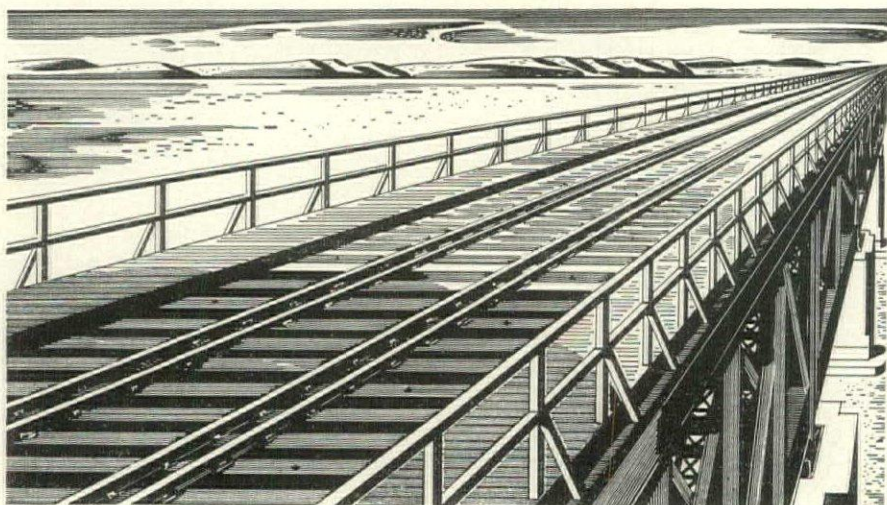
- (1) enables the architect to incorporate all the engineering economies of prefabrication into the homes he designs;
- (2) is based on the use of Homasote Board—oldest and strongest insulating

and building board on the market—and other *standard* materials readily available in the local area;

- (3) insures the architect's reputation against identification with jerry-building;
- (4) saves the architect's detailing time—thereby increasing his productivity—by providing complete charts and reference tables;
- (5) permits complete design freedom—any architect's design can be adapted to Homasote Precision-Built Construction with no change in a single overall dimension greater than two inches.

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

HOMASOTE
Precision-Built
HOMES



WOOD Is Still Best For Jobs Like This

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

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

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

WOLMANIZED LUMBER is being employed for wartime structures all over the world, speeding erection, assuring long life. It will do the same for your peacetime construction. American Lumber & Treating Company, 1647 McCormick Building, Chicago, Ill.

*Registered Trade Mark

"Alloyed" FOR ENDURANCE
WOLMANIZED LUMBER



THE PRIVATE BUILDER . . .

(Continued from page 92)

new owner certifies that he will be subject to the same occupancy and marketing requirements as the original owner.

4. The occupancy and marketing requirements do not continue subsequent to an involuntary transfer, such as a mortgage foreclosure.

The new regulations also establish a simple procedure whereby the owners of the housing may apply for modification of the occupancy or marketing requirements or for changes in sales price or rent levels. All such requests will be filed with the local field offices of the Federal Housing Administration, which will transmit the requests to the NHA for review.

The uniform procedure established for filing petitions to increase rents or sales prices or for modification of the rules governing occupancy and marketing is also extended to private projects built under preference rating orders applied for prior to February 10. The new rules and regulations consolidate and codify requirements previously contained in uncoordinated documents of several agencies. ►NHA General Order No. 60 -4-5 delegates authority to creditors and lenders to except remodeling and rehabilitation credits from provision of Regulation W issued by the board of Governors of the Federal Reserve System.

MATERIAL CONSERVATION

►NHA 60-6, effective 2/27/43 implements the joint declaration of policy of WPB and NHA dated 12/11/42 providing for conservation of critical materials incorporated into housing projects and for the withdrawal or recapture of excessive quotas. Among the important points it covers are these:

1. The War Housing Critical List approved December 12, 1942, and the War Construction Standards approved January 21, 1943, will apply without qualification to private projects, whether new construction, remodeling or rehabilitation, when the application for priority assistance is acted upon favorably by FHA after February 27, 1943.

QUOTA RECAPTURE

2. If changed conditions necessitate downward revision in the established private construction quota for any critical housing area, the revision will be met first through withdrawal of the unused quota for the area or through recapture of outstanding preference rating orders which will not be used because of the changed conditions. To meet any further revision, FHA will recommend to WPB the recapture of outstanding preference ratings only if the builder has performed no substantial work on the project. Even then FHA may refrain if undue hardship results.

(Continued on page 92)

FOUNDATION FOR

Making Dreams Come True!



Today our leaders dream and look toward a future when castles will come down out of the air and settle on earth. A man's home is his castle, and the world dreams and plans for the day when every man can have a home, a castle, of his own.

Here is the foundation for making those dreams come true. Our organization is laying the groundwork for future production of low cost homes, from actual experience today in producing and erecting thousands of pre-fabricated houses to meet the shortages resulting from population shifts to war manufacturing centers.

Added to our 32 years of building experience, these mighty projects give us a clear view of making man's sweetest dreams come true.

HENRY C. BECK CO.

F.P.H.A. Approved Prefabricators and Erectors

A DIVISION OF

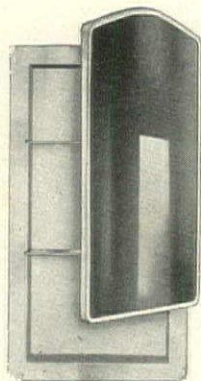
CENTRAL CONTRACTING COMPANY

HENRY C. BECK, President

DALLAS TEXAS, 407 Tower Petroleum Bldg.

ATLANTA, GEORGIA, 513 First National Bank Bldg.

Model 102-W, illustrated at right, and Model 103-W, below, are attractive Miami Wood Cabinets. Equipment consists of two glass shelves; bar-type door stop; stainless steel door strike and bullet door catch.



Attractive!

MIAMI || WOOD Bathroom Cabinets

SATISFY WARTIME NEEDS . . .

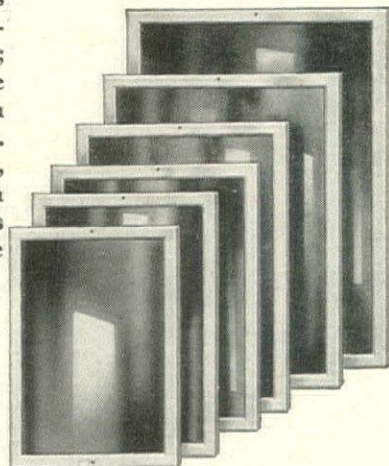
MIAMI is producing modern, streamlined, beautiful, wood bathroom cabinets for the duration. Their neatly framed mirrors, durable finish and compact, easily accessible cabinet space reflect good design and craftsmanship. You will find that they are built to meet today's needs for real service and dependability. These wood cabinets are equipped with convenience features that are standard in MIAMI Metal Cabinets.

The Miami Line consists of two distinctive wood cabinet models; also, wood-framed, wall mirrors in six sizes. The bodies of the new cabinets are made of kiln dried hardwood, with joints double locked, glued and tenoned; door-back of moisture-proof composition board; mirrors of double-strength quality; frame around mirrors is STEEL (by permission of WPB), finished to match the cabinets.

Whatever your cabinet requirements, you may continue to specify MIAMI with every assurance that these new cabinets will prove worthy of the name. Write Dept. AF for details.

MIAMI CABINET DIVISION
The Philip Carey Mfg. Company

Dependable Products Since 1873
MIDDLETOWN, OHIO



Miami Wood Framed Mirrors are available in six sizes.

MONTH IN BUILDING

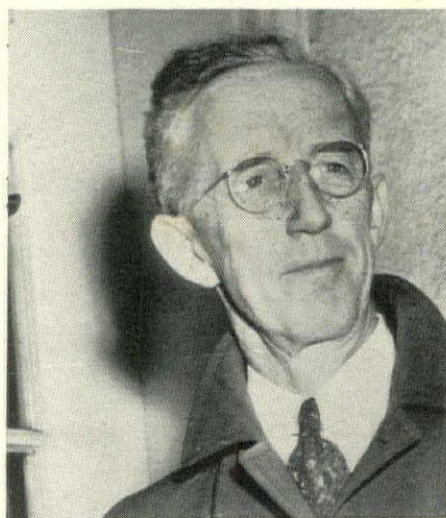
(Continued from page 34)

Delano, Charles E. Merriam, George F. Yantis, Henry Dennison, Beardsley (tax plan) Ruml. (Other, advisory members: Thomas C. Blaisdell, Isidor Lubin, Leon Henderson.)

Fights over its existence have been continuous. Three years ago the House Committee slashed it out of the Independent Offices Bill, restored \$710,000 to it later. Commented the testy *Washington Star* at the time: "Uncle Fred holds his job."

The Boys of the Board

Most newsworthy 'always was Uncle Frederic Adrian Delano (see cut, p. 33), whose sister was FDR's mother. Delano is Hongkong-born, Harvard-bred, throughout his octogenarian career a vigorous liberal who early saw the need for planning ("As I study history I am impressed with the fact that it has only been in times of crisis that the people in general have given serious thought to the real importance of nationwide planning.") His interest in housing and land was deepset, his sensitivity to digs about nepotism intense. Fast-aging, glum, retiring Uncle Fred is top name on the Board's masthead, is no longer the active brain behind specific recommendations.

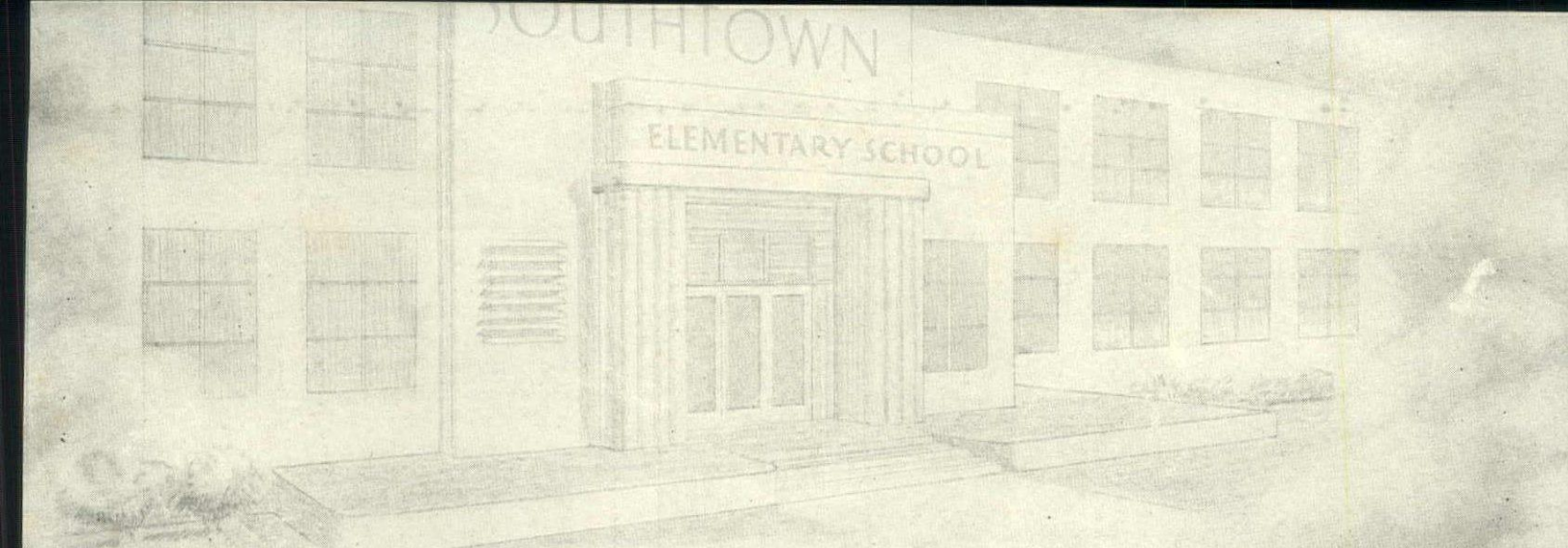


GEORGE F. YANTIS: "... we are not God."

Bright boy Charles William Eliot II (see cut, p. 34), grandson of Harvard's late, great President, is young (44) Harvard, a planner and practising landscape architect. Not popular with Capitol Hill because of a tendency to professional loftiness, his metaphysical turn of mind is usually apparent in much of the Board's published thinking.

Professorial Charles Edward Merriam is middle-aged, scholarly, tyrannical. His is the dominant mind in the new Report. Lank George Franklyn Yantis is the legal mind. Plodding, careful, detail-loving Yantis has hovered over every word of the document. Describing his commit-

(Continued on page 98)



It's time to take the brakes off your imagination

It's time to think of the future—and the structures needed for a *new era* of peacetime living. It's time to take the brakes off your imagination—to prod it into highest activity.

It's time to think, too, of converting your designs into actualities. For this purpose, many materials will be available—each with certain definite qualities—some with limitations.

Foremost among building materials is *STEEL*—always dependable—offering a combination of qualities found in no other building material.

Steel is strong, tough, stiff, safe . . . high in strength to weight ratio . . . fireproof and verminproof . . . extremely versatile . . . easy to work . . . inherently long in life . . . and low in cost, considering its minimum of maintenance and years of performance.

Long ago, Republic acquired a reputation for looking ahead—for anticipating future needs. Right now, in its research departments, Republic is utilizing its vast experience in war steels while continuing its relentless search for new steels and new ways of applying steel to help designers and engineers achieve their fondest building dreams.

When wartime demands no longer come first, Republic



again will be ready with an improved line of steels and steel building products—the most complete line made by a single manufacturer.

For the present, you will find detailed information in Sweet's—13/5 for sheet products, Toncan Iron, Electro Paintlok, Taylor Roofing Ternes, Enduro Stainless Steel—27/2 for pipe, Toncan Iron and Republic Steel—23/5 for electrical raceway, Electrunit Steeltubes and Fretz-Moon Rigid Conduit—15/11 for Truscon steel windows and other products.

REPUBLIC STEEL CORPORATION

General Offices: Cleveland, Ohio

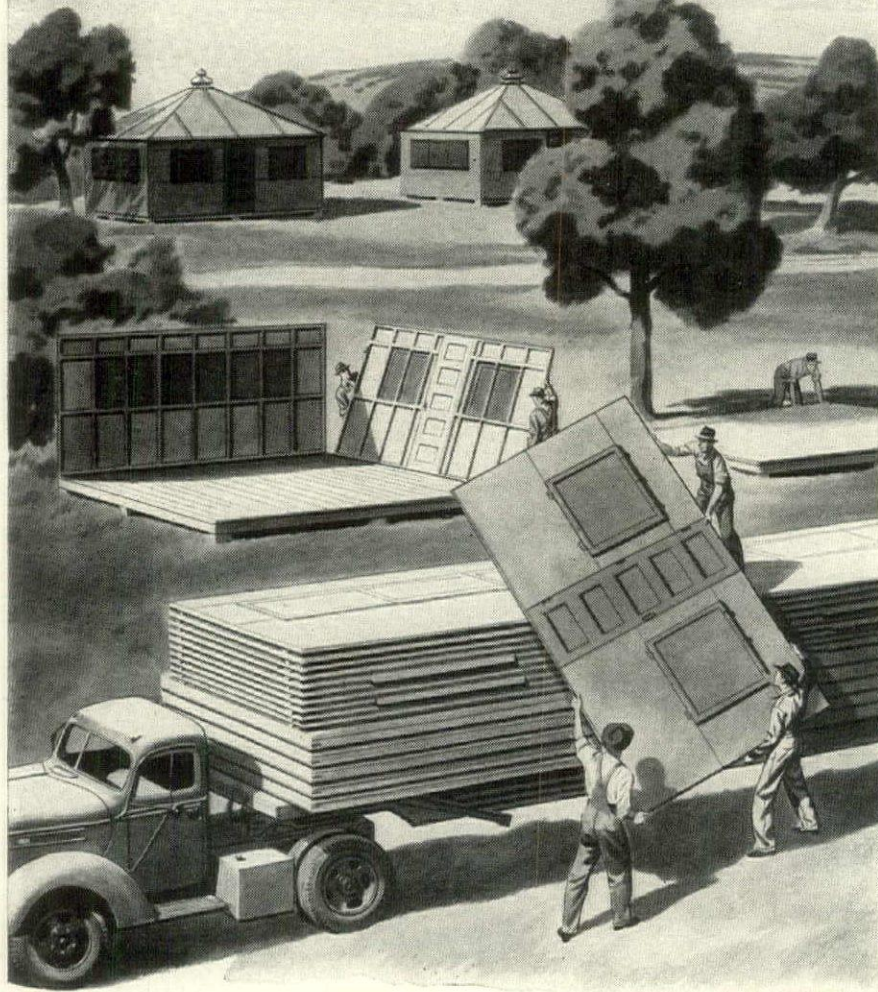
Berger Manufacturing Division • Culvert Division
Niles Steel Products Division • Steel and Tubes Division
Union Drawn Steel Division • Truscon Steel Company
Export Department: Chrysler Bldg., New York, N. Y.



Republic

STEELS AND STEEL PRODUCTS

SPEED HOUSING NOW!

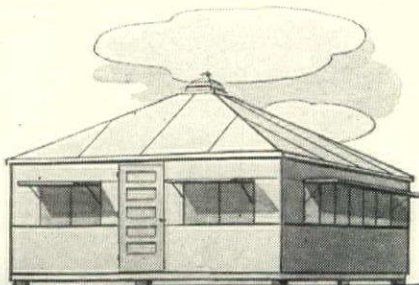


Housing that can be erected in six man-hours or less, whether military or for civilian war workers, is not a post-war dream. Texas Pre-Fabricated House and Tent Co. has it for you now—plus *low cost and high personal satisfaction!*

Speedy delivery—as many as ten huts or six homes to a freight car—and six-hour erection time* are just two of the reasons why Victory Huts and Homes are the answer to your housing problem. Another mighty important consideration is that they are *fully* pre-fabricated, demountable and portable. Many more Texas Pre-Fab features, some of them unique, are discussed in our new booklet describing Victory Huts and Homes, complete with illustrations, blueprints and construction details.

If you have a housing difficulty, or expect to have one in the months ahead, send for your copy of "Victory Huts and Homes" today and see for yourself how quickly, easily and *economically* you can get rid of this "bug". Just write or wire us at Dallas requesting "Victory Huts and Homes."

**Plumbing and electrical installations naturally require additional time.*



TEXAS PRE-FABRICATED HOUSE AND TENT CO.

Dallas, Texas

MAKERS OF "VICTORY" HUTS AND "VICTORY" HOMES

REG. U. S. PAT. OFF.

REG. U. S. PAT. OFF.

MONTH IN BUILDING

(Continued from page 96)

tee's work he once said: "... we long ago decided ... we are not God."

Housing on the Carpet. As a result of collaboration between planner, landscape architect, lawyer, professor, the Report's findings on housing and public works (see p. 34) are hardly revolutionary. The two major recommendations:

1) Extension and new forms of joint private and Government partnership for work on urban redevelopment and housing.

2) Placement of Government orders for new major development projects, especially in the fields of urban construction, river basin development, agricultural rehabilitation, modernization of transportation and institution of a large public housing project.

What these recommendations, in their greater detail, imply is an overall, ex-



Harris & Ewing

CHAS. E. MERRIAM: mind over weighty matter.

panded program for postwar construction, worked out by Government and private enterprise. The emphasis is on Government direction, secondary stress is on the assumption by state and locality of programming. The words, "Government authority" appear often, necessitated, in the Board's opinion, by the implications of a 6-year program.

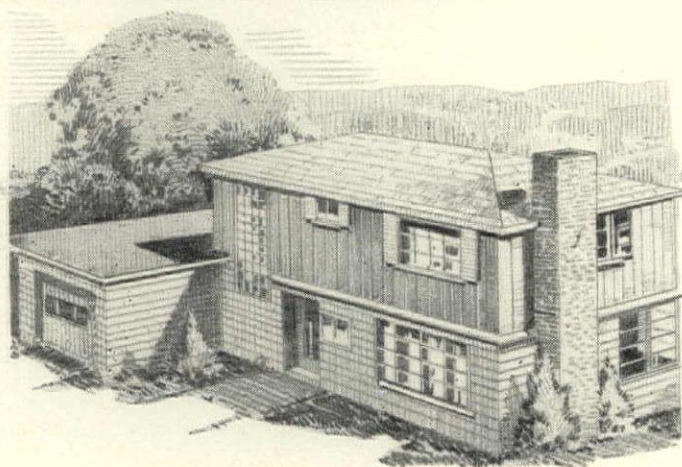
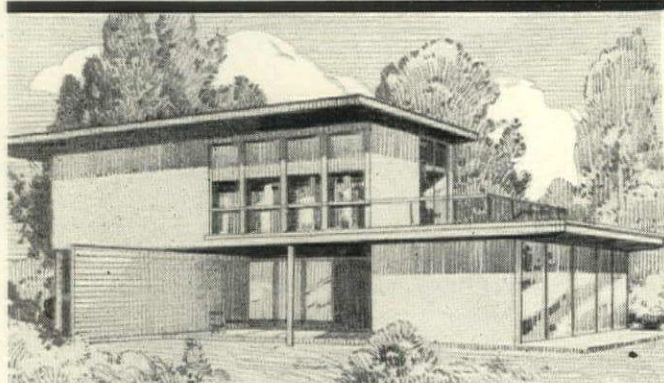
Integration of all planning for housing on a national, state and local level, and on a business-Government level, is an old saw of the Board's, first suggested in its policy-programming booklet, *The Role of the Housebuilding Industry* (July 1942), when it warned:

"In the postwar period Government will need to take a bolder stand. By using public buying as a directing force in the development of more efficient and economical methods of production, Government may aid in narrowing the gap between incomes and housing costs no less effective-

(Continued on page 100)



HOMES FOR 194X *Are being planned today*



ON THE DRAFTING BOARDS of America's architects are plans for tomorrow's homes. 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



For Throwing Smoke in Enemy Eyes...

In the half-light of pre-dawn, a thundering warship barrage breaks loose.

Troop barges dash like water-bugs toward the enemy-held beach and slither up on shore.

The daylight grows stronger. Our men face the concentrated fire of pillboxes not wrecked by the cruiser's shells.

Then, suddenly, bringing the saving shield of smoke, a plane swoops across the beach before the landing force.

It seems a simple thing . . . dropping that curtain of casualty-cutting smoke. But back of its brief outpouring is the organization of the Chemical Warfare branch of the U. S. Army, and its highly specialized equipment.

The first enemy this special equipment must face . . . and defeat . . . is corrosion. For example, white smoke screens (used in troop covering oper-

ations such as that illustrated, and in befuddling enemy counterattack) employ titanium tetrachloride. This, as you may know, is extremely corrosive.

Its handling, and the handling of similar chemicals is a problem – and *would be* even more of a problem if Monel were unknown.

The qualities that make Monel a first choice for many other kinds of equipment – its toughness and strength, coupled with the ability to resist corrosion – make it extremely valuable to our Chemical Warfare specialists.

In an America at peace, Monel was – and will be again – an essential contributor to industrial progress. In an America at war, Monel plays a part in helping save American soldiers' lives.

The International Nickel Company, Inc., 67 Wall Street, New York, N. Y.

★ ★ INCO NICKEL ALLOYS ★ ★

MONEL • "K" MONEL • "S" MONEL • "R" MONEL • "KR" MONEL • INCONEL • "Z" NICKEL • NICKEL

Sheet...Strip...Rod...Tubing...Wire...Castings

MONTH IN BUILDING

(Continued from page 98)

tively than it can by supplementing incomes by subsidy."

Earlier, in *Better Cities* (April 1942), it had suggested the square-mile, not square-block, planning for city rebuilding, the reawakening of "the sovereign powers of Government to make land acquisition more effective, to use taxation as an incentive to city rebuilding." Earlier still, (June 1940: *Housing—the Continuous Problem*), it had projected postwar homebuilding mainly in terms of "controlled private activity" and "public initiative."

Nothing which it hadn't said before is said by the Board in the new Report. But what is repeated is still a pat statement of Administration feeling on the shape postwar building ought to take. It conceives of the relation between the Building Industry and government enterprise as a sort of shot gun marriage. That such a marriage can be made to succeed there is no doubt. In one sense it would be an extension on a higher level of the theory of postwar integration of the industry so widely discussed by builders themselves (*FORUM*, Oct. '42, p. 70.)

NRPB may be present only spiritually at the wedding; its existence beyond June of this year is highly hypothetical.

DEWEY MINUS MOSES

Young Tom Dewey, Governor of New York, suggested last month that master-planner Bob Moses be eliminated from the State Postwar Planning Commission.

Acme



ROBERT MOSES: no place for the master.

In a fury of economy the Governor proposed to reorganize the commission by dropping Moses and several others (three representatives of the Ives Committee on Labor and Industrial Relations, including Chairman Ives, and the still-unnamed

(Continued on page 102)

Hangars

FOR PLANES...



speedily and economically
erected with

RILCO Laminated WOOD ARCHES



In this age of air, the nation's need for hangars to house and service its planes is urgent. To meet present rush needs for these vast, post-free structures, Rilco is engineering and factory fabricating glued laminated wood arches and delivering them to the job site ready for fast erection.

Rilco's record of delivery *on time* has made it possible for essential structures to be finished on schedule. Rilco is geared, through its five modern plants, to produce and deliver for priority construction.

Whatever the structure—hangars, drill halls, factories, storage buildings—*wherever the location*, Rilco can supply the size and type of structural framing members needed—glued laminated roof arches, trusses and beams for buildings with post-free spans up to 200 feet.

Complete engineering data, design cooperation and consultation is available to architect and engineer. Information on Rilco Laminated Products will be sent on request. Write for booklet describing in clear detail the factory-fabricated Rilco Glued Laminated Arches.

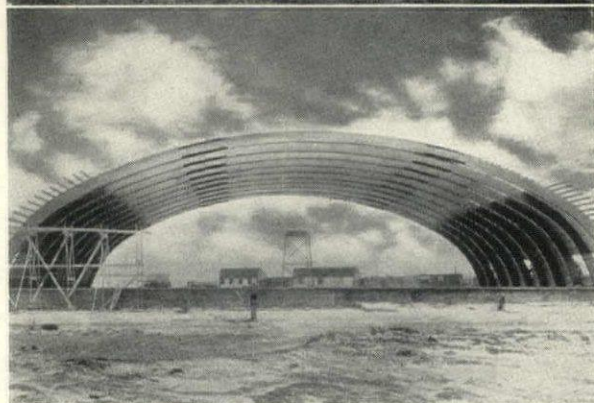
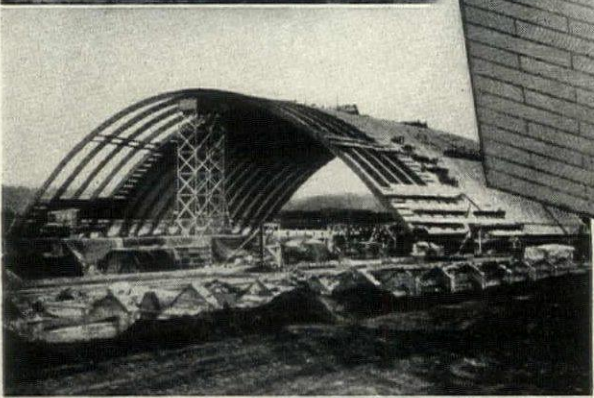
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RILCO

DESIGNERS
AND FABRICATORS OF
ENGINEERED WOOD
PRODUCTS FOR A WIDE
VARIETY OF USES

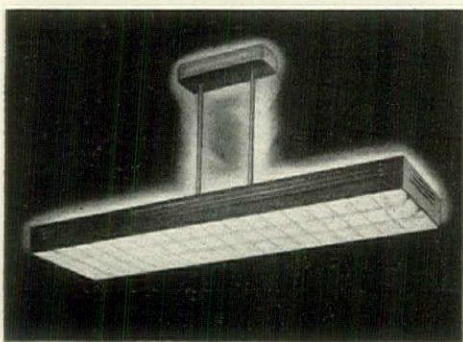
RILCO LAMINATED PRODUCTS, Inc.
A Weyerhaeuser Institution

General Offices: FIRST NATIONAL BANK BUILDING, SAINT PAUL, MINNESOTA
Eastern Division: 221 Cunningham Avenue, Wilkes Barre, Pennsylvania
Southern Division: 3200 Grand Avenue, Dallas, Texas



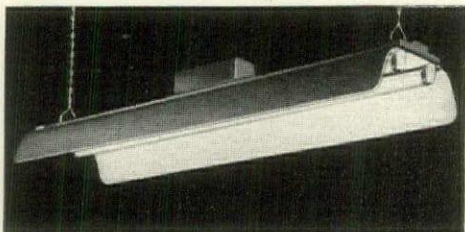
FLUORESCENT FOR WAR PLANTS?

**These two units
BY WAKEFIELD
are "tops" in performance
AND SAVE STEEL**



THE ADMIRAL . . . for war plant office or drafting room. New design conserves war materials. Efficient, new Masonite reflector, with durable infra-red enamel surface, provides high intensity diffused light; puts 90% down on desk-tops or boards. Each 4-lamp unit *saves almost enough steel to make a .30 cal. machine gun!* Walnut finish. Comes in 2, 3, and 4 lamp units. Details in Sweet's.

IMPORTANT NOTE: At present, THE ADMIRAL is available only on lighting projects specifically approved by the Lighting and Fixtures Section of WPB and the Director of Industrial Operations. Such approval might be given if high intensity lighting is required on work essential to the war effort which also has the possibility of eliminating rewiring or materially saving copper and conduit.



THE PACEMAKER . . . for production and assembly operations. Uses a minimum of steel, at no sacrifice in lighting efficiency. Non-metallic reflector, that retains high efficiency even after repeated cleanings. A certified Fleur-O-Lier, checked and certified by E.T.L. Units may be interconnected. Comes in units for two or three 40-watt lamps; and a unit for two 100-watt lamps. See our catalog in Sweet's.

THE **WAKEFIELD** BRASS
F.W. **CO.**
43 Forum Park • Vermilion, Ohio

MONTH IN BUILDING

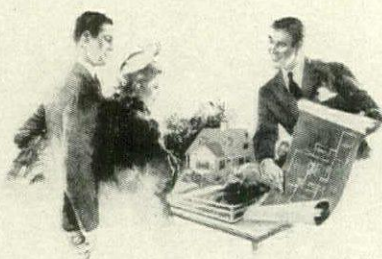
(Continued from page 100)

Commissioner of Housing). The Commission, which might well develop into the State's most important planning body, was piqued, ignored the recommendation. A bill covering the change, however, is expected to be introduced in the Legislature soon. Suspected reason for the change: Moses did not support Dewey in the last election, incurred his political animus.

Robert Moses, meanwhile, silent on the Governor's thrust, parried in another field. Submitted last month to Army and Navy officials were his findings on housing and conditions in critical war areas. The report is not yet made public. Only, and therefore best, guess in print as to its contents appeared in THE FORUM (Jan., 35-90).

HOUSE OF 194X

How American it is... to want something better!



The 1946 VERVE, ORGANIC HOUSE—the colors, the style, the place of the words in that flower-bell-shaped, the war has made you postpone it. But how American it is to plan, to search for, to want "something better," all our lives. It keeps us young, perhaps, and certainly keeps us awake and alert, the constant habit of wanting better things!

When it came to picking an ale, America followed its "something better" habit. And the ale that turned out to have this "something better" was brewed up in the "Pilsner," "Bella," "Pilsner" of the mid-Atlantic-British trade mark, quite naturally became

America's largest selling Ale



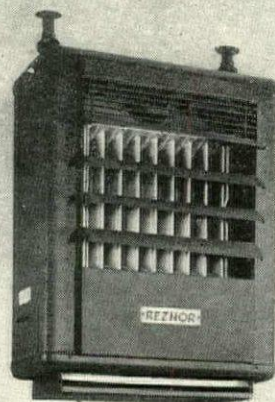
Proudly last month did the J. Walter Thompson Company call editors' attention to the third in this series of nationally published ads for P. Ballantine and Co. Under the title, "How American it is . . . to want something better!" (see cut), the illustration shows the postwar house—colonial, gabled, traditional as all get out. Drawn by Collier's fiction artist, Earl Blossom, the ad is projected as a tribute to "architects and builders who will play a vital role in supplying the more than 1 million new dwellings" in the postwar world.

"We chose a middle road in depicting the house," said a Thompson executive. Architects looked, shuddered, agreed.

OLD SAW

To London's Chancery Court last month came wrathful Cecil Lyle, member of the
(Continued on page 104)

REZNOR UNIT HEATER PROTECTION—



**FOR VITAL WAR
WORKERS EVERYWHERE**



TODAY we must protect America's men and women who serve on the production lines. Therefore, these people need heat-comfort so they can work more efficiently with less time off for illness due to fatigue, colds, coughs, etc. Reznor Gas Fired Unit Heaters provide the answer to this problem. Furthermore, Reznor Equipment may be installed at far lower cost with fewer men, and in less time than other types of heaters. They move more warm air during winter and provide greater air circulation during summer—more war production results.

Write today for literature.

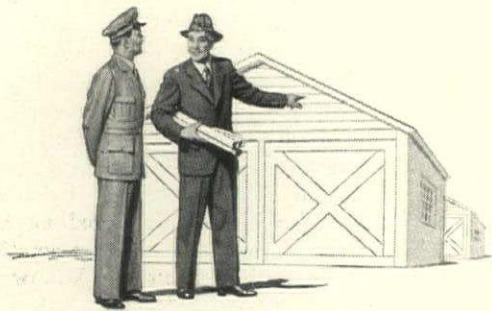
REZNOR MANUFACTURING CO.

203 James St.

Mercer, Penna.

"GAS HEATERS EXCLUSIVELY SINCE 1888"

An Architect Shows his Paintriotism...



1 "Now that the buildings are *up*, Captain, the next job is seeing that they're painted to *last*. When wooden structures are built as fast as these, it's more important than ever to keep the weather out. Only a mighty good paint will see 'em through..."



2 "The Dutch Boy reporting for duty, Sir. My weather-fighting record shows I'm the man for this job. Paint made from my pure white lead is an outer defense that doesn't crack and scale under the attacks of the elements. And you can use it on all the concrete, stucco, brick, plaster and wallboard around camp as well as on wood..."

3 "Remember my White Lead ancestors brought American property safely through the first wars we ever fought. And I'm a chip off the old block—100% pure. Of course I've been 'stepped up' in whiteness, body and hiding power. And that's not all..."



4 "Now my pure white lead also comes in a *new* form—ready-to-use Dutch Boy Paint. And comes two ways — as a special 'Exterior Primer' for extra sealing, hiding, and brightness — and as 'Outside White' for extra-durable finishing coat and general painting. Together they set a standard for two-coat protection and whiteness — even on new wood.

"And another reason I'm 'First choice for making things *Last*' is that *there's no shortage of White Lead*—no retreat from my famous Dutch Boy quality."



NATIONAL LEAD COMPANY New York, Buffalo, Chicago, Cincinnati, Cleveland, St. Louis, San Francisco, Boston (National-Boston Lead Co.) Pittsburgh (National Lead & Oil Co. of Penna.), Philadelphia (John T. Lewis & Bros. Co.).

Specify

DUTCH BOY PURE WHITE LEAD

MONTH IN BUILDING

(Continued from page 102)

Inner Magic Circle, who demanded justice of postwar planner Justice Augustus Uthwatt (FORUM, Nov., p. 49). He charged that another magician was threatening his professional reputation by performing his exclusive trick, sawing a woman in half. The defendant claimed the illusion was public knowledge, offered as evidence a volume of popular magic. Dryly replied England's foremost authority on national control and acquisition of land: "I have read it."

HOUSING VS. ABSENTEEISM

The insufficiency of the war housing pro-

gram, in planning and actual performance, became more glaringly apparent in the last few months, with the publication of numerous stories in the nation's press on the causes of absenteeism.

►New York's pinkish *PM* did a series of pieces on "unavoidable, preventable and inexcusable" causes of absenteeism, listed poor housing first under "preventables," said rate had risen from prewar 3 per cent to present 6-9 per cent as a result.

►The staid *Washington Post* sent bustling Agnes E. Meyer (wife of Publisher-editor Eugene Meyer) to Detroit to follow up its story that in November Willow Run had hired 3,900 workers, lost 2,100, that production was bogged down by complicated absenteeism-manpower problems.

Reported Mrs. Meyer: the absentee problem is easing up slightly—only to be replaced by a far graver one—huge turnover (now 20 per cent). In a followup story she found the reason: "The Federal Government will have to do something about the living conditions here . . . or its orators will have to stop talking about the dignity of man."

Mrs. Meyer found at Ypsilanti "a nightmare of substandard living conditions"; the only recreation building "burned down last week." Abnormal absenteeism, turnover, child truancy and delinquency—all stemmed from the appalling housing mess. "It will take three generations to get over the effects of Willow Run," warned one union leader.*

►*Business Week*, in one of its Reports to Executives, devoted six pages to absentee problems, "the chief hazard to sustained production." It accepted calmly the shocking *status quo* in housing, tried to show executives other outs besides the major one over which they had no control:

"Besides raising morale so that the importance of being at work outpulls discomfort in the clash between an employee's impulses, there are few things that can be done about transportation and housing. The organization of car pools is one concrete step that can be taken."

►It seemed to *Modern Industry* in its March issue that the industrial a.w.o.l. problem could be partially solved by sufficient housing. Despairing of ever getting it, after completing its survey of critical areas, the editors reported that managements have in some cases taken over the job of getting homes for their workers:

"Some companies, in addition to supporting public and private housing projects, assist workers in finding rooms and homes. Employment of full-time housing directors has been found profitable in many plants; in others housing has been made an activity of the plant labor-management committee."

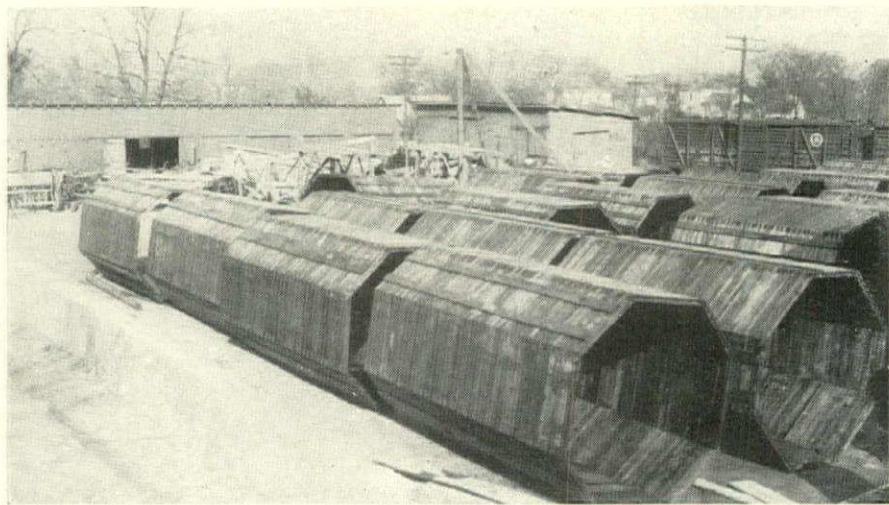
►Most complete survey of the critical situation was made last month for the *Monthly Labor Review* by Eleanor V. Kennedy (Bureau of Labor Statistics). Selecting 81 Atlantic, Pacific and Gulf coast shipyards as examples, she found that:

1) Absenteeism rose to 7.8 per cent at year's end (equal to 4 hours lost per week per worker).

2) Prime causes were weekend absences (workers separated from families visited them, did not return until Tuesday), quits without notice (due partly to dissatisfaction with intolerable physical conditions), lack of housing accommodations, transportation difficulties.

Manpower problems increase. Absenteeism plays a large part in them. Lack of houses looms even larger in absenteeism. These are the houses Jack Blandford ought to have built.

*As long ago as April 1942, THE FORUM, in reporting conditions at Willow Run, said: "Detroit, short of housing, may soon be short of bombers . . . here are the ingredients for chaos."



WOOD and LAUCKS GLUES — a "Pipe" Cinch!

GIANT HOUSING PROJECTS . . . or Army camps . . . or the famous Alaska Highway must be well drained. If culverts, underpasses or storm sewers fail, then the whole shebang is a "washout." But thanks to Laucks Glues, ingenious Americans have devised wood-and-glue built pipe that is durable and tough, and makes drainage a cinch.

Armco Drainage Products Association makes the "Emergency Pipe." Segments are of laminated pieces, pre-cut. Then these segments are glued and doweled into "rings," which form sections of 10 to 16 feet. Since a glue-bond is the strongest known, this permits a polygonal design, obtaining corrugated metal flexibility. Also, a "load-sharing" effect results, averaging stress and

strain over the entire section. Thus Laucks Glues again answer the challenge: "Build it now and use no critical materials."

You probably face this challenge, too. So whether it's prefabricated housing, or giant beams and arches, or anything of wood—then our 20 years' glue experience can help you. Write or wire today for information about the *right* glue for your 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.

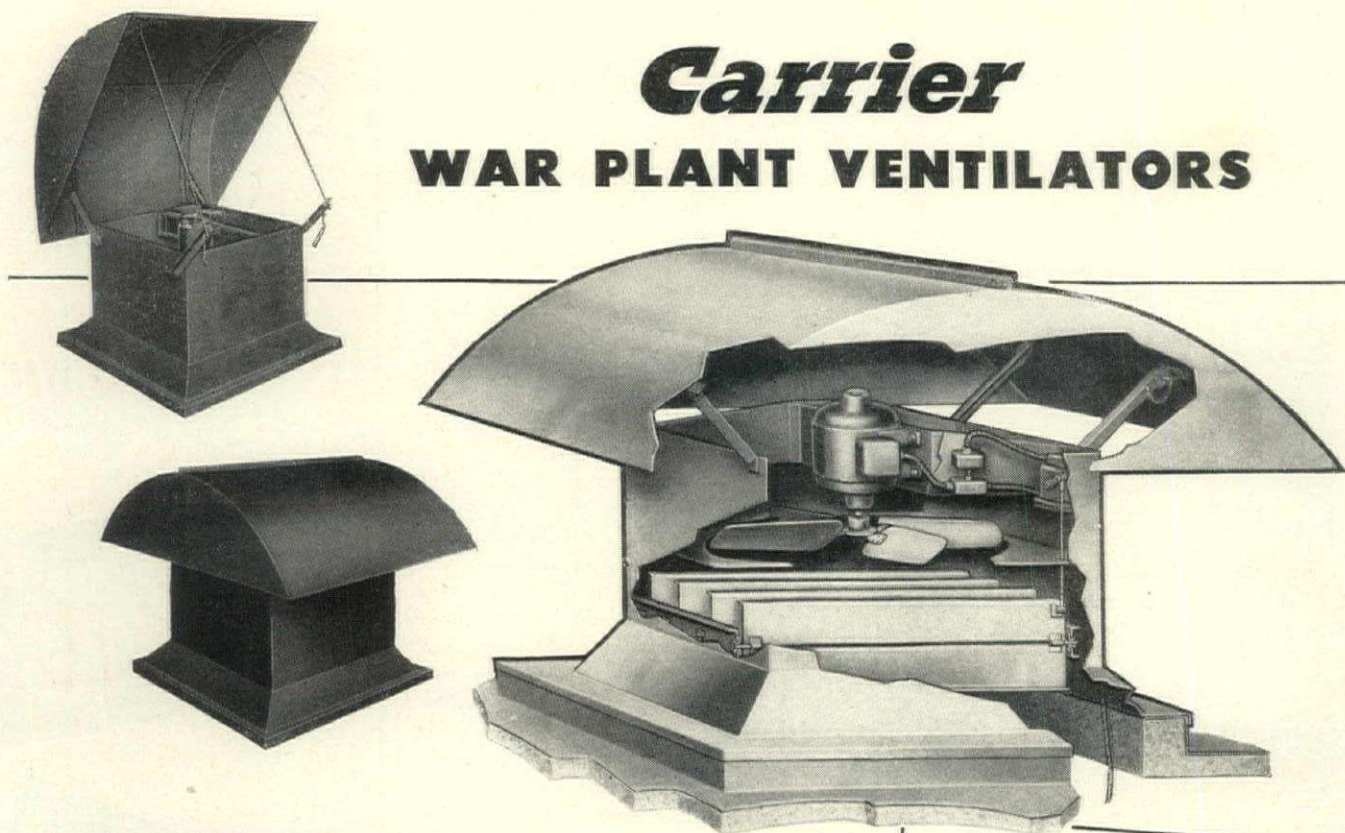
In Canada Address Inquiries to—
I. F. LAUCKS, Ltd., Granville Island, Vancouver, B. C.
HERCULES-LAUX-MERRITT, Ltd., Stanbridge, Quebec

• 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



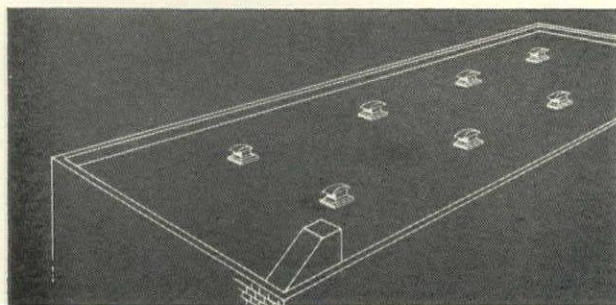
Carrier

WAR PLANT VENTILATORS

Installed in Roof . . . No Floor Space Needed!

War plant workers need air free from excessive heat or humidity to maintain maximum production. In warm weather, extra quantities of outdoor air must be provided for ventilation to prevent indoor temperatures from soaring. In winter weather, the air for ventilation must be tempered to prevent drafts and cold areas.

Carrier War Plant Ventilators replace hot, humid air in summer—temper ventilating air in winter. They are available in 3 types to provide blackout and other factory buildings with uniformly distributed air for correct ventilation.



1. Carrier Exhaust Ventilators (shown above) remove hot, humid air from the plant, exhausting it at the roof.

2. Carrier Supply Ventilators replace the excessively hot plant air with relatively cool air from outdoors, drawing the air in at the roof and supplying it with uniform circulation to working areas.

3. Carrier Tempering Ventilators warm and deliver air to the plant, drawing the air in at the roof and supplying it with uniform circulation to the working areas, thereby providing the needed ventilation with tempered air to prevent drafts and cold spots in the plant during cold weather.

Features: Critical materials conserved by use of non-ferrous panels. No extra "preparedness" for blackout plants—no light transmission or reflection in blackouts. No protective housing or elaborate roof supports. Built to withstand weather. Light in weight. Designed to become a permanent part of the building. Constructed to keep out rain and snow.

Mail coupon for complete information. Learn how Carrier War Plant Ventilators can be used to advantage in your plant.

Carrier
AIR CONDITIONING • REFRIGERATION



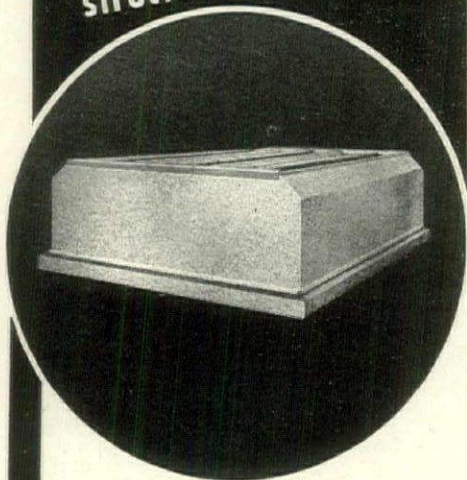
CARRIER CORPORATION, Syracuse, N. Y.
Please send literature on Carrier War Plant Ventilators. Desk 29-D

Name.....
Company.....
Address.....City.....

This new

Swartwout Roof Ventilator

*is a delight to
architects interested in
preserving harmonious
structural lines*



Swartwout Multiple Heat Valve

**is a new conception
in roof ventilators—**

**gives you wide flexi-
bility AT LOW COST**

● NOW you can plan all the roof ventilation each building situation calls for without fear of high ventilator contours spoiling the effect you wish to achieve.

Swartwout Multiple Heat Valve is only 32 inches high from roof to top of ventilator, yet *unlimited exhaust* is possible by expansion in width and length. Get all the facts about this newest gravity exhaust development.

Write for Bulletin 214.

**The
Swartwout
Company**
VENTILATION SPECIALISTS
18617 Euclid Ave. Cleveland, Ohio

LETTERS

(Continued from page 16)

and out, without being too great a drain on their income. My idea is that the amount of movable and removable furniture and fixtures in such a home should be held to a minimum.

As a builder, I would welcome the idea of obtaining closets, linen closets, chifferobes, book cases, china closets, etc. assembled and ready to install. These should be dust, vermin and rat-proof, and the sizes should be standardized.

It would be very pleasing to all builders if they could purchase their bathrooms all in one piece so that it could be trucked to the building, set on the subfloor with no internal piping to do. The only connections the builder would have to make would be one hot and one cold water line, one sewer discharge line, and one vent pipe. I suggest that an electric heater would be built in. Since the very great advances made in the welding of metals, the construction of such a bathroom should be a fairly easy and cheap job if done on a mass production scale. I suggest that the walls, floor and ceiling of such a room be made of some suitable sheet metal of suitable thickness and welded together, with such stiffening ribs, etc. as may be necessary on the outside. Then the heater, the medicine cabinet, the bath tub, the shower bath, the lavatory and even the closet combination could all be made of pressed sheet metal and welded in the room in their respective places. The floor, walls and ceiling could be covered with linoleum. . .

I do not consider it practicable to build kitchens as such a unit. They would be too large and heavy to handle, and the desirable combinations of doors, windows and fixtures would be far too numerous for them to be manufactured on a mass production basis. For example, while 10 different bathrooms might satisfy all needs, 100 different kitchen combinations would not do so.

The suggestions I have made are for no particular type of construction or materials, but will fit almost any building.

M. B. McMAHON

Sevierville, Tenn.

ERRATA

FORUM:

On looking over a copy of your publication for the month of January, under the write-up on the Pentagon Building, Arlington, Va., I note that you have listed the Plumbing Engineer as Fred Brady.

This is an error, as I was the Plumbing Engineer on this project.

FRED BRUTSCHY

New York City

*Press a
Button
Get a
Home*



The dream of everyone who has ever been interested in prefabricated homes has come true at the Gunnison plant where the first and only mechanized assembly line in the industry turns out a completely finished home every 25 minutes. This includes all exterior and interior finishes, installation of hardware, doors, windows and screens, etc.

Write for free booklet—After Victory Satisfy Your Ambition.

*Gunnison
Homes*

New Albany, Ind.



Walk-Over Shoe Store, 5th Avenue, New York; Black Serpentine ashlar front; Kenneth Norton, Architect.

Insets in panels supply an interesting note; McCallisters, Caterers, Philadelphia, Pa.; Black Serpentine bulkheads and panels; Armand Carroll, Architect.



Peck & Peck's modern shops in several cities have Black Serpentine bulkheads and trim.



Sheer facades of Black Serpentine; Central Bank of Grand Rapids, Mich.; Knecht, McCarthy & Theband, Inc., Architects.



Distinctive Valley Stream, N. Y., Branch Bldg., Queensboro Gas & Electric Co.; Voorhees, Walker, Foley & Smith, Architects; Black Serpentine facing and bulkheads.



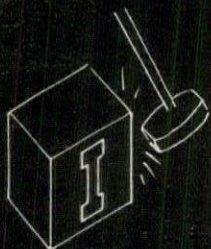
An excellent, BLACK design material for strong tone and color variation

When your scheme calls for black, we suggest that you consider Alberene Black Serpentine. This natural, quarried stone has become very popular, because outstanding designers and architects have found it ideal, both structurally and from the standpoint of design, for the black masses and accents of black which are features in modern exterior design. Having great toughness and density, Black Serpentine can be cut into sections as thin as $\frac{7}{8}$ ", which makes it even more economical for panels, bulkheads, facing and spandrels. The stone will retain its color (no worry about oxidation), and will maintain its polish, but it is neither reflective nor mirror-like. A request on your business letterhead will bring you samples, conveniently boxed, showing the range of stones, including black and mottled dark blues and greens. Please address Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York. Quarries and Mills at Schuyler, Virginia. Sales offices in principal cities.

Alberene

BLACK SERPENTINE

PERMANENT, NON-REFLECTIVE, ECONOMICAL



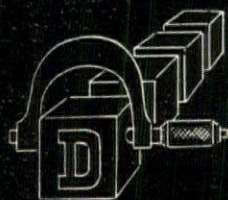
**IMPACT
STRENGTH**



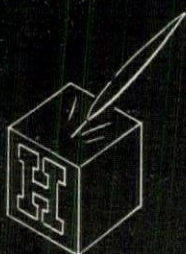
**FLEXURAL
STRENGTH**



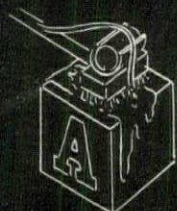
**TENSILE
STRENGTH**



**DIMENSIONAL
STABILITY**



HARDNESS



**ABRASION
RESISTANCE**

PHYSICAL PROPERTIES OF BAKELITE PLASTICS AS RELATED TO BUILDING CONSTRUCTION

THE physical properties of BAKELITE Plastics render these materials *mechanically* adaptable to building construction use . . . such properties as tensile and compressive strengths, flexural strength, toughness, resistance to impact and fatigue, dimensional stability, hardness, and wear and abrasion resistance. Since no one plastic provides all of these characteristics, the architect and engineer must constantly keep in mind the correct *balance* of physical properties to meet specific requirements.

The design of the plastic part has a lot to do with its ultimate strength characteristics. Frequently, adjustments in fabricating techniques will improve the mechanical strength factors. For example, the new development of heatronic molding promises the rapid production of considerably larger moldings with higher strength values.

The building construction applications for plastics fall into two broad groups—those in which plastics are used more or less by themselves as structural materials, and those in which plastics are used to strengthen or fortify other materials. In the first group are such typical applications as BAKELITE Urea molded lighting reflectors, switch plates, plugs, and outlet boxes; BAKELITE Phenolic molded hardware, such as doorknobs and escutcheon plates; BAKELITE Polystyrene extruded light-refracting corner strips and moldings; *laminated* plastic wall paneling, baseboards, store fronts, partitions, and doors.

In the second group are such typical applications as plywood—bonded with BAKELITE Resin Glues—for concrete forms, prefabricated walls, floors, and ceiling panels; durable varnishes, enamels, lacquers, and water-emulsion paints made with BAKELITE Resins; densified wood which has been impregnated

with BAKELITE Resins; paper and fabrics calender-coated or saturated with BAKELITE Resins and suitable for wall coverings, window shades, blinds, and awnings.

These applications are merely representative; they do not even begin to exhaust the possibilities for BAKELITE Plastics in the building and construction field.

On the following page, the physical properties of those BAKELITE Plastics that are particularly suited to building construction are presented in brief digest form. However, architects and engineers should take into account every factor affecting the selection of plastics, including thermal and chemical-resistant properties, and the decorative advantages of these materials, such as color, transparency, variety of surface finishes, and their broadened scope for improved designing and styling. These factors will be the subject of subsequent advertisements in this series.

Helpful literature, describing the many forms and the outstanding characteristics of BAKELITE Plastics, is available upon request. Why not write today for a copy of Booklet 26, "A Simplified Guide to BAKELITE Plastics," which describes BAKELITE Plastics briefly, and lists additional booklets on specific products.

BAKELITE CORPORATION

Unit of Union Carbide and Carbon Corporation



30 EAST 42ND STREET, NEW YORK, N. Y.

BAKELITE

TRADE MARK

The word "Bakelite" and the identifying products



Symbol are registered trade marks of Bakelite Corporation

PLASTICS HEADQUARTERS

BAKELITE MOLDING MATERIALS

Physical Properties

I. THERMOSETTING MATERIALS (Heat-Hardening)

Phenolics—Most widely used. Usually embody filler to enhance specific properties. Hard, dimensionally stable, with good all-round characteristics. Four types—*General-Purpose* (Cellulose-Filled), *Shock-Resistant* (Chopped Paper or Fabric-Filled), *Heat-Resistant* (Mineral-Filled), and *Special* (Chemical-Resistant, Low-Loss, Low-Friction, and Transparent). Properties tabulated below indicate *total* range for first three types:

Specific Gravity	1.35 to 1.93
Tensile Strength	5,300 to 8,500 lb. per sq. in.
Flexural Strength	6,300 to 13,000 lb. per sq. in.
Impact Strength (Izod)	0.26 to 5.4 ft-lb. per in. of notch

Ureas—Colorless resin, adaptable to wide variety of light tones; such as ivory, rose, and pastels. Exceptionally hard and color-stable. Properties:

Specific Gravity	1.47 to 1.52
Tensile Strength	9,500 to 12,000 lb. per sq. in.
Flexural Strength	10,000 to 14,000 lb. per sq. in.
Impact Strength (Izod)	0.30 to 0.36 ft-lb. per in. of notch

II. THERMOPLASTIC MATERIALS (Heat-Softening)

Polystyrenes—Crystal-clear, transparent, with high refractive index. Noted

particularly for dimensional stability. Suitable for lighting effects, such as edge-lighting, and light-bending. Properties:

Specific Gravity	1.07
Tensile Strength	5,500 to 7,000 lb. per sq. in.
Flexural Strength	6,500 to 19,000 lb. per sq. in.
Impact Strength (Izod)	0.40 to 1.2 ft-lb. per in. of notch
Refractive Index	1.60

Cellulose Acetates—Tough, resilient, lustrous materials supplied in transparent, translucent, and opaque colors. Two types: *General-Purpose* and *Heat-and-Moisture-Resistant* (for service at higher temperatures). Physical properties identical, except hardness, which is tabulated individually:

Specific Gravity	1.26 to 1.40
Tensile Strength	2,500 to 9,500 lb. per sq. in.
Flexural Strength	5,000 to 15,000 lb. per sq. in.
Impact Strength (Izod)	1.4 to 4.0 ft-lb. per in. of notch
Refractive Index	1.47 to 1.50
Light Transmission	80.0 to 90.0 per cent
Hardness (Brinell) Type I	5 to 13
Type II	7 to 15

BAKELITE LAMINATING VARNISHES

Physical Properties (of Laminated Plastics)

Used to produce strong, hard, dense, chemically inert, heat- and water-resistant materials of high dielectric strength and good all-round physical properties. Laminating varnishes are used, by fabricators, with bases of many different materials—paper, linen, canvas, asbestos, etc.—to make sheets, rods, tubes, and special shapes. Physical properties of the laminated plastics, as tabulated, indicate *total* range of all materials:

Specific Gravity	1.32 to 1.41
Tensile Strength	8,500 to 24,000 lb. per sq. in.
Compressive Strength—	
Flatwise	30,000 to 43,000 lb. per sq. in.
Edgewise	18,000 to 35,000 lb. per sq. in.

Flexural Strength—

Flatwise	13,000 to 30,000 lb. per sq. in.
Edgewise	12,000 to 24,000 lb. per sq. in.

Hardness (Brinell)—

Flatwise	30 to 40
--------------------	----------

Available also in special form in which photoprints, lithographed or printed matter, inlays or designs make up part of laminations. This type of laminated plastic opens up new possibilities in mural decoration at low cost

BAKELITE BONDING MATERIALS

Physical Properties

Major building application—bonding of plywood. Two types: Phenolic and Urea Resin Glues. Other types are used for the bonding of glass wool and other insulating materials.

Phenolic Resin Wood Glues—Unsurpassed resistance to deterioration. Produce a strong, hard bond which is insoluble and infusible, and possess a high degree of resistance to shock, exposure, and mould growth. Even repeated boiling does not affect glue line! Exposure tests, involving soaking in

water, weathering, and burial in the ground demonstrate the outstanding durability of these modern plywoods.

Urea Resin Wood Glues—Can be extended with fillers without serious reduction in strength of bond. Therefore very economical. Provide a bond of excellent dry strength and good wet strength.

NOTE: Physical properties of plywoods vary with types of woods used and methods of fabrication. Names of plywood suppliers using BAKELITE Phenolic and Urea Wood Glues will be furnished on request.

BAKELITE COATING MATERIALS

Physical Properties

Coatings based on BAKELITE Resins have many advantages over older types, principally that they can be formulated with use of domestic drying oils, while still offering increased drying speed, unusual toughness, durability, chemical resistance, flexibility, adhesion, and water and corrosion resistance. Three types cover wide range of coating needs:

Phenolic Resins—Make possible extremely tough, flexible coatings possessing excellent resistance to water, wear, weather, acids, and alkalis.

Dispersion Resins—Properly formulated, produce coatings with good all-

round characteristics *plus* extremely fast-drying properties. Primers which air dry in 60 seconds are one Dispersion Resin possibility!

C-9 Resins—Extremely versatile. Used as cloth and fabric saturants to produce floor covering, oilcloth, and waterproofed goods. Make possible water-emulsion paints possessing unusual resistance to moisture and abrasion which are especially good for coating or sealing brick, plaster, and concrete, and for finishing wood and metal. C-9 Resin Coatings, in general, have excellent color stability.

BAKELITE IMPREGNATING, SEALING, AND CALENDERING MATERIALS

Physical Properties

Most important building applications—stabilized wood veneers and densified, laminated wood. Other types can be used for sealing or bonding porous materials, or for calendering fabrics for wall coverings, upholstery, and non-slip flooring.

Impreg—Wood veneers stabilized against moisture gain or loss by resin impregnation. Can be bonded to variety of base materials for unusual paneling effects.

Compreg—Densified, laminated wood—hard, fire-retardant material with high strength and resistance to water and acids. Can be molded, within limits, to required form.

Specific Gravity is 1.37.

On parallel-grained specimens, Modulus of Rupture can reach 38,000 pounds per square inch (with grain) and Compressive Strength 25,000 pounds per square inch (with grain).

Never "TOO LATE" nor "TOO LITTLE" *with* **Defense Projects!**

Notwithstanding the bottle necks, shortages and overlapping of responsibility that have hampered so many projects of the national defense, there has not been one instance of failure to meet its contract obligations completely and on time, by

JOHN VAN RANGE KITCHEN ENGINEERING SERVICE

To the architects responsible for construction of housing, hospitals, public institutions and essential industrial plants requiring facilities for preparing and serving food, the help of our staff has been of inestimable value. We are familiar with the requirements of the Government and we know what is demanded and what is not permitted. Our close cooperative relations with the many branches of the building trades enable us to avoid jurisdictional disputes and to meet close time schedules.

If you have food service problems on your boards or in prospect, we will make complete layouts, design and manufacture all equipment and make installation, ready for immediate service.

Send us your inquiries.

The John Van Range Co.
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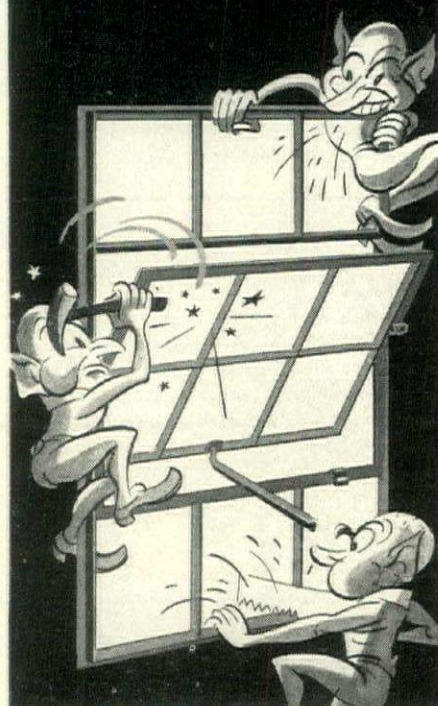
PREFABRICATION DIRECTORY

(Continued from page 86)

- Adirondack Log Cabin Co.
142 East 45th St., New York, N. Y.
- Bates Prefabricated Structures
1007 Tribune Tower, Oakland, Calif.
- Beck, Henry C. Co.
406 Construction Bldg., Dallas, Tex.
- Bell Lumber Co., Green Bay, Wis.
- Better Built Homes, 821 Eckles Bldg., Ogden, Utah
- Burmester Housing Corp., Middleton, Wis.
- Bush Prefabricated Structures, Inc.
370 Lexington Ave., New York, N. Y.
- City Lumber Co., 75 Third St., Bridgeport, Conn.
- Field Lumber & Improvement Co.
651 W. Baltimore, Detroit, Mich.
- General Fabricators, Inc., Attica, Ind.
- General Panel Corp.
420 Lexington Ave., New York, N. Y.
- Gold Seal Homes, 3500 Huntoon St., Topeka, Kan.
- Gorman Lumber Sales Co.
4821 Tidewater Ave., Oakland, Calif.
- Grand Rapids Mobile House Corp.
Grand Rapids, Mich.
- Hayward Lumber & Investment Co.
4085 Sheila St., Los Angeles, Calif.
- Holt-Fairchild, 7 Court St., Arlington, Mass.
- Homasote Co., Trenton, N. J.
- Home Building Corp.
4534 Main St., Kansas City, Mo.
- The Horsley Co., Inc.
10 Rockefeller Plaza, New York, N. Y.
- Indiana Demountable Housing, Inc.
907 E. Michigan St., Indianapolis, Ind.
- Kolb, M. B. Co., Inc.
250 W. 57th St., New York, N. Y.
- Kroening Engineering Co.
4500 W. Mitchell St., Milwaukee, Wis.
- Leird Lumber Co., Little Rock, Ark.
- Lewis Manufacturing Co., Bay City, Mich.
- McCarthy, Robert
1050 Kirkham St., San Francisco, Calif.
- Modern Builders, Inc.
1107 E. Iowa St., Evansville, Ind.
- Modulock, Inc., 700 Cathedral St., Baltimore, Md.
- Moore & Moore Lumber Co.
100 E. Florida Ave., Youngstown, Ohio
- National Housing Co., 2310 Butler St., Dallas, Tex.
- Niagara Realty Corp.
105 Court St., Brooklyn, N. Y.
- Norwood Sash & Door Mfg. Co.
Norwood, Cincinnati, Ohio
- Palace Travel Coach Corp.
Hemphill Road, Flint, Mich.
- Pemberton Mill & Lumber Co., Pemberton, N. J.
- Portland Door Co.
4701 S. E. 24th St., Portland, Ore.
- The Prebilt Co., Beach Parkway, Revere, Mass.
- Prefabricated Products, Inc.
507 Lloyd Bldg., Seattle, Wash.
- St. Johns Portable Building Co., St. Johns, Mich.
- Schult Trailers, Inc., 1730 S. Main St., Elkhart, Ind.
- Schunack, C. E., Inc., Meriden, Conn.
- Standard Houses, Inc.
5th St. Viaduct and Valley Rd., Richmond, Va.
- Structiform Engineering Co.
234 S. Wabash Ave., Chicago, Ill.
- Structures, Inc., 646 N. Michigan Ave., Chicago, Ill.
- Takapart Products Co.
28 Brooklyn Ave., Freeport, N. Y.
- Vagtberg Construction Co.
40 Wall St., New York, N. Y.
- Kem Weber System
6707 Milner Road, Los Angeles, Calif.
- Well Built Mfg. Co.
State Highway #9, Somerville, N. J.
- Wilkinson Co., Inc.
907 E. Michigan St., Indianapolis, Ind.

SERVING BY CONSERVING...No. 3

Arrest These subtle saboteurs



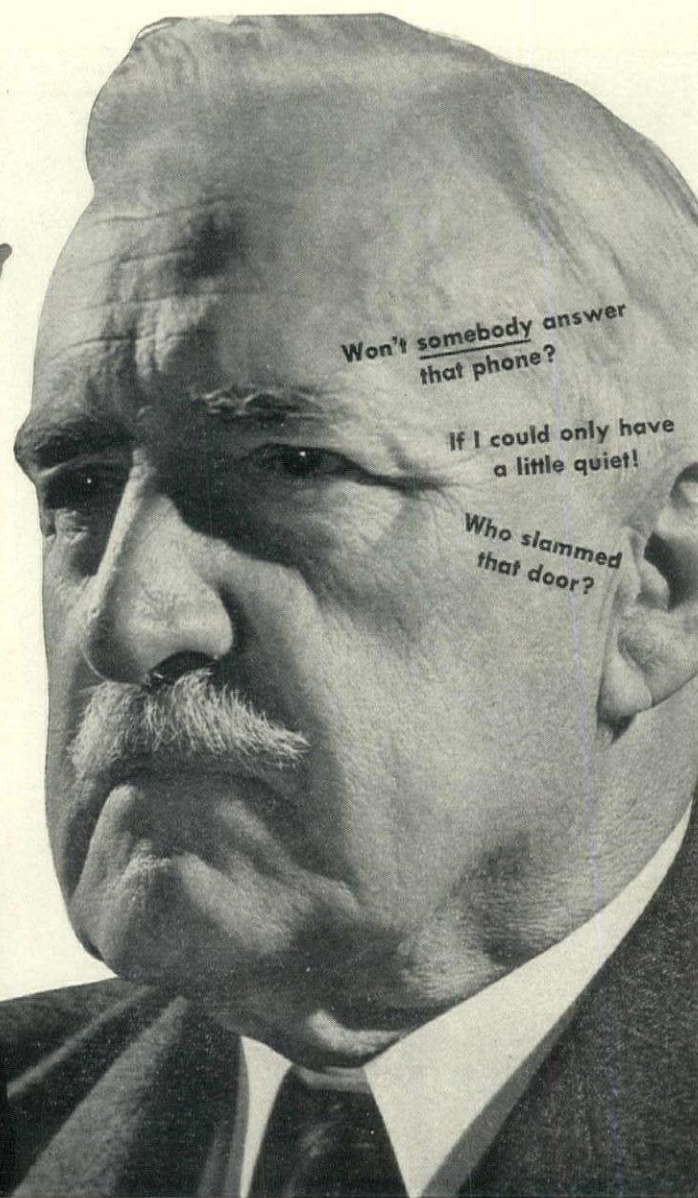
NO secret agent is more destructive than rust and corrosion. Yet those two enemies of irreplaceable, vital metal can be easily checked with SYNITE METAL PAINT, the synthetic enamel that flows on smoothly, dries rapidly, gives lasting protection to all exposed metal surfaces.

SYNITE METAL PAINT is but one of Arco's many maintenance products—mill whites, floor treatments, concrete and masonry coatings, wall paints—products that have played a vital conservation role in three generations of American industry. Write for full details.

THE ARCO COMPANY
CLEVELAND, OHIO • LOS ANGELES, CALIF.

ARCO
Paints for Industry

Needless *NOISE* Aids the Axis!



**STOP IT with
JOHNS-MANVILLE
ACOUSTICAL
MATERIALS**

COMMON, EVERYDAY OFFICE NOISE! We don't have to tell you how it can reduce efficiency and slow down work. In many offices engaged in war work, it means poor concentration and costly errors our war effort can ill afford!

It's easy and surprisingly inexpensive to control this distracting influence. J-M Acoustical Materials scientifically hush noise to an undisturbing level, and they

can be installed with practically no interference to routine. They're more important than ever today for increasing efficiency, reducing mistakes and assuring continuous, uninterrupted work.

For complete details, write for J-M Sound Control Catalog AC-25A. Johns-Manville, 22 East 40th Street, New York, N. Y.



J-M Acoustical Materials—J-M Movable Transite Partitions and J-M Asphalt Tile Flooring are helping to speed up war-production work in busy offices all over the country.



JOHNS-MANVILLE

**PIONEERS IN
SOUND-CONTROL**

G-E Wiring Material News

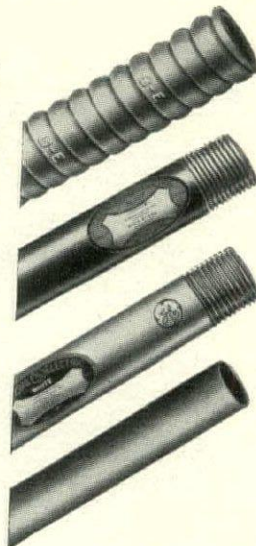
G-E WIRING DEVICES for Wartime Wiring



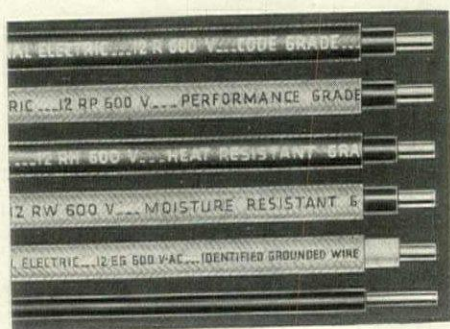
High quality, long lasting G-E Wiring Devices are available for any type of war building you are designing. For instance, there is a wide variety of power outlets, lampholders and heavy-duty switches for industrial wiring . . . a full line of Moncor Surface Wiring Devices for use in cantonments, war housing, etc. . . many standard devices suitable for war projects of all kinds.

SPECIFY G-E CONDUIT for Wiring Hazardous Locations

Rigid electrical conduit can still be used in wet or hazardous locations according to WPB Limitation Order L-225. Electrical metallic tubing and flexible conduit are available for standard uses with limitations. For dependable service specify G-E raceways. Both G-E White zinc-covered conduit and G-E Black enamelled conduit are leaders in their classes. G-E electrical metallic tubing and G-E flexible conduit are of highest quality.



G-E BUILDING WIRE for War-aid Purposes



Six standard grades of building wires are available for war purpose installation including Types R, RP, RH, RW, EG, and SN. G-E Building Wires have high quality. The best raw materials are used. Manufacturing is carefully done. Accurate centering of conductors is provided by continuous vulcanization of insulation. G-E Building Wires can be depended upon to give good service.

Clip This Coupon

Send this coupon for information on G-E conduit, wire and cable and wiring devices described on this page for wartime wiring:



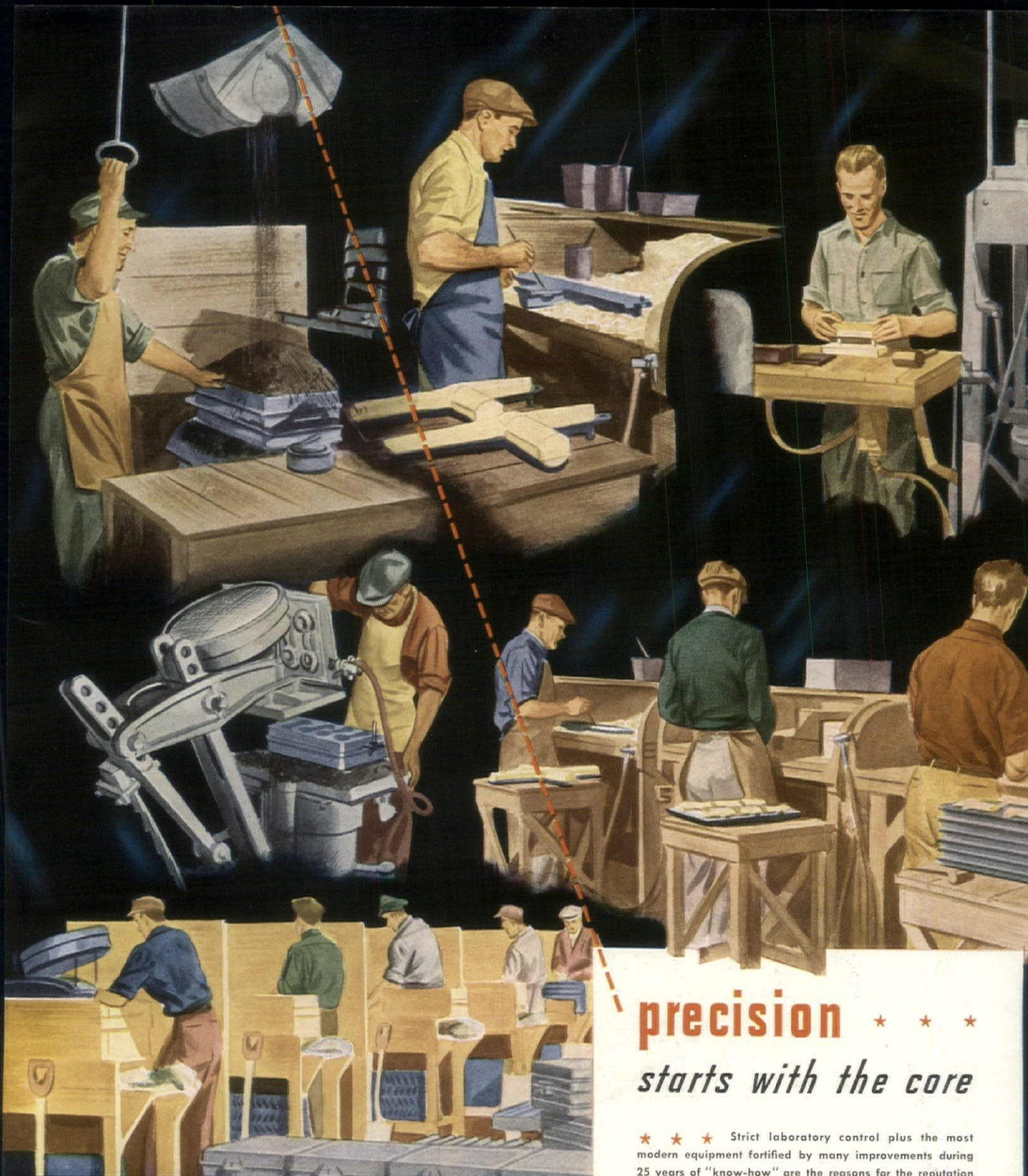
General Electric Company
Section CDW4311-26
Appliance and Merchandise Dept.
Bridgeport, Conn.

Sirs: Please send me information on the following materials for wartime wiring:

- ☐ G-E Conduits
- ☐ G-E Wires and Cables
- ☐ G-E Wiring Devices

Name
Address
City State

GENERAL ELECTRIC



precision ★ ★ ★ *starts with the core*

★ ★ ★ Strict laboratory control plus the most modern equipment fortified by many improvements during 25 years of "know-how" are the reasons for the reputation for quality that the Mueller Brass Co. enjoys today—Yes, precision starts at the very beginning in the manufacture of STREAMLINE fittings—**precision starts with the core.**

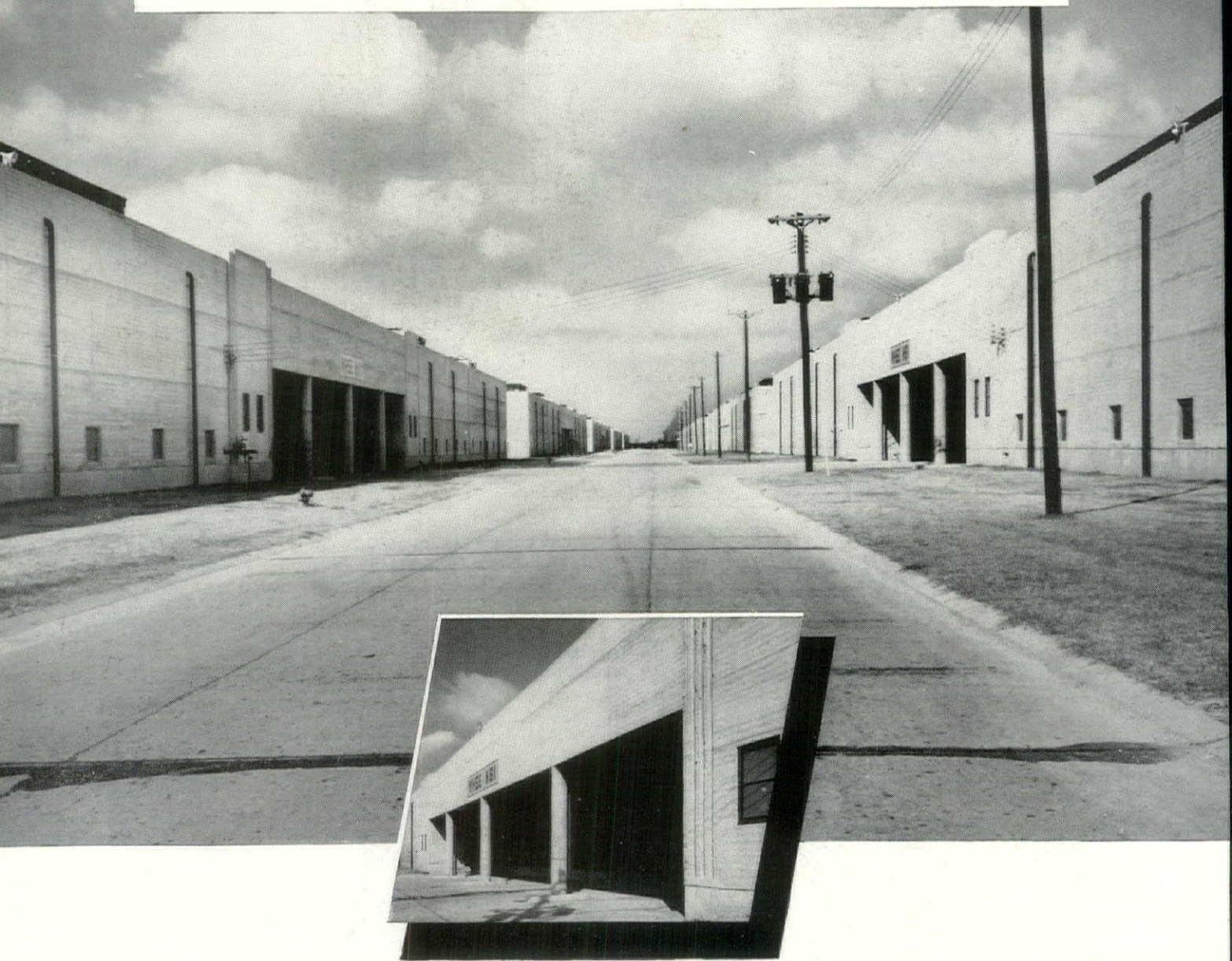
Today modern equipment and mass production hasten STREAMLINE fittings through the coremaking department, on through foundry and machine shops to our armed forces for installation in fighting ships of all kinds.

When the post-war period dawns, an improved and extended line of STREAMLINE products will have their full share in the rebirth of America and the world in the building of better homes for its people. STREAMLINE bronze fittings and STREAMLINE copper pipe will once more protect the health of the nation as they are now protecting the health and lives of our men in the service.



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

seven miles of Concrete walls *in one army depot*



Acres of six-inch concrete floors were laid on grade and then enclosed with seven miles of 10-inch thick concrete walls in building an Army quartermaster depot in the South.

All concrete for the walls was placed from the inside. The concrete floors were used as a base for concreting operations. Forms were built and erected on the floors and truck-mounted mixers with towers were moved over them. Forms for each group of buildings were each used four times, the buildings being identical in form and plan.

Each large warehouse was completed in about 60 days. Cost was below original estimates.

Economical, fast construction with maximum fire resistance and structural integrity was obtained on this project with a minimum use of steel.

The technical service of Portland Cement Association specialists in concrete construction is available to assist all designers of essential projects in developing the maximum structural advantages of concrete.

PORTLAND CEMENT ASSOCIATION

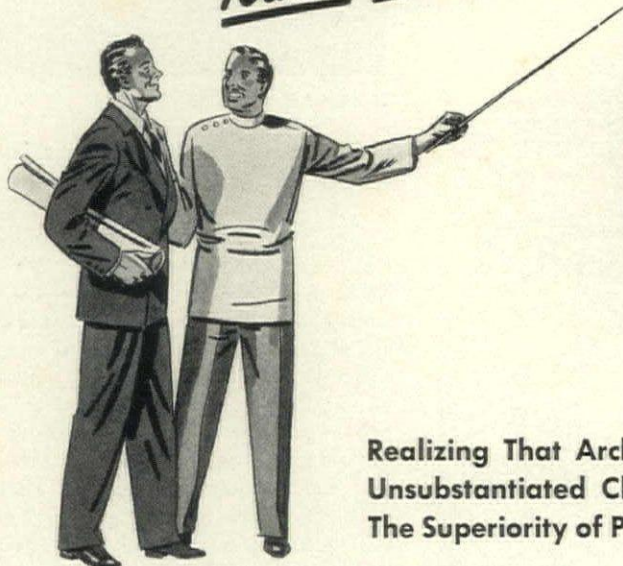
Dept. A4-7, 33 W. Grand Ave., Chicago, Ill.

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

Buy more war bonds

THIS IS "VITOLIZED OIL"!

**A PITTSBURGH IMPROVEMENT
WHICH KEEPS PAINT LIVE!
TOUGH! ELASTIC!**



Realizing That Architects Are More Interested In Proofs Than Unsubstantiated Claims, We Offer Two Tests Demonstrating The Superiority of Pittsburgh Paints Made With "Vitolized Oils"

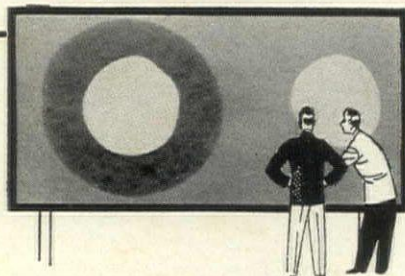
"Vitolized Oil" is the culmination of years of research by Pittsburgh scientists. The problem they had set out to solve was to develop an oil that would "stay put" in the paint film—one that would not be absorbed into the surface over which the paint was applied.

Test No. 1, below, shows how well Pittsburgh's research workers succeeded. Note the strong union of oil and pigment in the Pittsburgh Paint. By retaining their oil content, Pittsburgh Paints stay **LIVE**, tough and elastic—resist the cracking and peeling that often occur when painted surfaces expand or contract.

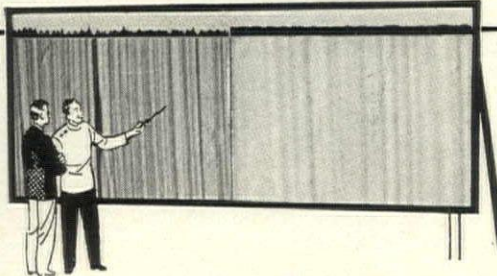
Pittsburgh "Vitolized Oil" paints level out smoothly (see Test No. 2), give wider coverage and are easy to apply. These improved oils are used exclusively in the manufacture of Pittsburgh finishes . . . a point to remember the next time you specify paint.

Free Book For Architects

Pittsburgh's 148-page "Maintenance and Buying Guide" is now ready. Its first 48 pages are devoted to an analysis of all types of maintenance problems. The coupon will bring you a free copy of this informative book.




Test No. 1—Note how ordinary oil (left) is absorbed into the surface below. "Vitolized Oil" (right) as used in the Pittsburgh Wall-hide System remains in the paint film keeping it **LIVE**, tough and elastic . . . enabling it to expand and contract with the surface over which it is applied.



Test No. 2—Ordinary linseed oil (left) does not level out well, leaves "hills and valleys" or brush marks. In Pittsburgh "Vitolized Oil" Paint (right), brush marks are rounded—with no sign of deep valleys. This uniform film of protection is better able to withstand weather wear.

PITTSBURGH PAINTS

PITTSBURGH PLATE  GLASS COMPANY

PITTSBURGH STANDS FOR  QUALITY PAINT AND GLASS

PITTSBURGH PLATE
GLASS COMPANY
Dept. AF-4
Pittsburgh, Pa.

Please send me postpaid a
free copy of your "Main-
tenance and Buying Guide."

Name _____

Address _____

City _____

State _____

FORUM OF EVENTS

(Continued from page 4)

DIED

THEODORE WARREN LAMB, 40, architect, in Lisbon. Mr. Lamb was a passenger on the transatlantic Yankee Clipper which crashed at Lisbon, Portugal, on February 22. He had recently been given an appointment as an attaché to the American Embassy in London, as head of a commission for the Office of Civilian Defense, and was on his way to London and his new duties when the accident took place.

Born near Chicago, Mr. Lamb had most of his schooling in the East. He was educated at Dartmouth College and Cambridge University in England, studied for several summers at the Fontainebleau School of Architecture, and received his degree in architecture from Yale in 1930.

A brilliant career as a student at the Yale School of Fine Arts culminated in his winning the Matcham Fellowship, which provided for a year of travel and study in Europe. During this year abroad he did research on the design of airports and housing groups in Germany, Sweden and Holland.

On returning to this country in 1931 he joined the office of James Gamble Rogers

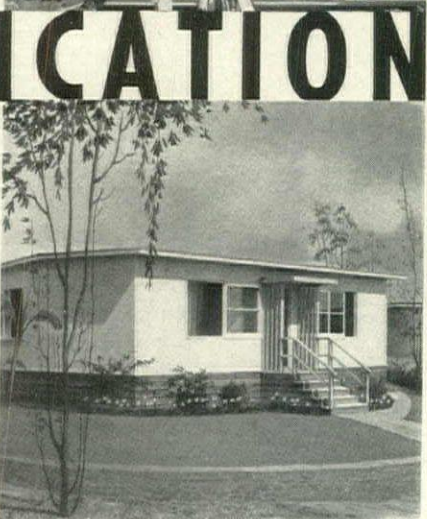
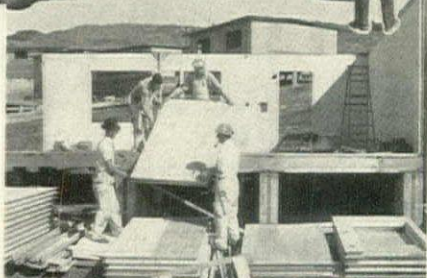
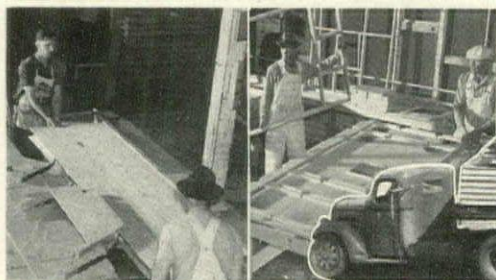


THEODORE W. LAMB

in New York, and about a year later he returned to Chicago, where he entered practice. At this time he began his association with Paul Schweikher, and later, with Winston Elting and George Fred Keck. A number of their projects were published in *THE ARCHITECTURAL FORUM*, including a prizewinning design in the General Electric Home Competition (April, 1935), a portfolio (November, 1939) and the officers' quarters at the Great Lakes Naval Training Station (August, 1942). With the death of Theodore Lamb the profession has lost one of the most gifted and valuable of its younger members.

WALTER KIDDE, 65, engineer and builder, in Montclair, N. J. Born in Hoboken, Mr. Kidde graduated from the Stevens Institute of Technology in 1897, worked for Burham and Granger, consulting engineers, opened his own office at the age of 23. The business, later incorporated as Walter Kidde Constructors, became one of the notable engineering companies of the East, constructed such projects as the New York approach to the George Washington Bridge, the shipyards of the Federal Shipbuilding and Drydock Company at Port Newark and Kearny, N. J., and many buildings at the New York Navy Yard in Brooklyn. In 1918 the engineering department of Walter Kidde Constructors was made into the firm of Walter Kidde and Company, which became one of the world's largest manufacturers of fire-extinguishing and life-saving apparatus. Energetic, public-spirited Kidde gave much time to serving his state, in 1909 was Chairman of the North Jersey Water Board; in 1923 a member of the New Jersey State Highway Commission; in 1933 and 1934 served on a three-man advisory committee appointed to organize public works for the Federal Government in New Jersey.

(Continued on page 118)



Inquiry invited at National City or Washington, D. C. offices.

FROM START TO FINISH, STEWART & BENNETT PREFABRICATION PROVES ITS WORTH

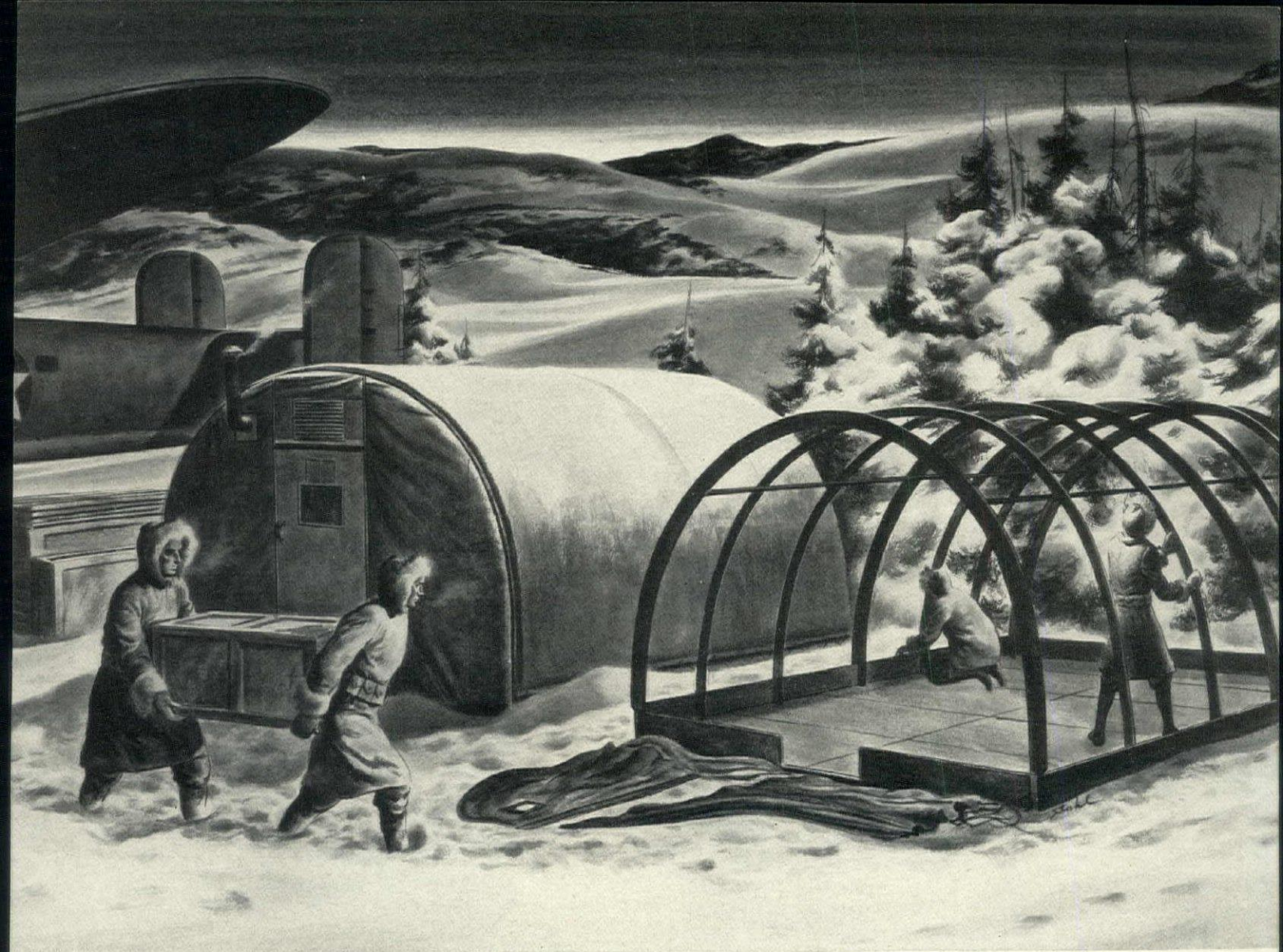
"CO-OPERATION" is the watchword which guides our operations, from initial planning with the general contractor to on-time delivery of the final unit. Our service is aimed to prove its worth in faithful performance.

When you specify Stewart and Bennett, you are assured of the co-operation which has given us such a large measure of "repeat" business.

Stewart and Bennett

PREFABRICATION PIONEERS
National City ☆ California

Washington, D. C. • Bond Building • National 3934



THESE ARE THE NEW ARCTIC SHELTERS for the Army Air Forces; the one at the left is up and in use; the other at the right is being erected. These shelters

are so light and compact that they can be flown in large numbers to advanced bases where strategy demands airplane maintenance in this global war.

For keeping fingers nimble...

IN THE ARCTIC, where the temperature often hits 65 degrees below, with howling snow storms the rule and not the exception, it's mighty tough to repair an airplane engine.

It's tough to keep fingers nimble for working on parts and it's equally tough on the engine itself.

Yet, the Army Air Forces are meeting this problem with portable shelters—a vast number of them. You see two pictured above.

These ingenious structures have semi-circular ribs of laminated wood. These ribs are covered with heavy fabric mattresses; two for the roof and sidewalls and one each for the front and back.

These mattresses are lined with Fiberglas,* an unusually light yet efficient insulating material made of glass in fibrous form.

The lightweight Fiberglas gives these shelters a number of advantages. They can be carried in large numbers by cargo planes. They are compact when

knocked down and save shipping space. They are so easy to handle that they can be put up in an hour and taken down in even less time.

And because of its high insulating value, Fiberglas saves about 20,000 pounds of fuel per season over what would be needed to heat an uninsulated shelter. This provides an additional saving of shipping space to transport other supplies.

In addition, these shelters are engineered to stand up to most arctic gales; so cleverly built that, if bigger working or living space is needed, two or more shelters can be put end to end. In every part, they are highly resistant to fire, moisture, and rot.

In designing and producing these ingenious structures, full credit goes to Army Air Forces technicians... also to the company ① of farm-building and equipment engineers now devoting its major efforts to war production.

Many wartime uses of Fiber-

① Name supplied on request.

glas like this one prevent us from supplying as much of this material as is desired to insulate houses and aid in the fuel-saving program on the home front.

But we're mighty proud that both the Army and the Navy are finding Fiberglas so valuable to them.

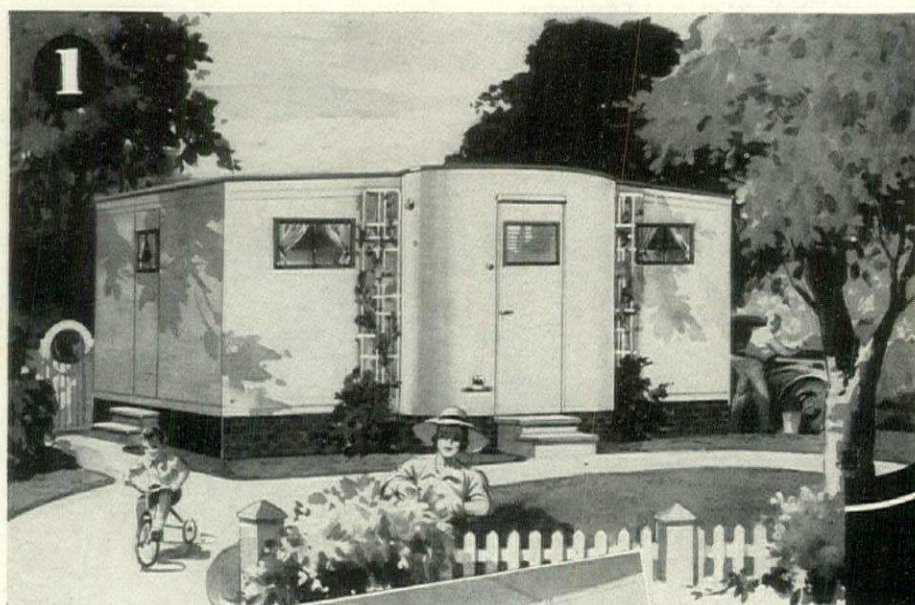
To meet these needs our production is being constantly expanded. We are determined to let nothing stand in the way of supplying enough Fiberglas for vital wartime uses, where Fiberglas is the only suitable material for the job to be done. Owens-Corning Fiberglas Corporation, Toledo, Ohio. In Canada, Fiberglas Canada, Ltd., Oshawa, Ontario.



OWENS-CORNING

FIBERGLAS

*T. M. Reg. U. S. Pat. Off.



Single-Family Unit

*With or Without
Complete Bath*



Complete
WAR-TIME
Industrial
Housing
Service!

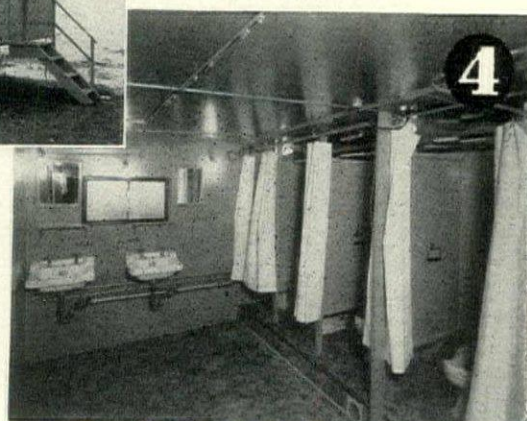
Portable Homes and Portable Utility Units



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.*



NOTE: Contractors and Builders

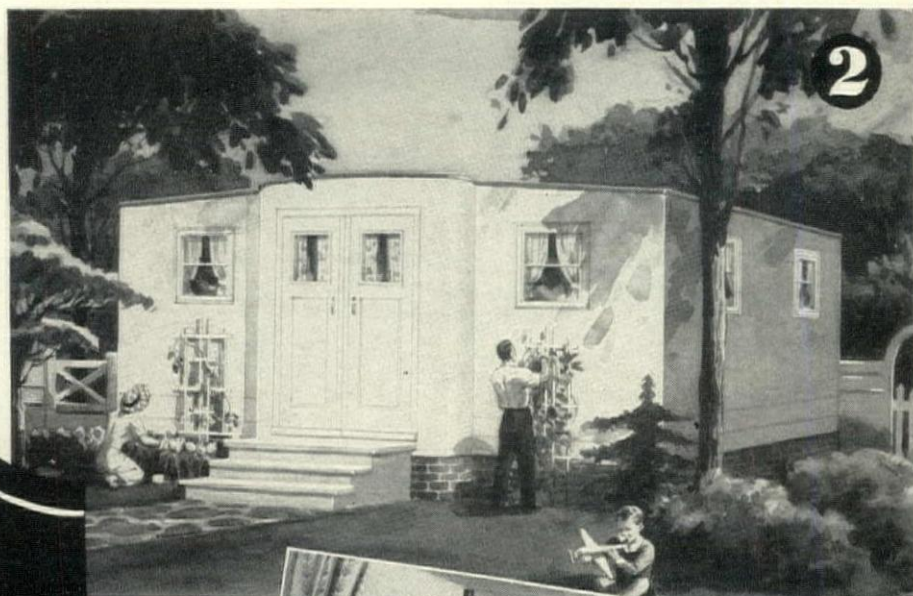
If new war plants are being built in your locality, or if old plants are undergoing expansion, investigate the possibilities of this new low-cost housing plan.

Palace

TRAVEL COACH CORPORATION

Two-Family Unit

*With or Without
Complete Bath*



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 necessities 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 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

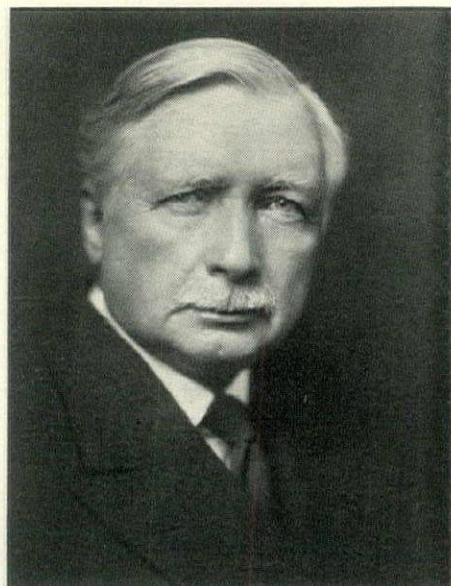
FORUM OF EVENTS

(Continued from page 114)

DIED

EGERTON SWARTWOUT, 73, architect, in New York City. Indiana-born and Yale-educated, Mr. Swartwout designed more than 100 buildings throughout the U. S. Manhattan's Yale Club, the Missouri State Capitol at Jefferson City, the Elks National Memorial in Chicago, the new section of the Museum of Fine Arts at Yale, the Municipal Auditorium at Macon, Ga.—all were his work. At Brookwood

Cemetery outside London, and at Montsec, France, are the memorials he designed to commemorate the American dead of World War I. But Swartwout is to be remembered as much for his professional ethics as for his architectural accomplishments. Said Architect Eric Gugler: "All his life he struggled to safeguard the competition principle in the hope that the architectural brilliancy of some unknown genius might not be dimmed by the circumstances of contemporary life. He had a distinct dislike for people in the fine arts who employed others to do their work and who made their success by salesmanship rather than by merit, and he gloried in doing all his own work. . ." It was



EGERTON SWARTWOUT

Swartwout who was responsible for changing the A.I.A.'s code of competition so that young men of talent would have a chance to compete, and to have the monetary advantage which the supervision of their own designs gave them.

EYE TO THE FUTURE

At Columbia University's School of Architecture plans are being drawn up for the physical reconstruction of Greek cities and towns destroyed by the Axis. To finance the master plans the American Friends of Greece have given an initial gift of \$500, will give additional gifts from time to time. At present, said Dr. Stephen Lados, secretary of the organization, two general reconstruction plans are being contemplated—one applying to cities, towns and villages destroyed by bombing, the other for areas damaged but still intact in part. In the first plan the ruins will be preserved and the site of the city moved elsewhere, in the second the remaining squares, parks, streets and buildings will be utilized.

PERSONAL

W. A. Paine and George D. Crumley, architects, associated for many years with Richards, McCarty & Bulford, announce the partnership of Paine & Crumley as successors, with offices at the same location, 584 East Broad St., Columbus, Ohio.

ERRATUM

Omitted from FORUM's REA article (Feb., 1943) were several credits. In the caption for the Pedernales Electric Cooperative building (p. 82) credit should have been given to the firm of Page and Southerland of Austin, Texas. Designers on the Valley Rural Electric Cooperative (p. 82) were Roland A. Wank and Mario Bianculli, TVA, who should have been mentioned in addition to the architect. The Tri-State Power Cooperative steam plant (p. 86) should be credited to Rural Line Engineers; A. Y. Taylor and Associates, Engineers; Roland A. Wank and Mario Bianculli, TVA, Architects.



Atlas WHITE News



Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., N. Y.



Fine Terrazzo is used in this hospital for floors, walls and stairway. Stair treads and risers are of precast terrazzo. V. Foscatto Inc., Long Island City, N. Y., Terrazzo Contractor.

FINE TERRAZZO CREATES A STEP-UP IN COLOR AND A LIFETIME OF BEAUTY

Architects specify *Fine Terrazzo* for Walls, Floors and Stairs of New York Hospital

For the Fifth Avenue Hospital addition, N. Y. C., Architects Reinhard and Hofmeister chose *Fine Terrazzo* made with Atlas White portland cement to provide the unique but necessary combination of color, permanence and ease of maintenance.

The warm beauty and full color of the marble aggregates, set off by a matrix of pure white cement, produced floors, walls, and a stairway that any client would be proud of. Furthermore, after a lifetime of service, with low-cost maintenance throughout, this will continue to be an interior of colorful distinction and glowing beauty.

Many architects specify white cement for *Fine Terrazzo* for both interiors and exteriors. They appreciate its permanence and color . . . its unlimited design possibilities. On every job, keep in mind the advantages of *Fine Terrazzo* made with Atlas White cement. (See Sweet's Architectural File, Section 11-19.)

* * *

Write for more news and helpful information about these and other uses of Atlas White and Atlas Waterproofed White portland cement . . . Stucco, Portland-Cement paint, thin precast Architectural Concrete Slabs, Light-Reflecting Floors, Tile-Grout Mortar, Face-Brick Mortar. See Sweet's Architectural File or write to Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

A.F.-C-3

Waterproofed White Cement

Atlas *Waterproofed White* portland cement is manufactured for certain types of white-cement work such as stucco, mortar joints, monolithic wall facings, swimming and wading pools.

Atlas *Waterproofed White* portland cement is made by the same rigid, precise methods as Atlas White portland cement. It is pure white, non-staining and water repellent. The incorporation of the waterproofing agent during manufacture insures an even, unvarying content that means uniformity on the job. It makes an excellent, non-staining mortar for water-repellent joints. It is also especially suited for manufacturing cast stone and for facing concrete products.

PRATT & LAMBERT PAINT AND VARNISH



LYNDON GROVE PROJECT, AUGUSTA, GA.
SHERMAN & HEMSTREET, Builders, Augusta, Ga. WILLIS
IRVIN, Architect, Augusta, Ga. CLAUSSEN-LAWRENCE
CONSTRUCTION CO., General Contractors, Augusta, Ga.

THE houses shown here are typical
of the seventy-seven erected in this
project, with no two alike, since indi-
viduality of design was a factor in the
original planning of these modest, five-
room homes.

Pratt & Lambert Paint and Varnish were
used to advantage in the decoration of
these homes on exterior and interior
surfaces. Specifications for large and
small-scale housing projects are imme-
diately available from the P&L Architec-
tural Service Department nearest you.

PRATT & LAMBERT-INC.
Paint & Varnish Makers

NEW YORK : BUFFALO : CHICAGO : FORT ERIE, ONT.

★ BUY U.S. WAR BONDS AND STAMPS ★



WALLS OF SUNSHINE

for the 194X HOME

with ANDERSEN

COMPLETE **WOOD** WINDOW UNITS

DESIGNED to catch the sun . . . to bring life to wall areas . . . to add warmth and livability—that will be part of the function of Andersen Complete Wood Window Units in the 194X home.

But equally important will be Andersen Complete Window Units designed as a functional part of the entire structure. For as window areas increase, so it becomes increasingly important to fill those areas with window units of sound design and wide adaptability. To the architect or builder who is today engaged in war work, but who is looking forward to the time when normal practice is resumed, Andersen makes this assurance: though designs may change and innovations develop, Andersen Complete Wood Window Units will, as always, be designed to meet the exacting requirements of the building profession.

Sold through regular millwork channels. See Sweet's Catalog or write to address below for details.

Andersen Corporation

BAYPORT, MINNESOTA





ONLY THE RICH CAN
AFFORD POOR WINDOWS

BOOKS

(Continued from page 12)

HANDBOOK OF CIVILIAN PROTECTION,

Prepared by the Civilian Defense Council of The College of The City of New York. Whittlesey House, New York. 185 pp., illustrated. 5 x 7½. \$1.25.

A pocket-size manual, covering the field in a brief but comprehensive manner. Subjects discussed range from nutrition in wartime to the effects of high explosive bombs, including fire fighting, first aid, conservation and salvage, protection

against gas and precautions to be taken in the home. The book also describes the proper manner of organizing local civilian defense, the requirements for Federal recognition, the working of the air raid alarm system and the activities of air raid wardens. There is a chart on gases and incendiaries which indicates their characteristics, methods of control and remedies. A full bibliography and index are included. The book is highly recommended.

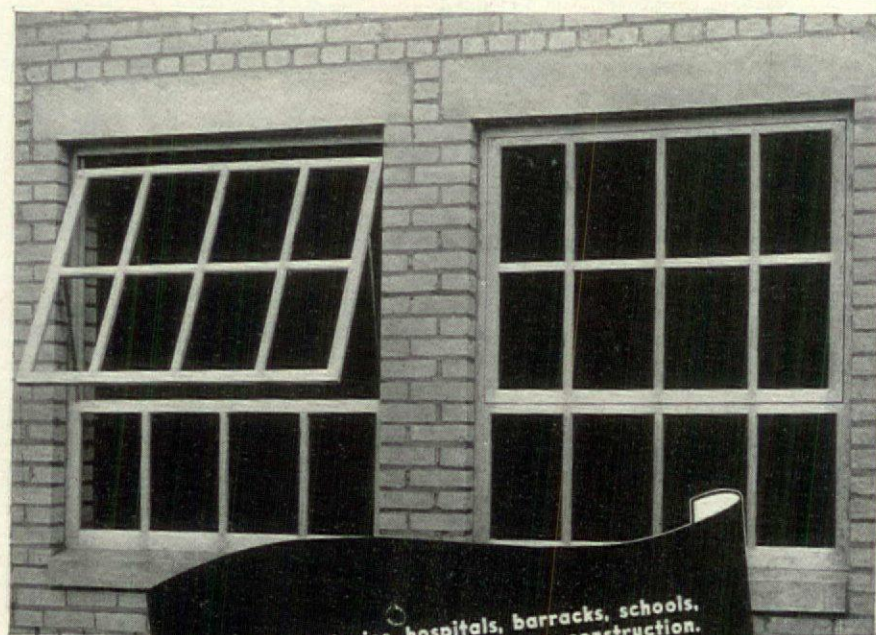
LUMIPRINTING, by Joseph Di Gemma. Edited by Arthur L. Gupstill. Watson-Gupstill Publications, Inc., New York. 113 pp., illustrated. 9 x 12. \$3.50.

"Lumiprinting" is introduced by the au-

thor as a "new graphic art." Briefly, it is a process in which a negative similar to a photographic negative, is made by hand, and then printed or enlarged on photographic paper. If one takes a piece of glass or transparent plastic, for example, and draws on it with ink or crayon, and then makes a print on sensitized paper, the developed image will be white or gray where the lines were drawn and black where the transparent material was left untouched. With this as his basis, Mr. Di Gemma tried a great variety of media to see what would happen. These experiments are described in detail. There are sketches on cellophane with tempera, pencil drawings, "engravings," spray paintings, and many combinations of these methods. The immediate advantage lies in the ease of making reproductions, since any number of prints can be made from the negative. Technically, the book is admirable: the author gives all needed information and the illustrations are large and well selected. It is well laid out and handsomely printed on a heavy glossy paper. For the student interested in the other types of graphic art the author has included an excellent bibliography.

CARPENTRY AND JOINERY WORK, by Nelson L. Burbank. Simmons-Boardman Publishing Company, New York. 248 pp., illustrated with photographs and drawings. 8 x 11. \$4.

A new edition of this popular manual, which is now set in type for the first time. Earlier editions were offset reproductions of typewritten copy, which not only took

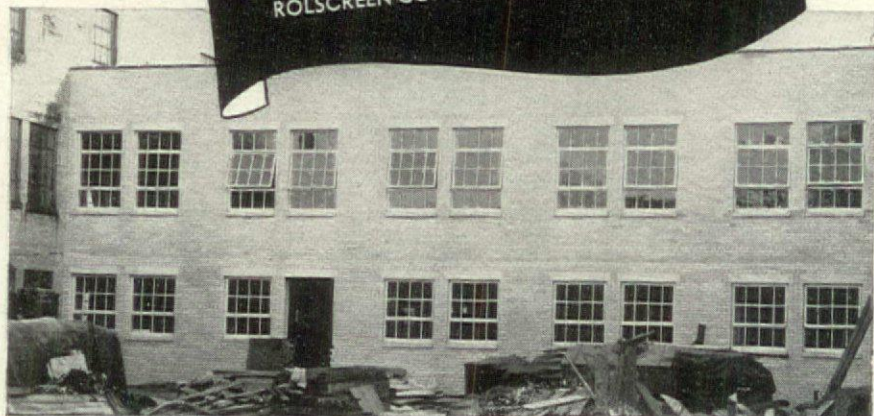


- ☆ For factories, hospitals, barracks, schools, low-cost homes. Old or new construction.
- ☆ Sizes for all standard steel sash openings.
- ☆ Genuine white pine frame and sash, 1¾".
- ☆ Toxic—water repellent treated (Woodlife).
- ☆ Furnished for either inside or outside glazing . . . and for in- or out-projecting sash.

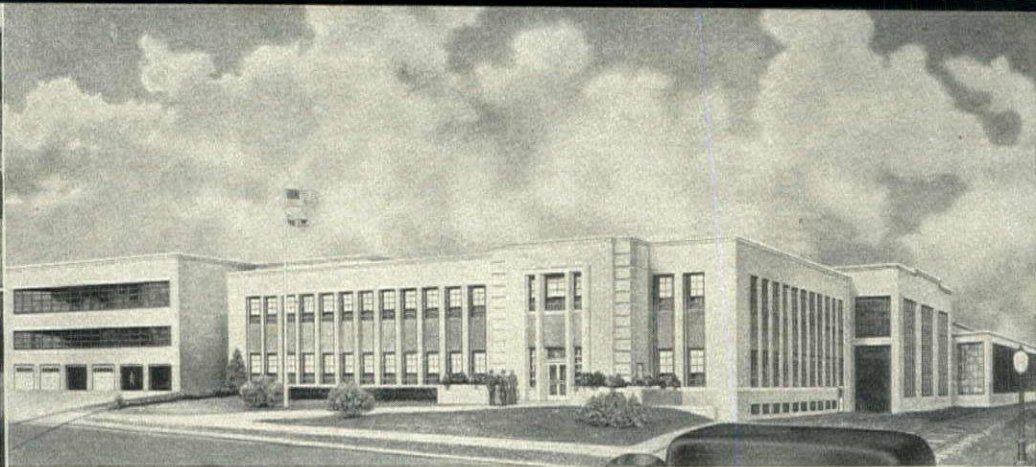
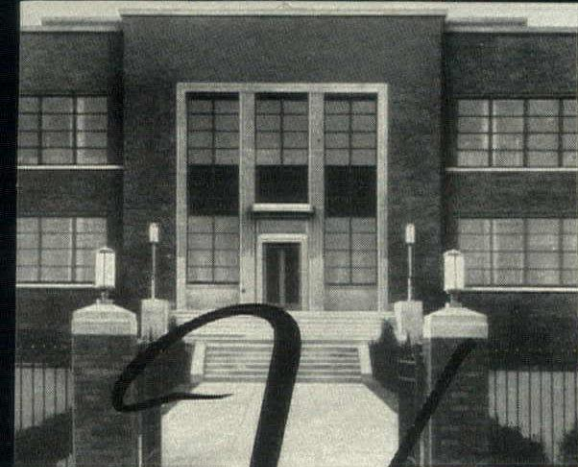
WRITE FOR FULL SIZE DETAILS

Pella PROJECTED
WOOD SASH
ROLSCREEN COMPANY, DEPT 223 PELLA, IOWA

Factory addition
in Michigan.
W.P. McLaughlin,
Grand Rapids,
architect.



more space, but was more difficult to read. In its present form the book remains a text for secondary schools, with its chapters arranged to correlate classroom instruction and shop practice. A secondary, and apparently unexpected market for the book has appeared among farmers and others who are in the habit of doing much of their own building and repair work, and its usefulness to the student architect or draftsman is by no means negligible. The hundreds of illustrations show practically everything that needs to be known about the conventional methods of constructing and finishing wood buildings, from excavation to the installation of finished flooring and hardware.



Vital NEW MACHINE TOOL PLANTS

PROTECTED BY Carey BUILT-UP ROOFS

At many of the nation's great machine tool plants, as on every other industrial front, CAREY Built-up Roofs are rendering outstanding service by protecting buildings and equipment vital to the war program — worthy testimony to the **DEPENDABILITY** of these famous engineered roofs.

CAREY Roofs are individually designed to withstand temperature extremes, salt air, chemical fumes, and other conditions that adversely affect roof life. Normally, these time-tested roofs far outlive their bonded period of service. Make sure of maximum roof **VALUE** at minimum cost — specify CAREY. For details, address Dept. 20.

THE PHILIP CAREY MFG. COMPANY

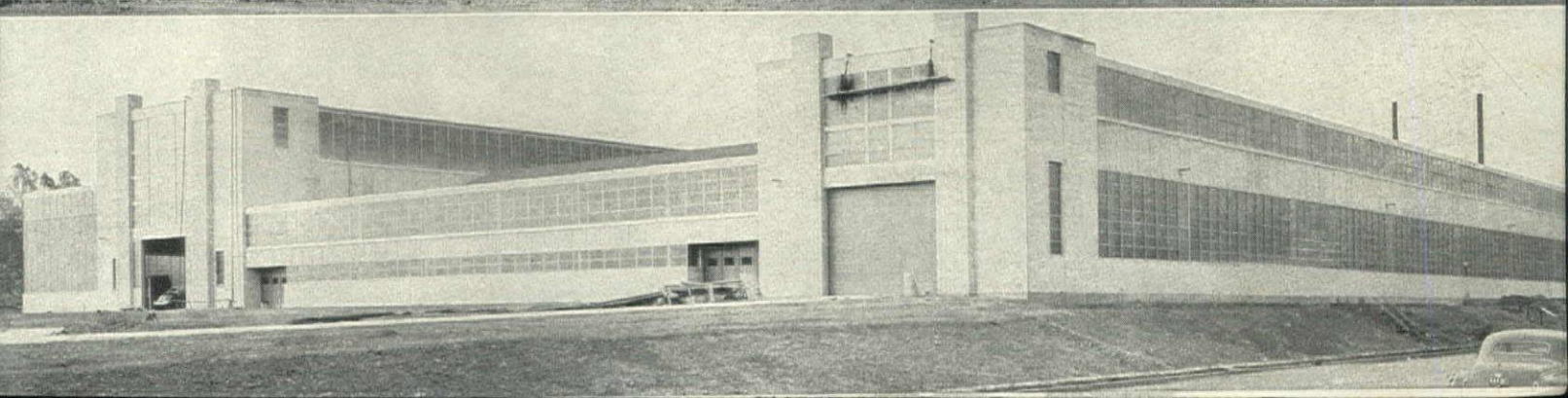
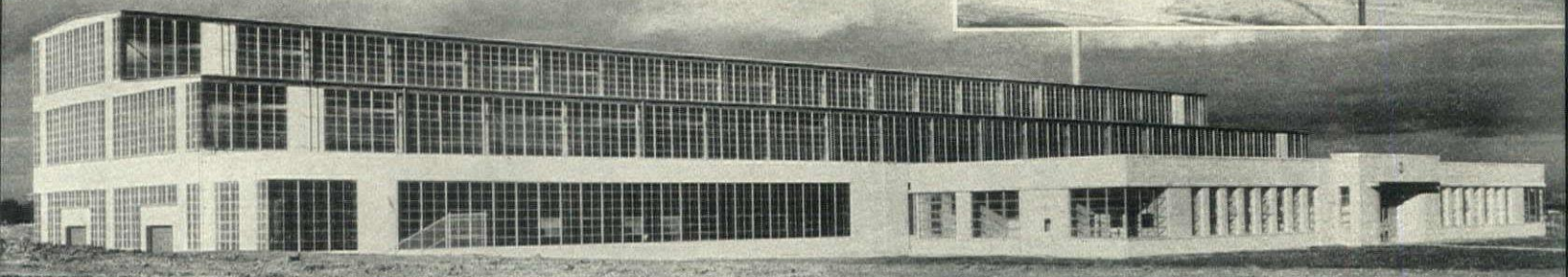
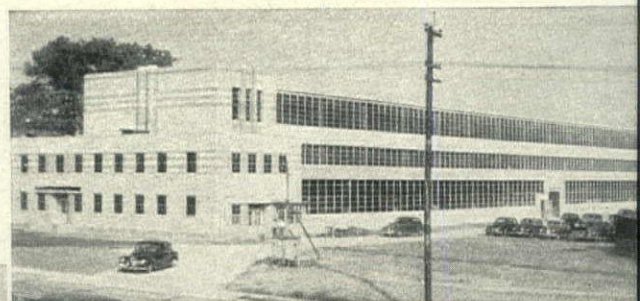
Dependable Products Since 1873

LOCKLAND — CINCINNATI, OHIO

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

MACHINE TOOLS SET STAGE FOR VICTORY

Upon the machine tool industry was imposed the first tremendous job of equipping the nation for war. The way the industry responded — increasing production from 25,000 machines a year to 360,000 — is a shining example of Democracy in action. Thanks to the vital ground work of this basic industry, America has accomplished more in two years than German dictatorship could accomplish in nine.



Precision



LCN

**DOOR
CLOSERS**

NOW 100% SMALL PARTS PRODUCTION FOR **VICTORY**

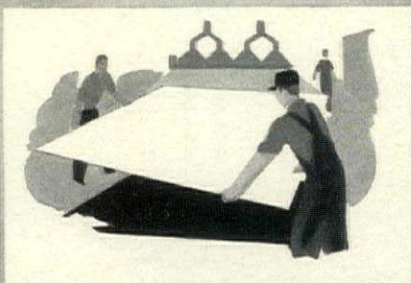
PORTRAIT OF AN IMPORTANT SOLDIER



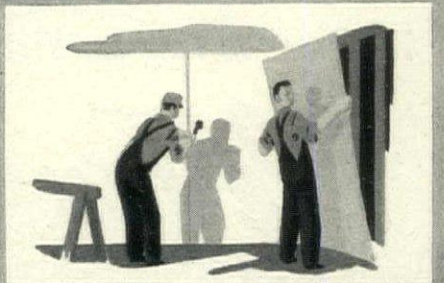
JUST A NORTHWOODS TREE! There are millions and millions like it. But this tree is an important soldier in the war of the democracies, for from its fibres comes a product with a multitude of indispensable services, each of which is hastening the day of victory.



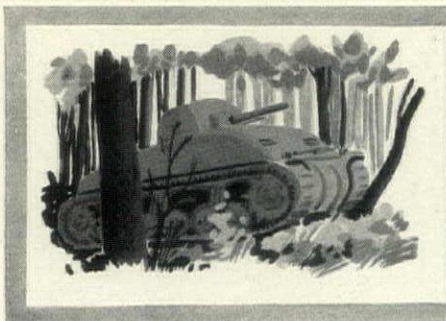
● Many years ago scientists, working with lumber, found that the important part of a tree—its strength, its enduring quality—was the *wood fibres*. The question posed itself: "How to utilize these fibres to better advantage to man?" The answer was soon found.



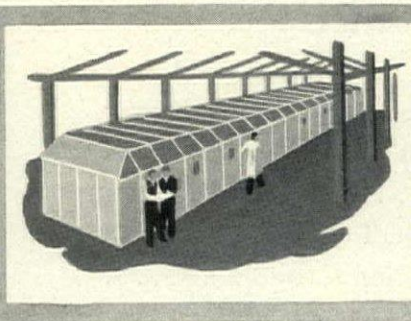
● Logs were put into powerful machines that tore them to pieces—leaving only the vital wood fibres. Fibres were treated with asphalt to protect against moisture. Then the fibres were processed into panels. These boards or panels were called "Insulite".



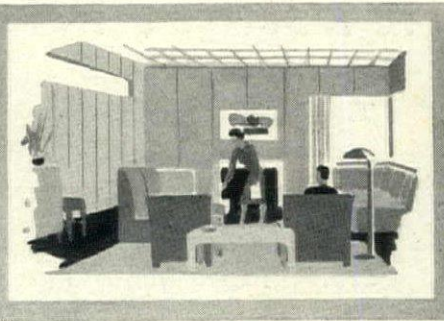
● Insulite, processed from wood fibres, has great structural strength. Its bracing strength is four times that of ordinary wood sheathing horizontally applied. Insulite has high insulation efficiency, retarding the passage of heat, cold or vapor.



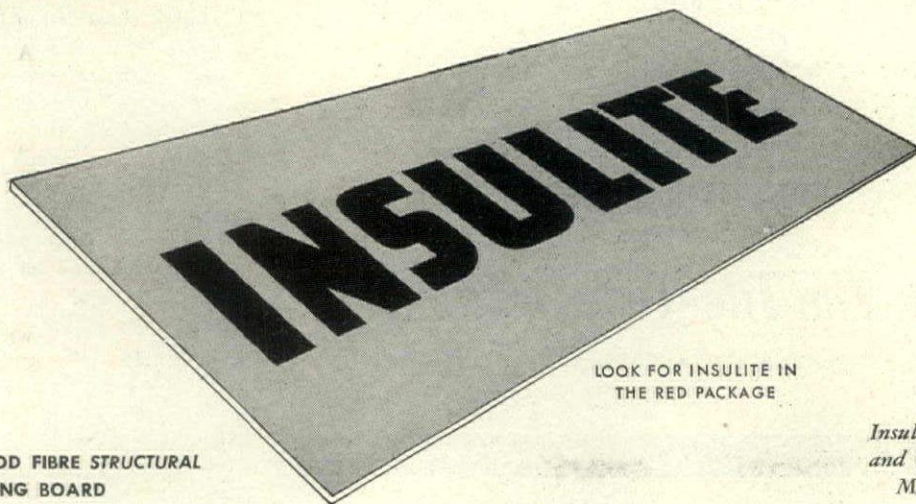
● Insulite has many uses. Because it is effective insulation and quiets sound, Insulite is used in the construction of certain tanks, which are being used on battlefronts throughout the world today. Insulite helps to keep the tanks cool inside, protects the occupants from burning desert suns, and reduces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



LOOK FOR INSULITE IN
THE RED PACKAGE

THE ORIGINAL WOOD FIBRE STRUCTURAL
INSULATING BOARD



Insulite Division of Minnesota
and Ontario Paper Company
Minneapolis, Minnesota

Building Reporter

(Continued from page 8)

pencils. A patented lead plus a special process of fusing wood and lead in the completed pencil account for its greater strength. Available in six degrees of hardness from No. 1 to No. 4, DuroLead pencils cost but 5 cents each. Sample test DuroLead pencil is free on request from the manufacturer.

Manufacturer: Reliance Pencil Corp., Mount Vernon, N. Y.

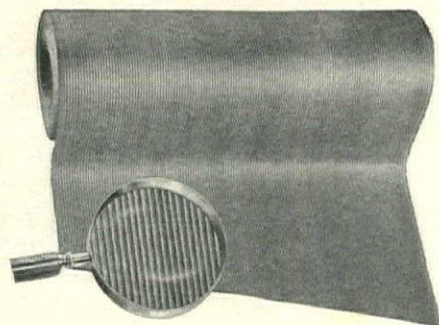
MACHINERY MOUNTINGS now made of Ameripol synthetic rubber.

Name: Vibro-Insulators.

Features: Besides replacing scarce natural rubber, these synthetic rubber mountings will be valuable in industries where the action of grease, paint or heat cause too-rapid deterioration of natural rubber bonded to metal. Designed to carry the load in shear, Vibro-Insulators are used for the isolation and insulation of noise, shock and vibration, which interfere with high-speed production and impair the function of vital equipment.

Manufacturer: The B. F. Goodrich Co., Akron, Ohio.

SYNTHETIC FLOORING for either temporary or permanent protection of floor areas.



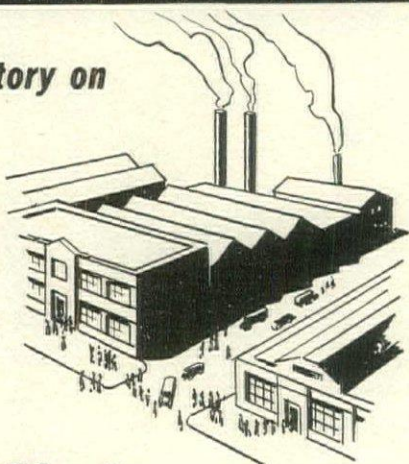
Name: Rubberlike Matting.

Features: Designed as a supplementary floor covering for commercial or industrial uses, Rubberlike may be used over wood or concrete floors to prolong their life and so to prevent danger spots. Suggested also for restaurant and gameroom uses, for stair treads and landing mats. Heavy corrugations give it extra resiliency so that it relieves the fatigue of standing on hard floors. Does not become slippery when wet as does rubber, but like rubber, synthetic is adversely affected by grease. Available in two widths, matting may be easily rolled up out of the way and relaid. Price 39 cents a lin. yd. for 27-in. matting, and 49 cents a sq. yd. for 36-in. width.

Manufacturer: Bird & Son, East Walpole, Mass.

They are working for Victory on

Tile-Tex floors-



in America's War Plants

Tile-Tex floors, the country over, are serving in the war effort. A composition of asphalt and asbestos, it stands the bombardment of service . . . and requires only a minimum of man-power to install and maintain. It is easily installed without interruption to adjoining areas.

Tile-Tex is used widely in Plant offices, rest rooms, chemical laboratories, dispensaries, and similar auxiliary spaces. *Tuff-Tex Greaseproof Industrial Flooring*, companion product to Tile-Tex, answers the severe problems of most actual manufacturing areas.

Either Tile-Tex or Tuff-Tex is available promptly in a wide range of colors and sizes. Write today for specification data and complete information about these two outstanding products, designed for the industrial floor user.

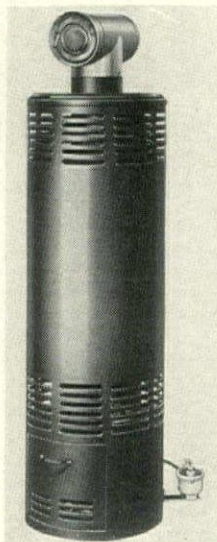
★ The Tile-Tex Company

101 Park Avenue, New York City • Chicago Heights, Illinois

COMPACT HEATER answers wartime demand.

Name: Model RH 3 Space Heater.

Features: This small space heater has a 50,000 Btu. output and takes up very little floor space. Available in quantities only for war service, it operates on either fuel oil or high octane gasoline. A combination radiant and convection heater, it gives off radiant heat from the jacket surfaces and high velocity convection currents of heated air from between the jacket



and heating chamber. Special Airtemp vaporizing burner is mounted directly on heating chamber with a special locking-type catch and is easily removable for cleaning and inspection. Operational equipment includes a draft regulator and 6-gal. fuel tank which may be attached to jacket.

Manufacturer: Airtemp Div., Chrysler Corp., Dayton, Ohio.

(Continued on page 130)



Total war today at Briggs means hitting the enemy with everything including *literally* the kitchen sink. Our men used to make the gleamingest, prettiest kitchen sinks you ever saw. Now they are making searchlights for the Navy with just as loving care. There isn't a man at Briggs today who isn't doing a war job. We couldn't ship you a Briggs Beautyware fixture now for love or money. They're just not being made. But they will be, later on . . . and they'll be the best you ever saw!

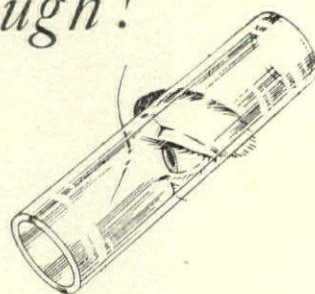
BRIGGS MANUFACTURING CO., DETROIT

BRIGGS *Beautyware*
PLUMBING FIXTURES



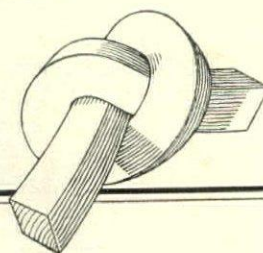
PIPE . . .

you can see through!



WOOD . . .

you can tie in knots!



Not the wild dream of a Sunday feature writer, but the cold accomplished fact of practically-minded scientists . . . men who strive to make living better by making things better . . . and cheaper.

With War's end, such developments . . . and others equally vast in significance . . . will become the common tools of Architecture.

These new materials, plus new war-born means and methods, place a heavy responsibility on

the building profession to specify and use them correctly. Thinking and planning *now*, it seems to us, is the answer.

In this look-ahead effort, perhaps we can help. While we are dealing only in swords today, somewhere in the future, plowshares will turn fertile soil again, and when they do, we want the furrows to run straight and true. Please then, do not hesitate to call on us, no matter what the need.

(Top Illustration). A Dahlstrom Elevator Entrance installation in the Continental American Life Insurance Building, Wilmington, Del. Massena & DuPont, Architects.

DAHLSTROM

METALLIC DOOR COMPANY, JAMESTOWN, N. Y.

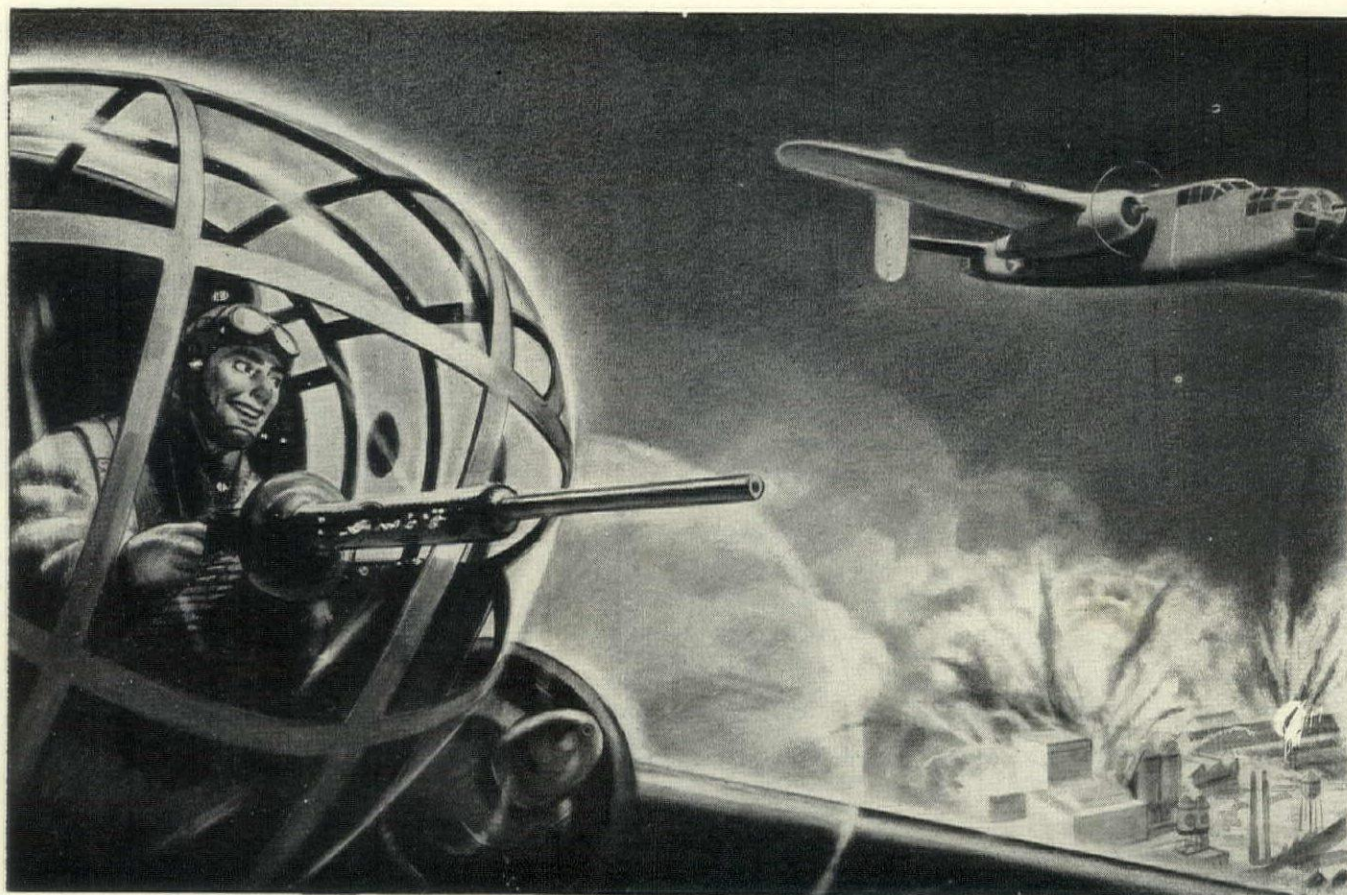
BRANCHES IN NEW YORK, CHICAGO, PHILADELPHIA AND SAN FRANCISCO

Representatives in Principal Cities

MAINTENANCE AIDS



A helpful folder, just off the press, contains operation, maintenance, and care of finish information of value to building operators and owners. Send for your copy.



The air over Tokyo has been brought to Detroit

WHEN Tokyo is raided again—and it will be—it may be the first trip for most of the pilots. But to the carburetors of the planes' roaring engines it's old stuff.

They had their first taste of Nipponese atmosphere months ago—in a test box in an American aircraft parts factory. Trane air conditioning equipment made this possible.

The air over Tokyo, Berlin, Tunisia has been brought to Detroit, Nashville, Dallas—wherever carburetors are made. Industry has recreated in a few cubic feet of space most of the atmospheric conditions which American pilots may find regardless of where they fly.

Thus is assured as perfect performance as possible for an instrument of vital importance in America's

tremendous Number One job of winning the war.

This is but one of many examples of how Trane is mobilizing the weather of the world for the Allied war effort. Skilled Trane air engineers operating from strategic bases are applying the wide Trane line of air handling and heat exchange equipment—to test, to speed manufacturing processes, to conserve vital materials, to protect fabricated products, to help keep American workers at the peak of their productive capacity.

And from what Trane is doing today will develop improved standards for the America of tomorrow... greater comfort, better health and living—thanks to Trane air conditioning—in the better days that are to come.



TRANE

AIR²

THE TRANE COMPANY LA CROSSE, WISCONSIN

TRANE COMPANY OF CANADA, LTD., TORONTO

AIR CONDITIONING • HEAT TRANSFER • AIR HANDLING EQUIPMENT

Building Reporter

(Continued from page 126)

PLASTIC FLUSH VALVE continues the line of noncritical plumbing equipment.

Features: A flush valve for low tanks has been developed entirely of plastic except for the wire, screws and rubber bulb. Because the plastic seat will not corrode or pit like metal, it is said that this flush valve will outlast brass valves for which it is now substituting.

Manufacturer: Good Mfg. Co., Inc., 200 Lincoln Ave., New York, N. Y.

WOODEN TOILET SEAT has self-raising hinge.

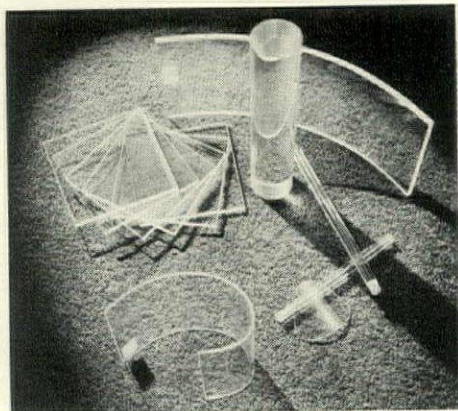
Name: Self-raising Seat, 1,000 Line.

Features: New hardwood model not only conserves critical materials but also incorporates the self-raising hinge. Although of conventional design (rather than the Sperzel two seat-pad type), self-raising mechanism gives it advantages of staying clean, dry and sanitary. Seat stands perpendicular to bowl when not in use, therefore lasting longer and reducing maintenance costs. Available in four finishes, as well as sheet covered, self-raising seat fits standard toilet bowls.

Manufacturer: Sperzel Sanitary Seat Co., 218-230 Metropolitan Life Bldg., Minneapolis, Minn.

PLASTIC with high abrasion resistance.

Name: Columbia Resin C.R. 39.



Features: While not yet commercially available, this new thermosetting plastic has unusual properties which suggest many possibilities for postwar application. Principal feature is high resistance to abrasion, 10 to 30 times greater than has been achieved with other transparent resins. Available in rods and sheets, it can also be formed into simple and moderate compound curves. Intricate three-dimensional shapes can be made by impregnating layers of paper, fabric or other material with the primary plastic in liquid form. Laminations using other resins require high pressures in the curing process and, consequently, expensive molding equipment, which Columbia Resin does not. C.R. 39 makes a more flexible and less brittle laminate than either the phenol or urea formaldehyde resins, and will retain its shape under high and low temperatures.

Manufacturer: Columbia Chemical Div., Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.

THERE'S NO FLOOR PROBLEM...



When You Use Streamline Flooring for War Housing

Bruce Streamline Factory-Finished Flooring is ready to use the instant it's laid. No sanding or finishing on the job—no delays due to slow drying weather. No expense of temporary wiring for sanding machines.

CUTS LAYING TIME

Streamline lays fast, too, because the 3¼-inch strips cover 44% more area than the usual 2¼-inch strips. Less pieces to handle, less nails to drive.

LOW IN COST

Everything considered, Streamline Flooring is competitive with the

cheapest available hardwood flooring sanded and finished on the job.

DEPENDABLE SOURCE OF SUPPLY

And, most important, you are sure of "delivery as promised" on Streamline Flooring. It's a product of the world's largest maker of hardwood floorings.

SEND FOR FREE BOOK "Low Cost Floors For War Housing"

E. L. BRUCE CO.
1612 Thomas St., Memphis, Tenn.
Please send me a copy of "Low Cost Floors For War Housing."

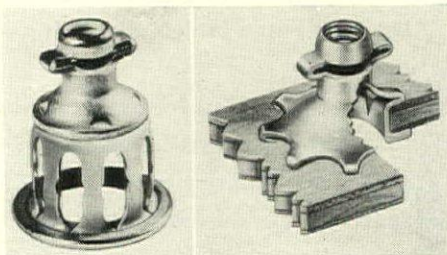
Name.....

Address.....

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

PERMANENT FASTENER for plywood and plastics.

Name: Boots Self-Locking Cage Nut.



Features: Cage nut permits securing plywood or plastics to metal; now in use for assembling plywood plane and glider parts. Basket mount of nut is collapsed into a drilled hole with a special tool, clinching the plywood in a claw-like grip which withstands, without tearing, torque applied when a bolt is inserted by production methods. Adjustable to varying thicknesses, it may be applied from one side in a blind operation.

Manufacturer: Boots Aircraft Nut Corp., New Canaan, Conn.

(Continued on page 134)

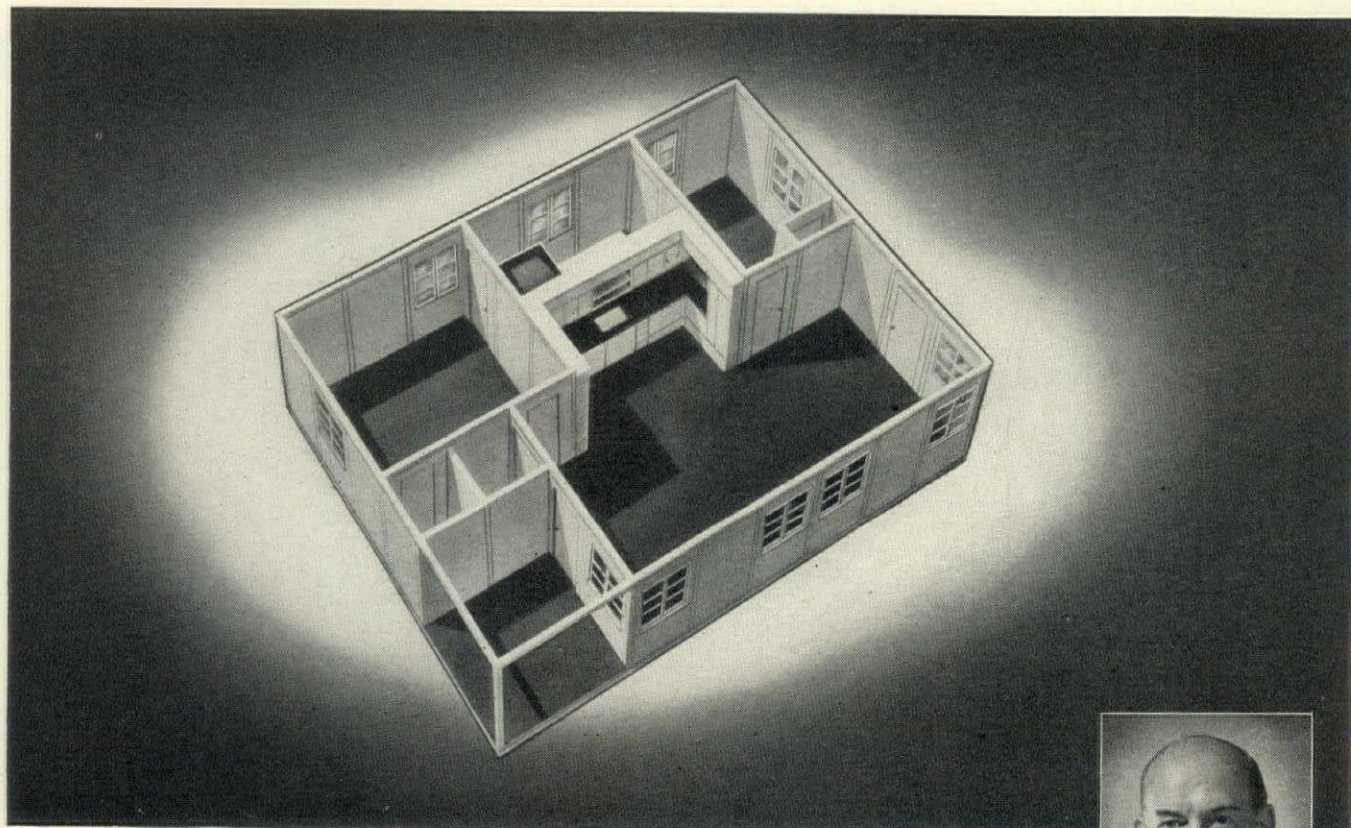


Factory-Finished

STREAMLINE HARDWOOD FLOORING

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

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



Let's look at tomorrow

Walter Dorwin Teague, Industrial Designer



IT'S SPRING, 1922... Mrs. America has finally persuaded "Jim" to trade in their house for the brand new model that's just out. This year, he thinks they'll even be able to afford the Summer air-conditioning "accessory." For, delivered, the whole house comes to only \$2,000—without even allowing for the trade-in!

SUCH A HOME, as visualized here, will be made a practical reality through the use of Durez resin-bonded plywood and other new structural materials. But let Walter Dorwin Teague tell you about the plywood prefabricated house...

"Post-war development of the prefabricated house will revolutionize the housing problem for the average man just as efficiently as the automobile has solved his transportation difficulties. Right from the assembly line... it will come complete with built-in kitchen, automatic heat and air conditioning, refrigeration, radio and telephone."

Exterior and interior walls and roof will utilize Durez-bonded plywood—sheets of wood that are permanently fastened or bonded together with Durez phenolic resins.

While extremely light, this plywood is tough and weather-resistant—economical to make and easy to handle from both the standpoint of design and mass-production assembly.

This is no idle dream—any more than the automobile was in 1916. Spurred by the needs of defense housing, the Government is now encouraging the rapid development of prefabricated houses. As the result of this tremendous impetus, you'll be enjoying the advantages of a reasonably-priced, completely modern home sooner than you think.

But right now, all America is engaged in winning the war. From the plant—from the laboratory—Durez phenolic molding compounds and resins and new formulae go into war-material production or to the manufacturers of civilian essentials.

Yet all Industry, working overtime today, must shoulder still another responsibility. Industry must also plan ahead for a victorious America. Industry must know what it can do with plastics—the materials of tomorrow. A request on your letterhead will bring DUREZ PLASTICS NEWS to your desk every month.

DUREZ...plastics that fit the job

DUREZ PLASTICS & CHEMICALS, INC. **DUREZ** 444 WALCK ROAD, N. TONAWANDA, N. Y.



No telephone booths in this emperor's castle



From Architectural Collection—The Bettman Archive

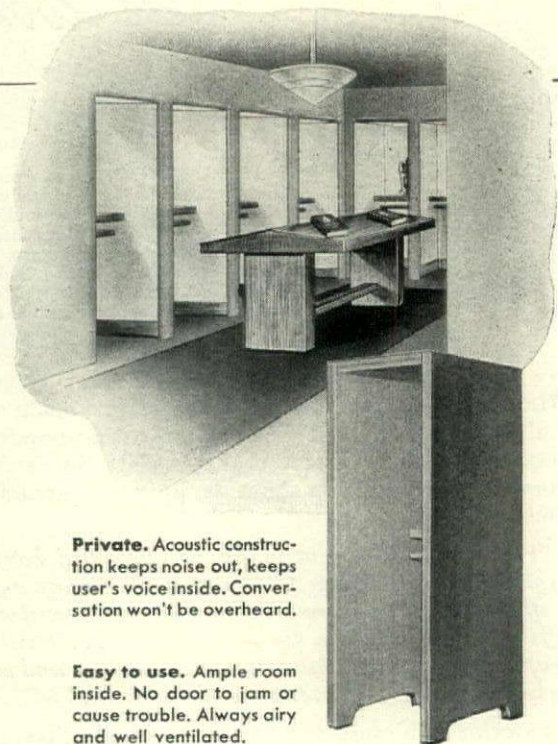
TODAY

**modern built-in booths
are an important part of
your building plans—**

When you're drawing up plans for building or remodeling public places, be sure you include modern built-in telephone booths. Convenient telephone facilities are important in today's plans; if you specify Burgess Acousti-Booths, they'll add a note of distinction to your design.

Acousti-Booths provide greater privacy and comfort for users because they're of patented Burgess acoustic construction. They're doorless, yet quiet inside. You won't have a design problem because they're ready to install. And their all-wood construction makes it easy to match any interior decoration scheme. Burgess Battery Company, Acoustic Division, 2821-B W. Roscoe Street, Chicago, Ill.

Operating under Burgess Patents



Private. Acoustic construction keeps noise out, keeps user's voice inside. Conversation won't be overheard.

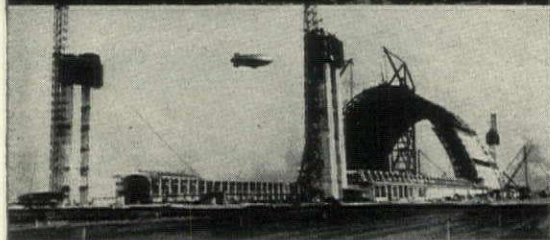
Easy to use. Ample room inside. No door to jam or cause trouble. Always airy and well ventilated.

BURGESS TELEPHONE *Acousti-Booths*





The **TECO** Ring Connector spreads the load on a timber joint over practically the entire cross-section of the wood . . . brings the full structural strength of lumber into play.



New Navy Blimp Hangar, 1000 feet long; 153 feet high; clear-span roof 237 feet. Timber treated for fire resistance according to Federal specifications. Trusses prefabricated by Timber Structures, Inc., Portland, Oregon.

OUR NAVY BUILDS WORLD'S GREATEST TIMBER STRUCTURE

mammoth blimp hangar was made possible by

TECO CONNECTOR ENGINEERING

Two announcements of the widest import to American engineering have just come out of Washington.

The U. S. Navy has announced that a giant blimp hangar, engineered entirely in timber, is nearing completion "somewhere in the continental United States."

The War Production Board has announced that "such a structure could not have been built of wood by ordinary methods without the use of timber connectors . . . The steel ring timber connector, which is used to increase the strength of joints in wood construction, saved more than 400,000 tons of steel for essential war production in 1942." WPB added that 2,050 tons of structural steel will be saved in this hangar alone.

In erecting this vast, multiple-truss assembly, Navy engineers have accomplished a notable achievement in modern timber connector engineering. The hangar is the latest of scores of large Navy, Army, and Maritime Commission projects built with Teco timber connectors under the revolutionary Teco system of timber engineering. It is one of over 100,000 heavy-duty structures, of over 600 types, built under the Teco connector system in the past few years. They include clear-span factories, bridges and trestles, towers, tanks, warehouses, docks, shipyards, and many others.

Write today for our FREE Reference Book for engineers and architects showing 45 "Typical Designs of Timber Structures."

TIMBER

ENGINEERING COMPANY

NATIONAL MANUFACTURERS OF **TECO** TIMBER CONNECTORS AND TOOLS

WASHINGTON, D. C.

PORTLAND, OREGON

Building Reporter

(Continued from page 130)

BRACES for wood construction increase frame strength.

Name: Hurricane Brace.

Features: Without requiring any change in building design, this new brace modernizes wood construction. Almost like welding wood together, it eliminates toenailing and nesting of nails which cause mangled and split timbers. All nailing with the brace is directly across the grain,

and all nails are in shear, thus increasing the value of tension members. Braces come in eight types and are easy to apply to standard construction.

Manufacturer: Structural Specialties, Inc., Guaranty Bldg., West Palm Beach, Fla.

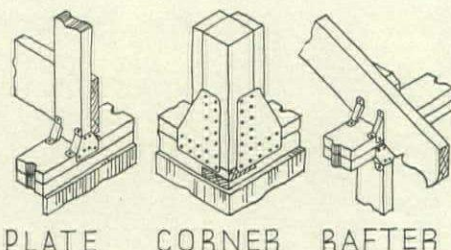
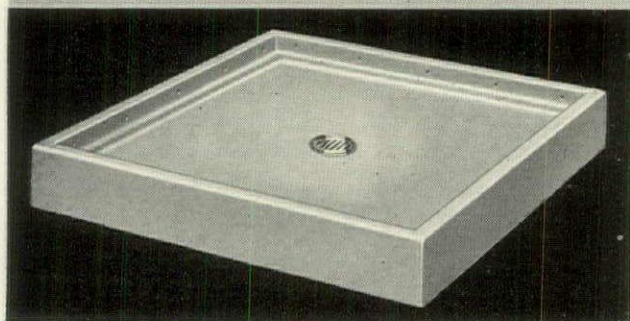


PLATE CORNER RAFTER

New

PLASTEX RECEPTOR FOR WEISWAY CABINET SHOWERS



Molded under high pressure, of chemically blended materials, Weisway's exclusive Plas-

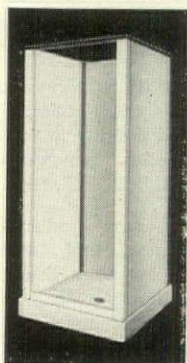
tex Receptor is light in weight, strong, durable, sanitary.

★ The Weisway Model V Deluxe Cabinet Shower—an outstanding improvement in bath facilities for war housing—contains less than one pound of critical materials!

The new Plastex receptor, processed of chemically blended materials, is a hard, close grained unit. Much lighter in weight than pre-cast concrete, it is stronger and more durable...easier to handle and install...affords greater comfort, safety and beauty. Standard color is attractive, non-fading pastel green.

Accurately prefabricated, designed for quick, labor-saving assembly on the job, Weisway Model V is available through regular plumbing channels, in single units or quantities for all war housing, new and remodeled. Write now for specifications and details.

HENRY WEIS MFG. CO., INC. (Est. 1876)
402 Oak Street, Elkhart, Indiana



★ Weisway Model V Deluxe is easy to erect, provides complete, leakproof self-contained bath facilities.

★

WEISWAY
Cabinet Showers

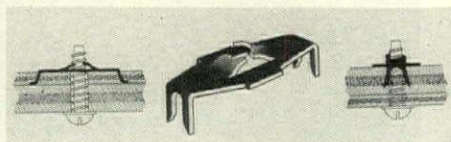
RESIN-EMULSION PAINT thins with water.

Name: Speed-Easy Wall Finish.

Features: By adding an emulsifying agent to an oil paint, du Pont has created a wall finish in paste form, one gallon of which, when thinned with water, makes 1½ gals. of paint. Especially designed for application over wallpaper, Speed-Easy may be applied to painted or unpainted plaster, brick, cement, concrete and building tile. One coat is usually sufficient to cover properly; only on new wood or unpainted plaster is a primer or sealer necessary. Dries in 60 mins. leaving no objectionable odor. Unlike calcimine or casein water paint, it is washable, but not until 16 to 30 days after application. Available in 8 colors and white; colors may be intermixed to form countless combinations.

Manufacturer: E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Del.

LIGHTWEIGHT NUT spreads load over large area of plywood.



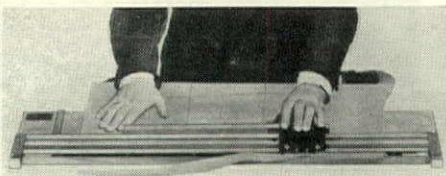
Name: Plywood Speed Nut.

Features: Designed with two pair of integrally formed attaching legs, speed nut can be instantly driven into anchored position with a hammer. Used on thick plywood, cam-like structure of attaching legs forces them outward as they are driven into plywood, holding speed nut with spring-tension grip. Used on thin plywood, the legs peen over against a backing plate (left above) for additional gripping power.

Manufacturer: Tinnerman Products Inc., 2105 Fulton Rd., Cleveland, Ohio.

TRIMMING MACHINE uses old razor blades.

Name: Edi Trimming Machine.

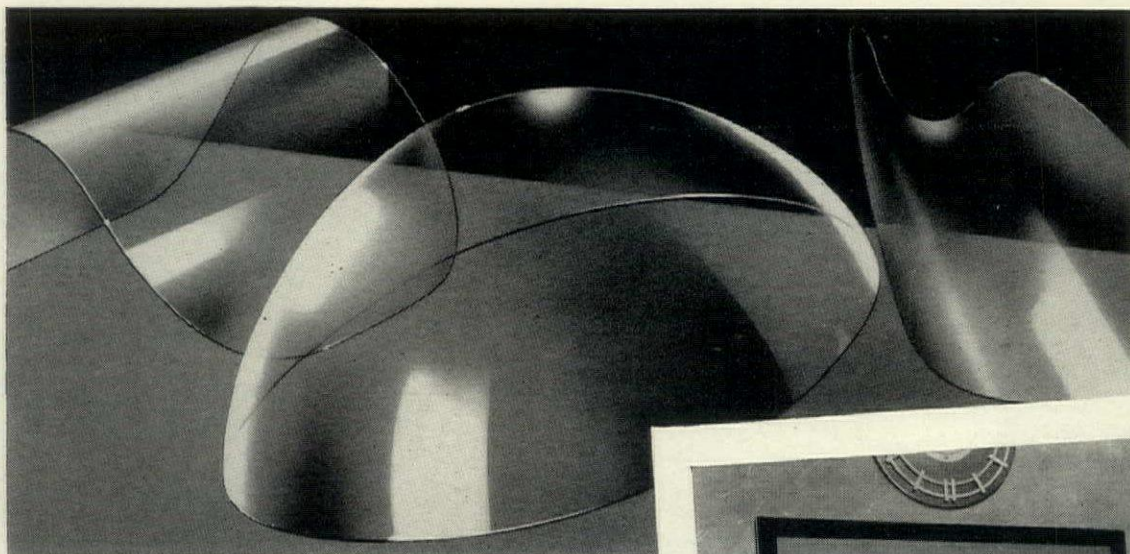


Features: Requiring no maintenance cost because it uses two old razor blades set in a sliding block, this new trimming machine is precise and speedy. Material to be trimmed is held firmly in place by spring hinges on the rail guide, and table is calibrated to provide margins around the frame from ¾ to 2 in. Trimmer comes in four sizes—from 32 in. over-all with 25 in. cutting size, to 62 in. over-all with 55 in. cutting size. Prices range from \$15.50 for small size to \$34 for the largest.

Manufacturer: Edi Trimming Machines, 609 West 115th St., New York, N. Y.

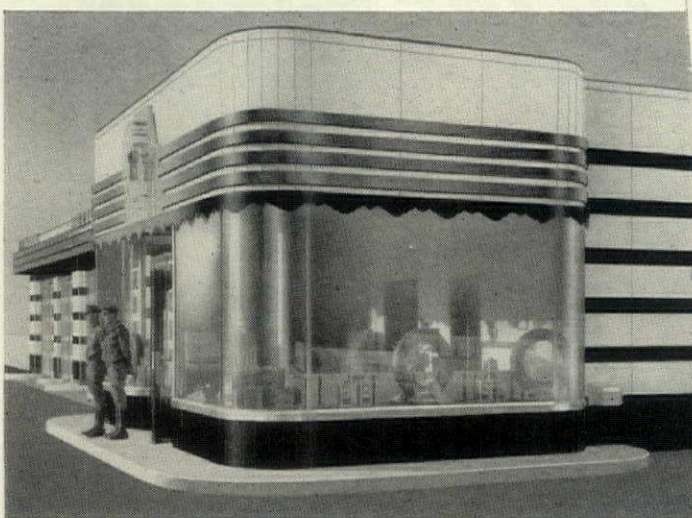
(Continued on page 138)

NEWS ABOUT GLASS from "Pittsburgh"



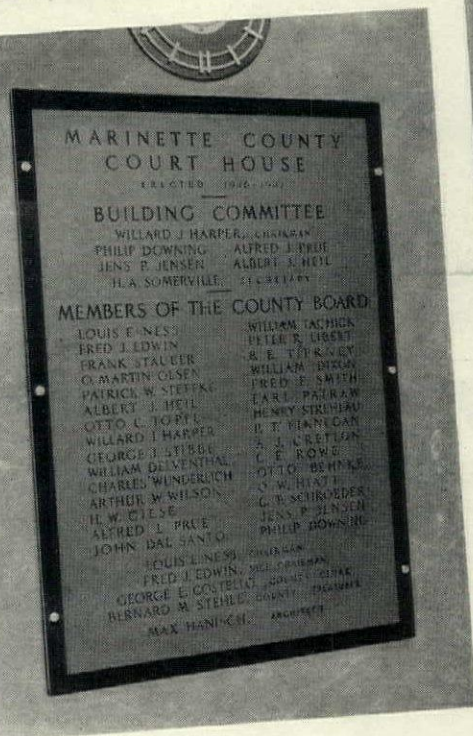
INTRIGUING NEW SHAPES.

Under the stress of war needs, "Pittsburgh" has discovered ways to produce new glass shapes never before thought possible. In peace-time, these new shapes will open up fascinating design possibilities to the architect.



FOR YOUR STORE FRONT FILE:

This Pittco Front for a service station in Philadelphia indicates the design possibilities of Pittco Store Front Products in creating attractive, sales-building fronts. Save it for future reference when building restrictions are lifted. Architect: W. H. Cassebeer.



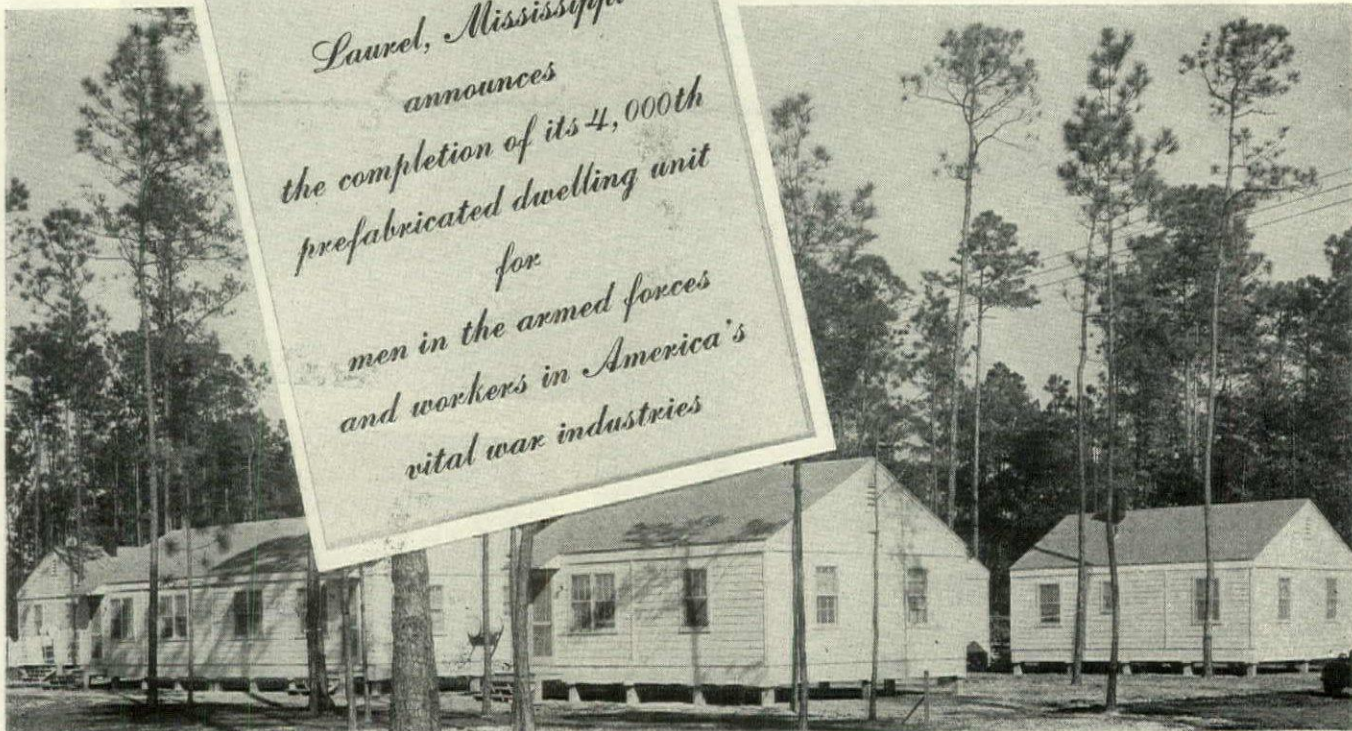
GLASS PLAQUES REPLACE METAL.

Here is a new and interesting use of glass. Commemorative plaques like this of handsome Carrara Structural Glass with sand-blasted lettering and designs, are finding great favor throughout the country. They offer almost unlimited possibilities of color and design.

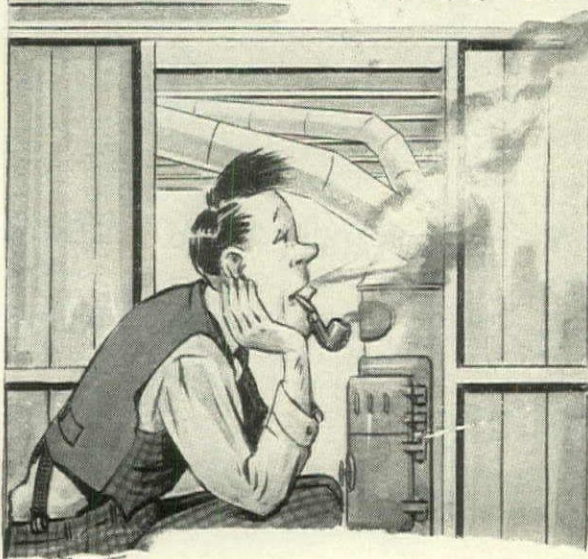
PITTSBURGH PLATE GLASS COMPANY • PITTSBURGH, PA.

"PITTSBURGH" stands for Quality Glass and Paint

*The Green Lumber Company
of
Laurel, Mississippi
announces
the completion of its 4,000th
prefabricated dwelling unit
for
men in the armed forces
and workers in America's
vital war industries*



TOMORROW-YOU CAN MOVE YOUR PIPE TO THE PARLOR...



In tomorrow's modern home even the most sensitive nostrils won't be offended when dad puts a match to his favorite brier or when mother burns the toast.

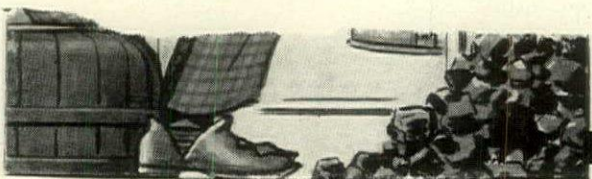
Dead air pockets in homes will be as outdated as lightning rods because the word ventilation which once meant "open the window and pray for a breeze", is today a scientific certainty.

Victor pledges that when our war job is finished, we will once again lay honest claim to our reputation as the outstanding producers of electric home ventilators.

VICTOR ELECTRIC PRODUCTS, Inc.
Dept. 1B-132 2950 Robertson Rd., Cincinnati, Ohio



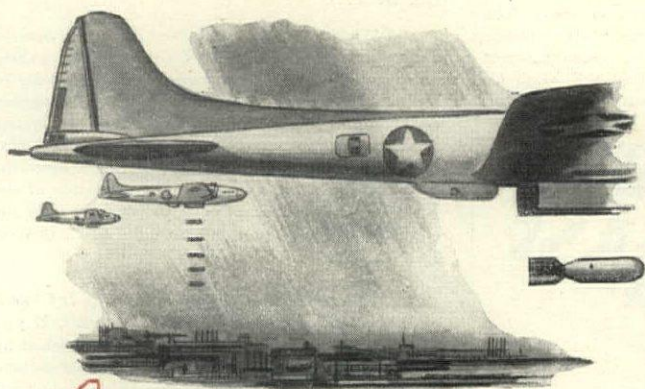
For An Air Minded Nation...Victor Ventilation!



Koppers "C & C" Projects

*Current and Contemplated

Tar and Chemical Division



1 Current

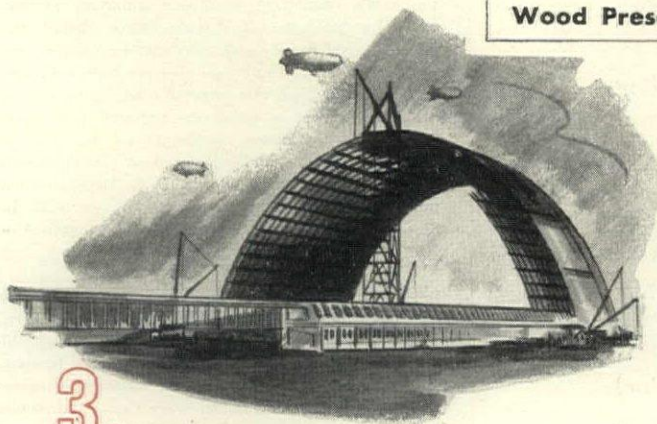
Tar that once roofed American factories now "un-roofs" German factories—Coal derivatives which used to go into coal tar roofing pitch are now one of the richest sources of war-vital materials for electrodes (used in electric furnaces to produce aluminum).



2 Contemplated

Wartime roofing proves anew that coal tar is best—In one war factory alone, more than 200 railroad carloads of Koppers roofing was used. On vast roofing projects like this, valuable lessons have been learned in roofing . . . and the best advice still is: "Stick to coal tar."

Wood Preserving Division



3 Current

Pressure-treated timber replaces critical metals to speed war production—The proven ability of pressure-treated timber to serve for years under extreme conditions of exposure provided a huge reservoir of construction materials for war industries and for essential civilian uses. Millions of board feet have been treated in Koppers pressure-treating plants to resist fire as well as decay and insects.



4 Contemplated

Air-conditioning brings need for pressure-treated timber—Air conditioning is often used to maintain a relatively high degree of humidity, which is conducive to decay. Factory owners have found Koppers pressure-treated timber immune to decay. Use pressure-treated timber in roof decks, trusses and other places exposed to moisture—Koppers Company, Pittsburgh, Pa.

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

Building Reporter

(Continued from page 134)

NEW PRODUCT LITERATURE

PREFABRICATION—STEEL. *Strip Steel by Stran-Steel*, 12 pp., 8½x11. Describes advantages and versatility of strip steel as a building material. Tells of two new wartime developments whose economy in the use of steel qualifies it for a big job in the war effort and for an important part in postwar building. These features permit the use of less material all around, a wider choice of members than is available with conventional sections, and a development of various unusual types of clear span structures. Stran-Steel Div., Great Lakes Corp., 1130 Penobscot Bldg., Detroit, Mich.

PREFABRICATION—WOOD. *Unit Laminated Arches and Beams (Glued Wood)*, 12 pp., 8 5/16x11. Catalog illustrates successful use of glued-laminated construction over an eight-year period. Practically every conceivable shape and type of arch and beam, and practically every type of installation is shown with photographs, drawings and suggestions for practical application. Unit Structures was the first to build glued laminated arches and beams for spans of 200 ft. and over. Unit Structures, Inc., Peshtigo, Wis.

LIGHTING. *Relighting with Fluorescent in Wartime*, 4 pp., 8½x11. Describes method of obtaining suitable priority for plant relighting, and gives illustrations of new nonmetallic fluorescent lighting fixtures.

New Industrial Fluorescent Line, Catalog L-78 Sheets, 10 pp., 8½x11. Gives details of seven new industrial lighting units illustrated in above folder—use of Masonite reflectors, nonmetallic shielding eggcrate louvers, "Forlamp" units, mechanic's portable and quick starting types. Edwin F. Guth Co., 2615 Washington Blvd., St. Louis, Mo.

CONCRETE. *Form-Ty Engineering Guide*, 32 pp., 8½x11. Catalog of complete line of prefabricated products, technical data and specialized services for low-cost concrete construction. Over 106 types of form-tying and anchoring devices are presented, besides innumerable tables, charts, graphs and cost facts for construction methods. Richmond Screw Anchor Co., Inc., 816-838 Liberty Ave., Brooklyn, N. Y.

PREFABRICATED DOORS. *Service Sheet 43*, 5 pp., 8½x11. Complete data source folder for Peelle horizontal- and vertical-slide doors for hangars and industrial entrances. Specifications and detailed drawings show construction of stressed-covered, thick plywood sections which are pressure-glued to dressed-wood framing. The Peelle Co., 47 Stewart St., Brooklyn, N. Y.

COLOR STANDARD. *American War Standard, Specification and Description of Color*, 4 pp., 7¼x10½. Reduces to a common language results of years of technical research in measurement of color. Recognizes correlation between basic spectrophotometer system (physics) and color sample system (psychology) embodied in the 1929 Munsell Book of Color. Since the Munsell system has been calibrated in terms of the basic instrument, translation from one system to the other is possible. American Standards Assn., 29 West 39th St., New York, N. Y.

INSULATION. *Summer Comfort Factors as Influenced by Thermal Properties of Building Materials*, 27 pp., 8½x11. One of a series of reports to be published by the Pierce Foundation this year. This highly technical study is restricted to the case of a single layer of homogeneous material. Discusses factors affecting wall temperature, and therefore comfort, even when no cooling, dehumidifying or ventilating equipment is installed. Certain of these factors—solar radiation, shading, thickness, thermal conductivity, volumetric specific heat, and absorptivity of wall panel—are under the control, in whole or in part, of the architect and builder. Prepared by C. O. Mackey and L. T. Wright, Jr. for the John B. Pierce Foundation, 40 West 40th St., New York, N. Y.

COLD STORAGE INSULATION. *Commercial Standard CS 105-43, Mineral Wool; Loose, Granulated or Felted Form, in Low Temperature Installations*, 15 pp., 8x10½. Standard establishes minimum specifications for guidance of manufacturers, distributors, installers, contractors and users and provides a basis for guaranteeing compliance. Covers both cold storage area and pipe line mineral wool insulation, including thickness of insulation required for various operating temperatures, specifications for auxiliary materials, tests and installation requirements. National Bureau of Standards, U. S. Dept. of Commerce, Washington, D. C., in cooperation with Industrial Mineral Wool Institute, 441 Lexington Ave., New York, N. Y.

EXIT DEVICES. *The Von Duprin Victory Line of Fire and Panic Exit Devices*, 16 pp., 8½x11. Complete listing of fire and panic exit devices of malleable iron, available in place of bronze for the duration. Deliveries are subject to priorities, orders and regulations of WPB. Vonnegut Hardware Co., Indianapolis, Ind.

COAL TAR. *Reilly Coal Tar Products*, 32 pp., 3¾x8. Folder lists coal tar products and derivatives which have a wide range of use from Diesel fuel to perfume base. Contains chart showing crude coal tar distillates as obtained in practice and products derived therefrom. Reilly Tar & Chemical Corp., Indianapolis, Ind.

REQUESTS FOR LITERATURE

Committee on Materials and Methods, Boston Chapter of American Institute of Architects, 92 Arlington St., Winchester, Mass., wishes to receive technical data on products. Dept. of Architecture and Fine Arts, Univ. of Manitoba, Winnipeg, Canada, would like to receive information on new construction methods, materials, finishes and fixtures, and also samples of new products for its collection of materials.

TONS OF BOMBS RAIN
FAIRE SUB BASE

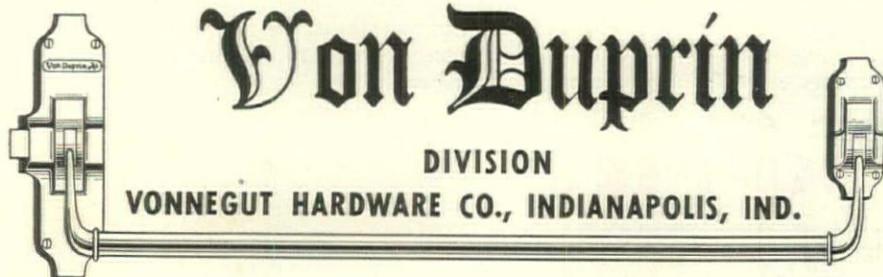
How simple OUR task!

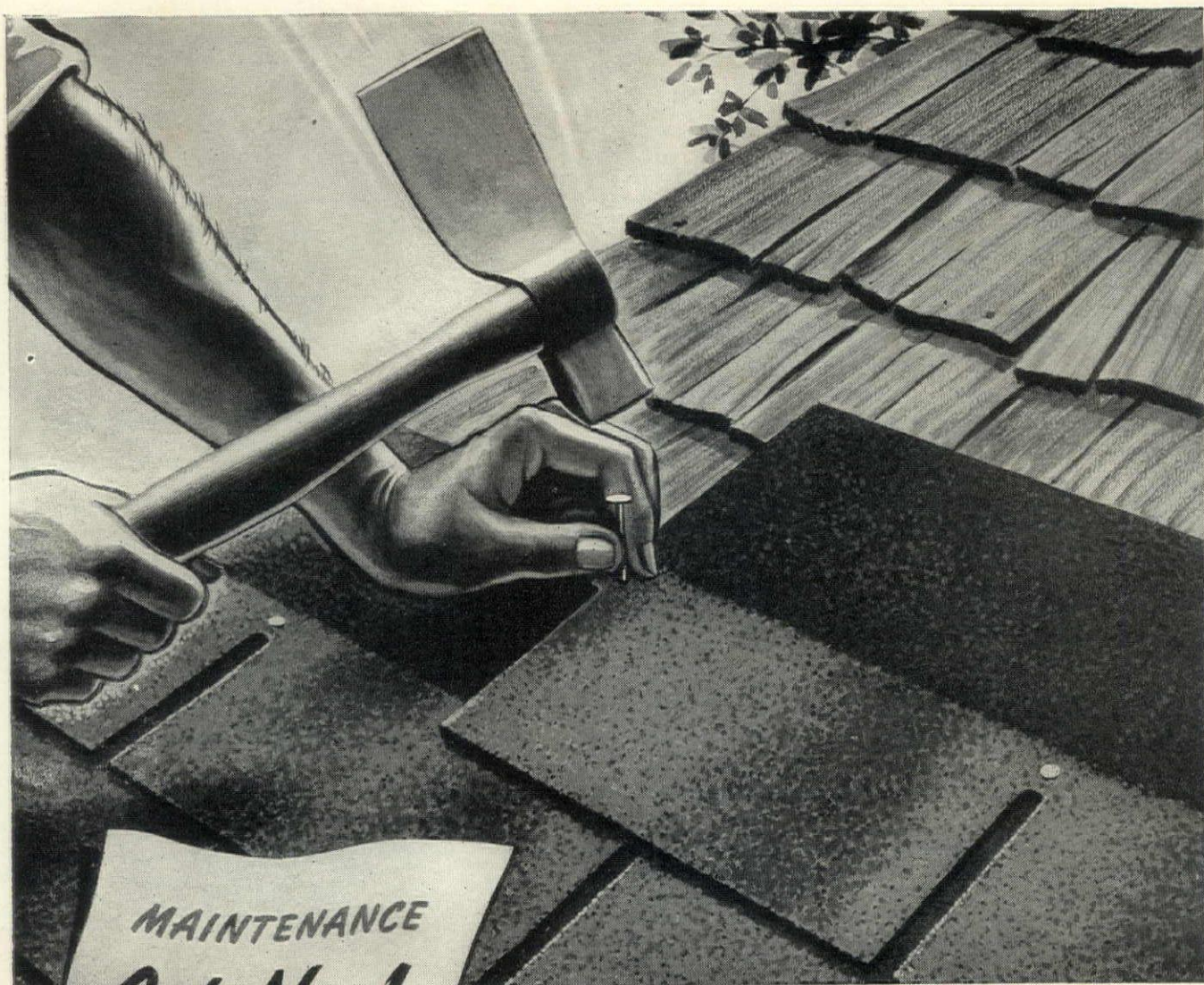
Back of a thirty-minute bomb attack lie months of work and training, of planning and study, of photographing, measuring, plotting, of making and transporting the hundreds of things which make possible the perfect teamwork vital to success.

By contrast, your task—and ours—of providing sure, safe, instantaneous exit for the occupants of buildings is simple, and easily accomplished.

It requires only your insistence on genuine Von Duprin fire and panic exit devices at all exit doors. Once the devices are installed, you can be certain beyond doubt that—in ANY emergency—every occupant of the building who reaches the doors will get out safely, easily, quickly.

Current model Von Duprins (The Victory Line) are made of strong, non-fracturing malleable iron. They are plain and simple in appearance but in sturdiness, in reliability, they not only equal—but surpass—former models.





MAINTENANCE
Job No. 1
IN PEACE
OR WAR...

Re-roofing

HERE'S a *profitable* as well as a patriotic duty. The wartime responsibility for keeping America's roofs in shipshape condition . . . shared by roofers and building material dealers alike.

Even during normal times, maintenance and repair work provides a *major* market for building materials.

And under existing regulations, materials have been made available for maintenance and repair "necessary to keep a structure in sound working condition."

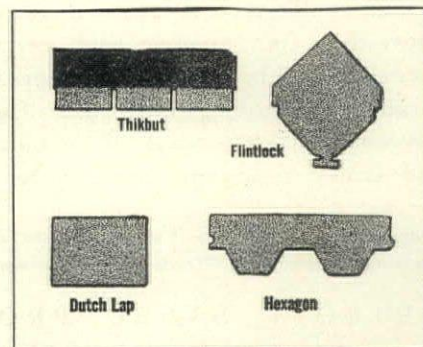
For the important task of re-roofing, Flintkote offers a time-proved line of asphalt shingles, roll roofing and Cold Process built-up roof materials. Flintkote dealers can supply the best type of roofing for residential and commercial buildings as well

as asphalt and asbestos sidings, wallboard and insulation.

Home owners who want long-wearing, fire-resistant shingles of distinguished appearance prefer Flintkote Thikbuts. A *double* coating of asphalt and mineral surfacing on the weather end makes Thikbuts a most economical investment.

Flintkote distributors also offer the popular Hexagon Strip, Dutch Lap and Flintlock shingles . . . all with the Class C Underwriters' label.

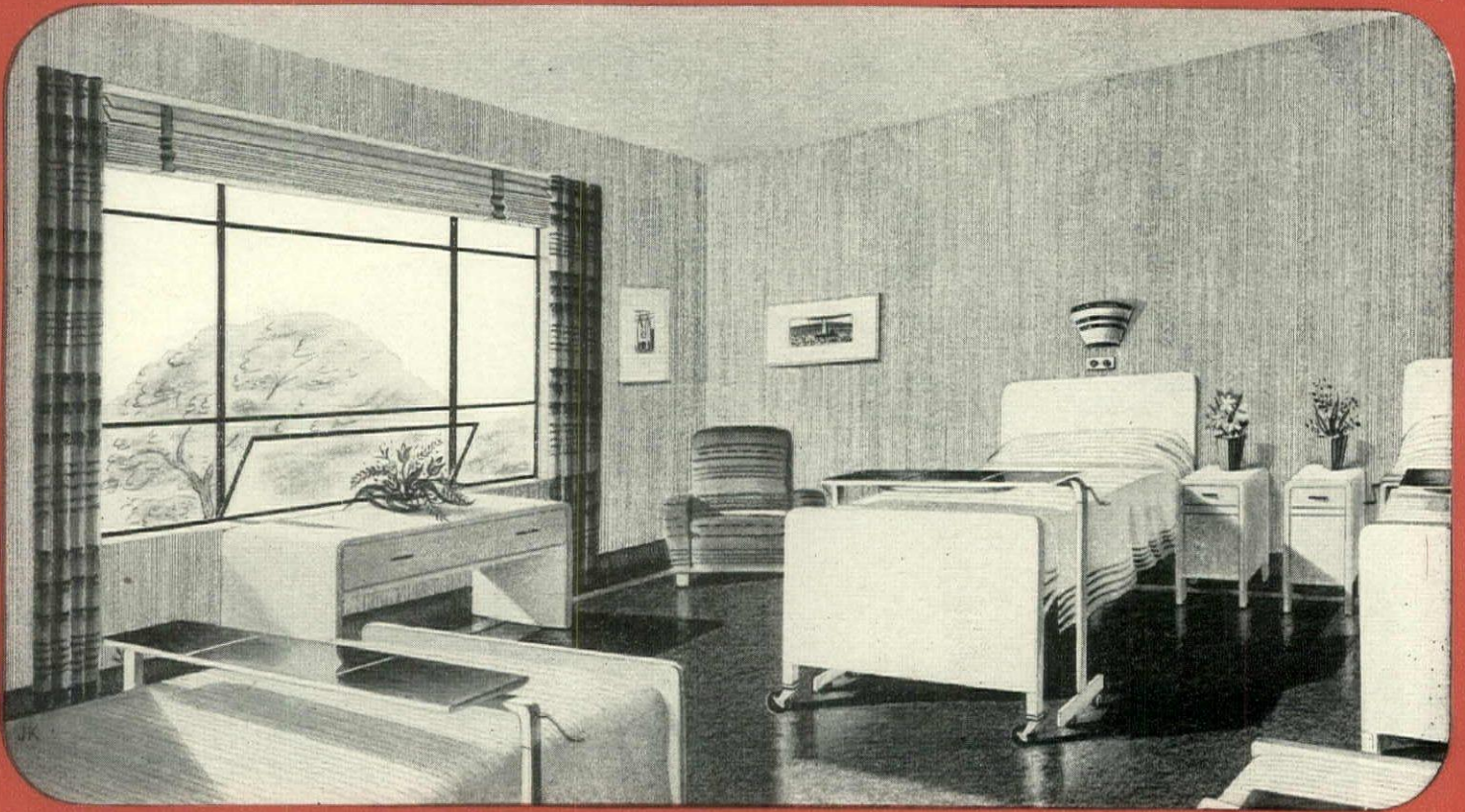
You can depend upon Flintkote's research and 40-year roofing experience. And you can call upon our strategically located warehouse stocks to help you speed this No. 1 job. The Flintkote Company, 30 Rockefeller Plaza, New York, N. Y.



Branches at: Atlanta • Boston • Chicago Heights • Detroit
East Rutherford • Los Angeles • New Orleans • Waco

FLINTKOTE Roofing... Siding... Insulation

Your 4-bed wards for postwar hospitals should RADIATE "GOOD CHEER"



Your postwar hospital wards should provide patients with an extra cheerful environment.

One means to this end is the use of windows—large windows—to provide extra sunlight, to brighten even the corners of a room.

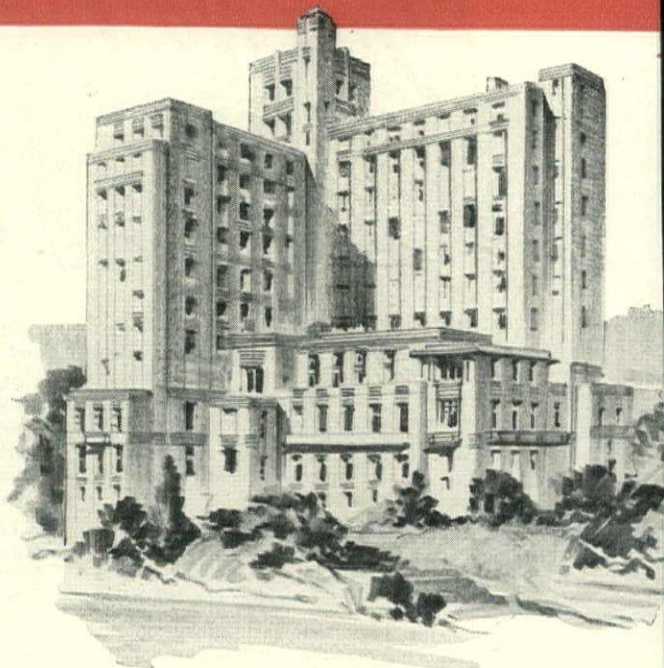
Fenestra windows for postwar hospitals will provide *better daylighting*, and other important advantages, including: *easier opening*—steel ventilators never warp, swell or stick; *better ventilation*—Open-in ventilators at sills protect against direct drafts, while open-out ventilators above them form canopies over openings; *superior weather-tightness*—precision-fitted by craftsmen, Fenestra windows stay tight, never warp or shrink; *safer washing*—both sides of glass washed from inside a room; *increased fire safety*—steel will not burn; *lower cost*—by America's oldest and largest peacetime manufacturer of solid-section steel windows.

Fenestra Industrial Steel Windows of the Horizontally Pivoted and Commercial Projected types, and Mechanical Operators, are available on proper priority.

DETROIT STEEL PRODUCTS COMPANY

Now Exclusively Engaged in War Goods Manufacture

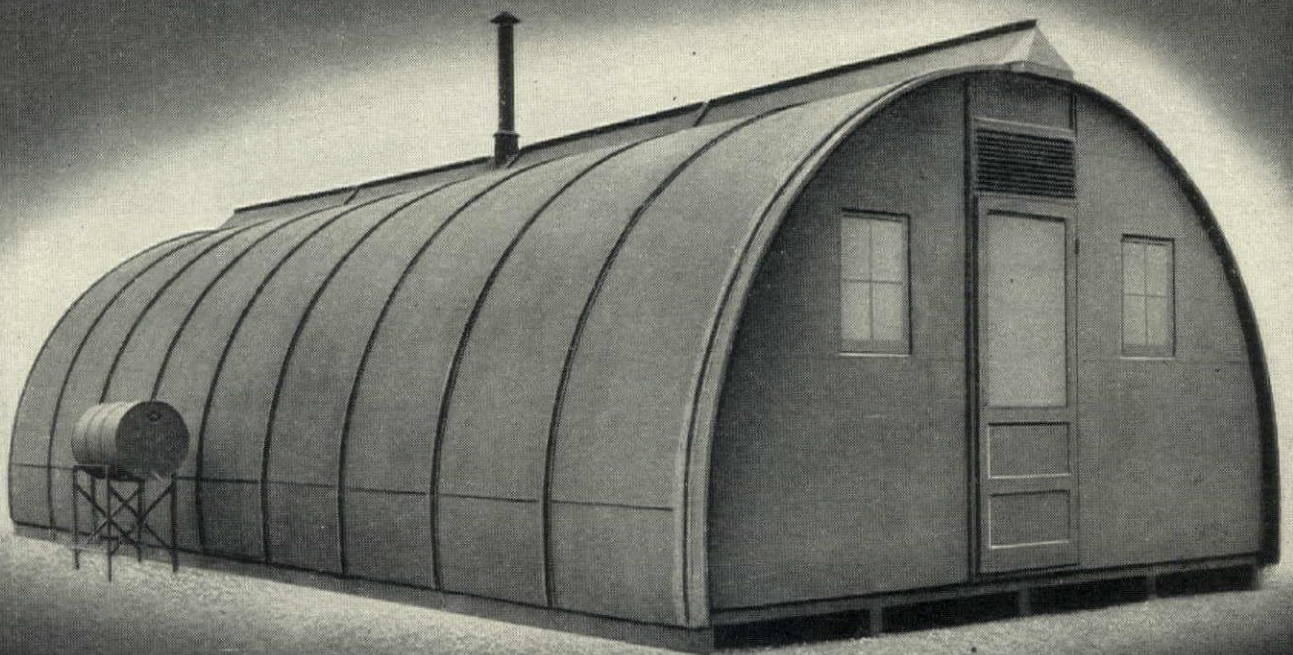
Dept. AF-4 • 2252 East Grand Boulevard • Detroit, Michigan
Pacific Coast Plant at Oakland, California



COLUMBIA UNIVERSITY MEDICAL SCHOOL
Bard Hall, New York City,
James Gamble Rogers, Architect.

Fenestra HOSPITAL Windows

Prefab in Practice



A 16' x 36' Army hutment to house 16 men. Built by Pacific Huts, Inc., Seattle, Wash. A truly demountable structure with innumerable peacetime uses—especially on the farm. Similar parts are interchangeable. No special assembly tools required.

GLUED, laminated wood arches (usually massive members) now find a place in lightweight prefabricated structures.

The four curved wood ribs inside each of the 18 sidewall sections of the hutment are 5-ply, glued to shape with CASCO-RESIN (liquid urea resin) glue.

Lamination makes wood arches possible, but the glue makes each arch a single, strong unit that holds its shape.

Our business is glue—supplying the right glue for the job—whether it be heavy laminated arches for wide spans, slender curved ribs for troop hutments or prefabricated housing for war workers.

CASEIN COMPANY OF AMERICA

DIVISION OF THE BORDEN COMPANY

Technical Service Department: 350 Madison Avenue, New York, N. Y. and 1740 K Street N. W., Washington, D. C. Phone: District 1700 • Manufacturers of CASCO Powdered Casein Glues, CASCAMITE Urea-formaldehyde Resin Glues, CASCOPHEN Phenol-formaldehyde Resin Glues—for plywood, laminated wood, joint or bag gluing

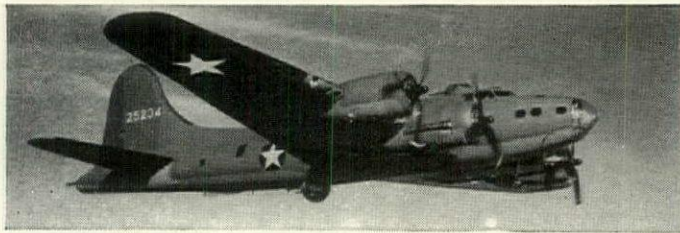
SEND FOR THESE BOOKS:

A. I. A. Folder
"Glued, Laminated
Wood Beams, Arches,
Roof Trusses"



A. I. A. Folder
"Glued Prefabricated
Houses"

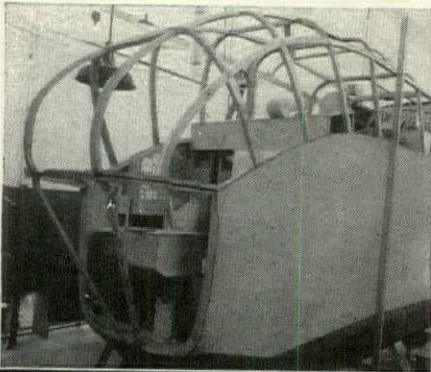




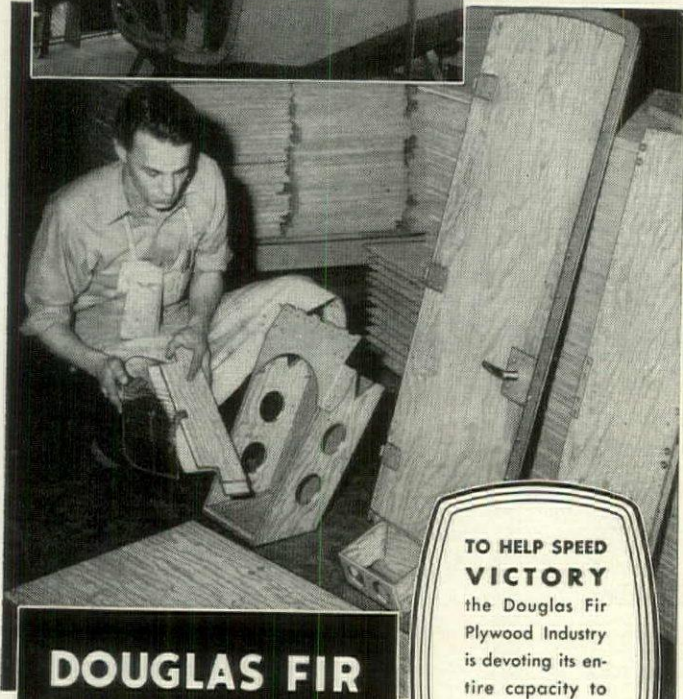
MIRACLE WOOD FOR A MIRACLE PLANE!

You'll find Douglas Fir Plywood doing important work in every Boeing B-17 Flying Fortress!

● Douglas Fir Plywood's light weight, great strength, large sizes and easy workability make it one of today's busiest war materials. In the field of transportation alone, this Miracle Wood is helping build planes, ships, amphibian tanks, railroad cars and busses. Many of its applications here are revolutionary . . . but because of them Douglas Fir Plywood will be far more useful to you after Victory than ever before.



(Left) "Mock-up" of a proposed Boeing plane. These full-size models constructed largely of Douglas Fir Plywood help engineers perfect designs. (Below) Douglas Fir Plywood aids every Boeing Flying Fortress in its missions of destruction. Standard equipment includes Plywood compartment doors, flooring and step assemblies, radio equipment tables and oxygen bottle racks.



DOUGLAS FIR PLYWOOD

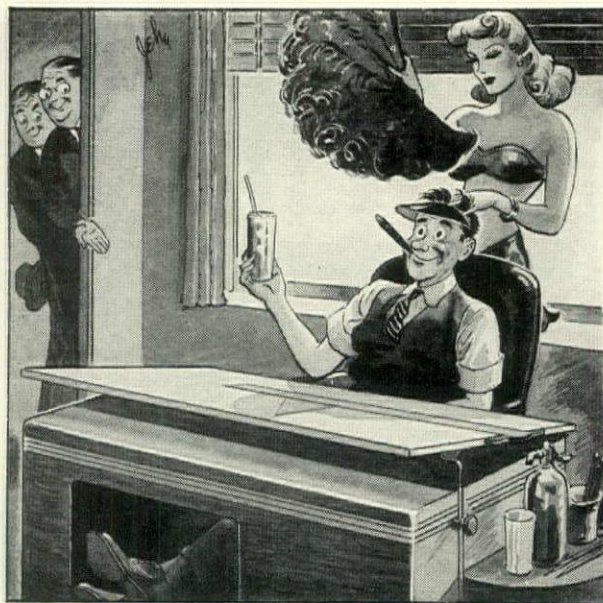
Real Lumber
MADE LARGER, LIGHTER
SPLIT-PROOF
STRONGER

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 WAR USE FOLDER!

Dozens of actual photographs show you how Douglas Fir Plywood is aiding the war effort. Write Douglas Fir Plywood Association, Tacoma, Wash., today for your free copy!



"OUR POST-WAR PLANNING DEPARTMENT"

For war-time plans or post-war planning, more draftsmen, architects and engineers like and use the Venus Drawing Pencil than any other make.

They know they can rely on the strength and smoothness of Venus Drawing. They know that each degree of hardness is exact and *unvarying*—whenver and wherever they buy.

Here's your chance to find out for yourself why Venus Drawing is the tops. Just mail us the coupon below—circling the two degrees you would like to try—and we will gladly send you free samples.

Venus Drawing PENCILS

American Pencil Company
Dept. 128, 500 Willow Ave., Hoboken, N. J.

In Canada: Venus Pencil Company, Ltd., Toronto

Please send FREE samples of the two grades circled:

9H - 8H - 7H - 6H - 5H - 4H - 3H - 2H - H - F - HB - B - 2B - 3B - 4B - 5B - 6B

NAME and title _____

FIRM NAME _____

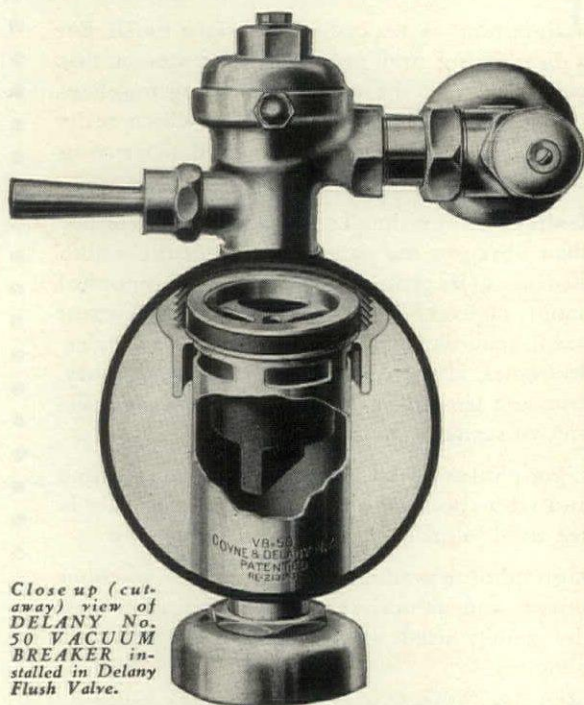
ADDRESS _____

CITY _____ STATE _____

AMERICAN PENCIL CO. NEW YORK - VENUS - DRAWING - HB



In Defense of **CIVILIAN HEALTH**



Close up (cut-away) view of DELANY No. 50 VACUUM BREAKER installed in Delany Flush Valve.

Back syphonage, the cause of water contamination, is a source of epidemic, particularly in war time when such dangers are always more prevalent.

The Federal Government, to control this danger, specifies that every toilet fixture with a jet be equipped with approved Back-flow Preventer. In war industry, public buildings, and civilian sanitation installations and repairs as permitted, should be protected against back-syphonage *in defense of civilian health.*

The DELANY No. 50 VACUUM BREAKER is the one flush valve Back-flow Preventer that can successfully prevent back-syphonage, even though the unit may be maliciously sabotaged. It telltales breakdown—it's self policing.

The DELANY No. 50 VACUUM BREAKER is non-mechanical in operation and can be used with *any* flushometer made—new or replacement. Help protect the health of America's families, investigate the Delany No. 50—it's 20 years ahead of any flush valve vacuum breaker on the market.

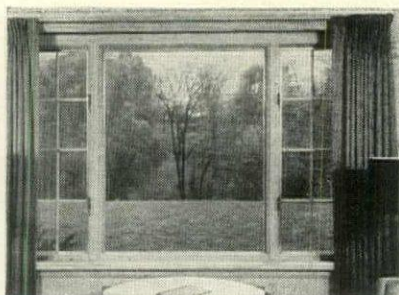
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Coyne & Delany Co.
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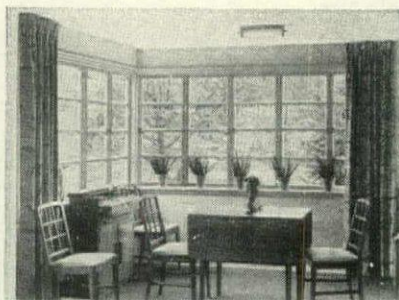


FELT THIS PULSE?

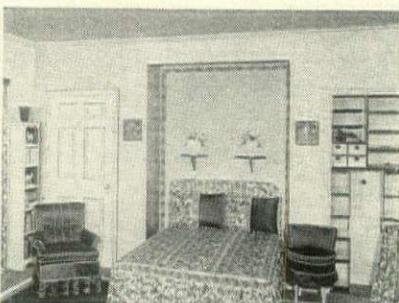
● Naturally, as a planner of postwar housing, you've had your finger on the public pulse. According to recent surveys, that pulse is running high for two major features in postwar dwellings. First, *more and better windows*. Second, *more economical, more efficient use of space*. Both needs are anticipated—both are dealt with fully—in "The New Open House," a 32-page idea book that is yours for the asking. Here are examples...



FENESTRATION will be more important than ever in tomorrow's smaller homes. In the room above, note how the picture window of Ponderosa Pine increases the effect of spaciousness—allows the ingress of more light and air—and adds decorative possibilities.



ASSEMBLED WINDOW UNITS bring the advantages of better fenestration even to the lowest cost home. Windows of Ponderosa Pine, pre-assembled, reduce labor of installation—assure efficient operation—decrease fuel consumption because of tighter fit—*increase beauty*. Windows of Ponderosa Pine are toxic treated to resist decay.



SMALLER HOUSES BUT MORE ROOMS is what people want in their postwar dwellings. The illustration above from The New Open House—shows an attractive, compact, small-sized bedroom—resulting in better utilization of floor area.

Ponderosa Pine WOODWORK

111 West Washington St.
Chicago, Illinois

SEND FOR YOUR FREE COPY

The New Open House has pages of worth-while suggestions. Send for your free copy! Make this book a part of your postwar planning file! The New Open House—32 pages of ideas and illustrations—is yours for the asking. Mail the coupon!



PONDEROSA PINE WOODWORK

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Chicago, Illinois

Please send me a copy of "Open House."

Name.....

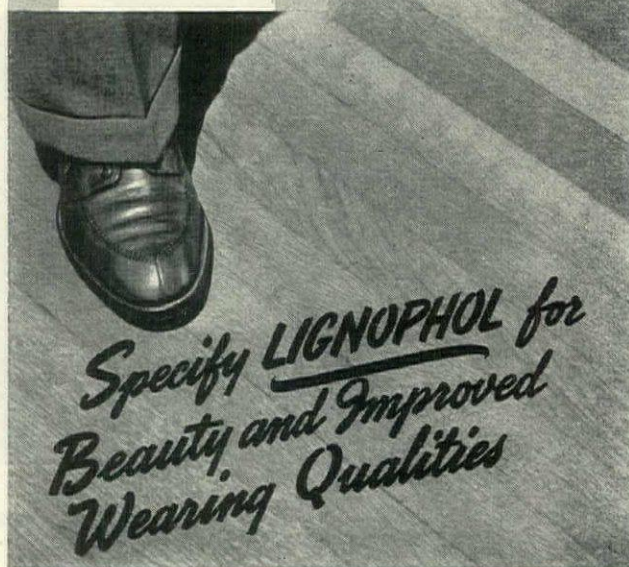
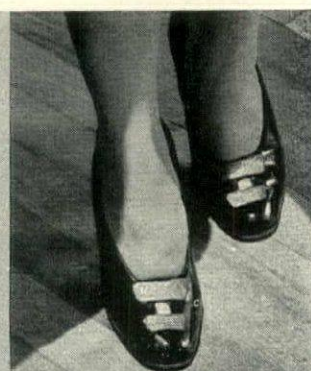
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penetrating
wood finish



*Specify LIGNOPHOL for
Beauty and Improved
Wearing Qualities*

● Lignophol is no ordinary surface finish, but a beautifying and preservative treatment that penetrates into the wood, depositing toughening resins and life-imparting oils which resist moisture, molds, fungi and wood destroying organisms.

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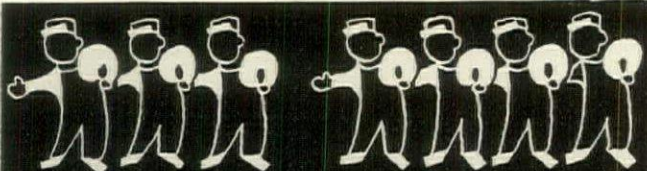
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88 LEXINGTON AVE., NEW YORK, N. Y.

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Stubbins . . Perkins	Wd . . Caleb
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Gordon Carr . . Pietro	
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Lescage . . Sharpe . . Chermayeff	
Root . . Gruenb. Group . . John Matth-	
Krummeck . . Charle. ews Hatton . . Caleb	
Eames . . Douglas Orr	Hornbostel . . Antonin
Mies van der Rohe . .	Raymond . . Ernst Pa-
Lorimer Rich . . Hugh	yer . . Peter Schlad-
Stubbins . . Perkins	ermundt . . Voorhees,
Wheeler & Will . .	Walker, Foley & Smith

A complete issue of THE ARCHITECTURAL FORUM projecting solutions by 23 top U. S. designers to universal postwar building problems . . . Airport, Apartment House, Bakery-Candy Store, Church, City Hall, City High School and Community Center, Clinic, Filling Station with Roadside Stand, Hardware Store, Hospital, Hotel, Movie Theater, Museum, Neighborhood Center Drug Store, Office Building, Post Office, Prefab Factory, Railroad Station and Bus Terminal, Restaurant, Supermarket, Tourist Camp, Trade School, Women's Dress Shop.



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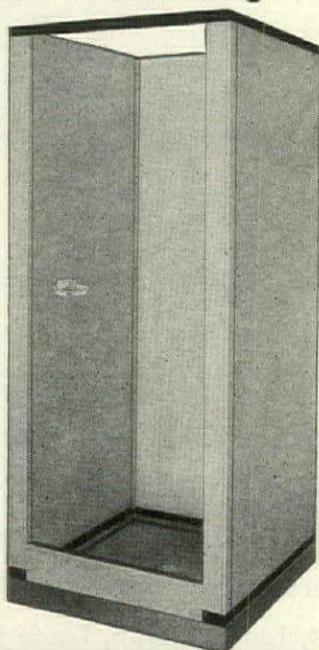
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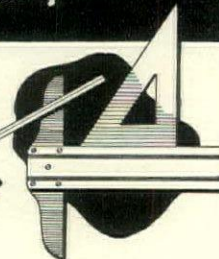
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ACHIEVEMENTS**



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Buy a home in the peace to follow—with the Bonds you buy today.

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POLK AVENUE

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When that day comes, as it surely will, there will arise a new, peacetime demand for residential and commercial construction to meet the needs of a victorious people.

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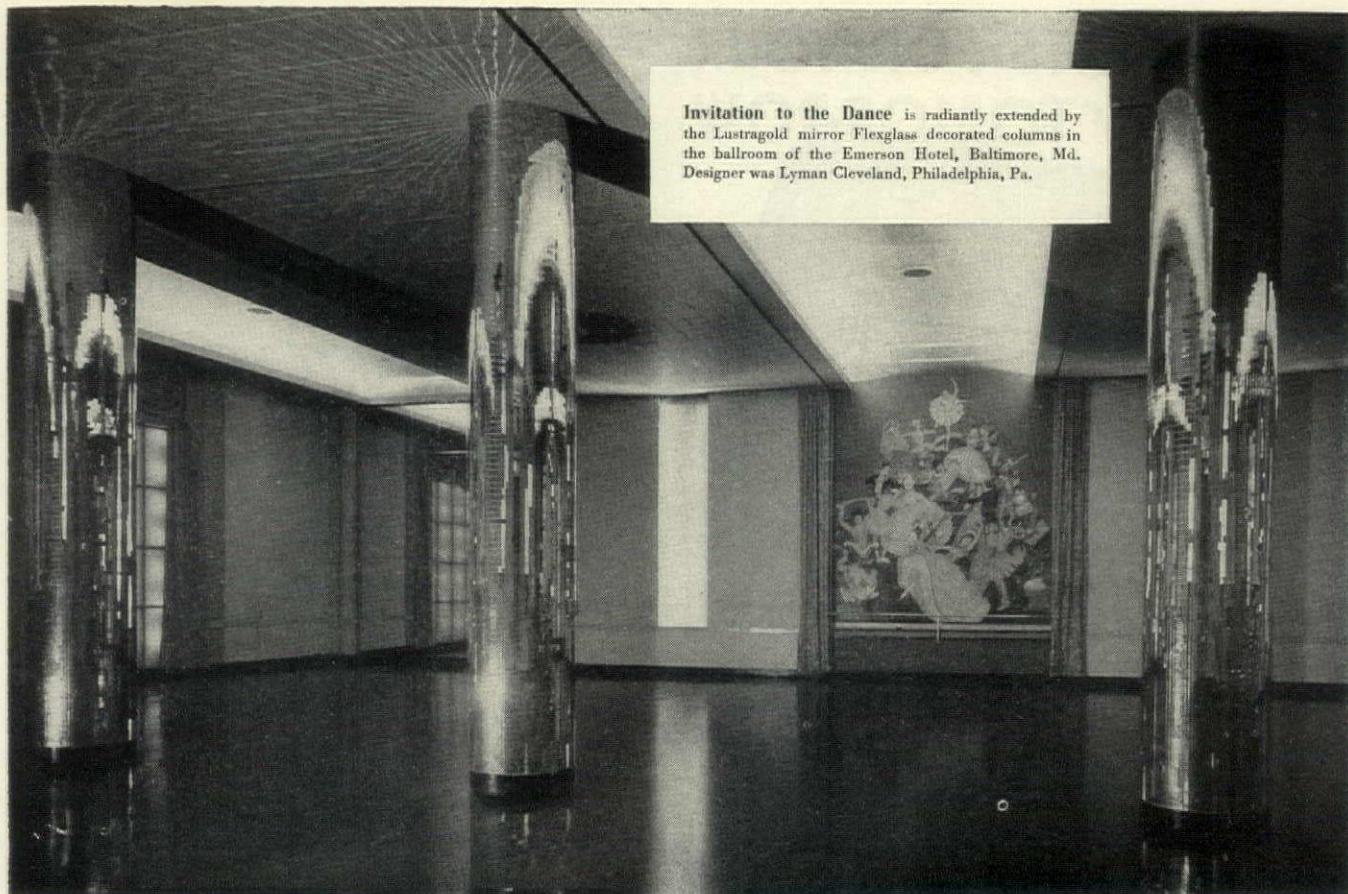
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War Time; or see your local newspaper.
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CONTROL *Systems*



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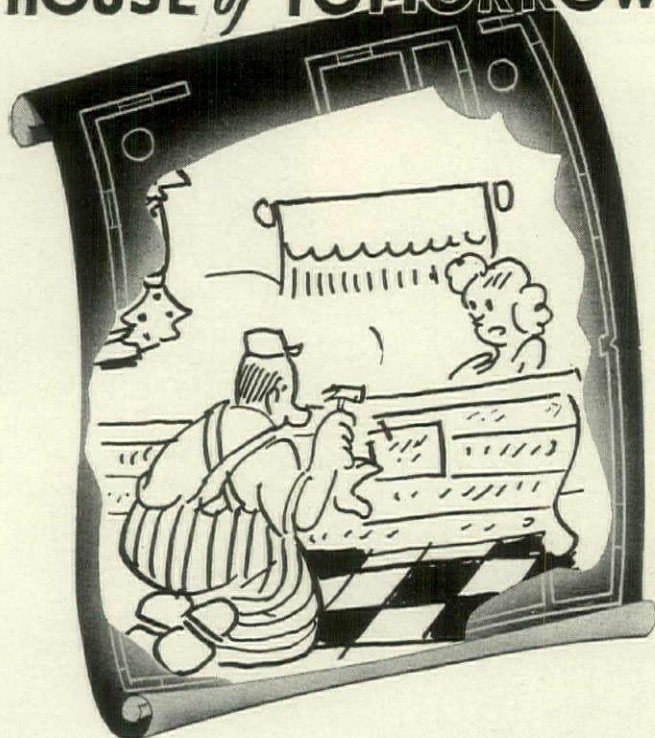
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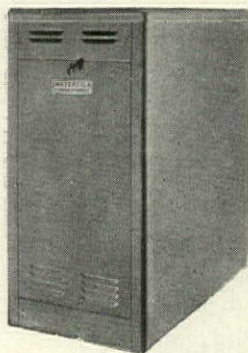
IMAGINE INSTALLING PLYWOOD BATHTUBS

When you're planning the details of your post-war home, you may consider installing chip-proof, warm-to-the-touch plywood bathtubs.

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When it's a question of essentials, such as your heating plant, architects will advise KOVEN WATERFILM, the fastest steaming boiler on the market. Apace with modern design, its patented construction incorporates the newest scientific improvements.

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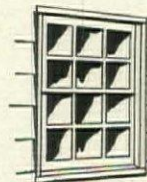
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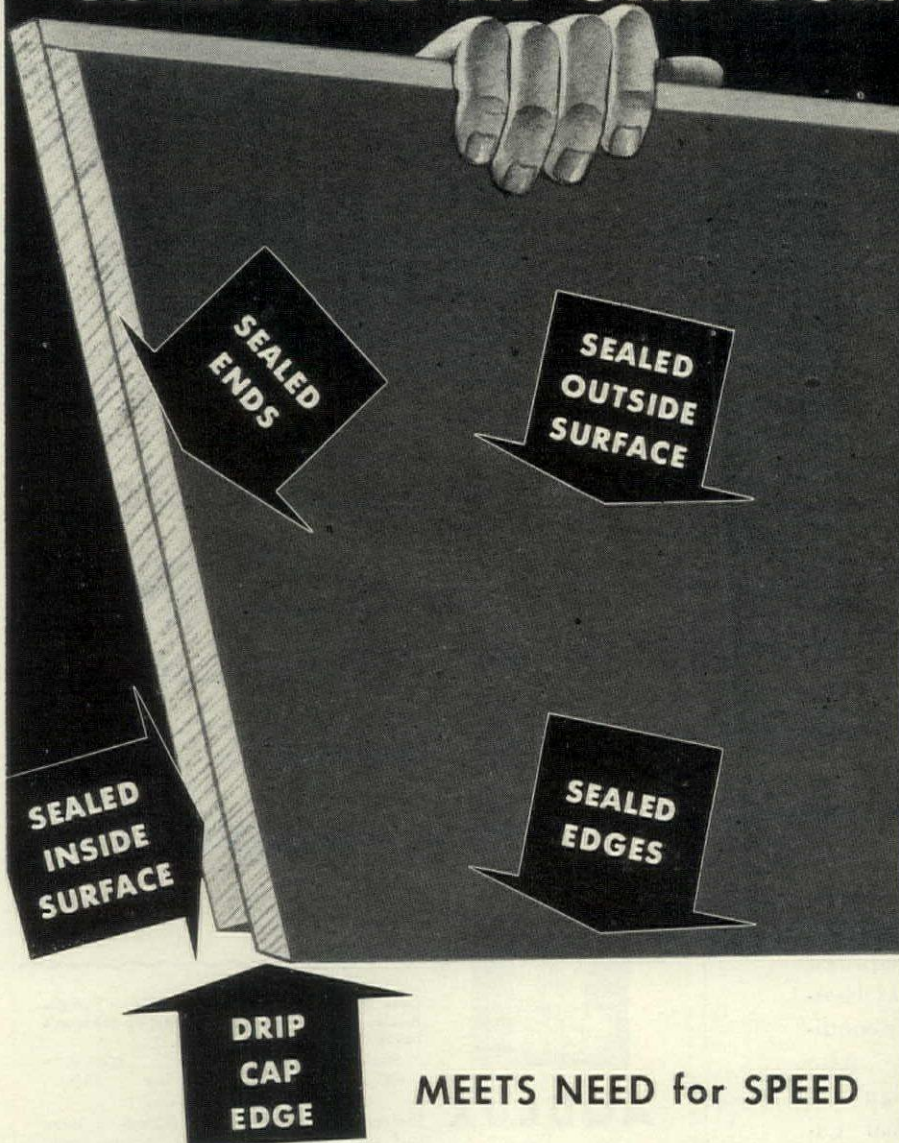
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Freedom is a government of, for
 and by the people. As Americans,
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New Triple Sealed SHEETROCK SIDING

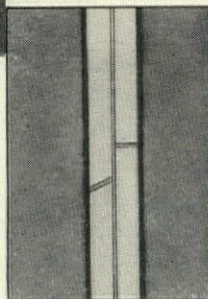
**SHEATHES • SIDES • DECORATES
COMPLETE IN ONE BOARD**



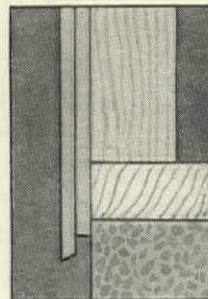
**SPEEDS UP BUILDING
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IT'S FIREPROOF
IT'S WEATHERPROOFED**

It's Available

Detail of horizontal
shiplap joint



Detail of drip cap
edge at foundation



MEETS NEED for SPEED

Here's an *available* product that replaces much critical material and makes up for manpower shortage in duration buildings. One board does three things at once with one craftsman in one operation—and saves valuable time and money. It required a new product to measure up to present-day needs. U S G takes the lead with this sensational new development . . . Triple-Sealed Sheetrock . . . weather-sealed inside, outside and all around the edges—but not a vapor barrier. Write for complete details and specifications.



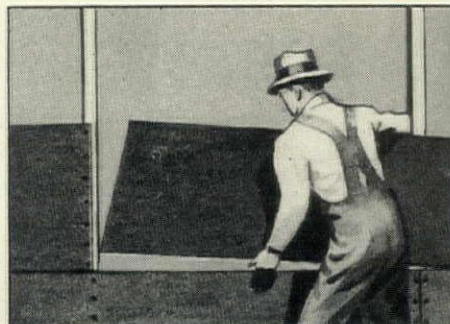
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300 WEST ADAMS STREET, CHICAGO, ILLINOIS

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

WALLBOARD • INSULATION • ROOFING • PAINT • LATH • PLASTER

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All facilities for the production of the nationally popular line of "Chromedge" items are being used entirely for the fabrication and processing of war-essential parts and equipment. But these famous B & T products will be back when Victory is won—at the head of the field, as usual—with new ideas, improved features, and if possible, even better service than before!

Rolled Metal Trims Still Available
A wide variety of rolled metal trims, in shapes suited to most all requirements, are still available for immediate shipment—from stocks on hand before war called a halt to production. For details write today to—

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FOREMOST RUBBER COMPANY NEEDS ENGINEERS IMMEDIATELY

An unusual opportunity is extended to graduate engineers to become members of our Central Engineering Department. Experience is required in the industrial application of heating, ventilating, exhausting, air conditioning and refrigeration. Also needed are mechanical design engineers, process and chemical engineers.

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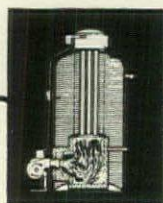
The amount of hardware required staggers the imagination. Stanley's production facilities are being devoted to this all-important task. The Stanley Works, New Britain, Conn.

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Look at these Efficiency Rating figures for the Aqulux-225 . . . a typical model of Johnson's heavy duty water heaters:

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40 years of engineering and building fine Oil Burning Equipment



Getting jobs done faster, with fewer men, is today's paramount problem for wartime builders. Many prefabricators are turning to the new giant-size KIMSUL* blanket. Valuable time and labor saved is the result. The picture here shows KIMSUL Insulation installed in a prefabricated floor section.



New Giant-Size

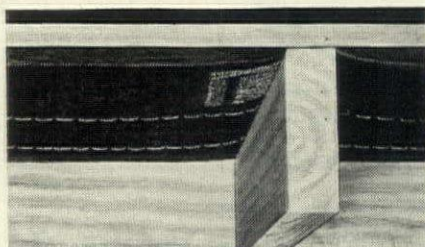
KIMSUL

INSULATION

saves vital man-hours for wartime builders

Tough, flexible KIMSUL blanket insulation is now furnished up to 4 ft. wide and wider in some specifications by 250 ft. long. The giant KIMSUL blanket is applied right over the face of framing members, covering an entire prefabricated section in one simple, speedy operation. Sheathing, flooring or interior finish is then attached to framing members right over the KIMSUL as pictured in the photograph above, (KIMSUL compresses at the framing member, see cut). Job experiences show that as much as 1,000 sq. ft. of construction can be insulated with KIMSUL in as little as 1 $\frac{3}{4}$ hours! And

along with this saving in man-hours, KIMSUL remains one of the most efficient insulations known. Conductivity is only .27 Btu./hr./sq. ft./deg. F./in. (Peebles). Write today for full information about KIMSUL and the important savings it can effect on your construction jobs.



**CROSS SECTIONAL VIEW
OF KIMSUL INSTALLED IN FLOOR PANEL**
This sectional view of KIMSUL in a floor panel shows how KIMSUL Insulation compresses uniformly between the framing members and the flooring.

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Established 1872
Building Insulation Division
Neenah, Wisconsin
☐ Send a representative.
☐ Send FREE booklet.



AF-443

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Address.....

City.....

State.....

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THE FUEL

GOES TO WAR



...and continues to serve the home

★ Gas is vitally important today in building tanks, guns, ships and planes. But it also is answering the domestic needs in millions of American homes. Tomorrow, when peace returns, gas will play an even more important role in building a finer nation. Watch for the Roper  gas range of the future. It will help you plan the ideal kitchen in the post-war American home.

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of the new
ROPER GAS RANGE

TOP-OF-RANGE DIRECTIONS

BROILING DIRECTIONS

OVEN DIRECTIONS

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BE SURE—SPECIFY ROPER

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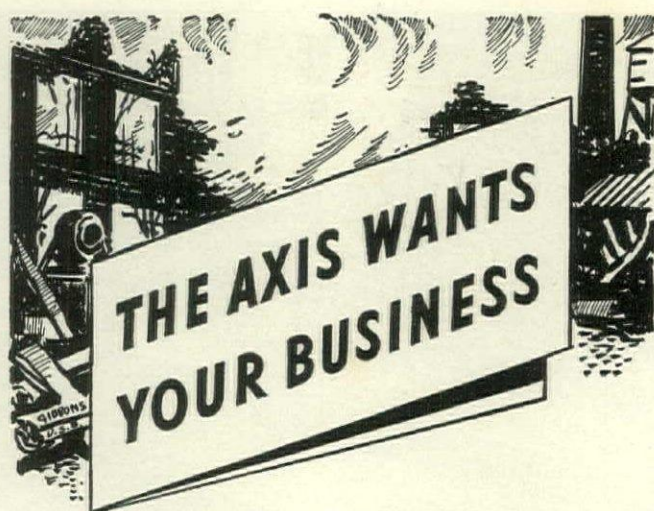
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THE GOAL: 10% OF EVERYONE'S INCOME IN WAR BONDS

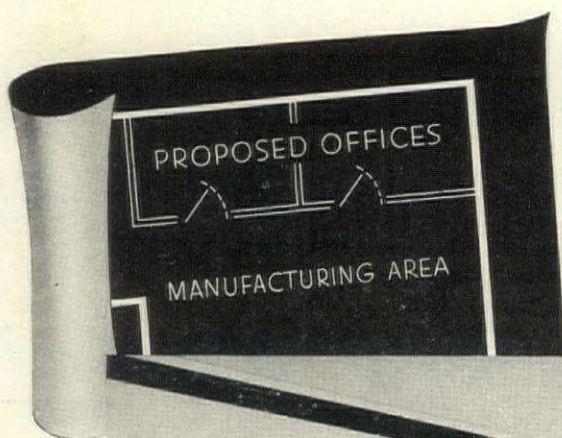
When you install the Pay-Roll War Savings Plan (approved by organized labor), you not only perform a service for your country but for your *employees*. Simple to install, the Plan provides for regular purchases of War Bonds through voluntary pay-roll allotments.

Write for details *today!* Treasury Department, Section R, 709 12th St. NW., Washington, D. C.

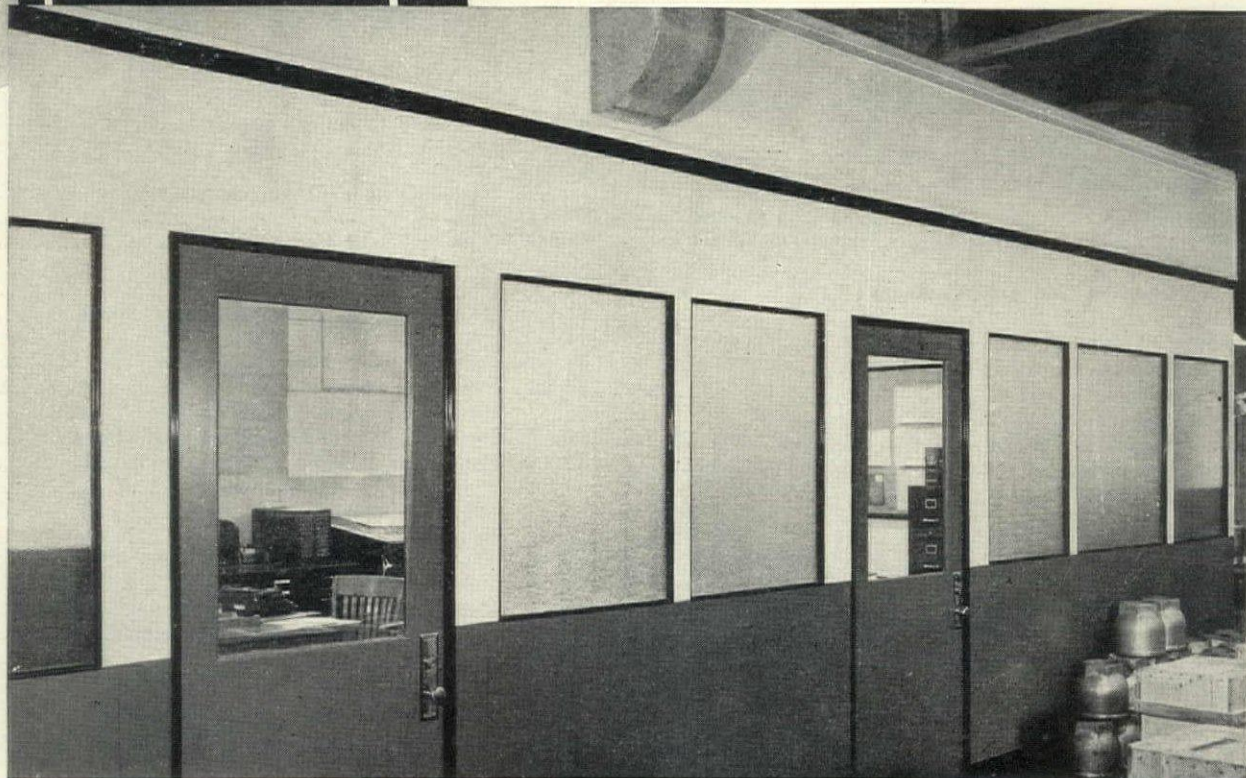


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This space is a contribution to Winning the War
by THE ARCHITECTURAL FORUM



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...with these modern movable partitions!



RUSH JOBS in plant office construction call for Johns-Manville Transite Walls. These modern movable partitions permit offices to be erected almost *overnight* . . . yet provide sturdiness and complete privacy . . . They require little

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VIRTUALLY ABUSE-PROOF. Transite Walls made of asbestos and cement are highly resistant to shock and impact, and provide a complete wall panel of exceptional durability.

PLEASING APPEARANCE. Perfect for plant or general office use because of their modern lines and flush streamlined appearance.

Color is light gray—can be painted if desired. Permanent finish.

FORMS ANY TYPE PARTITION. Solid or in combination with glass—ceiling-high or free-standing.

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J-M Transite Movable Asbestos Walls—J-M Acoustical Materials—J-M Asphalt Tile Floors are making an important contribution to speeding up war production in offices and plants everywhere.



JOHNS-MANVILLE

Asbestos

Transite Walls

SPECIFICATION AND BUYING INDEX

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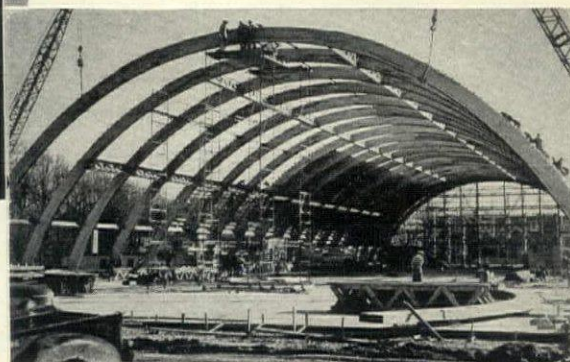
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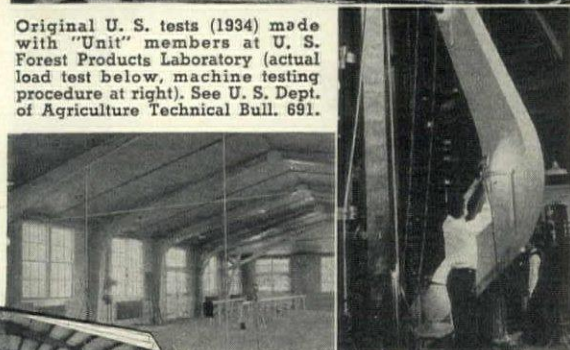


Above: Interior and exterior views of recreation building for a U. S. Naval Training Station. Skidmore, Owings, and Merrill, architects.

Below: Naval drill hall of 120 ft. span, Navy's Camp Bainbridge, Md. Eggers & Higgins, architect-engineers.



Original U. S. tests (1934) made with "Unit" members at U. S. Forest Products Laboratory (actual load test below, machine testing procedure at right). See U. S. Dept. of Agriculture Technical Bull. 691.



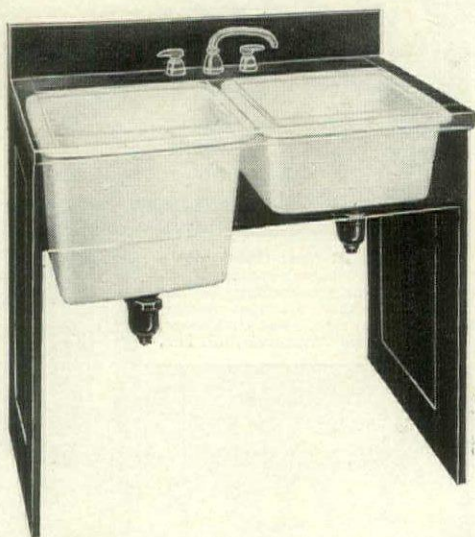
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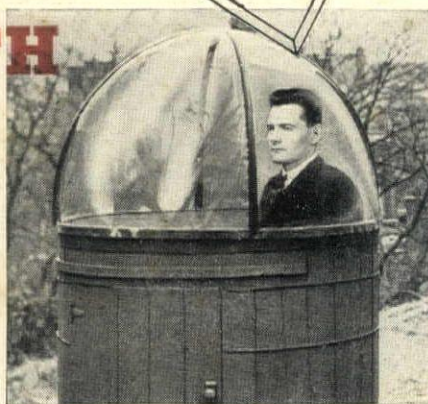
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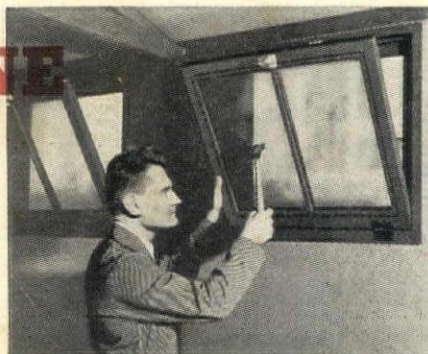
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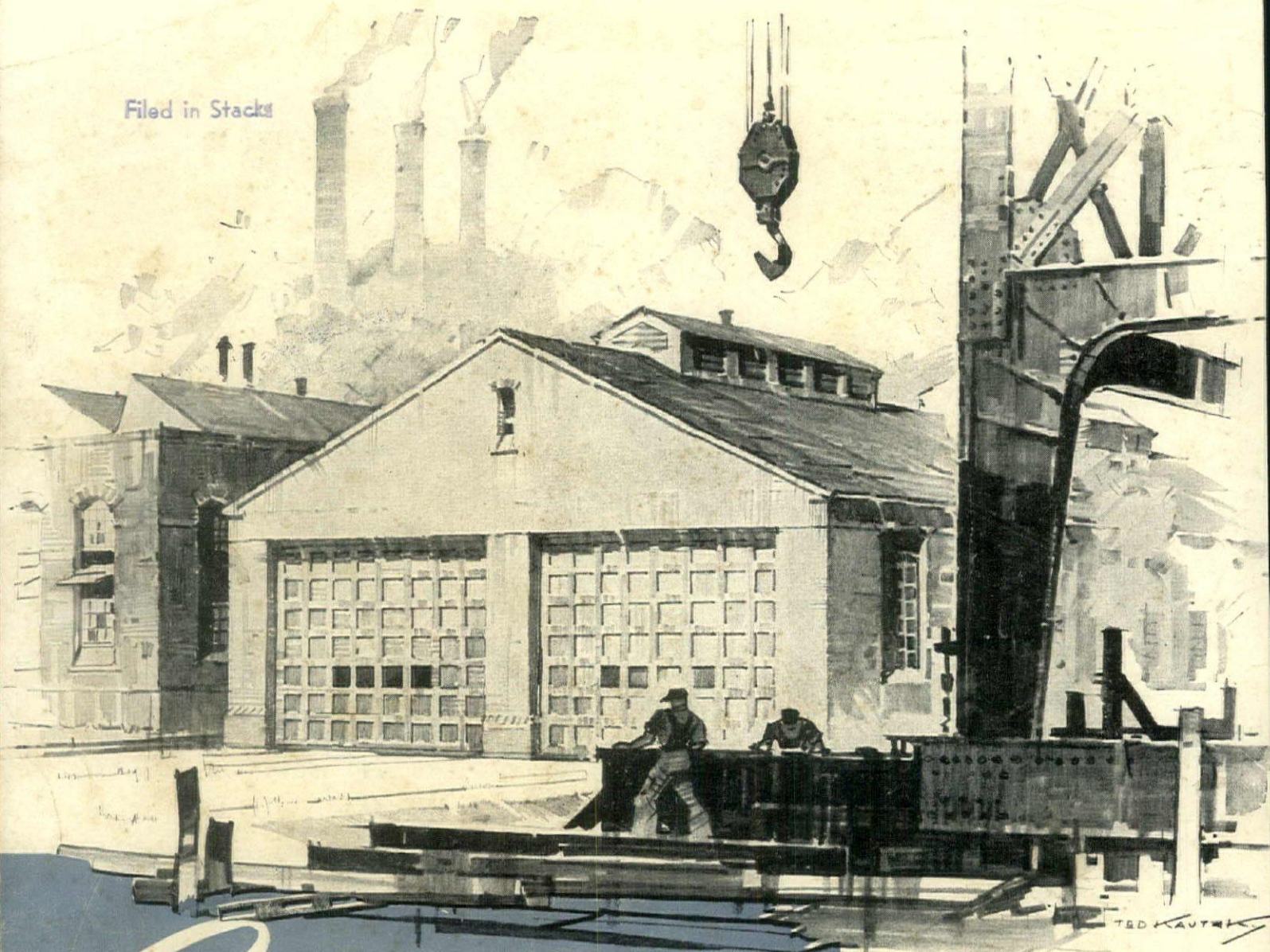
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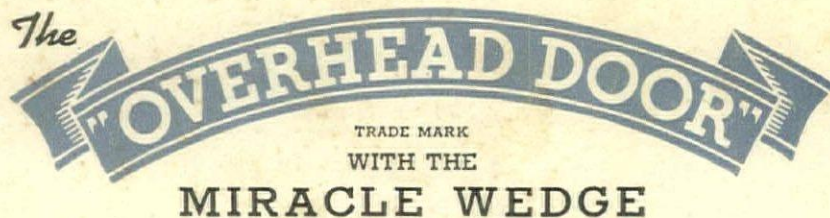
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