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FHE ARCHITECTURAL FORRUNI

SEPTEMBER 1943



Celo-Rock Roof Slabs ... 1", 11/2", 2" th

gypsum slabs covered with tough-fibred pa -strong, durable, fire-resisting.

Monolithic ... Poured Gypsum Concret

Celo-Rock Poured Deck ... a combinat job application of gypsum wall board, r forcing wire and gypsum concrete. Econe ical, non-combustible.

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ROOFING . INSULATING BOARD . ROCK WOOL GYPSUM WALL BOARD . LATH . PLASTER SOUND CONDITIONING PRODUCTS

CORPORATION

with cane fibre core and asbestos-cement surfaces. Provides both exterior and interior finish.

Celo-Siding ... 7/8" cane fibre board coated on all sides and edges with asphalt and surfaced with mineral granules.

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Asbestos Board ... (See description under "Exterior Facings")

BACK THE ATTACK WITH MORE WAR BONDS-THIRD WAR LOAN

SEPTEMBER 1943

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In Military Service:

Robert W. Chasteney, Jr. William J. Conway Robert Hanford Joseph C. Hazen, Jr. George B. Hotchkiss, Jr. S. Chapin Lawson Amnon Rubenstein A. Banks Wanamaker



FOR THE PEOPLE THERE WAS SQUALOR, POVERTY, THEN WARS

DECLINE AND FALL

With the conclusion of the so-called "Second Roman Empire," the domestic record of Italian Fascism can be evaluated. The Fascists were great builders. They built endless roads, dead straight, cutting down everything in their path. They built arenas and monuments, now as useless to the Dictator as they have always been to the millions who followed him, whether by choice or by compulsion. Sometimes the Fascists even built shelter for the people, but their new cities were laid out in rigid patterns, allowing for no individuality, and, of course, with one eye on suppressive military control. By what survives of their architecture, as by their barbarism, will they be known to future generations.

How do the buildings of Mussolini Fascism differ from those of ancient Rome and liberal, medieval Italy? The comparison is most striking: While the assembly places of ancient Rome were designed around processes of law and popular government, the Forum Mussolini was built to display masses, tightly regimented. The rigid blocks of Fascist legionnaires were conceived as part of a pompous architectural pattern, while old Italy's huge Piazza di San Marco in Venice, though similar in scale, conveys a feeling almost of intimacy, of regard for every human being that crosses the shadow of the Campanile. This is true monumentality as a democratic concept. The other monumentality, the Fascist kind, is a hollow thing—as hollow as the absurd Aryan stucco gods that look down on the Forum Mussolini, and as much an illusion.



FOR THE DICTATOR: POMP AND CIRCUMSTANCE



UNDER KLIEG LIGHTS: SUPER THIRD DEGREE

THE PIAZZA DI SAN MARCO IN VENICE AND THE FORUM ROMANUM ARE ELOQUENT SYMBOLS OF PEACEFUL ART





YOU NEED A REAL DOOR FOR THIS BABY'S CRADLE

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Take advantage of the Peelle experience and skill. It will pay you to let us send you complete data!



THE FINEST NAME IN DOORS . . . Brooklyn, N. Y.

FORUM OF EVENTS











After many decades of functionalist preaching, this country is today producing functionally designed objects for the first time on a tremendous scale. In other words, in an extreme emergency we turn unquestioning to functional design. It is important to note that these products of ingenuity, economy, and utmost exploitation of limited materials have quite unconsciously become the most satisfying designs of our machine civilization.

(Continued on page 116)



Plastic gun-turret seat. Bake-lite Corp. Photo: Akron.
 Anti-aircraft sound detector. Photo: John Philips

3. Nose for a Martin bomber of "Lucite" methyl methacry-late plastic. DuPont Co.

4. Steel propeller blades.
Photo: Wide World.
5. Standard Army "Peep" in compact crate saves 10 per cent in shipping space. Willys-

Overland Motors, Inc.
Plastic gas mask lenses. Celanese Celluloid Corp.
Firestone tire for the B-19.
Castings for 25-ton tank turret are studied in a full size wood model. Chrysler Corp.





O TOPS FOR TABLES -ADD PULLEYS FOR CABLES!

WARTIME accent is on grades of Formica laminated plastic having special qualities for airplane cable control pulleys and electrical insulation.

Peacetime will again accent grades which lend unique qualities of endurance, convenience and beauty to furniture tops and decorative paneling.

ENDURANCE—Formica is hard but does not check nor dull with ordinary wear. It is not stained by alcohol, food or fruitacid. It will not brown from cigarettes. CONVENIENCE—The smooth surface can be kept clean and glossy by the occasional whisk of a wet cloth.

BEAUTY—Any wood finish (an actual veneer) or a fabric pattern can be incorporated into the laminated sheet. Many colors, mosaic designs can be permanently incorporated and protected from wear or fading.

THE FORMICA INSULATION COMPANY 4620 Spring Grove Avenue Cincinnati, Ohio



ORMICA

PRODUCTS AND PRACTICE

PLASTIC PREDICTIONS for building are many and varied, but despite growing application of these synthetics, they still have limitations

The rapid and phenomenal growth of plastics in the last few years has given rise to elaborate speculations. It has been predicted that entire houses, including furniture and utilities, will be compounded exclusively of plastics. Also, that other building materials will become obsolete under the influx of these colorful, synthetic materials. That plastics will revolutionize the building industry, and perform wonders not dreamed of in the past era.

The plastics industry, itself, has tried to debunk some of these grandiose ideas spectacularly envisoned for their postwar role. It is true that plastics are doing a superb war job and that new developments and techniques as a result of war demands have considerably expanded their future building applications. However, it is by no means true that they are likely to replace conventional building materials - wood, metals, concrete and glass. Their innate limitations are too many. The big job of plastics still is as a supplementary material, in combination with other materials. In the few situations where plastics alone are superior and their special properties make them suitable for a particular application, other properties frequently are sacrificed.

The broad field of plastics covers both natural and synthetic resins, protein substances and cellulose derivatives. The natural resins - shellac, rosin and bitumen - are already well known in building. Protein substances - casein and soybeans - have found little architectural application as yet. What most people mean by plastics, however, are the synthetic resins, composed of coal, petroleum, water and air. The synthetics have been developed the most extensively and shown the most promise. Cost of processing these materials, however, has been one factor that has prevented their wide application in building where wood and metals are still adequate.

The very nature of plastics — their versatility — makes the problem of selection a confusing one to the architect. One type may be processed in various ways, several types in the same way, and the resultant products, although similar in appearance, may behave in an entirely different manner. Like other building materials, choice of plastic material must be governed by the requirements of the specific application. Each plastic —and every year one or two new ones are added to the list — has specific properties: physical, mechanical, thermal, electrical and chemical, which atfect both how they are made and how they are used. It is evident, therefore, that a design in plastics requires the cooperative efforts of material manufacturer, processor and designer.

More and more the progressive building manufacturers are taking over the job of producing finished plastic products or incorporating plastics in their own products. Through these channels will undoubtedly come a good proportion of the materials of tomorrow. Until this is fully realized, plastics remain within the field of the expert, and the architect is faced with an array of materials from which to choose.

Subdivisions of plastics

Plastic materials are divided into two broad classes: Thermosetting plastics harden and set under heat and pressure and do not resoften or melt on reheating. Thermoplastics harden with cooling after being formed under heat and pressure and will always resoften under sufficient heat. Thermosetting materials include the phenolic, urea and melamine compounds, while the rest are, with exceptions, thermoplastic.

Both types are available in several different forms. They are furnished as powders, flakes or liquids. These resins may be molded or cast into finished products, extruded into various forms or shapes that require further fabrication, or used to coat, bond or impregnate other materials. Fillers and pigments may be added to the resins before they are processed to give integral color, strength or other additional characteristics. Plastic products manufactured in standard shapes - sheets, rods, tubes, bars, etc. - may be worked mechanically like other materials. Many are even more versatile than conventional materials.

There are as many as twenty to twenty-five different categories of plastics, including the natural resins, protein substances and rubber compounds. More than half of this number are synthetics, and these are subdivided into as many as eleven types.

The processing diagrams and photographs at the right give a brief over-all view of plastics in a convenient form, which may be used to make a preliminary selection of appropriate materials for particular applications.



C

В

Drawings, Courtesy Mousanto Chemical Co.

D



6

COMPRESSION MOLDING is used to produce large, complex shapes, up to 25 lbs. in weight. It is one of the oldest methods of molding and was developed by Dr. Backeland for the phenolic materials. All the thermosetting plastics are now usually compression molded. A precise amount of the molding compound is placed in a preheated, polished steel mold (A), together with any inserts (G). As mold closes, heat is transferred from the mold to the compound (B), softening it to a viscous mass. A short heat cure is required for thermosetting materials to develop desirable mechanical and electrical properties. These materials then harden per-

INJECTION MOLDING is fast and economical. Thermoplastic material is heated (**B**) before it is injected into a cold mold (**G**), where it solidifies in shape of mold. While one finished piece is ejected (**H**) a new charge of molding powder is fed automatically into the heating chamber. Ram (**C**) forces heated, free-flowing mass through nozzle (**D**) into passage or sprue (**E**), then through runners (**F**) into mold cavities. The material which hardens in the spruse and runners is trimmed away, reground and used again. On fully automatic presses, molds are filled and finished pieces ejected two to six times a minute as compared with

EXTRUDING. Threads, strips, sheets, rods and tubes can be extruded from thermoplastic materials. Because these shapes are easy to fabricate—saw, cut, drill and thread—they have had a growing success in the building field, from architectural trim to woven screens and fabrics, and even plumbing. Threads as fine as .010 and .011 will be available after the war for various types of weaving. Pipes and tubes are now extruded up to 4 in. in dia., and larger sizes will be forthcoming. One of several methods of extrusion is illustrated here. Especially compounded plastic granules are fed from a hopper (A) into the heated machine

CASTING. Both thermosetting and thermoplastic materials can be cast in molds — a simple and inexpensive process. The resultant products — sheets, rods, bars, tubes and special shapes — are hard, strong and light in weight and can be machined and fabricated. Variety of colors range from the crystal transparent to the translucent and opaque. Dia gram illustrates casting process for small objects, beginning with dipping the master mold (A) into molten lead (B), which forms a hard shell (C) on chilling in water (D). Shell is jarred off by vibrator (E) and master repeats performance. Lead molds thus formed

LAMINATING process offers more possibilities to the architect and builder than any other. Actually, the laminates are a digression from plastics, depending in large part on the base materials used. New resins and new techniques are increasing the already manifold applications of the laminates. Base materials – fabric, paper, wood – are drawn through tank of resin varnish (either in rolls (A) or in sheets), then pasesd through drying oven (B). Impregnated fabric and paper is then rewound on rolls. These sheets are cut (C) and stacked, then placed between platens of hydraulic press (D), and heat and pressures of 1,000 to

manently. When thermoplastics are compression molded, as they sometimes are when making large units, molds are chilled to harden the material. Unlike thermosetting materials, thermoplastics resoften with heat.

Five-ton compression mold (right) turns out a light reflector with a dia. of 26½ in., depth of 11¼ in. Molding a product of this size requires a 1,500-ton hydraulic press.

The expense of making a mold of this size is one reason why large units made entirely of plastics have been impractical. The solution to the problem seems to be either in improvement of method or new molding techniques. General Electric

the average compression molding cycle of 30 seconds to several minutes. Limiting factor is maximum size (about 2 lbs.) of the part to be molded. Improvements in injection technique are constantly being made, however, substantially increasing sizes of moldings that can be handled.

Many small building products are made by the injection method. Semi-structural building tiles (right) are but one example. Each hollow tile is injection molded of Lustron (polystyrene), and can be locked to adjoining tile on all four sides with special adhesives or simple metal clips.

Monsanto

body (B) where the action of heat transforms the material into a semi-liquid mass. This is then formed by a mechanical screw stuffer (C) through a die of the desired shape (D) onto a conveyor (E) which travels at carefully regulated speeds. As the extruded strips cool and harden they are then cut into specified lengths (F) or wound into coils. Significant progress has recently been made on extrusion methods for thermosetting plastics.

Odd-shaped extruded sections for wall panel cover strips, ornamental furniture trim and threshold strips are among the few applications for colorful plastic shapes (right).

Celanese Celluloid

pass on conveyor through heat chamber (F), are charged with hot liquid (H), then go to curing oven (I) for several days of heat hardening. Casting dispenses with the high pressures required in compression molding.

Simple and complex shapes (right) may be formed of transparent cast sheets by reheating thermoplastic material until somewhat softened. Shapes are formed over wooden or plaster blocks or in dies under moderate pressure. The curved transparent sheets with exceptional optical properties, now widely used in aircraft, may well find a variety of uses in postwar building.

2,000 lbs. per sq. in. bond material and plastic into one tough, strong, homogeneous sheet, which can be easily punched, sawed, drilled and otherwise worked mechanically. Relatively simple forms can be made by molding impregnated sheets before resin has fully cured. Instead of impregnating the base material by dipping into liquid resin, a thin sheet of resin film may be placed between the layers before bonding.

Impregnated sheets are assembled (right) for laminating between polished steel plates preparatory to curing under pressure. Sheets are cured either by oven or dielectric heating. General Electric





















COMPRESSION molded translucent light reflectors in various sizes and shapes are made from Plaskon (urea-formaldehyde), a thermosetting material.

Larger products, such as plastic furniture and refrigerator cabinets may eventually be compression molded in one piece. Chief difficulties at present are slow molding cycle, less than automatic operation, high pressures required. Variations of method and new techniques, such as transfer molding, preforming, heatronic molding and fluid pressure may overcome these disadvantages, and permit quick molding of larger units. *Plaskon*

INJECTION molded door knob and locking device are made from Tenite II (cellulose acetate butyrate). Plastic materials offer a variety of color and design in small finished products, such as building hardware, bath and kitchen fixtures, lighting fixtures and parts. With the perfection of materials and methods, injection-molded plastics are no longer mere substitutes. They are a dynamic new material with potentialities yet to be fully realized by the architect and product designer. Because of the mass producting possibilities of injectionmolding, these products can compete in price with those made from other materials. *Tennessee Eastman*.

EXTRUDED plastic tubing for hot and cold water plumbing is made of Saran (polyvinylidene chloride) which resists temperatures up to 170°F. Flexible tubing may be flared and bent, and connections are made with either plastics or metal fittings. Tubing is simple to install and maintain because of its flexibility.

Due to their wide range of properties, plastic pipes and tubes have been successfully used for electric insulation, for gas, air and water lines. Although they cannot be used on steam lines, they are practical for hot water lines with the automatically regulated hot water systems now in general use. Daw Chemical

CAST sheets of translucent plastic are widely used in lighting fixtures. A diffusing agent added to the cast resin (methyl methacrylate) produces translucency, which evenly and effectively diffuses the light but absorbs only from 5 to 8 per cent of it.

Other plastics, such as the phenol group, are cast into intricate shapes for hardware, lighting fixtures and cabinet housings. Acrylic products range from formed sheets for window displays and decorative articles which may employ edge lighting, to large articles, such as furniture, fabricated and machined from sheets, rods and bars. Rohm & Haas

LAMINATED surface of a combination bureau dressing table and desk in hotel guest room is composed of a plywood core and 1/16-in. plastic sheets, incorporating a veneer of actual wood. Top sheet is made cigaretteproof by inserting a thin metal film. This laminated material is also made with an asbestos core. New techniques, will permit molding large sections of plywood into intricate shapes, under lower pressures, on relatively simple molds. Thick, dense plywood sections are new

noder lower pressures, on relatively simple molds. Thick, dense plywood sections are new raw materials which could be made into loadbearing walls with integral insulation and strong, abrasive-finish floors. Formica

BUILDING REPORTER

NEW PLYWOOD DEVELOPMENTS

Forms and complex shapes of plywood, as mentioned under laminating in the plastics article, have recently been made possible by the development of new resins and new techniques.

Plywood tubes to plywood planes are now made on wooden molds or mandrels and cured under fluid pressure. Newly developed automatic processes for spiral or convolute winding of wood veneers permit mass production of these tubes and simpler methods of forming complex shapes. Strength and weight characteristics render them especially adaptable to the replacement of critical war materials wherever weight is a factor. Uses run from tent poles, structural columns and electrical conduits to furniture, boats and aircraft. As a structural hollow-core network between two layers of plywood, tubes would make a light-weight floor or deck.

Plytube, a development of the Plymold Corp., Lawrence, Mass., is fabricated from thin veneers impregnated with thermosetting resins and spirally wound on a mandrel. Veneers are built up in such a way that stress or strain in any direction acts upon the total columnar grain fibers, while radial pressure is counteracted by veneers running in one direction. Tubes can be tapered or squared as well as rounded. Plytube is manufactured in outside diameters from 1/4 in. to 2 ft. Wall thickness depends on the number of layers used, and each layer of veneer may be as thin as 1/100 of an inch.

Because of its simplicity, convolute winding may solve the problem of making complex shapes from resinplywood. Convolute-wound bonded tubes, developed by Wm. L. Marshall, Ltd., New York, N. Y., are built up from a continuous strip of veneers fed at right angles into the mandrel. A series of panels, edge-glued together by machinery, with grains running at opposite angles, make up a roll of continuous veneer. The length of each panel is usually equal to the circumference of the tube, so that each full (Continued on page 144)

Courtesy, Plastics World



WE'RE KEEPING THE MERCHANTS OF AMERICA "STORE FRONT CONSCIOUS"

STORE FRONTS

NILES, MICHIGAN

Although Zouri manufacturing plants are devoted 100% right now to the war effort, Zouri is advertising to the merchants of America — in over 20 leading trade magazines — priming the pump, as it were, for the post-war construction era. This means acceptance for ZOURI Store Front Construction and future business for ZOURI — but more important to you, it means profitable work to do. ZOURI has always supported the architect and the reputable contractor — for ZOURI Store Fronts can be only as good as their design and erection. ZOURI STORE FRONTS, NILES, MICH.

ZOURI STORE FRONTS

"For Post-War Profito"

What do you want in the post-war store front construction? ZOURI would be glad to hear from you!

IEW

RIC-WIL FURNISHED MORE THAN 25,000 FT. OF PREFABRICATED INSULATED PIPE CONDUIT

ARTICLE IN A START LINE

and T and the second states of the



Line of Ric-wil. conduit from anchor to boiler bouse (top, left). Note shallow, narrow trench. Installing connector band. All necessary accessories are prefabricated and shipped with order.



For Terrace Village Housing Unit No. 2 in Pittsburgh

Fuel savings of 15% or better are made possible in this mammoth project by a central heating system. Ric-wil. pre-fabricated pipe units provide the insulation and protection for the entire underground distribution system.

A total of 83 buildings, comprising 1851 living suites, are supplied with heat and hot water from a central plant, through an underground distribution system containing over 25,000 lineal feet of Ric-wiL pre-sealed Insulated Pipe Units. High-pressure steam from the plant is piped through Ric-wiL steam conduit to six scattered stations where hot water is generated and circulated through Ric-wiL conduit to all the buildings, for heating and hot water supply. Thus the project realizes the economy of steam, and the temperature control and convenience of hot-water heating.

All conduit was factory pre-fabricated and shipped pre-sealed to the site in convenient lengths. Installation was made in record time, with a minimum of excavation and backfill, saving countless man-hours and interfering little or none with other construction. The system is highly efficient, permanent, and maintenance-free—typical of all Ric-wiL engineered projects.

> Ric-wil Insulated Pipe Units are ideal for hospital, school, industrial or municipal installations of all kinds. Let us show you their advantages on your next construction project.

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS THE RIC-WIL COMPANY · CLEVELAND, OHIO

... IT'S NOT TOO EARLY TO START WORKING WITH

11.17

Today, almost any lighting job you plan involves a multitude of new problems – and new possibilities—as to equipment, wiring methods, installation detail. So does everything else on the electrical side of the building industry from doorbells to power distribution.

mine of the

To make practical economical use of new items – and to make sure that *everything* you specify, new or old, meets local conditions and regulations – there's one sure source of help. Put it up to "John Watts", a qualified electrical contractor familiar with conditions in the area.

Executive Offices: Graybar Building, New York 17, N.Y.

Put it up to him early, if possible, before plans have "jelled" and the specifications are drawn up. Let him judge the practicality of innovations, check with him on the availability of supplies, let him advise on the surest means for steering clear of "extras".

JOHN WATTS Electrical Contractor

Ben lighting spees are still on the scratch pad

A competent electrical contractor, working with you from the start, can often increase the effectiveness of your plans and smooth the way to faster completion of the job at lower cost. Choose him carefully, of course – but equally important – call on him early!

> Give Your Electrical Work to "John Watts" a qualified electrical contractor – heading a well-established firm with the trained organization, tools and know-how to give you specialized assistance on wiring, lighting, signaling, power supply, electronics. From offices and warehouses in over 80 cities, GRAYBAR serves a nation of "John Watts", helping them to help you by supplying the newest and best in electrical materials.

thing

SEPTEMBER 1943

11

Roofing



People are just beginning to realize that "postwar" won't come all at once for everybody. "Post-war" is here right now for some companies which have caught up on the demand for wartime construction materials. Maybe they are potential customers, right now, for new buildings, alterations, etc.



Many building materials are now more available than they have been for a long time and more of them will probably be available from now on. Roofing materials are easier to obtain. Remember that wartime experience, like peacetime experience, has shown that the best advice on roofs is to "Stick to Coal Tar."

Treated Wood



Architects have been designing more and more for wood construction and finding new possibilities in this age-old and substantial structural material. But this is not a mere wartime development. Pressure-treated wood has been first choice with many builders for years.



Wood, plus pressure treatment, is a permanent construction material. It is as strong . . . pound for pound . . . as steel. It is readily pre-fabricated to design. By proper treatment it is protected against decay and insect attack. Design your buildings to use pressure-treated wood.

Koppers Company and Affiliates, Pittsburgh, Pa.



NOTE TO HOME OWNERS

This means something to you, too. It foretells the day —not now, but after Victory—when you will have efficient fluorescent lighting in your own home.

The fluorescent fixture of the future

The new Sylvania industrial fluorescent fixture is much more than a design to save critical metal for armament.

Right now it is standardizing fluorescent lighting for precision production and is giving better cool, shadowless and glarefree light to war plants.

In its simplicity and flexibility of design, it is truly the fluorescent fixture of the future.

It takes its place on the list of Sylvania fluorescent "firsts" with the first complete industrial fixture, which did much to speed war production with the most efficient lighting known.

Sylvania engineers, who have contributed so much to the development of fluorescent lighting, streamlined this fixture and eliminated metal entirely from its reflector. Yet its durable composition reflector has an efficiency of 86 per cent, reflecting more light than prewar porcelain enameled metal in conventional contours.

This all-purpose Sylvania fluorescent fixture is designed to meet any industrial requirement in *one* of two standard sizes. It carries Underwriters' Laboratories approval and our own guarantee.

• SYLVANIA ELECTRIC PRODUCTS INC.

INCANDESCENT LAMPS, FLUORESCENT LAMPS, FIXTURES AND ACCESSORIES, RADIO TUBES, ELECTRONIC DEVICES

We Start TODAY the Task of TOMORROV

I^N its current national advertising, Revere presents the concepts of a number of leading architects and designers which depict some of the probable trends of tomorrow's individual homes and communities. Some of these concepts challenge a more distant future than others; all range widely. All seek to provide a more ample living at a modest cost for a greater number of families.

However, in *The Saturday Evening Post* advertisement reproduced on the opposite page, Antonin Raymond, well-known exponent of the modern, depicts an existent house, so interesting in its functional design, that its prototypes will, without doubt, be many over the coming years.

To help further materialize the imminent post-war plans of the building industry, Revere is already planning to supply improved roofing, flashing, pipe, tube and architectural shapes in copper and copper-base alloys.

Revere is certain that through this effort—and its current national advertisingevery factor in the building industry will benefit: the architect, builder, realtor, manufacturer and financier. Such a policy will stimulate also public interest in better planning and building. In particular, it will widen the knowledge of the indispensable role that copper and its alloys play in making any building better to live in, better to own, better to rent or sell.

A HILLSIDE BUILT TH Copper and Brass Keep It Sn



"Ever since we began to settle this continent, thousands of the most beautiful home sites in the world have been neglected because distance or the rugged-ness of nature seemed to make them impractical.

them impractical. "But tomorrow, when the priceless privilege of building ortation and new techniques of construction will ake available to us homes not only more beautiful an most we have owned before, but also lower in at.

st. "For we have learned to harness Nature to the rek of home-building, and made her a powerful le in replacing stiffness, falseness and fussiness. The house illustrated on this page is a good mple of what can be done the country over. Good friends of mine hud a plot of ground rising use-like from the banks of a cheerful creek to ody right across and down the silvered valley of the still stoutly stood halfway up the hill. stead of conventionally leveling off a house

This advertisement appears in The Saturday Evening Post-August 7, 1943



<text><text><text>

Revere does not build houses or expec-future. But Revere knows that in existent well as the buildings of tomorrow, copy

"and Copper and Brass keep it Snug and Trim"

Revere Products Revere Products — copper and copper base alloys — are standard for both new building and immodelling. They're specified for roofing. Ideal ing, specified for non-stein stripping te mite-proofing. Ideal for non-stein stripping te mite-proofing. Ideal for non-stein stripping te water. Unes ; heating and air conditioning ling and storage tanks; thresholds, window for an easily the like. Revere copper, brass or brasse access to a storage tanks in the like in the like in the storage and storage tanks in the like to any bailding any before the storage time to any bailding any before tanks.

Illustrated are three typical uses of cooper and copper alloys (or well-built dwellings. (sop) Indirect heater showing neat manifold hookup with Copper Water Tole with solided hookup (center) An installation of cooper gaustic and downspout. (bostom) Copper flashing between sloping shingle roof and field stone thret. After Victory, Revere Products will again be After Victory, Revere Products will again be available for building.







George Nelson, one of the managing editors of Architectural Forum, is also one of the most creative of today's architects. His most recent achievement: The interesting, original Sherman Fairchild New York town house, designed in partnership with William Hamby.

FROM AIRCRAFT AMMUNITION BOXES... Expendable utility cases for 194X?

ARCHITECT George Nelson has long felt a need for standard furniture units lower in cost ... lighter in weight ... and of wider utility than cases, cabinets and chests now on the market. But not until he heard the story of the plastics boxes used to store and feed ammunition to the wing guns of modern fighter planes, did a solution suggest itself.

These boxes once were steel. Now they are fabricated with substantial savings in cost and weight from a thin but surprisingly tough, strong and rigid plastics-and-fabric laminate. Basing his plans on use of a similar material, laminated on a mandrel into continuous, hollow lengths, Mr. Nelson has developed the interesting suggestions below for producing a wide variety of space-saving units . . . suitable for a wide variety of storage functions . . . from just five basic frames. Such units, he points out, would provide maximum storage in minimum space. Equally important, they should be so inexpensive that they could be discarded without a twinge of the owner's conscience, when they have served their purpose.



The Broad and Versatile Family of Monsanto Plastics

(Trade names designate Monsanto's exclusive formulations of these basic plastic materials)

LUSTRON (polystyrene) • SAFLEX (viny1 acetal) • NITRON (cellulose nitrate) • FIBESTOS (cellulose acetate) • OPALON(cast phenolic resin) RESINOX (phenolic compounds)

Sheets • Rods • Tubes • Molding Compounds • Castings • Vuepak Rigid Transparent Packaging Materials



PLASTICS AND YOUR FUTURE

Whatever your particular postwar products, chances are excellent that wartime advances in plastics materials and fabricating techniques will open up many exciting new possibilities for smarter styling . . . improved performance . . . lower costs. Chances are also excellent that you will find the answer to your particular needs in a Monsanto

find the answer to your particular needs in a Monsanto plastic. Monsanto is one of the nation's largest producers of plastics. The family of Monsanto plastics is probably the broadest and most versatile offered by any one manufacturer. For facts — and many a pertinent idea — see the 24-page guide to Monsanto Plastics prepared for product designers. Simply write: MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.





Interior of one of the nation's largest aircraft engine plants. Carey Insulation was used throughout. Albert Kahn Associated Architects & Engineers, Inc. Plumbing & Heating Contractors: The Frank A. McBride Co., Paterson, N. J. and Cincinnati, Ohio. Insulation Contractors: Robert A. Keasbey Co., New York, N. Y. (This plant is also protected by a Carey Built-Up Roof).

UNIFORM YEAR 'ROUND TEMPERATURE Assures Maximum Precision in Production of Aircraft Engines

One of the nation's largest and most efficient industrial air-conditioning systems provides ideal working temperatures in this giant war plant. The plant is heated in winter and cooled in summer by circulation of hot or cold water through a single, vast piping network.

Used throughout this entire system, CAREY INSULATION insures an approximately uniform temperature the year 'round. This makes possible the extremely fine precision workmanship demanded in aircraft engine manufacture—where accuracy in measured in ten-thousandths of an inch.

Here, as in so many other plants, CAREY INSULATION plays an important part in the nation's battle of production. In specifying heat insulation for modern industrial construction, remember—you can depend upon CAREY Products, backed by over half a century of experience. The nationwide CAREY engineering and distribution organization is at your service always. Write Dept. 20 for details.

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Interesting FACTS about

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56,000 gallons of water per minute are circulated through this piping. Temperature ranges: In summer, water cooled to 45° F., and moisture-condensation on pipes prevented by Carey cold water insulation. In winter, water heated from minimum of 90° F. to maximum of 140° F.

Equipment, in addition to huge quantity of Carey-Insulated piping, includes: 5 immense water coolers, 6 hot water heaters, 6 hotwater and chilled-water pumps.

Piping system is welded throughout.



Efficient Air Delivery of La-Del Axial Flow Fan Under Widely Varying Conditions Illustrated by Remarkably FLAT POWER CURVE shown above!

This performance is typical of La-Del Axial Flow Air Fans... only on occasions, in certain highly specialized installations, is there a slight variation from this exceptionally flat curve!

Complete motor protection against unusual air-movement overloads is assured by this balanced power characteristic of La-Del Axial Flow Fans. Added resistance that may occur ahead of the fan, either intentional or accidental, creates no hazard for the power unit. Air delivery may be restricted, but the motor is not injured or affected. This safety factor makes it unnecessary to choose motor units larger than required by the normal air delivery needs.

In many cases of necessity, ventilating fans are installed in inaccessible places on shipboard; in planes or tanks, and in factories. Here, reliability under *all* operating conditions is the most important requirement. Such



The La-Del Axial Flow Air Fan is as compact as a kernel in a shell! The entire unit is inside the eir duct. Streamlined toil maintains uniform axial flow. Straightening vanes corroct to a true exial flow the helical air motion.

Adjustable pitch propellor blades are designed for peak efficiency with balanced characteristics throughout adjustment and fan operating range.

This diagrammatic illustration explains the reasons for the ventilating efficiency of the La-Del Axial Flow Fan. Note compactness of the entire unit – all moving parts are within the duct, a La-Del feature.

constant performance, and freedom from maintenance troubles, is assured by the FLAT POWER CURVE characteristic of the La-Del Axial Flow Air Fan.



YESTERDAY

Going up! When gay, young blades went calling, the touch of a little button brought swift, convenient service. It was just one of thousands of Edwards signaling devices serving peacetime, social and business communication needs of the country.





TODDAY Going down! Another signal. But now his touch deals out death to the enemy... timed to the split second. Again, it is an Edwards signal, one of thousands of high-speed communications systems serving the United Nations.

TOMORROW? Better communications for peacetime industry

• First things first! Right now Edwards equipment is the hair-trigger "nerve center" in many implements of war . . . the "voice" of armies, air fleets and naval squadrons. That's *first*.

But the beginning of another era is ahead of us...one which will be built upon-strengthened with -the research of war-trained industries. A time when business men will take war developments and convert them into better peacetime products.



Edwards proposes to be first in the

institutions, homes and public utilities will have the most advanced signaling devices and communications equipment for peacetime services and projects.

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These PROPELLAIR BLADE DESIGNS Simplify Ventilating Problems



CURVED ENTRANCE RING INCREASES BLADE EFFICIENCY

As contrasted with ordinary straightedge rings that serve merely as mounting devices, the Propellair Curved Entrance



Ring enables Propellair fans to deliver more air per horsepower. This construction permits the utilization of the Airfoil air-movement principle in the entrance ring as well as in the propeller, resulting in air-flow that is at peak efficiency. The principles embodied in Propellair's Axial-Flow, Airfoil blade designs make it possible to calculate with assurance the result to be expected from any proposed installation. This advantage, together with the wide range of design modifications which have been developed to meet the requirements of varying applications, helps to simplify the matter of recommendations for ventilating jobs.

These Axial-Flow, Airfoil blades were especially designed by Propellair engineers with pitch and thickness increasing toward the hub. Thus an even air-flow is obtained throughout the entire diameter. Both surfaces of the blade are utilized in this design. The camber on the back of the Airfoil blade produces a suction or lift (see center diagram) which supplements the air produced by the flat surface of conventional blades. The fans deliver maximum air per horsepower because the whole blade surface works, not just the tips. Also, the propellers are non-overloading. Horsepower remains virtually constant, from open to complete block-off, as long as the motor speed remains constant. The number of blades and their pitch and shape depend upon the job to be done.

If you have a pressing industrial ventilating problem, you should have our Propellair catalog No. 10-U. It contains many pages of technical tables, charts, diagrams and other valuable information for architects, engineers and plant men—and of course describes and illustrates the complete Propellair line. We will mail the catalog on request or, if you prefer, we will ask the nearest Propellair ventilating specialist to deliver your copy personally and at the same time discuss your specific problems. Write!





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Test No. 1 above shows how far this tendency of ordinary oil to soak away can go. In contrast, note the strong union of "Vitolized Oil" and pigment in Pittsburgh Paints. Thanks to this high retention in their oil content, Pittsburgh Paints stay LIVE, tough and elastic. Other desirable qualities due to "Vitolized Oil" are smooth leveling (see Test No. 2), wider coverage and easy application.

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.



PITTSBURGH PLATE GLASS COMPANY Dept. AF-9, Pittsburgh, Pa. Please send me postpaid a free copy of your "Maintenance and Buying Guide." Name_________ Address_______ City_______State______



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STRIP STEEL by STRAN-STEEL IS THE ANSWER



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DIVISION OF GREAT LAKES STEEL CORPORATION . UNIT OF NATIONAL STEEL CORPORATION

DESIGNER AND FABRICATOR OF STRIP STEEL MILITARY BUILDINGS

CARRIER 5-WAY UNIT HEATER -discharges heat from 4 sides and downward. Gives greater heating coverage and maxi-mum flexibility.

War plant workers, especially women and older employees, must be kept comfortably warm by adequate heating and ventilating facilities if they are to work at maximum efficiency during winter months.

One of the reasons why absenteeism increases so sharply is the prevalence of colds resulting from lack of proper heating. Cold fingers, too, hinder war production.

Carrier Unit Heaters and Heat Diffusers offer many important advantages in flexibility of arrangement, efficiency, economy - and quick, simple installation. They supply plenty of warm air directly to working areas just where heat is needed. They save fuel and floor space-they save in first cost, installation, operating,

and maintenance cost.

A wide range of propeller and centrifugal fan type units, for steam and hot water, is available for every purpose.

AT WHERE

YOU WANT IT

Now is the time to check on the heating needs of your cli-ents for next winter. If departments or machinery have been relocated, working areas changed . . . if old heating equipment is obsolescent . . . if workers were not comfortably warm last winter-Carrier unit heating and heat diffusing equipment can be used to advantage.

Carrier engineers will be glad to discuss your requirements and make a recommendation regarding type of equipment that will best serve your needs.

CARRIER CORPORATION, Syracuse, N.Y.





WE ACCEPT THIS CHALLENGE, TOO!

When the smoke cleared away from the charred ruins at Pearl Harbor, there was no decision for us to make. We converted our peace time machines to the job of war with a speed born of vengeance. The skilled men behind those machines began pouring out a steady and ever increasing stream of vital war parts to help bring America a quicker, less costly victory.

Yet with all this, we have deliberately made time in each busy day to plan for as quick and as satisfactory a change back to peace time production. For in those critical days when men lay down their weapons lies the real challenge to America.

We must be ready, all business must, with new products and new jobs for the men in khaki and blue. We must do this so that every American may look forward to a steady job, a home of his own, better education for his children.

We are fighting now for our lives—we accept this challenge to fight as staunchly for our dreams.

 NORTON LASIER COMPANY

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PLASTICS-products of industrial initiative

Plastics are a stimulating source of inspiration for architects and industrial designers in search of new ideas. When these intriguing materials are released from their military commitments, innumerable applications for the home front will arise. No products offer a better example of how progress can be accomplished when industry is given free rein to its initiative.

As a producer of basic chemicals needed for the manufacture of plastics, Dow is in a particularly fortunate position to promote their development. Three major Dow plastics—Styron, Ethocel and Saran—have already been produced. They possess distinctive properties that permit a bewildering array of uses in almost every field of human activity. There are also varieties of Dow plastic materials for coatings, finishes and other purposes in the electrical, textile and many other industries.

These plastic products do more than supplant other materials. They are veritable points of departure that lead to fresh fields. When normal conditions return, self-reliant industry, expanding on its own resources, will develop and apply them for the greater well-being of all America.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • St. Louis • Chicago • Houston • San Francisco • Los Angeles • Seattle



CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Dow

MULTIPLE DWELLING IN 194X



• How to get the most use from a limited apartment house area is suggested in this original design by architect Harwell Hamilton Harris, winner of the Pittsburgh Plate Glass competition for two successive years, and past winner of the American . Institute of Architects award.

Instead of being lost, the surface of the plot on which the building stands is transferred to the top of the structure — to take advantage of the view, the air currents and the privacy which the height provides. Trees, grass, shaded walks and pergolas are attractive features. Included are places for picnicking and for sun-bathing, with dressing rooms and showers, game courts, a play-yard for children and a wading pool. Individual areas, however, are skilfully separated, so that one person's fun is not his neighbor's annoyance.

This latest in a series of current architectural conceptions provides still another variant on the practical utilization of valuable roof space. It is a' project for which Barrett Specification* Roofs are particularly well suited. At Rockefeller Center's famous roof gardens and elsewhere, Barrett Roofs have already proved their adaptability for this advanced type of construction. Standard for flat roof construction since 1854, Barrett coal-tar pitch and felt roofs are destined to play an even more important part in post-war planning.





B-551—"Perma-Gloss" Flat Rim Sinks — 3 sizes 20"x18", 24"x18", 30"x18"

B-534—"Perma-Gloss" Two Compartment Flat Rim Sink Size 32"x18"

These latest additions to the Perma-Gloss line of Kitchen Sinks and Trays fill a long-felt need. Born in war time, they are not "War-babies" in the usual sense of the term, as they are designed for permanent homes. Mounted in kitchen cabinets, they will grace the most streamlined post-war kitchen.

Perma-Gloss Sanitary Ware, is made from carefully selected clays . . . fired at a high temperature

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BOOKS

BOSTON:

REHABILITATION IN BOS-TON, A Progress Report on Reconstruction, Vol. II. The Boston City Planning Board, 54 pp., $8\frac{1}{2} \times 11$.

BUFFALO:

THE NIAGARA FRONTIER PLANS FOR PEACE, by the National Committee on the Housing Emergency, Inc., 512 Fifth Ave., New York City. 27 pp., 8½ x 11. 25 cents.

CHICAGO:

INDUSTRIAL AND COM-MERCIAL BACKGROUND FOR PLANNING CHICAGO. Chicago Plan Commission. 66 pp., 9 x 12.

COVENTRY:

PLAN FOR THE NEW COVENTRY, From Disorder and Destruction—Order and Design. The Architect and Building News, London. 15 pp., $7 \times 9/_2$.

LONDON:

COUNTY OF LONDON PLAN, 1943. Prepared for the London County Council by J. H. Forshaw, M.C., M.A., F.R.I.B.A., M.T.P.I., Architect to the London County Council, and Patrick Abercrombie, M.A., F.R.I.B. A., P.P.T.P.I., Professor of Town Planning, University College, London. MacMillan and Co., Ltd., London. Charts and photographs. 188 pp., 10 x 12. 12/6.

LOS ANGELES:

HOMES FOR HEROES, Fourth Annual Report of the Housing Authority of the City of Los Angeles. Illustrated. 10 x $131/_2$.

FREEWAYS FOR THE RE-GION, by the Regional Planning Commission, County of Los Angeles. Illustrated. 51 pp., 9 x 12. (To be reviewed next month.)

ST. LOUIS:

ST. LOUIS AFTER WORLD WAR II. City Plan Commission. Illustrated. 36 pp., 81/2 x 11.

NEW YORK CITY:

NEW YORK PLANS FOR THE FUTURE, by Cleveland Rodgers. Harper & Brothers, New York. Illustrated. 293 pp., 6 x 81/2, \$3. (Reviewed in THE FORUM in March, 1943, p. 90.) Serious and intelligent men and women in the U. S. and in England have undertaken research and prepared plans from which emerge our first visual impressions of the better world to come. Recently, such studies have come from St. Louis and Coventry, from Chicago and London, from Boston, Buffalo, New York, Los Angeles, many another urban and agricultural region.

PROCEDURE

While the work done thus far in the U. S. and in England is encouraging, we must not forget that these plans cover a mere fraction of what remains to be done. It is important, therefore, to summarize the basic procedure, the method of research which has been used by these planning pioneers.

First of all the area under consideration was subdivided into separate zones containing cities, small communities, agricultural land and industrial developments. Second, maps were prepared to show land use, such as residential, business, schools, streets, parks and other special purpose areas. Third, a survey was made of the types of structure of existing dwelling units, their condition, age, and the rentals they command. A subsidiary survey at this stage has been made in some cases to cover the age groups of inhabitants, and in the case of U.S. cities, the areas of segregation of colored population groups. The population density in such areas forced by disproportionately high rentals is illuminating, and points toward a major need for reform.

The next step is usually an investigation of the assessed sq. ft. values of the land, and of financial interests involved in the land ownership. Once these basic data have been assembled, they are supplemented by facts and statistics on traffic flow and loads, transportation in general, location of centers of work, weather and geological reports, utility sources and their supply networks, and any local data that might be required. At this point it usually becomes evident that rehabilitation cannot stop at the city boundary, but must be integrated into regional plans. Ultimately, the fact will have to be faced that some measure of over-all planning must become a national policy.

PLAN

The procedure of research outlined above has been more or less common to all reports prepared until now. It is demonstrated in the London County Council Plans (ARCH. FORUM, August, 1943, pp. 51, 52), and on a smaller scale, in the research done in Buffalo, Boston and St. Louis. The conclusions expressed in the English plans differed greatly from the U.S. studies. This was not due to differences of location as much as to political aspects. Thus, while most plans in the U. S. were prepared either directly by private enterprise groups, or by people convinced that private initiative must be given a major share of the work, England's plans advocate government controls on a wide scale.

All plans have one thing in common: They are less assured than the preceding analysis. They will serve, as their initiators realize, as planning propaganda rather than as dogmatic guide lines for future action. They will motivate voters to demand legislation to create planning powers, and until plans are thus implemented their value remains limited. Experience has taught planners that such powers are likely to be weaker than is *(Continued on page 120)*

PROPOSED "FREEWAYS" FOR THE LOS ANGELES REGION LINK SCATTERED TOWNS





1. STREAMLINE YOUR PRODUCTION!

2. PROTECT YOUR PLANTS!

SIGNALS THAT GET ACTION !

That's what you want in industrial plants now, that's what you will want when they swing back into peace-time production.

SIGNALS FOR EVERY JOB!

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Architects will find extreme convenience in selecting signal systems and signal equipment from the current Schwarze-Faraday Catalog. This famous book is clearly sectionalized by colors, has easy-to-use section-and-page-captions, and double cross-indexing. Your copy free on request, of course.



Schwarze-Faraday Signals include Horns, Bells, Buzzers, Sirens, Air-Trumpets, Chimes, in wide variety of tone size and style. For example:





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One of many styles and shapes, which include megaphone, two-way, drum, short and flush. Supplied for either A.C. or D.C.; vibrating, single-stroke types, etc.

HEAVY DUTY BUZZER

Chosen for signal work of vital importance on control equipment of U. S. Army and Navy. Many other types.





UNDER THE NATION'S ROOF

September, 1943

Roofing Felts with valves - that's Ruberoid P-E-R-F-O-R-A-T-E-D Felt. In mopping the felt, the vapors are trapped - which is the primary cause of blisters. The outlet valves release these vapors. Inlet valves insure a complete asphalt seal between sheets of the completed roof.

How about a rich deep red or cool green surface on that steep monitor roof rather than the customary unsightly black? Ruberoid has the specifications. Bonded, too.

The tornado that hit Cleveland and vicinity on April 27th, 1943 was an ill wind that blew a good moral for architects and home-owners everywhere. Damage was tremendous and many roofs suffered. Notable exceptions were the roofs protected by Ruberoid Tite-On Shingles. Aside from four ridge shingles on cne job, not a Tite-On was blown off. Tite-On is a self-locking shingle - no metal clips - no gadgets.

Ever see Ruberoid Colonial Asbestos Siding used on monitor or gable ends? Good-looking, fireproof and permanent.

Stonewall Board, Ruberoid's new (and phenomenally successful) general utility asbestos-cement building material is finding wide use in industrial construction. Strong, imperishable, low in cost, and available (it's non-critical). 3/16", 1/4", 3/8" standard 4' x 8' sheets. Use it for exterior and interior walls, ceilings, partitions, vents, ducts, fire and heat barriers - wherever a fireproof, rotproof, rustproof material is needed.

This remarkable Stonewall Board - together with Ruberoid Corrugated Eternit Sheets offers architects and builders suitable asbestos-cement building materials for all types of industrial construction and building maintenance. These are non-critical . . . available now.



Your nearest Ruberoid office has a complete library of construction specifications as issued by government agencies as well as analyses of materials and application methods required by A.S.T.M. and A.R.E.A. In case your colleague failed to return your copy, write or phone us for the information you need.

The RUBEROID Co.

For up-to-the-minute information on your roofing and building problems consult our nearest sales office: NEW YORK-500 Fifth Ave. * CHICAGO-307 North Michigan Ave. * BALTIMORE * ERIE * MILLIS (Boston) * MINNEAPOLIS * MOBILE

MEMO FOR POST WAR PLANNING

Household operating and upkeep expenses come out of the same pocketbook as mortgage amortization payments. High-quality equipment, as supplied by General Electric, usually reduces monthly operating bills more than it increases monthly payments on the house...so actually it costs less to live better.

Remember, General Electric high-quality equipment will best serve the interests of your after-Victory clients or customers.



3. OPERATING EQUIPMEN

THE EYELINE OF FIFTH AVENUE





Illustration shows the shop of Mosse Inc., 659 Fifth Avenue, New York City. Paul T. Frankl, Designer. Morris Ketchum, Jr., Associate. Anaconda Bronze Work by General Bronze Corporation, Long Island City, N.Y.

The world's most fashionable shopping district not only reflects the inherent dignity and good taste of architectural bronze—but it emphasizes the fact that this ageless metal adds distinction to displays of merchandise, that it lends a feeling of warm substance and integrity to the establishment whose front it graces.

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Anaconda Architectural Bronze is a sturdy, durable metal...rustproof, of course. Every bit as economical as it is attractive, architectural bronze is easily cleaned; its natural lustre may be preserved with but occasional attention.

In peace time, The American Brass Company has always been the leading supplier of Architectural Bronze, Copper and Nickel Silver in the form of extruded shapes, drawn shapes, sheets, etc., for the creation of ornamental work of every description. 4318

THE AMERICAN BRASS COMPANY General Offices: Waterbury 88, Connecticut Subsidiary of Anaconda Copper Mining Company In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ontario





PREFABRICATED-DEMOUNTABLE STRUCTURES by the thousand, constructed and delivered by the Johnson mill organization

40 War-Emergency Contracts have included War and Navy Department Cantonments, Hospitals, Naval Training Stations, Farm Security Dormitories and War Workers' Housing under the Federal Housing Administration, State and Municipal Authorities.

Today we build for WAR . . . under direction of the U. S. Government . . . Tomorrow we build for Peace . . . under direction of the Country's greatest Industrial Leaders. Over 5,000 "Prefabs." included In addition to thousands of War-workers' homes, the Johnson mills have produced Demountable Administration Buildings, Field Offices, Barracks, Hutments, Farm-Workers' Houses, and Cafeteria and Canteens to serve over 17,800 Workers on a single job.

Today the Johnson mills are engaged in all-out production for Victory . . .

Tomorrow Johnson research will produce America's finest low-cost homes.

EXTRACT FROM RECENT NAVY DEPT. LETTER

"This work was started under difficulties that involved delays in acquisition of land, but was so well organized and expedited by the contractors that the 450 housing units were completed in 120 working days and the facilities, including pavements, sewage disposal, incinerators, fire protection and drainage system, were completed shortly thereafter.

"The job was organized on an assembly line basis that proved so efficient that the final costs, including the fixed fee for the contractors, was 11% under the original allotment."

Send for Brochure 26



One of six 600-foot-long Drill Halls at largest Naval Training Station in the East. A recently completed \$50,000,000.00 Project

LETTERS

Miles Colean on Eliel Saarinen . . . Two letters from servicemen . . . a sharp criticism of the May

issue . . . more Lincolnesque humor.

PARTURITION OR PHYSICS?

Forum:

Your review of Eliel Saarinen's "The City" in the June ARCHITECTURAL FORUM is so much to the point that I cannot forebear a comment on it.

The penchant of planners to discuss urban enlargement, dispersion and contraction in the biological terms of growth and decay, cell structure, and so forth, is not only unscientific, as you say, but leads directly to the concept of our existing cities as diseased organisms, which, like an arthritic shoulder, medicine may alleviate but hardly restore. The ultimate conclusion of the biological approach is that of Saint Frank Lloyd Wright in reference to Pittsburgh-"abandonment" - and the parturition of new organisms in places removed from the source of contamination.

If planners must apply a scientific analogy, let them look to the principles of physics, particularly hydrodynamics, which would encourage them to look on the urban form as a complex of forces (as in fact it is) and would let them realize that the form of a city, as readily as that of a river, can be modified by a readjustment of existing pressures and the introduction of new ones. While this approach might destroy the mystic intoxications enjoyed by the planning cult, it should also promote a more cheerful attitude toward urban problems than that of the medico in the face of advanced carcinoma.

MILES L. COLEAN Washington, D. C.

FROM THE ARMED FORCES

Forum:

For recent architectural graduates who are in the Armed Forces, THE FORUM is one tie with the world. This period of war is necessarily an enforced vacation for many builders, but it should be a three-year post graduate course for all architects.

As a student and a potential member of the group upon whose shoulders will fall the task of rebuilding a devastated world, I suggest that our text book, THE ARCHITECTURAL FORUM, be compiled with the thought in mind that economy of effort and material, and standardization of a special type will be important factors in postwar planning. These factors do not supersede the necessity for the type of all-around good design THE FORUM has championed in the past. But they do signify need for a cost accounting of labor and material in terms of *man hours*. If a study in economy has any value the man-hour cost of buildings of the same cube and built under the same conditions will become progressively lower.

The value of standardization has been proved by the existing national emergency. As this holds true for instruments of war, it also holds true for the mechanical devices of living. A theory has developed into a law. Let us re-analyze and re-engineer the structural shell of a building and the mechanical equipment which goes into it. Among the few international denominators are man hours and arithmetic. Together they will do much to put architecture on a sound economic basis.

> ENSIGN R. E. HUGH, USNR Architect

Bremerton, Wash.

Forum:

My interest in THE ARCHITECTURAL FORUM is principally that of one who hopes to be a citizen of the world built after the war, and I greatly appreciate the freshness and originality shown in the solutions that you present to the technical and social problems with which architects are concerned. In spite of the U-boats I have only missed one copy since January, 1942 and each new arrival is eagerly read and criticized by myself and my friends here in London—architects among them.

FLIGHT LT. P. B. AITKEN, R.A.F. Engineer

Stamford, Linc. England

LINCOLN FOR PRESIDENT

(See Letters, July, p. 92)

Dear Mr. Lincoln:

On first looking into Chapman's "Homer," or rather into the July issue of THE FORUM, I read the letter from Mr. Harley J. McKee, teacher (and it is fascinating to speculate on what he teaches), at the University of Cincinnati. I am afraid for a moment my worst nature came uppermost and I almost sent my regards to Mr. McKee in the following beautifully restrained couplet:

Evidently the University of Cincinnati Likes its teachers batti. Then I read your letter and things got better.

I thought you might like to see the enclosed clipping from the bulletin of the Michigan Society of Architects about the Slapnoodle system of design. This pleasant conceit so annoyed Mr. Ken Reid, the editor of *Pencil Points*, that he is about to publish an editorial deploring me. The editorial uses the word "alas" several times. People who use the word "alas" in editorials are my meat. I have written another piece for the bulletin showing Mr. Reid a slight cross section of the error of his ways and I will afflict you with a copy of it also, as soon as it comes out.

As the Lincoln of a movement in which I am the humble Ford, I greet you fraternally. You have a very neat knack for writing. Long may you wave.

ROGER ALLEN Architect

Grand Rapids, Mich.

Forum:

Thank you for printing that letter from John W. Lincoln in the July number. For me it turned the clock back sixteen years, when I was asked not to come back to ——— University's Architectural School. The reasons were too numerous to recall, but through it all ran the crimson threads of insubordination, nonconformity and non compos mentis. Misery loves company.

The gods of our faculty were Palladio, Vignola and L'Ecole des Beaux Arts. Esquisses were monumental urns and war memorial fountains. I suggested a gas station and got slapped down in a hurry. I came back with a class B project suggestion for remodeling an old four-story block into stores and apartments. This nearly put me out with the reminder that was an architectural school and not a contractor's office.

The pay-off came soon afterward. We had done a spring project requiring a small town municipal group facing a public square. My clock tower dominating the group was Gothic, featured by vertical lines soaring off into the sky a la Bertram Goodhue (my idol then), with nary a horizontal molding to be found. Straightway the jury seized the opportunity to lecture us on the necessity of maintaining "funda-

(Continued on page 36)


What the building industry told us about dry-built full-wall constructio

Recently, a large independent fact-finding organization asked builders, contractors and lumber dealers all over the country what they thought of dry-built full-wall construction. When the results were tallied up, here is what we found.

An overwhelming majority believe that the dry-built, one-panel wall will be the wall of the future! These are the reasons they gave:-



From studs to finished wall in a matter of hours! Efficient insulating value adds still more dollar value. Finished job fully measures up to quality standards of the \$18,000 home shown below-yet is sufficiently economical for low cost mass-produced housing.



THE <u>CRACKPROOF</u> BEAUTY SURFACE WITH EFFICIENT INSULATING VALUE



1 SINGLE PANEL WALLS GO UP FASTER. When Upson Strong-Bilt Panels are used in full wall size, valuable building time is saved ove tedious, old-fashioned methods of interio wall construction.



2 LABOR COST IS LOWER. One Strong-Bilt Panel covers the entire wall of an average room Upson Floating Fasteners anchor panel securely from the back. No nail holes to fill because no face nailing is necessary. No joints to tape or hide.



3 CRACK-FREE FOREVER1 Strong-Bilt Panels simply cannot crack, so there is no maintenance problem for these beautiful, easy-topaint, single-panel walls.



4 DANGEROUS MOISTURE IS OUT! Trim and flooring are not exposed to undue moisture when Strong-Bilt Panels are used. Just think! Authorities say 1,000 pounds of water may be used in plastering the average small home.

. . .

Already, dry-built full-wall construction is beginning to take its place in plans for postwar homes, now on the drawing boards. For booklets picturing the advantages of drybuilt, full-wall construction, both in conventional and prefabricated homes, write The Upson Company, Lockport, New York.

Upson Quality Products Are Easily Identified by the famous Blue-Center



LETTERS

(Continued from page 34)

mentals" of architecture, viz., the base, the shaft and the cap. A facade without a cap was like bread without butter, beans without ketchup and finn without haddie.

So the next day there appeared on the large blackboard in the drafting room an ingenious drawing which greatly disturbed the calm and dignity of the faculty. Central feature was a modern Gothic tower of unbroken vertical lines and setbacks at the top. Standing at one side was a huge crane with a cap motif in a sling ready to be hoisted up and placed on top of the tower. The caption ran something like this: "Design for Tower to Please Jury Steeped in Classic Tradition." jury member approaches, crane operator quickly hoists cap into place so that his esthetic repose will not be ruffled. As jury member departs, cap is removed for benefit of lovers of 'free' architecture."

Talk about an affront to the profession!

> THEODORE G. CLEMENT Design Consultant

Engineering Department Eastman Kodak Co. Rochester, N. Y.

BELATED BLAST

Forum:

The May issue of THE ARCHITEC-TURAL FORUM, on buildings of 194X is a severe disappointment. Apparently the architect has learned nothing from the Exposition of 1898.

It is expected our foremost architects would know that it takes more than sunlight and new materials to fit the buildings to the freedoms of 194X. All of the buildings exhibited, with one exception, were old structures with more light, spectacular facades and often open, but complicated, plans, using all the tricks in the architect's bag. The one exception was Mr. Mies van der Rohe's building that clearly indicates this man's genius by its freeness from personal expression. I am sure that its simplicity frightened many of our more "learned" architects. The real "fun" that should be had in the using of all buildings, be it

The real "fun" that should be had in the using of all buildings, be it prison or apartment house, was neglected. Why should not the office worker be given the advantage of having the outdoors brought inside? In 194X the Mrs. might well spend more time in the office than in the home. The "free use of land" consisted mainly of landscaped lawns only larger than those we have now. Why not make

(Continued on page 114)

A LETTER FROM THE PUBLISHER

Dear Reader:

Chest-puffing over a News Department in a monthly magazine may seem an anachronism. The radio beats an hourly tatoo on the ear drums, new editions of the newspapers hit the stands with bewildering speed, and news magazine (including our own Time and Life) do an incredible job every seven days. But general news is not building news and although Building keeps making news every hour on the hour, it seems to work out well for FORUM readers if it is collected constantly, carefully sifted, researched and written, and once a month put before our 161,842 readers (surveys show 41/2 readers to each copy of THE FORUM).

As with all news, Washington today is the Building news capitol. For some years a quiet, stoutish, seasoned, but still young journalist



Saunders

has been keeping an ear to Pennsylvania Avenue for THE FORUM. Washington assignments are traditionally the top jobs in U. S. journalism, and for Building that tradition has not suffered through the quiet presence of Richard Edmond Saunders. In appearance and in method, Dick is about as far removed from the Hollywood newspaper man as Walter Lippmann. Saunders knows his stuff because he is a student of every department of Building. He can hold his own with "Jack" Blandford, Herbert Emmerich, Herb Nelson, Morton Bodfish, Frank Cortright, Jim Follin, Senators Taft or Truman, "Mike" Colean, Army generals and Navy admirals, and frequently does. Saunders is the only Building reporter who attends the White House press conferences and one of the few in the whole field of business journalism who has earned a coveted seat in the Congressional press gallery. One reason Saunders can take Building apart and put it back together is because his background includes work for the National Association of Housing Officials, the National Association of Real Estate Boards, the American Municipal As-



Cooper

sociation and a string of others in the middle and on Building's fringe. Despite all the things he knows about home ownership, Dick has one of his own and he's reputed (not confirmed) to have built the coal bin with his own hands.

But while Washington is the center, it is not the whole Building show, as Louise Cooper knows, who spends all of her time in our New York office combing, not her golden tresses, but a round five-dozen daily papers, as many more reports, speeches and every other variety of printed words to make sure FORUM readers miss nothing important.



Grumbach

Recently, Louise's predecessor, Doris Grumbach, went to the West Coast and her on-the-spot reports should be coming in before this issue goes to press. If that seems to leave a lot of territory uncovered, remember please, that every Time Inc. correspondent throughout the U. S. and the world at large is ready to hop in on a FORUM story whenever one breaks. H. M.

PLAN ON Hospital Windows with these three

Post-war Jeatures

* NO DRAFT 100% VENTILATING * MAXIMUM SUNSHINE * FINGER-TOUCH OPENING and CLOSING

For modern hospitals, authorities agree on the value of a maximum of sunshine and fresh air, and the absence of cold winter drafts.

Ordinary sliding windows limit fresh air to a 50% maximum opening, allow direct drafts on the patient, don't provide no-draft ventilation in inclement weather. Frequently they swell and stick, require an "orderly" to open them. Heavy, bulky sash members cut down passage of daylight.

Post-war Mesker Hospital Windows will provide:

1. No-draft Sill Vents. Held open in any position, any nurse or patient can open or close them with a flick of the hand. They provide excellent, controlled ventilation, even in bad weather.



MCM

HON

The special 1%" deep Mesker Steel hospital window frame

- 2. Open-out Casement Vents likewise open as quickly and as easily as the door in the ward; close in a jiffy when it starts to rain.
- 3. Thin, strong Steel Members admit much more healthful sunshine and daylight. Mesker Hospital Windows are designed in extra deep steel shapes, for large light-giving openings. All Frames are 134" deep, and forward windows over 5'0"x 5'0". No steel window frame of less than 134" should be used, if maximum weather-tightness and sturdiness is to be obtained.

Do you have your 164-page "Redbook of Steel Sash"? It's free upon request.



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old or new.

The DELANY No. 50 VACUUM BREAKER in design and functional operation eliminates any necessity for inspection to ascertain if protection against back-syphonage is constantly provided. It's self policing.

Should a DELANY No. 50 VACUUM BREAKER become defective through fair wear and tear, sabotage, or faulty installation, such a condition will be made known to the user by the spilling of a small amount of water through vents of this vacuum breaker each time the valve is operated. This obviates the "usual" daily inspection.

And moreover, should any fault or stoppage occur and repair be delayed, the unit is fully capable of preventing back-syphonage should a vacuum develop while in a defective condition. This is the essence of full and constant protection - and why we call the No. 50 "Self Policing."

We know of no other similar device that has this most important feature.

Some Government projects have from 5,000 to 6,000 flush valves equipped with vacuum breakers. Anyone can appreciate that no maintenance force should be expected to inspect each toilet-unit each day-it is physically impossible. Therefore the preference for the exclusive "Self Policing" feature of the DELANY No. 50 VACUUM BREAKER cannot be denied.





Suppose you had the "Rush" job of building this huge recreation hall at an Army or a Navy Base. One way of speeding it to completion would be to use Atlas High-Early cement.

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The reason is this: Atlas High-Early produces serviceable concrete in a fraction of the time required by ordinary portland cement.

By using this speedy cement for foundations, structural supports, walls, and floors, you can save valuable time, manpower and equipment. You have greatly increased assurance that you will be able to meet your completion dates on time, in spite of bad weather or other slow-ups. Or, if a job is already started and has been unavoidably delayed, Atlas High-Early may help you catch up and finish on schedule.

Specify Atlas High-Early cement wherever you would use standard portland cement. Use it in the same places and the same way; it will give you durable, serviceable concrete quickly. Check over the other advantages listed in the adjoining box. They show why Atlas High-Early is being used so extensively today for wartime construction jobs that must be done in a hurry. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

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

CHECK ON ATLAS HIGH-EARLY for Wartime Construction

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

1. Permits earlier use of concrete, and thus gives owner earlier occupancy.

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4. Shortens time required for protection and curing as much as 70%.

5. Reduces overhead by saving time, manpower and equipment.

AF - H-56





THE SKY'S THE LIMIT!

THESE photographs prove again that there's practically no limit to the versatility of Gold Bond Gypsum Building Boards! In this case, a large packing company needed additional warehouse space—so they built it on the roof with Gold Bond Gypsum Building Boards. To quote the contractor they are products "that eliminate the use of critical material and speed up the erection of necessary buildings."

There are three of these products for emergency duration building. One is Roof Plank, for either flat or pitched roofs, which makes an ideal base for the roofing material. Another is Exterior Board. It has a weather-resistant exterior finish, completing both sheathing and siding in one operation. The third is Solid Partition Panels for sturdy interior walls quickly installed. All three handle and saw like lumber. All three are fire-resistant. And of utmost importance right now, all three are immediately available.

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THE MONTH IN BUILDING ... NEWS

FHA peeks at postwar home building (this page) . . . Americans save for six million homes (page 42) . . . Farm land boom (page 43) . . . Demand may increase insuring aids (page 43) . . . FPHA changes the rules, issues standard plans for prefabricators (page 44) . . . Day to house Baltimore Negroes (page 44) . . . War workers rent government furniture (page 104).

TURBULENT TUBS

"... rub a dub, dub three men in a tub..."

So went the old nursery rhyme and so may go the first promise of nonwar home building to emerge before war's end. The rub has been around for months and if Arthur D. Whiteside, head of WPB's Office of Civilian Requirements, wins his point soon there may be tubs. If there are and if military requirements gradually release other needed products, early next year may see at least a few thousand houses in which to put the tubs, a few thousand jobs for architects and builders to get their hands in before the postwar housing deluge hits. That Whiteside had official as well as industry support for his wish is indicated in an exclusive interview with National Housing Administrator John B. Blandford, published in this issue (page 60).

With the war fronts daily producing cheering news for the Allied Armies, postwar planning assumed a more realistic tone. Federal Deposit Insurance Corp. worked its adding machines overtime to produce the startling fact that U. S. citizens have already accumulated \$40 billion in savings, enough, if all of it went for housing, to pay for six million new postwar homes. Quick to catch the hint, FHA asked private builders to start estimating their early postwar prospects, even cautiously suggested that it might soon look at project plans for preliminary processing. Statler made news with its announcement that plans were being readied, sites being considered for a whopping new hotel in Chicago, an announcement hardly calculated to invite high bids for the Stevens for which the government is currently trying to find a taker. New York's Governor Dewey, who has avoided controversial subjects in the approved manner of a presidential aspirant, apparently figured he was on safe ground in blasting bureaucracy, came out hard for local planning. Due to go out of existence in September, the National Resources Planning Board issued a report calling for major postwar readjustment between population and industrial location, promised posthumous publication of a detailed waysand-means study.

Property owners and the National Association of Real Estate Boards found brief consolation in the decision of a federal district court in Georgia branding rent control as unconstitutional. Not many expected the decision to stick when appealed to the U.S. Supreme Court as surely it would be. Metropolitan Life, still beset with taxpayers suits, decided to take an intermission on land acquisition for its vast postwar Stuyvesant Town project until its legal decks are finally cleared of opposition. War housing neared completion of its total program with the announcement that NHA would build a few hotels near military hospitals to accommodate families visiting war wounded and the surprising news that here and there a surplus of housing was showing up in communities now past their war production peak.

All in all, it was a dull month for Building. Only the postwarriors were coming into their own.

POSTWAR PROMISE

Not two cars in every garage, but a new house for every family is the postwar promise Bror Dahlberg, president of Celotex Corp., wants politicians to make the U. S. Dahlberg, whose vision of a \$2,500 house for everybody is based on mass production and an ample supply of mortgage money at two and one-half per cent, has made a date with the Senate's Postwar Economic Policy and Planning Committee, hopes to convince these hardheaded Congressmen that low cost housing, mass-produced and mass-marketed, must have a central place in the national postwar plan. When Dahlberg and the committee get

NEWS

together the Senators can expect a lot more than the usual dry tussle with facts and figures. There will be cartoon movies to show what Dahlberg thinks tomorrow's cities will be like: industry moved out in the country, homes spread a hundred miles from working centers. linked by aerial bus service, chear private helicopters. There will be models of the low cost housing that Building is now technically ready to supply. But needed to make housing as popular and replaceable as a Model T, Dahlberg will tell the Senators, are: ► Integration of the construction industry. "Would the automobile have been as wide-spread as it is if the manufacturers had come to each buyer's shop or home, bought each individual part from another retailer, cut it to fit on the spot, then put it into the car?"

► Free flow of capital. "The home loan should be the safest private investment in existence—and the net interest return should not much exceed the yield for a government bond. To make such interest rates attractive to capital, our outworn mortgage laws must be overhauled. . . Through a mass loan policy the risk must be spread much as lifeinsurance companies spread the risk of their liabilities."

► Sacking of antiquated local building codes. "The war has focused attention upon the idiocy of such codes. We have had to build in a hurry, with a minimum of manpower and materials, so the codes have been set aside and their inadequacies demonstrated. When peace comes we must knock out these old rules and substitute modern, elastic mum of twenty years, with part of the monthly payments set aside toward paying the cost of a new house."

Housing pioneer Dahlberg pins a large part of his mass-production hopes on his own product—the insulating board developed from sugar cane waste. Wedded to an asbestos facing, Celotex becomes a fire-resistant, waterproof wall replacing a half-dozen layers of conventional construction and is marketed as Cemesto board. Crusading for low cost housing, Dahlberg hopes to assure wide opportunities for the \$2.500 house Celotex will produce.

NO COMMISSARS

New York State's happy Republican warrior, Governor Thomas E. Dewey, was happier than usual last month about a chance to take a poke at bureaucracy, at the same time point out how local and state governments can team with private enterprise to aid postwar reconstruction. Occasion: Dedication of two state-aided war housing projects at Tonawanda, N. Y. Pleased was Governor Dewey to observe that the housing was "no jerry-built, makeshift affair, no mushroom development" but a "slightly, valuable and integral part of the city."

Speaking to Tonawanda but doutless hoping that Washington would hear, the Governor said: "Some housing projects elsewhere have been such as to warrant the criticism that they were little better than nothing—and all at the public expense. . . You have demonstrated that housing projects can be effectively designed and constructed Martin Harris



DEWEY: no professors on his telephone

regulations that permit the use of new construction methods and materials." Planned renewal of housing. "Houses should be constructed to last a maxi-



DAHLBERG: for everyone, a Model T house

when they are in the hands of people best equipped for the job. Those are the people on the spot. The projects which today please nobody were planned and directed by remote control.

"Although you received state aid, you received no advice for which you did not ask. No youthful commissars came here from Albany to tell you your business. So far as I can find out, no professors on the long distance telephone issued you directives, and so long as I am in Albany, none will do so."

Dewey feels earnestly that it is the function of good government to do away with bad housing conditions. But he sees this job primarily as a state and municipal one, to be done in collaboration with free private enterprise. His own vision of the path to postwar reconstruction: "By zoning, state projects and progressive legislation we must set new standards of conditions under which our people live. By fair treatment under just laws we must revive by every means in our power the interest of free enterprise in housing."

CASH FOR SIX MILLION HOMES

Tucked in their collective sock, thrifty Americans have enough wartime savings to pay for six and one-half million moderate-priced homes. The Federal Deposit Insurance Corp. reports that a total of \$40 billion, 400 million has been saved over the last three and onequarter years. Evidently having its own divining rod for locating hidden currency, the FDIC includes stowedaway cash as well as war bonds, bank and savings and loan deposits in this figure. U. S. saving picked up in 1940, has increased in pace every year thereafter, is likely to get big enough to make some form of postwar spending control imperative. The most likely form: restrictions on cashing in war bonds. Year by year saving estimates run like this:

Currency and Bank Deposits		War Bonds	
1940	\$3,000,000,000	\$	900,000,000
1941	5,600,000,000	2	2,800,000,000
1942	11,700,000,000	8	3,000,000,000
1943 (1/4) 4,800,000,000	2	2,600,000,000

Total \$25,100,000,000 \$14,300,000,000

To reach the total war savings figure, \$1 billion in savings and loan deposits must be added. Not included in the estimate are business cash reserves, paper profits on stock investments, uncollected dividends.

What Americans will do with their vast postwar purchasing power is anybody's guess—and a good many guesses have already been made (see page 102 for the newest one.) If they follow the prewar pattern of buying on the installment plan, use savings for down payments, purchasing power would be vastly multiplied. But competition for the consumer dollar is likely to be multiplied proportionately. New and greatly improved products are to be expected from the automobile, aviation, radio and many other industries. Building knows that it, too, must offer a superior product if it is not to be bypassed by the expected high tide of consumer demand.

FARM SALE CHECK?

Costly aftermath of the sky-rocketing farm prices of World War I, deflated farm land values sent into foreclosure enough farm property to fill the Western dust bowl. Farm land's disastrous slide from an average value of \$10,284 in 1920 to \$4,825 in 1935 is a memory recent and bitter enough to make both farmers and federal economists anxious to head off another war boom in farm lands. Last month the Bureau of Agricultural Economics thought it saw trouble not far ahead, reported that for the first time since 1931 farm values are reaching above 100 (1912-14 price level) on the BAE index. Increasing by 3 per cent between March and July. values now stand at 102. Still far from the 170 per cent of prewar value to which farm land swelled in 1920, the present rise is worrisome enough to make observers in a dozen federal agencies feel that checks may soon be necessary.

Any action to check speculation in agricultural land will most likely come as a capital gains tax, work this way: A tax amounting to 90 per cent of the profits would be levied on sales where owners had held the property less than a year. For longer periods of ownership the tax would diminish, disappear altogether for land owned five years or more. Although this proposal would require Congressional action to amend the tax laws, it is regarded with more favor in Washington than the alternatives of extending federal credit regulations to include farm mortgages or requiring federal permits for farm sales. If prices climb much higher, Congress will be asked to add this amendment to the new revenue bill to be introduced in the fall session. There are, however, some favorable trends that may postpone action to curb farm sales. Farmers are using extra cash to pay off mortgages, not to expand holdings. Last year they paid off three times as much mortgage indebtedness as they retired during each of the previous three years. While farm buying for re-sale is increasing in far western and north cen-



BLAST FURNACE at new Utah plant will turn out 1,200 pig-iron tons daily

FEDERAL STEEL

Now near completion is one of the last big war building jobs, a giant steel mill at Provo, Utah. Last month the U.S. government, which owns the \$180-million plant, said that the Defense Plant Corporation will pay all management and operation costs, get all proceeds. Directing operation will be the Geneva Steel Company, a newly formed subsidiary of U.S. Steel Corp. Far bigger than Henry Kaiser's Fontana plant and the only other integrated steel mill west of the Rockies, the Provo plant will in one continuous operation mine ore and coal from Utah's scarcely-tapped deposits, make coke and pig iron, turn the pig iron into

steel plate for U. S. warships. Only the U.S. government can say to what postwar use the more than 2 million ton (ingot, plate and structural steel) plant capacity will be put. Made available to peacetime industry, output of this and other expanded Western steel plants will likely reduce by one-third the price of steel ingots on the West Coast. Columbia Steel (U. S. Steel's Pacific Coast subsidiary), building the plant for the government, has struggled through many a bog of priorities lack and labor shortage, employed more than 100 subcontractors, 8,000 men. One of many engineering feats: a seven-mile road bed cut through the jagged ridges of Utah's Wasatch range.

tral states, federal experts believe that on the whole speculative buying is still comfortably far from endangering market stability. Down payments on recent land purchases tend to be substantial, and a good share of the buying is for use.

POSTWAR PROP

Over the summer Federal Housing Administration officials have been readying strategy to get prompt Congressional action on an omnibus amendment to renew sections of the National Housing Act due to expire July 1, 1944. One, Title VI, provides insuring aid for privately financed war housing. Another is Title I, whose war importance—insuring aid for privately financed conversion of existing structures to provide additional war housing units—is overshadowed only by its potential postwar significance. Trimmed down by war shortages to bare essentials, many Title VI houses lack central heating equipment, bathtubs, flashings, downspouts. When the war is over, occupant-owners will want to bring their properties up to standard. When wartime renters move away, builder-owners will want to install missing equipment to make the houses salable. Unless the National Housing Act is revised to include more liberalized insuring aid to cover these situations, it is to Title I that both builders and home owners must look for help in the financing of postwar property improvements. Not only will the majority of recently built housing need improvements, but an estimated 90 per cent of the older homes in the U.S. will need some kind of repairs.

Easing credit for housing repair and modernization is Title I's oldest job. The mechanisms that enabled it to melt

NEWS

quickly the bitter credit freeze of depression years are expected to be effective in stimulating private enterprise to enter the repair-improvement-modernization field when the transition period from war to peace comes. But there will be other and impelling demands on Title I financing aid in the postwar period, demands to which its insuring facilities do not now extend. Millions of Americans will want to buy refrigerators, stoves, and other major household appliances. Thousands of suppliers of such equipment are already pointing out the logic of putting home repairs and home equipment into one neat financing package. Among real estate war casualties are numbered countless automobile showrooms, electric appliance stores, and other properties vacated by many kinds of retailers forced to close their doors for the duration. Real estate firms and the many large and small investors who own such empty stores will certainly want some credit to alter the property to meet the needs of a new postwar occupant. While insurance aid now covers improvement of commercial properties, it is likely that there will be a substantial demand for loans in excess of the present limit of \$2,500.

Set up to provide insurance coverage for modernization, repair, or improvement loans up to a modest \$2,000, Title I was the first part of FHA's program to get underway. So effectively did the credit easement operate that in 1935 it was extended to provide insurance for equipment loans. With a good deal of hoopla, early Title I promoters went after volume business, worried much less than their successors about putting a bucket under loans likely to leak. Those were great days for appliance dealers, some of whom, flaunting government insurance as a badge of respectability, sold electric refrigerators and washing machines to farmers who had no electricity with which to operate them. Inevitably, heavy losses showed up in this part of the program and as FHA began to grow less enthusiastic about pump-priming and more about showing a sound operating record, Title I coverage was withdrawn from any equipment not a structural part of a building. In spite of this rather disastrous history and in spite of FHA's feeling that there are already ample credit facilities in the appliance field, considerable postwar pressure for reopening Title I to nonstructural equipment loans is expected. Argument: FHA has now perfected techniques and organization, could operate effectively to check any abuses.

END OF THE BLUEBOOK

Some prefabricators have complained that the Federal Public Housing Authority's "approved list" was harder to get into than the social register. Others felt, and FPHA itself seemed to be in this group, that too many prefab upstarts had crashed the blue-book with experimental systems. Last month FPHA tore up the list (there were 56 names on it), said that everybody would start all over again. Casually FPHA produced two new standard plans for temporary housing-one for single family units, one for apartments, announced that henceforth both prefabers and non-prefabers would be required to bid on these and no others.

Welcomed by most of the industry. the new procedure means that prefabricators will no longer have to seek Washington approval of their systems in order to establish eligibility to bid on war housing, may now submit bids based on the new plans directly to regional FPHA offices. Many felt that end of the Washington roundabout would cut out a marginal fringe of dubious operators who, lacking both plant and prefabricating experience, armed themselves with a set of federally-approved plans, then sought a quick way to get into business. Few established prefabricators felt the minor modifications made in standard plans would call for any major re-gearing of plant operations. Out of the policy shift, the industry got this small plum: In areas where labor is scarce, regional directors have been instructed to consider only the bids offered by prefabricators.

Also offered by FPHA were two new standard plans for portable, demountable housing—not trailers, to be sure, but looking enough like them to bring a gleam back to trailer-makers' eyes. These units will have a little more space than trailers, will not be chassis mounted (tire and wheel truck shortages have destroyed what was once the trailer's main advantage), will go into a federal stockpile to be sent wherever there is acute but temporary housing need.

HOSPITAL HOTELS

In Sicily a wounded soldier goes to sleep on a plane, wakes next day to find himself in a U. S. hospital bed, hears from the Red Cross that his relatives have been told he is back home. Anxious families sometimes travel hundreds of miles across the country to see their men, queue up in long lines outside hospital gates, wait patiently for brief visiting hours. Where hospitals are located near crowded war centers, these families are hard put to find a place to stay. Last month the National Housing Agency said it would build the first hotels intended to accommodate relatives of hospitalized service men, chose two sites near Norfolk and Portsmouth, said hotels constructed there would be models for others to follow near military hospitals in all parts of the country.

FOR BALTIMORE'S ONE-FIFTH

In New York Joseph P. Day is a real estate landmark as familiar as the Empire State building and with the advantage of having been around longer.

Newspictures



DAY: color-blind pioneer

As a real estate auctioneer whose persuasiveness has never been surpassed, he has sold about one-third of the Bronx, one-third of Queens, a large part of Brooklyn, Westchester and Jersey. His intuitive grasp of the mechanics of group action accounts not only for an auctioneering technique that looks something like hypnosis to less gifted dealers, but also for his cardinal principle of real estate operation: to be well ahead of the crowd in buying and developing. It has been a long time since anybody has padded an auction block for Day-he used his hand for a mallet, came near breaking it every now and then until worried assistants initiated padding. But when he said last month that he would soon begin construction of a \$2,500,000 housing project for Negro workers outside of Baltimore, it was evident that Joe Day is still far ahead of the crowd.

In war-swollen Baltimore, Negroes make up one-fifth of the population, live in districts whose total area comprises less than four square miles of the city's 78.6. Negro density is about 58,000 to the square mile, while white density is little more than 9,000. Negro workers making as much as \$15 a day and willing to pay \$30 a week for housing can in many cases find nothing but hovels with outside toilets, renting under OPA ceilings for \$5 a week. When Day bought 39 acres of beach frontage seven miles from downtown Baltimore, said he would soon begin construction of 500 family units of Negro housing, he got a warm welcome from Baltimore. Putting up the mortgage money for the Baltimore project. under FHA insurance is the Equitable Life Assurance Society. This is only Day's opener; the firm hopes to build many such projects in war centers over the nation. The Day Construction Corp. is headed by Milton L. Ehrlich, has already built two white housing projects in New Jersey.

The housing site is near the Bethlehem Steel plant, which has always employed many Negro workers, now has 10,000. Day Village will be a self-contained community, equipped with playgrounds, tennis courts, boating and bathing facilities. Fifty redbrick, green-roofed, two-story structures are planned, each to house four to eight families. Planning aim of Architect Gustave Iser, New York, has been to provide as much family privacy as possible. Each family will have its own duplex apartment-a boon to war workers who sometimes have to sleep at unconventional hours-with private entrance and heating system. Rents will average about \$11 per room.

Day, who has long disapproved of the government's ventures into housing, looks upon the Baltimore development as an opportunity to demonstrate that rental housing for Negroes can be a sound investment and that tenants themselves will be much happier in a project free from the institutionalized restraints which he believes characterize public housing generally. His venture into Negro housing is likely to go far toward convincing the more cautious members of his profession that in this area lie real estate opportunities of the first order.

BUILDING TIME: 20 MINUTES

Palace Corp. of Flint, Mich., producer of a long line of Stout-designed. factory-built housing units, most of which fold up in one way or another, has developed a house that looks like the contraction record for some time to come. In the restive postwar world which many manufacturers now seem to be contemplating, footloose Americans can do better than hitch up a trailer or load a portable house on a truck. According to Palace Corp.'s newest invention, they will be able to pick up their neatly-folded house like a suitcase. The corporation, which builds about seventeen different types of expansible units by assembly-line methods, is apt to be argumentative when its products are described as prefabricated or demountable housing, most of which is fabricated in sections at the plant, fitted together on the job site. Palace units are not only factorybuilt but completely factory-assembled, require almost no labor for erection.

For the suitcase house, which was developed at the request of the British Air Ministry, Palace claims an erection time of twenty minutes. This plus the fact that the basic unit folds to a maximum of 360 cu. ft., weighs less than 2,500 lbs. permits mass overseas shipment by plane or boat. Likely to have wide use for military installations, particularly in invasion operations, the house would make it possible for first aid stations, photographic laboratories, and communication headquarters to be ready within a few minutes after cartons are landed on the beach.

The single-wall model intended for military use would sell for about \$200, require a minimum of critical materials. Exterior is of Homasote, non-critical grades of lumber are used for studding, only wiring, joining pieces and screens are metal. For postwar use, construction might be all-steel, double-wall and amplified in other ways. Palace thinks it can find a big domestic postwar market in supplying suitcase houses for seasonal laborers, a big overseas market in providing temporary dwellings for repatriated European populations.

THIS SUITCASE HOUSE offers 250 sq. ft. of floor space, folds for shipping to 16 ft. $8\frac{1}{2}$ in. x 8 ft. x 2 ft. $1\frac{1}{2}$ in. There is one push-out window for each 30 sq. ft., plus an entrance door, all screened. Palace Corp. builds it on assembly lines, thinks it will shelter eight persons and equipment, expects it to have wide military use in invasion operations.









Photos: Crooks Studio

NEWS

BATH TUB BATTLE

The fight started in WPB's plumbing and heating division when the National Housing Agency asked for limited resumption of production of metal bathtubs, soon moved over to WPB's Office of Civilian Requirements. Opposing bathtubs, the Army and Navy contended that any present step, however small, to increase civilian production might cause slackening of the war effort, cautioned that war production was changing more in shape than in size. Almost finished was plant construction, dropping was production of heavy armaments, but increasing was need for equipment to construct the bases, docks and airdromes that would launch invasion operations, foreseen was vast demand for the building materials and equipment that re-occupying armies must have for even minimum reconstruction.

Building, like every other industry, was keen to take the measure of a possible materials margin, anxious to know when its civilian supply operations might get a new, if limited, start. Washington real estate representatives told their followers that WPB was ready to modify L-41, which since April 1942 has stopped all but war building. hinted that an allocation of 300,000 nonwar houses was in the offing. Arthur D. Whiteside, heading WPB's Office of Civilian Requirements, called industry representatives to a mid-September meeting in Washington, planned to talk about what can be done to resume a limited amount of residential construction and repair. But most builders thought any wartime easement of civilian supply would go not for new building but for badly needed home repair, put their business hopes on getting off to a prompt start to supply the beckoning, booming postwar housing market.

HOLC UNLOADS

Directed by Congress to unload its \$31/2 billion holdings, the Home Owners Loan Corp. can already count up sales amounting to \$11/2 billion, more than half the homes in its foreclosure books. Selling prices have averaged about \$5,000 with payment terms as long as fifteen years, interest at 41/2 per cent. To step up liquidation HOLC bought space in 62 newspapers in seven eastern states, first federal expenditure for newspaper advertising space since Civil War days when the government bought page ads in almost every Union newspaper to promote lagging war bond sales. Aimed to take advantage

of the present high tide of interest in residential real estate buying, the HOLC ads were part of a thoughtfully developed program, were co-ordinated with cooperative advertising paid for by real estate brokers, window displays, other publicity worked out on a local basis. Copy emphasized the small down payment, low interest required for purchase, urged prospects to visit a real estate broker.

NEWS NOTES

Downtown Planning. Born in St. Paul: a postwar planning body with a full set of legislative teeth. Now making plans for downtown parking facilities and a transportation system to carry drivers from cars to destination, the newly created Central Business District Authority of St. Paul has been given powers by the Minnesota legislature to acquire property by purchase, condemnation, gift, or tax forfeiture, to issue bonds up to twenty million, to levy taxes on real estate in the district.

Metal Saved. For two war years federal specification men have whittled away at housing standards, shaved copper from downspouts, steel from girders, flirted with plastic bathtubs. Last month they reached figures they were proud of: Privately financed family dwelling units now use 69 per cent less critical metals than they did before the war. Temporary family units, publicly built, show a critical metal saving of 80 per cent over the permanent family dwellings the government used to build.

Trend. Rummaging into old defense housing data gathered by the WPA, the Bureau of Labor Statistics reported that in the first year of defense housing (1941) almost three-quarters of all home builders in war centers surveyed produced only one house each. War trend towards larger operations was evident, however, for the larger builders (10 or more houses) accounted for 56 per cent of 1941 home construction as against only 44 per cent in the year before. In this fact some saw a prophetic postwar finger-is the small builder becoming smaller and fewer permanently?

Building Mission. Lord Portal, British Minister of Works, has heard plenty of Parliamentary criticism because building costs have doubled since the war began. How, many wondered, could Britain undertake postwar rebuilding without huge subsidies? Last month Lord Portal thought he would see how the Americans are doing, appointed a four-man mission to study U. S. construction methods and costs. Members: Architect A. C. Bossom, M. P., Sir George Burt, chairman of the Building Research Board; Frank Jolstencroft. labor union official; Sir James West, director of postwar building for the Ministry of Works.

Tax holiday. No property tax this year, Vernonia, Ore. told its 1,412 residents. Adding up receipts from business licenses, occupational taxes, water revenues, the community found it had more than enough to meet all anticipated municipal expenses.

Thirst. In Arlington Farms, countryclub-like home to thousands of government girls who work at the nearby Pentagon, one of the hardest things to get is a cool drink of water. There are dance floors, bowling alleys, beauty parlors, badminton and tennis courts in the huge all-girl city stretched on the banks of the Potomac, but not a single drinking fountain or water cooler. On a hot Washington night thirsty girls jam high-priced soft drink stands, pay 25 cents for a pitcher of ice. Said the Public Buildings Administration defensively: Its architects hadn't forgotten drinking fountains; WPB had blue-penciled them, had further refused to grant a priority for purchase of water coolers. Still battling PBA invited WPB officials to tour the arid reaches of the farms' six tenwing residences, bet that WPB would soon call for a long cold drink of water.

Foreclosures. Melodrama's familiar villain, the silk-hatted gent with the mortgage foreclosure papers, has this year almost been crowded off stage. Foreclosures are now lower than at any time in the sixteen years covered by Federal Home Loan Bank Administration books. Only 14,179 nonfarm properties were foreclosed in the first half of this year, a 39 per cent drop from the same period last year.

School Days. When their 75 year-old school building burned last April 17, citizens of Pavilion Township near Kalamazoo, Mich. thought they would wait until after corn planting time to put up a new one. When the corn was in, school district officials went to a local dealer to buy lumber, heard they needed (a) priorities to buy the lumber; (b) a state permit in order to apply for priorities. Back from Lansing came their application for a state permit with a request for (Continued on page 98)

NAVAL TRAINING STATION: EAST COAST

Eggers & Higgins produce an admirable design for the Armed Forces, a camp for enlisted men built entirely of non-critical materials and planned to facilitate the Navy's extensive training program.



SUN BAKED CLAY ON UNFINISHED DRILL FIELD LOOKS LIKE SNOW. SITE IS EXCEEDINGLY DRY AND HEALTHFUL



TYPICAL UNIT CENTERS ON DRILL FIELD

The Navy takes just eight weeks to transform a civilian into a sailor. Camps where recruits are given the basic training for their naval careers must therefore be equipped to turn out thousands of thoroughly trained men in minimum time with maximum efficiency. The logical way to handle such vast numbers is to divide the station into individual training units, each complete and self contained, with advance training schools, recreation and hospital facilities for the common use of all trainees. These requirements obviously establish the program for the site plan. The diagram at the left shows the fundamental elements of a typical group though it is not an actual plan. Conditions and routine to be found later aboard ship are simulated as accurately as possible in the training program.

A key to the magnitude of such a project can be found in the cost of this station, estimated at \$45,000,000. Construction was completed in twelve months but in answer to the Navy's demand for increased personnel, the first recruits were graduated 28 weeks after construction began.



RECRUITS LEARN TO SWIM BEFORE GRADUATING. TRAINING PLATFORM TEACHES ESCAPE FROM SINKING SHIPS

TRAINING Buildings in this category illustrate the successful use of built-up timber and laminated wood in military construction.

With the exception of marksmanship, all the indoor activities of the Navy's basic training program are conducted in the drill hall. Specialized courses such as fire-control, radio and anti-aircraft protection are taught in the buildings of the advanced training schools. The swimming pool where trainees learn their most vital means of self preservation is located at one end of the drill hall. It is oriented to the south and opens onto a brick sun terrace which may be used after swimming classes. Clerestory strips running the full length of the roof and a large sun window in the pool area provide interior lighting for the hall. Laminated arches provide the required height at the center of the building and eliminate waste space. These were built up to the required curvature and depth by glueing layers of timber under pressure. The wind thrust at the ends of the building is transmitted to the bracing system of the roof by means of latticed mullions placed between the doors.

Target practice, one of the principal courses, is conducted on a separate indoor range. Here, where no columns were wanted and no steel was allowed, the large trusses are composed of small sections of wood and split ring connectors. Buffles behind the ceiling bulbs cast all light to the targets and none to the marksmen. NAVAL TRAINING STATION EAST COAST



DRILL HALL 1/2 SECTION







1







THE SURFACES OF FINISHED DRILL FIELDS WILL BE PLANTED WITH GRASS



THE TARGETS ARE BACKED WITH SAND FOR EASY RECOVERY OF BULLETS





GENEROUS SPACING OF BUILDINGS SAVED MANY LARGE TREES. OVERHANGS PROTECT THE TEMPORARY EXTERIORS

BARRACKS Flat roofs, long ribbon windows and straight-line plans are all departures from previous designs for barracks.

Each barrack (they are all identical in plan and construction) has its own small study area, where recruits can read, write letters, etc. This area, as indicated in the interior photograph, is not elaborate as regards space or equipment for it was incorporated only to supplement the more complete facilities located in other buildings.

The dormitory structures are very simple in construction and appearance, consisting merely of a wood framework finished with sheets of asbestos-cement. The ribbon windows have been produced in a very inexpensive manner, by inserting stock wood double-hung windows between the studs. Interiors are largely exposed construction, except on the ends, and on the second floor ceilings, where plywood sheeting covers the roof insulation.

The trellises which appear at the ends of each building are fire escape ladders; they do not seem too satisfactory as safety features. In general, however, the appearance of the barracks in groups is excellent. The simple gray blocks are well suited for repetition, while the dark strips of windows serve to provide the needed continuity.



CHAPEL IS SIMPLE, CLEAN CUT

NAVAL TRAINING STATION EAST COAST



A TYPICAL BARRACKS GROUP SEEN FROM COVERED PORCH OF MESS HALL







CONSTRUCTION PHOTO SHOWS BARRACK BEFORE COMPLETION OF PLANTING







CAFETERIA FACES DRILL HALL ACROSS THE PARADE GROUND, SEATS 1,800. PORCHES SHELTER WAITING TRAINEES

MESS HALL, a new type for the Navy, replaces the standard H plan with a T-shaped unit.

Dining in the Navy is not a social activity. The feeding of a regiment is handled with the same precision and efficiency characteristic of the entire training program. The huge mess hall, which serves one entire unit is divided into three double sections, each serving 600 trainees from cafeteria counters. The galley, refrigerators and storage spaces are in the stem of the T, serving all three units. The main dining area occupies the entire front of the building and is lit by clerestory windows over the projecting porches and dishwashing units.

Trainees enter the building through one of the three porches at the front, serve themselves at the cafeteria counters, and empty their own trays of dirty dishes as they leave through the dishwashing units which flank the entrances.

In keeping with the temporary construction of the whole station, the building is framed in timber, with most of the furnishings also in wood. The furniture and concrete floor are painted Navy gray; ceiling and walls are cream. Quarters for the mess hall personnel are located on the second floor of the service unit at the rear.

CONSTRUCTION OUTLINE:

STRUCTURE: Exterior walls-wood frame, cement and asbestos board, inside-various wallboards, Johns-Manville, U. S. Gypsum Co. and Celotex Corp. Floors-maple, concrete or oak. ROOF-felt and gravel. INSULATIONmineral wool; Celotex on drill halls and auditorium, Celotex Corp. HOSPITAL EQUIP-MENT-E. H. Sheldon Co. WOODWORK: Weisberg Baer Co. and Emblem Mfg. Co. FURNISH-INGS-Gaylord Mfg. Co., Heywood-Wakefield Co., W. & J. Sloane and John Wanamaker. HARDWARE-Russell & Erwin Mfg. Co. KIT-CHEN EQUIPMENT-Nathan Straus, P. B. Polhemus Co., Federal Mfg. Co., I. J. White Co. and Reed Machinery Co. Metal-American Blower Corp. and Buffalo Forge Co. LAUNDRY EQUIPMENT-American Laundry Machinery Co. and U. S. Hoffman Machinery Co. BATH-ROOM EQUIPMENT-Kohler Co., American Radiator-Standard Sanitary Corp. and Crane Co. HEATING: Steam system. Boilers-National Boiler Co. and Springfield Boiler Co. Stokers-Iron Fireman Mfg. Co. Regulators-Minneapolis-Honeywell Regulator Co. Water heater-Patterson-Kelley Co., Inc. FILTER PLANT-Fairbanks Morse & Co., Nash Engineering Co., Permutit Co. and Wallace Tiernan Co., Inc. REFRIGERATION-York Ice Machinery Co. SWIMMING POOL EQUIPMENT-Permutit Co. SEWAGE DISPOSAL-Hardinge Co., Pacific Flush Tank Co., Wallace & Tiernan Co. (A number of products have been omitted from this outline because of incomplete information.)

NAVAL TRAINING STATION - EAST COAST





EXPOSED WOOD MEMBERS ARE PAINTED CREAM TO BRIGHTEN INTERIOR



THE BAKERY IS EQUIPPED TO TURN OUT 20,000 LOAVES OF BREAD A DAY

HOSPITAL facilities include a school for the hospital corps—men who later act as male nurses aboard ship. All cases on the reservation are handled by the medical staff, which includes a number of specialists. Four special treatment buildings, for X-ray, surgery, eye, ear, nose and throat and physiotherapy, are provided. The hospital staff is quartered within the group area and has its own recreation unit.

HOSPITAL EQUIPMENT IS THE FINEST AVAILABLE







AMPHITHEATER AND ENCLOSED AUDITORIUM ARE USED BY THE ENTIRE STATION. TERRACES ON SLOPE SEAT 10,000

AUDITORIUM A single stage serves both indoor and outdoor theaters.

The large auditorium follows a familiar pattern in the provision of seating facilites both indoors and out, and its stage has been so designed that it works both ways. The auditorium proper can seat 3,000 spectators; the terraces outside, fitted with wooden benches, accommodates three times this number.

It is one of the interesting features of the project as a whole that standardization of elements was a factor in reducing costs and construction time. The auditorium, which uses laminated wood arches identical with those in the drill halls, offers another example of this practice.

The stage is equipped for almost any desired type of presentation, and has the standard gridiron used for scenery. It is probable that use of the amphitheater will be restricted to ceremonies and concerts, since the showing of plays to audiences of 10,000 presents great technical difficulties. However, the facilities of the indoor stage can be made available by opening a pair of large doors.





MARITIME SCHOOL: WEST COAST

In this school for training Merchant Marine officers, Architect Gardner Dailey of San Francisco has produced—with a minimum of critical material—one of the outstanding designs of the entire war building program.





THIS PHOTOGRAPH SHOWS THE VIEW FROM ADMINISTRATION BUILDING TO THE SIDE OF THE MESS HALL

In the Maritime School the "California Style" is used with consummate skill to meet a rigidly restricted building program.

The U. S. Merchant Marine Cadet Corps is now in its fifth year of activity. Created for the purpose of training deck and engine officers for the Merchant Marine, it has several basic schools in various parts of the country, and an Academy, where cadet-midshipmen receive their final training. Students are accepted with high school diplomas, and on graduation from the Academy are commissioned as ensigns in the Naval Reserve.

In the basic schools, of which this is the most recent, cadet-midshipmen go through an intensive course of ten weeks, divided into deck training and engine training. Because it is considered desirable to have the two student groups in contact with each other, each barracks has accommodations for both.

While this school is a modest establishment, compared with such huge projects as Camp Bainbridge, it can nevertheless be rated with the top jobs produced for temporary war use. It has a simple, but thoroughly workable plan, it makes admirable use of both contours and existing trees, and the architecture is distinguished. Most impressive is the fact that all of this was achieved without evidence of the expenditure of a single unnecessary dollar.

The school plant consists of barracks, an administration building, a mess hall (see plan) which is also used for assemblies and dances, a gymnasium with machine shop below, a boat house and an infirmary.

The buildings are entirely of wood, finished with redwood siding outside and white pine plywood inside. As in so many outstanding California buildings, the design vocabulary does not extend beyond the limits of good carpentry. Nevertheless these restricted elements (standard framing, conventional siding, and the simplest of wood windows and doors) have been handled with remarkable subtlety and skill. Even service elements, such as the kitchen which appears on the facing page, have first-rate design quality. Also typical of this kind of West Coast work is the landscaping, which is completely satisfying though obviously inexpensive and easy to maintain.





CLASSROOMS ARE INEXPENSIVELY FINISHED, HAVE GOOD LIGHT, AND CAN BE COMBINED FOR LARGE CLASSES

Classrooms and dormitories are incorporated into each barracks building, a feature both convenient and economical.

The extent to which cost and lack of critical materials influenced the design is indicated by the photograph of the classroom. Windows are light wood sash, awning type. Studs are set 2 ft. apart, finished with plywood: there is no insulation in the walls. Note that classrooms are located at the ends of the barracks, another factor in simplifying the school plan and reducing building costs. Each classroom unit can function as two rooms or one. Because each barrack is used by two equal groups of deck and engine cadets, the standard plan is symmetrical; toilet facilities are housed in a separate building.

The photographs on the opposite page again illustrate the pleasant effect achieved with cheap materials. Admittedly the architect was unusually fortunate in the site, but the buildings would look well even without their surroundings of eucalyptus trees.

CONSTRUCTION OUTLINE: EXTERIOR WALLS-redwood, 15 lb. felt, building paper; inside-studs and white pine plywood. Floors-Douglas fir. ROOF-mineral surfaced cap sheet over 15 lb. felt. INSULATION: Roofs and ceilings-Firtex, Firtex Insulating Board Co. WIN-DOWS: Sash-sugar pine. Glass-double strength, quality B. STAIR RAMPS-Mastipave, Cott-A-Lapp Co. HARD-WARE-Schlage Lock Co. PAINTS-Samuel Cabot, Inc. ELECTRICAL WIR-ING-conduit. Switches-tumbler. Fixtures-Carl Von Hacht. PLUMBING: Fixtures-American Radiator-Standard Sanitary Corp. Water pipes-galvanized iron. HEATING-steam system. (A number of products have been omitted from this outline because of incomplete information.)





NOTE WOODEN, AWNING-TYPE SASH IN THE LARGE CLASSROOM WINDOWS



TOILET SECTIONS ARE CONNECTED TO THE BARRACKS BY GLAZED RAMPS





BARRACKS

BARRACKS

SCALE IN FEET



AN INTERVIEW WITH JOHN B. BLANDFORD, JR.

Whether Homebuilding actually realizes the brilliant postwar future so many have predicted depends not on one man but on many men. But more than any other, it will depend upon the National Housing Administrator. What John Blandford thinks about postwar housing is important to private home builders and public housers, to real estate men and architects, to material manufacturers and bankers. It is important because of his official position as head of NHA, the coordinating agency which directs the broad policies of the Federal Housing Administration, the Federal Public Housing Authority and the Federal Home Loan Bank Administration. It is doubly important in view of his personal reputation as a student of public affairs, and his brief but concentrated experience at the center of the war housing effort.

To learn his views on the problems of the immediate postwar period, THE FORUM asked Mr. Blandford nine questions, covering most of the important issues now confronting the homebuilding industry. His answers, printed below, were given in recognition of the fact that, while the wartime job of housing war workers continues to have first call on the National Housing Agency, a full discussion of postwar housing is desirable and increasing study should be given postwar housing preparations.

1. What will be the policy of the Federal Government as to the removal of temporary war housing projects in the postwar period? Is it your opinion that the recent amendments to the Lanham Act specifying the removal of such projects within two years after the end of the emergency will actually accomplish this objective?

BLANDFORD: In shifting to temporary construction for substantially all publicly financed war housing programmed during the past year, the National Housing Agency has consistently taken the position that housing of temporary type must be demolished once the emergency wartime needs for which it was built no longer exist. To strengthen the legal framework for this policy, we took the initiative in requesting Congress to establish specific directives and requirements for the prompt removal of temporary housing after the war. We will also seek the cooperation of the communities in which temporary projects are located to plan for their removal on a realistic basis and to resist the pressures that doubtless will frequently develop for their continued use as peacetime housing.

The recent amendments to the Lanham Act require that all temporary war housing shall be removed as promptly as practicable and in any event within two years after the end of the emergency. Exceptions are limited only to such housing as the Administrator, after consultation with the local communities, finds is still needed in the interest of orderly demobilization of the war effort. All such exceptions must be reexamined annually by the Administrator and reported to the Congress. The amendments also authorize the establishment of reserves from current rental income to meet the expense of postwar removal.

The wisdom of this policy is made clear by consideration of the role of temporary structures in the over-all war housing program. The decision to use temporary construction in most publicly financed war housing was made within a framework of extreme shortages of critical war materials. It was made also against a background of fluctuating needs for war housing, which reflected the rapid shifts in production scheduling growing out of developments in the strategy of the war. To supply that part of the war housing need subject to the impact of these inevitable fluctuations in wartime production, we decided to schedule temporary housing, using minimum amounts of critical materials and requiring minimum expenditure of public funds. The result is minimum housing compatible with decent short-term standards of comfort and sanitation. For extended use over a period of years, these temporary projects would clearly be substandard—substandard in location, in design, in equipment, and in density. Wherever possible temporary projects have been located on leased sites; in fact one-third of the publicly financed war housing projects put under contract in the past fiscal year were located on leased rather than purchased land. It is for these reasons that they must be removed after the war.

This does not mean that all temporary war housing can be removed within a few months after the close of hostilities. The program of removal must be carefully balanced with national policies governing the demobilization of the armed services, the reconversion of war industries to peacetime production, and the consequent movement of war workers. Quite possibly there may be need for interim use of some temporary projects for the convalescence or rehabilitation of returning soldiers and sailors. In other special instances, it may be desirable to continue to use temporary projects for housing industrial workers pending the provision of permanent housing or pending the opening up of employment opportunities in other localities.

The job of the NHA will be to keep closely in touch with the national plans for reconversion to a peacetime economy, and to work out with the communities themselves an orderly program of removal which will be in balance with these national plans as well as with local needs. In essence, the job of removing temporary war housing will require the closest cooperation and consultation with the communities.

I should like to emphasize that our policy will be to demolish temporary projects, not to sell them for possible continued use as housing. We will seek an orderly procedure for the disposal of salvaged materials and equipment, having in mind both the impact of such sales on the market and the realization of a reasonable salvage return to the Government.

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2. What will be the policy as to disposition of permanent war housing in the postwar period?

BLANDFORD: War housing of permanent type has been programmed by the NHA primarily on a basis of securing maximum utility from the investment of money and critical materials wherever a continuing need for the housing was indicated for the postwar period.

Postwar disposition of government-owned permanent war housing, which was built largely in the earlier phases of the emergency will be controlled by policies laid down by Congress.

As to the disposition of permanent housing financed by Lanham funds, the act specifies that consideration shall be given to full market values and that, without specific authorization by Congress, no housing may be conveyed to any public or private agency organized for slum clearance or to provide subsidized housing for persons of low income. As the transition to a peacetime economy comes nearer and as broader information becomes available as to the volume of housing to be disposed of, as to the general real estate market condition in major war production centers, and on the desires and needs of communities, Congress may wish to consider other methods of disposition of units built under the Lanham Act program.

Close cooperation with the communities also will be required for intelligent postwar disposition of demountable family units. Approximately 82,000 demountable dwellings suitable for long-term use have thus far been programmed, about half of which have been financed with Lanham funds and about half with funds from the Temporary Shelter Act. Subject to actual experience with the economic feasibility of demounting such units and assembling them on different sites elsewhere, these demountable units will provide a flexible supply of housing in the postwar period, available for continued use on present sites if permanently needed by the communities, or for removal to other uses such as farm housing, or possibly for temporary use by convalescent military and naval personnel in the immediate transition period between war and peace.

In addition, some 58,000 family units financed under the

U. S. Housing Act pursuant to its wartime housing amendments (Public Act 671) or transferred to war use from the prewar low rent program were programmed on the basis that they would be absorbed by local housing authorities as an addition to the supply of permanent low rent facilities.

There will also be the problem, in the postwar period, of determining when the properties leased by the Government for conversion into additional family units have served their war purpose and should be returned to their owners. In many instances, the conversion and reconditioning of older properties financed by Lanham funds under the Homes Use program should have a stabilizing influence on neighborhood values in the immediate postwar period.

Throughout the war housing effort, privately financed housing has been programmed in amounts related to longterm needs as well as to the emergency needs which justified the construction in wartime. While the requirements of the war effort have been paramount in setting the terms for privately financed war housing as well as for publicly financed projects, there appears to be a reasonable basis for the assumption that private projects generally will be absorbed by the communities in the postwar period. This likelihood is supported in most war housing localities by the fact that the development of private projects has generally been in harmony with the peacetime trend of growth in the community.

Because of the serious shortages of critical materials, recent private war housing has been streamlined to meet war requirements in use of critical materials, with the result that some prewar standards of equipment have necessarily gone by the board. However, many current private projects are being planned for use of temporary equipment which can be replaced with higher-quality items after the war. We anticipate that such replacements to bring private war housing up to long-term standards will be undertaken where needed by the owners when supplies of peacetime goods again are available, and that, if necessary, refinancing can be arranged to meet the reasonable costs of such improvements.

3. If war demands for critical materials should ease, do you see any reasonable prospect of a nominal resumption of peacetime building before the war ends?

BLANDFORD: If surplus supplies of materials and manpower not needed for direct war production should develop prior to the end of the war, I believe that housing construction should be one of the first outlets for such surpluses.

There is no doubt that the housing inventory of the nation is deteriorating during the wartime period. In non-war communities, no new building is proceeding under the current necessary restrictions on use of critical materials. While a substantial volume of new war housing is being provided in shortage areas, the condition of existing houses in those areas too is generally declining. Intensified use of existing dwellings is accelerating normal deterioration; normal upkeep and repairs have been curtailed by shortages of materials and manpower; and cities generally have stopped for the duration the demolition or condemnation of substandard structures.

Whether any operations to correct these conditions can partially be resumed during wartime will be determined, of course, by the availability of materials and manpower, after all war needs have been met. On this point, the recent policy statement of the WPB's office of Civilian Requirements is pertinent: "We must insure that all minimum essential civilian requirements are met and in addition that all national resources above that level, which cannot be employed effectively to meet our military and foreign policy needs are utilized to supply civilians." The NHA is represented on the Civilian Requirements Policy Committee, which approved that statement.

The war housing construction program, which may reach its later stage during the coming twelve months, has consumed less than 1 per cent of the total national output of critical metals. Assuming the continuing availability of other building materials, the possibility of continuing to use some similar amount of critical metals to check at least partially the deterioration in general housing conditions and to hold together the building industry and its distribution system is one that should receive serious consideration, subject to the material and manpower needs of the war effort.

BLANDFORD INTERVIEW

4. Should certain FHA Title VI mortgage insurance provisions, such as the insurance of 90 per cent loans direct to operative builders or the accumulation of down payments by individual purchasers on a lease option basis, be incorporated in Title II procedures for postwar FHA-insured housing? Would it be feasible for FHA to resume processing of applications for peacetime projects or to develop a system of pre-appraisal so that a volume of work that is ready to start can be accumulated?

BLANDFORD: It remains to be demonstrated that changes in the down-payment provisions of Title II insurance on small homes are needed in the interests of home ownership. The existing provisions of Title II already permit the insurance of 90 per cent loans to owner's-occupant mortgagors of new homes valued at \$6,000 or less. Inasmuch as the objective is the promotion of home ownership, these provisions appear to be adequate, particularly as millions of potential buyers will enter the postwar period with considerable savings accumulated during the war. From the viewpoint of relating peacetime housing production to community and individual needs and of maintaining a sound insurance system, it would appear proper to return to the established Title II procedure of issuing conditional commitments to builders, as contrasted with the wartime Title VI procedure of issuing firm commitments of insurance on 90 per cent loans to operative builders.

Further study of possible changes and improvements in

FHA insurance procedures for new rental projects may well be desirable. Such studies might include consideration of the feasibility of applying yield insurance to the total investment in such projects as an alternative to the insurance of high percentage mortgages.

Processing of applications for FHA insurance on new housing requires full knowledge of cost levels, local market conditions, and the economic trend of the locality. Since such postwar factors cannot be accurately forecast during wartime, proposed projects submitted for preliminary processing now would doubtless require complete reprocessing when the war is over. Advance processing would not generally result in important time savings and would present problems from the standpoint of practical operation. Cooperation between the FHA and developers in the form of preliminary discussions of plans and advance planning of subdivisions for postwar projects would doubtless be helpful in many instances.

5. How quickly can the building industry resume full production in the postwar period? In what postwar year can we reach a building rate of a million houses a year? What steps can be taken by communities, builders, lending institutions, and the NHA to speed up postwar revival?

BLANDFORD: The basic tools for prompt revival in residential building should be available when the war ends. The supply of manpower should be adequate, although there may be need for training programs to reestablish a skilled labor force of the size called for by a large scale postwar building program. There will be large capacity for production of traditional building materials when war demands terminate, as well as large capacity in the new materials developed or greatly expanded during the war period. There will be a large reservoir of personal savings carried over from the war period—these have already amounted to \$40,000,000,000 according to latest estimates as well as ample credit and going mechanisms for mortgage financing.

While this framework points to the feasibility of prompt resumption of building operations, the rate of housing production in the immediate postwar period will be largely controlled by the trend of the war and by national policies for the demobilization and reconversion period.

We are still too deep in the war effort and too far removed from demobilization and reconversion to venture confident predictions. However, we can at least identify some of the factors which will be controlling and which we should watch carefully and attempt to guide into the most productive channels. Furthermore, in such preliminary appraisal of the postwar outlook, it is wise to distinguish between productive capacity in the housing industry in the immediate postwar period and the market potentialities for housing at that time.

With respect to productive capacity, there should be a basis for reasonable optimism. Given the determination to make housing construction a major postwar activity and assuming the war follows a pattern which permits partial reconversion of material and equipment facilities and partial training and mobilization of manpower for housing construction prior to the final day of victory, we should have the productive capacity to reach an annual building rate of 1,000,000 houses by the end of the first postwar year.

However, this prospect also assumes early organized effort to prepare for speedy resumption of household equipment production, adequate supplying of our distribution channels with materials, prompt educational work in the use of new materials, and early selection of adequate sites for new housing. It must also be recognized that new construction immediately after the war will have to compete for materials and equipment with the pent-up demand for replacement of equipment in existing houses and with the probably large demand for repairs and modernization deferred during the war.

From the standpoint of the actual volume of building which is likely immediately after the war, this prediction as to productive capacity must be tempered in relation to the controlling factor of market potentialities. There will undoubtedly be an initial period of uncertainty until we can see more clearly the new pattern of general peacetime production, and until demobilization of manpower, plant and housing is well along. These factors will, of course, vary from community to community, depending upon the varying degrees of community participation in the war effort. Obviously, determining the market for housing is a much more complex problem than determining the market for such products as automobiles, inasmuch as houses are built in specific locations and are thus subject to highly localized market conditions.

BLANDFORD INTERVIEW

It is important that our communities themselves in cooperation with builders and lending institutions begin at once to determine the general outlines of their postwar need for housing in the light of their probable position at the end of the war. It will be the job of the Federal Government and cooperating national organizations to keep communities fully informed as to the development of national policies on demobilization, reconversion of war industries and similar national trends which will influence postwar housing needs on the local level. It will also be the job of the Federal Government to make available means for financial assistance for local postwar housing production whenever such aid is considered necessary by the communities. The time it will take to reach a rate of a million new houses a year will be determined by the speed with which this cooperative job of

defining need and market demand can be carried out.

Preparations for quick development of a broad-scale postwar housing market will also be helped by realization on the part of communities, builders and lenders that the great area for postwar activity lies in supplying modern housing for the lower-income families—the mass housing market that has never been adequately supplied. There will be a strong postwar demand for housing in the higher-price brackets, where new building has been completely cut off during the war. But if builders and lenders repeat the mistake of the Twenties by concentrating on this high-price market at the expense of large scale production of low cost accommodations, it is doubtful that a million-a-year housing output rate could ever be attained and it is certain that such a rate could not be long sustained.

6. Are you in favor of extending FHA insurance to include (a) commercial buildings or (b) community structures necessary to a planned community?

BLANDFORD: In my opinion, well-planned community facilities constitute a definite asset to the livability and economic stability of a residential development. Commercial structures which are an integral part of a housing development and which contribute to convenient living where projects are remote from established shopping districts also are valuable adjuncts to well-planned projects, under proper

controls. The cost of such community or commercial installations, in proper ratio to the total value of the development, is already recognized by the FHA in its valuations of large scale rental projects insured under Section 608 or Section 207. Ways and means of extending insurance to similar installations in developments built for sale might well be studied.

7. Should federal assistance for new low rent housing developments be resumed after the war? What should be the volume of low rent slum clearance in relation to privately financed construction? Should local housing authorities proceed now with preparation of plans and acquisition of sites for low rent public housing?

BLANDFORD: Our broad long-term objective for postwar must be a maximum program to provide good housing for all American families. Within that framework, the challenge to private enterprise is to do as much of the job as possible. The area for privately financed operations will be limited only to the extent that private capital does not meet adequately the needs of the low-income groups.

To determine the extent to which direct federal financial assistance will be required for acquisition of land and construction in postwar housing, we must have first some early indication of what part of the total need for housing can be met by private enterprise, either unaided or with only indirect assistance of insurance and secondary credit. This determination must be made by the communities themselves, operating through local housing authorities, local planning commissions, the building industry, and lending institutions. The Federal Government again will assist with information on national policies and national economic trends which have a direct bearing on the scope and character of local housing needs in the postwar period.

When information is available on what part of the postwar housing load in the communities will need federal financial assistance, we will be in a position to discuss specific proposals and specific programs with Congress. Active measures in all communities to prepare community plans and to measure as accurately as possible the postwar need for all types of housing represent the most important area for community activity at this time. When funds are available, site acquisition and preparation of project plans in advance should be undertaken. In localities with large active war housing programs, however, acquisition of sites now for postwar projects should be undertaken cautiously.

8. The executive order establishing the National Housing Agency was issued under the authority of the First War Powers Act of 1941, which will expire within six months after the termination of the war. What is your opinion as to the desirability of continuing a consolidated housing agency on a permanent basis in the postwar period?

BLANDFORD: The National Housing Agency was established by the President as a war measure to draw together the scattered housing functions of the Federal Government and to make more effective the concentration of those functions on the primary job of war housing. Experience has proved the wisdom of that step. Under the NHA, we have been able to unify government housing policies and to establish teamwork in governmental housing functions. War housing has been completely integrated with (Continued on page 140)

In which we invite you to join us in the useful art of PAMPHLETEERING

".... the pungent pen of the pamphleteer played its part in rousing the spirit of the nation

COMMON SENSE: NUMBER OF THE INHABITANTS A M E R I C A. A M F R I C A. A M Washington's day was Tom Paine's day, but Tom Paine's way was the pamphlet. Again and again, when things looked their darkest, Paine's militant pamphlets appeared to turn a faltering, famished Revolutionary army from despair to determined attack and final victory.

Today, the pamphleteer is with us again. In England pamphlets on a dozen subjects claim the avid attention of millions. Wendell Willkie's "One World," almost too ambitious in form and price to be so classified, is nevertheless one of the truly great and successful pamphlets of any time.

Undeterred by this impressive tradition, the Editors of THE ARCHITECTURAL FORUM have set down certain convictions on city and town planning in a modest sixteen-page pamphlet. "Planning With You," addressed to the whole public, is not designed to make its readers expert in this technical field. Rather, it introduces the U. S. citizen to planning, it advocates that planning-on-paper must be done now.

Rebuilding every U. S. city and town is an issue of great dimension -just such an issue as would have claimed the attention of the pamphleteers of the past. It is *the* challenge to postwar America. It stands or falls, as all great issues do, on public opinion.

But this pamphlet cannot influence widespread public opinion unless copies by the thousands reach people by the thousands—your friends and neighbors, your fellow townsmen. "Planning With You" in quantities is available to individuals and organizations at five cents a copy. Checks should accompany orders. If you believe that planning now is imperatively necessary, you can take no better first step than to place a few or many copies of "Planning With You" before people without whose support there will be neither great plans nor great enterprises to follow. —THE EDITORS

PLANNINC WITH Volu



WHY PLAN? "... Every family that moves out of town takes its taxes with it, so the town not only loses the people but their needed financial REPLANNING TO SERVE CHANGED NEEDS "... When artillery was invented the walls lost their usefulness and the cities grew beyond them." support." WE NEED A "BACK TO TOWN" MOVEMENT "... Most of our towns must WHY CITIES DECAY "... Blight had gotten in its deadly work on sections turn in toward the center again." of London long before the blitz came." HOW CAN WE FIX DECAY? "... A planless program is no solution; it merely creates a new set of problems." WHAT IS WRONG WITH PLANNING? "... Planning provides a framework, not a set of immutable decrees. Democratic planning gives plenty WHAT THE MODERN CITY NEEDS "... Above all, it needs order and of room to the individual." beauty—for this is something all people react to, and their lives and think-**GLOSE-UPS** "... Few communities, especially the larger ones, have enough ing are better for it." CITIES FOR CIVILIZED AMERICANS "... But no one has seen a city really light and air." designed for living properly in the twentieth century." WHAT TO DO "... The pressure of public opinion and recognition of it are what make America a democracy."

NINC

ELAGGO OF CHIERS IS COMMING "POWNING WITH 1911: BUT IN THE CHARGE MOTOR The Carbondale Leaders HAMBER OF CO. AMPERE BANK AND TRUST COMPANY PLANNING WITH THE GREAT FALLS NAT APARTE SALO TONAL BANK 2222020020 YOU LAKE WALLES CHAMBER OF COMMERCE 380 44 AN REAL ESTATE BOARD (4) THE NEW YORK ispint 20 792 antitect

DO IT TODAY-BUILD IT TOMORROW

Your community can be among the first to start its own postwar program. Sendyour order and check now for as many copies of "Planning With You" (5c each in quantities) as you need. Orders received promptly will be included in the second printing.



MODULOK — a wartime system of prefabrication with a big postwar potential. Compound sheet-insulation in interlocking frames forms single-thickness wall panels suitable for one- or two-story structures.

The war demand for demountable and temporary structures, both civil and military, has brought into being scores of new types of panel construction, all more or less alike, all stemming in one way or another from conventional frame construction. To this rule the system shown above and on the following three pages is a notable exception. Instead of the usual hollow-box wall panel, with separate faces of sheet material corresponding to the sheathing and inside finish of conventional construction, it employs a single thickness of compound insulating material. Instead of the wall panels resting on the floor, as in ordinary "platform" framing (and thus leaving a space to be finished with other material), they are bolted to the vertical edge of the floor panels. And, instead of the usual framing of closely-spaced vertical members recalling the studs used in a regular frame wall, it employs an unusual frame which surrounds the panel material on all four edges, like a picture frame surrounds a picture.

It is from the last named feature that the system gets its name—Modulok—and most of its advantages. The basic framing member, a patented shape, interlocks on its outside face with adjoining panels and structural members on all four sides of the panel, forming a weatherproof, self-aligning connection which PREFABRICATION



Jig assembly of wall panels in frames. Present panels are insulation faced with cement-asbestos and linoleum.



Panel shipments are made by truck or rail. Note nesting of the thin, flat panels, large number carried per load.

GABLE PANE

WINDOW PANEL

TRUS!



Placing floor panels at Job. Rough floor, in this instance gypsum board for fire resistance, is not applied until after roof is complete.



when secured in one direction is proof against movement in other directions as well. At the same time, the inner face of the member locks around the insulating panel which forms both faces of the wall, holding it securely in place without the use of nails or glue.

Miami Architect Originated by Arnold Southwell and developed by him in conjunction with Teel Williams, now president of Modulok Inc., the system has been used extensively for temporary Naval barracks and hospitals, officers' quarters and civilian war housing. More than half of the buildings built to date have been two stories high, and some have ranged up to almost 400 ft. in length. An unusual feature of much of this construction has been the fire resistance achieved by combining incombustible wall panels with flameproofed framing members.

FLOOR PANEL

MOLDED RAIL

PI AIN PANEL

While the complete system includes prefabricated floor, wall and roof panels, any or all of these can be used in conjunction with conventional construction as job conditions dictate. In large-scale work, roof trusses, floor panels and even wall panels have been assembled at the site, to cut shipping costs. Fabrication of the special framing members is usually done at the mill which originates the lumber.

In its work to date, Modulok Inc. has in some instances acted as general contractor; in others it has furnished parts and field instruction; in still others it has acted simply as a manufacturer, supplying parts on the same basis as, for example, regular millwork. In future and postwar work it plans to employ the latter scheme.




Erection of wall panels for a temporary hospital. Cross wall of conventional construction is used for earthquake resistance.

TEMPORARY HOSPITALS for the Navy (plan, right), together with Naval barracks, have so far constituted a large part of the work done with the new system. Isometric diagram on facing page shows construction used for typical ward unit, pictures below conventionally built connecting corridors, constructed after the ward units are complete.



Placing prefabricated roof trusses, made in Jigs on the Job. Trusses are lifted in place upsidedown, then swung up into position.



Roofing is insulating Cello-Roof, on diagonal shingle lath. Mineral wool insulation is also provided over ceilings.





Corridor in treatment section of ward unit is conventional frame construction, employing ready-cut lumber.



Connecting corridors, built after ward units are complete, Join a score of the standardized, prefabricated buildings. Jig assembly is used for floor framing.

Interior of connecting corridor, which is finished with gypsum wallboard on regular studs.

Photo: Dick Whittington



NAVAL HOSPITAL GROUP SHOWS HERRINGBONE PATTERN OF STANDARDIZED, PREFABRICATED WARD BUILDINGS

Through construction of officers' quarters for the Navy, Modulok has acquired valuable experience in the small house field, which it views as its prime postwar market. After the war, it plans to supply parts for houses like those shown on this page-two of which were designed to meet government specifications for war housing, the other two designed and built for Naval officers. Parts from demounted temporary structures may also be used to supply a portion of this market, since Modulok panels can be taken apart without injury and reassembled to form various plans, and are easily covered with other surface materials when a conventional "skin treatment" is demanded.







Minimal war housing unit designed to meet FPHA standards and built from regular 4 x 8 ft. Modulok panels.



Slightly larger version of the FPHA war housing unit, shown with facing of shingles, shutters and features which might be added after the war.



Seven-room, two-bath house as built for Navy use as officers' quarters. This unit, and in some instances a variant with still another bath, has been constructed within the \$7,500 statutory limit allowed for such housing.







DOES MODERN ARCHITECTURE PAY?

For the editors of THE ARCHITECTURAL FORUM this question was answered in full many years ago. Every issue of the magazine, since modern buildings became available for publication, has reflected a conviction that modern design is superior on every count to traditional work of comparable quality. Why all THE FORUM's editorial chips were put on this one trend has been explained too many times to need repetition. Why this article appears at this time is another matter.

Modern architecture in America holds undisputed sway in the commercial and industrial fields. In every other it has made strong progress, but quantitatively speaking, it has hardly scratched the surface. To some extent this lag can be attributed to public conservatism—and that of a large number of architects. But essentially it is due to the opposition of banks, insurance companies, Government agencies, operative builders: factors which control practically all U. S. building. This opposition is more than emotional. It is the normal unwillingness of the investor to put his funds into something that may not pay off.

It may be argued that a non-commercial building—say a church or a private home—cannot be evaluated on a basis so crassly materialistic. However, as long as lending institutions continue to place mortgages on such buildings, the argument need not be taken too seriously, for the inevitable criterion in such transactions is always "Will it pay?"

The 25 buildings shown here do not constitute a "survey." There was no attempt to get percentages and pros and cons. The editors simply prepared a list of modern buildings of local or national importance (most of them are "extreme" from the layman's viewpoint) and asked for clients' statements based on their experience. For those architects, who, like THE FORUM, have been striving for a wider acceptance of contemporary design, this material is ammunition for a fight that is by no means over. It should at the very least bring into question the notion that investment return and resale value are answered only when a building turns its face to the past. The time approaches when today's use must be the yardstick of tomorrow's worth.

INSTITUTIONAL. The modern institutional building, whether public or private, has distinct advantages over its competitors. Mentioned in the examples are: improved community interest; greater operating efficiency; lower maintenance costs.

LAKE COUNTY SANATORIUM, Waukegan, III.

Close cooperation between the architect and the medical director produced the most modern building of its type in the U.S. The plan provides com-



William A. Ganster and Offices of W. L. Pereira, Associate Architects Forum: Sept. '40, p 146

plete workability of all available space. Air and sunshine, of primary importance in the design of a sanatorium, are used to maximum advantage. The supervising physician's remarks emphasize the technical aspects of the design:

"On September 22, 1943, four years will have elapsed since we opened our doors to receive patients. These four years hold no regrets. Acting in dual capacity of administrator and medical director, I have had ample opportunity to be critical of every inch of the structure.

"From the administrator's standpoint, modern architecture pays in efficiency of operation. There is no elaborate trim, no waste space to maintain, every inch of space is in use. I know a larger payroll would be necessary to provide the same amount and quality of patient care in an institution less streamlined.

"As a medical man and thoracic surgeon, I would have the building no different. The free use of glass, wide-open spaces, abundance of fresh air, (ventilating system), and everything 'in line' has been most conducive to patient welfare. Production-line planning of clinical, X-ray and laboratory facilities has proven most functional. The entire south front of the building is glass, permitting free view over the rolling lawn with no small windows making bright spots in a dark wall. Each ward opens onto a south balcony permitting sun baths and 'just being outdoors' for any or all patients."

"... From the administrator's standpoint, modern architecture pays in efficiency of operation."

LAKE COUNTY TUBERCULOSIS SANATORIUM

REGAN - HLIN

"... As a medical man and thoracic surgeon, I would have the building no different."

man Harlallite m.

THREE SCHOOLS, Palm Springs, Calif.

The three schools shown below were built during the last five years for the same district in California and show more progressive construction and design from year to year. The architectural advantages became clear to the school board as is shown in the accompanying letter:

"The functional design of elementary schools in this district has made a real contribution to our educational program Woodcock



John Porter Clark and Albert Frey, Architects

both from the scholastic and economic standpoint.

"Our costs, building in units of from two to three classrooms at a time, have not exceeded an average cost of \$9,300 per classroom which includes all accessories.

"The board of this district do without hesitation recommend functional construction as a practical and economic method of building schools. The schools we have built have pleased the taxpayers and citizens of the community as well as students and teachers."

CROW ISLAND SCHOOL, Winnetka, III.

DESERT

ATHERINE CINCHY

The plan and appearance of the building as a whole were determined after one complete classroom unit had been unanimously approved by the super-Hedrich-Blessing

Channes & Count.

"... The board of this district

do without hesitation recom-

mend functional construction

as a practical and economic

method of building schools."

SCHOOL DISTRICT



Eliel and Eero Saarinen, Perkins, Wheeler & Wills, Architects Forum: Aug. '41, p 79

visory staff and board, teachers and maintenance men. Its unqualified success is reflected in the statement of the acting superintendent:

"It is my opinion that modern architecture pays. It pays because it is primarily designed to serve the maximum needs of the people who are to work and live in the building. Such a building is a source of good morale to the staff, parents and community at large."

CORONA ELEMENTARY SCHOOL, Bell, Calif.

Each classroom has two exposures and adjacent area for outdoor instruction. The importance of environment in modern educational programs is shown in the statement made by the principal:

"The primary grade teachers and principal kept a careful record of their own impressions, also those of the children, parents and visitors. Many meetings were held at which all arguments pro and con were carefully considered. As a result we are of unanimous opinion. We think the school is a distinct improvement in health, safety and educational opportunity over the antiquated type of building to which we so stubbornly adhered in the

"... Maintenance has cost us about fifty-six cents per year per thousand dollars of building valuation."

> Sincerely yours, Contace.



Richard Neutra, Architect Forum: Oct. '36, p 347

face of a steadily changing philosophy of education. This building has given teachers an opportunity to function along progressive educational lines and it is felt that the results have been decidedly gratifying, even in this short space of time."

SCHOOL FOR CRIPPLED CHILDREN

A superintendent of school buildings in Denver has found that with the use of comparable materials and construction the maintenance and repairs are less in the modern schools of the district:

"We have five schools that could be classed as modern and our upkeep on these buildings is exceedingly low. In one case our total maintenance cost for the building, heating, plumbing and electrical equipment for the past three years totaled

Hedrich-Blassing



Burnham Hoyt, Architect Forum: '41, p 114

\$501.89, or about \$167.30 per year. This would mean that maintenance has cost us about 56 cents per year per thousand dollars of building valuation."

"... applications from new students are higher than at any time during the last five years,"

CHER COLLED

GOUCHER COLLEGE, near Baltimore, Md.

a salar

Though not representative of the extreme modern trend, stylistic preconceptions were ignored in the planning of this new college group. The president remarks on the gratifying response to the new design in the following letter:

"Functionally, the new building, Mary Fisher Hall, has satisfied the officers of the college responsible for the educational program and the contribution of the new building to it. The building has been occupied for a full academic year and "... The addition to the shop has more than doubled our sales."

R. D.

petri, import

GRAYSON'S

"... Grayson's long since recognized that contemporary architecture helps us advertise and sell our merchandise in the most efficient way..."

thoroughly tested from this standpoint. Gottscho-Scheisner



Moore & Hutchins, Architects Forum: Nov. '38, p 26

"Mary Fisher Hall is already paying in that student residents seem to regard the privilege of living in the new building as compensation for the inconvenience of transportation forced on the college by the ODT. Moreover, applications from new students are higher than at any time during the last five years and there is now a waiting list for membership. To these tangible matters may be added powerful intangibles which have created an enthusiasm for the building and the future of the college among students, faculty, alumnae and friends."

COMMERCIAL. Buildings in this field offer the quickest and most positive check on the effectiveness of a given design. In commercial buildings design is as much a competitive element as merchandising itself. There is no better indication of the soundness of the modern approach than its rapid acceptance by the people who have to examine it most critically.

MEN'S STORE, Portland, Ore.

The remodeling of this building located on a Portland corner with a bad selling record was a distinct service to the community and increased the firm's business considerably:



Pietro Belluschi, Architect

"I knew the corner I wanted for my men's store—it was a busy corner in the heart of the business district but it had a record of one failure after another. I realized at once that the old building was one of the chief causes, so I determined to remodel it completely, being confident that a flexible, streamlined building would result in successful merchandising. It has always been my belief that well-arranged display is a potent selling factor so I requested a plan which would allow maximum flexibility for displays.

"My confidence in the practical selling value of streamlined planning has been more than justified. Weiner's is noted as an outstanding place to shop and among salespeople, as a most pleasant place to work. While every other store which occupied this corner has failed, our business showed an increase of 40 per cent the first year. My faith in functional planning to create a buying mood on the part of the customers and to provide pleasant working conditions has been repaid."

PITT PETRIE, INC., Buffalo, N. Y.

The owner of this shop has found that because of the background, layout and lighting, the new addition to the store has greatly surpassed the basic requirement for increased space:



Antonin Raymond, Architect



"... only with the freedom characteristic of modern design could a building of such complexity have been achieved."

the States Ledden

"The addition to the shop has more than doubled our sales. Of course we are aware that there is more space but without any shadow of a doubt the sales are in large part due to the infinitely better display. Small and often unrelated objects such as we display are greatly enhanced by such a vigorous and stimulating background. I should definitely say that modern architecture, which is based on intimate development and solution of a problem, is best suited for any store."

GRAYSON'S, San Diego, Calif.

The following statement from a district manager for a chain of about 25 west coast stores voices the conviction of most people experienced in mer-



Gruenbaum & Krummeck, Designers

chandising: interior and exterior store design is of primary importance to successful selling:

"Our store fronts and interiors are either already designed and built in accordance with the principles of contemporary architecture, or, where this is not the case, we plan to remodel as soon as conditions allow building activity.

"Grayson's long since recognized that contemporary architecture helps us advertise and sell our merchandise in the most efficient way and that remodeling our stores along modern lines is bound to increase sales." THE INTERNATIONAL HANDKERCHIEF MFG. CO

"... The showroom has proved that an attractive, functional setting definitely contributes to increased sales and improved customer relations."

SEARS, ROEBUCK & CO., Washington, D. C.

nand Die der

In Washington, D. C., where a greatly increased wartime population makes it difficult for civilians to obtain shelter, food and essential supplies, the new Sears Roebuck retail store is perform-



John Stokes Redden, Architect associated with John G. Raben, Designer Forum: Apr. '42, p 213

ing a greater public service than was anticipated when plans were completed three years ago. The architect, acting as the company's representative, states: "Only with the freedom characteristic of modern design could a building of such complexity have been achieved."

SHOWROOM, New York, N. Y.

This showroom can be divided into several private conference rooms by full length curtains and is also admirably adapted to the small fragile character



Russell Wright, Designer Forum: Oct. '40, p 289

MARTINE BUILDING COMPONENT MARTINE MARTINE MARTINE MARTINE DATE N. -WARDINGTON D.C.

"... The balconies ... reduce the load on our cooling equipment and lower maintenance costs."

"The layout is extremely economical and the ratio of rental floor space to gross floor space is unusually high."



of the merchandise displayed (handkerchiefs). The president of the firm stresses improved customer relations as a result of the design:

"The showroom has proved that an attractive, functional setting definitely contributes to increased sales and improved customer relations. Added to this, the subconscious effect on the personel is also an asset. There is no doubt that customers enjoy coming here and we firmly believe that a well-designed showroom is definitely good for prestige."

LONGFELLOW BUILDING, Washington, D. C.

The president of a building corporation tells how modern planning helped to satisfy the wartime demand for more Washington office space in this modern building:

"We are very proud of our building. It is, we feel, a notable and worthy edifice,



William Lescaze, Architect Forum: June '41, p 395

and although its appearance may at first have been a surprise to those accustomed to the more conventional lines of our Washington buildings it has already become a landmark and is everyday recognized as one of Washington's outstanding buildings:

"The balconies along Connecticut Avenue which give it its characteristic appearance reduce the load on our cooling equipment, lower maintenance costs.

"The layout is extremely economical



S. S. PIERCE CO

"... The larger volume of business plus the greater efficiency of the service has produced results that are sufficiently satisfactory to make us certain our investment was wise."

fours very truly. WP_ite Walnutte times

and the ratio of rental floor space to gross floor space is unusually high.

"We are pleased with our rental record. Almost before it was completed the building was occupied and from that time on has been fully rented.

"At the time of its inception when we compared the construction cost of a more conventional building with the estimated cost of this modern design, we began to realize that probably modern architecture would pay. We have no hesitation in stating that it does and we are particularly gratified that our building has a distinction we did not know any building could achieve."

S. S. PIERCE CO., Boston, Mass.

Ignoring 111 years of Boston tradition, the S. S. Pierce Co. adopted an exciting and dramatic approach to merchandising in the design of its Tremont Street store. The public response to the new policy is described by the president:

"The results have been extremely gratifying. The beauty and unusual quality of the store were subjects of public discussion for months after it was opened. The volume of business has greatly increased and while this is not entirely due to the architecture, we feel that the attractiveness of the store has tremendous advertising



John M. Hatton, Architect

value and has served to bring people back more frequently than could otherwise have been expected.

"The larger volume of customers plus the greater efficiency of the service has produced results that are sufficiently satisfactory to make us certain that our investment was wise."

LORD & TAYLOR, Manhasset, L. I.

Characterized by spaciousness and light, the first requisite in the design of this store was the convenience of the customer. The first vice-president of Lord & Taylor, under whose direction the Manhasset shop was decorated, has this to say about the value of modern architecture:

Lord & Taylor

"... It also permits one to es-

tablish an original and definite

personality for a particular

store."

"Modern architectural design lends itself to varied decoration and can produce a feeling of excitement and exhilaration in the customer the moment she enters the



Raymond Loewy, Designer, Starrett & Van **Vleck**, Architects

store. It also permits one to establish an original and definite personality for a particular store. We feel our Manhasset shop reflects the type of company Lord & Taylor is and this I believe we could have obtained only through the use of modern architecture."

MEN'S STORE, Brooklyn, N. Y.

Aside from the complete modernization of interior and exterior display facilities, lighting, color and cabinet work were important factors in the success of the job as is described by the president of the firm:

"The volume of the store has shown a steady and gratifying increase since the time of its completion. The rearrangement of the stock cases has facilitated selling to the extent that our salespeople operate more efficiently and customers are encouraged to buy more readily. We feel

"... We are also aware of a decided uplift in the morale of our employees, each of whom takes a more personal interest in his store and his work."

allider

WALLACH



Morris Ketchum, Architect

that the improved lighting and display have enhanced the appearance of the merchandise and creates in the customers an appetite for the things they see. We are also aware of a decided uplift in the morale of our employes, each of whom takes a more peronal interest in his store and his work.'

PHILADELPHIA SAVINGS FUND SOCIETY

At the time of its completion in 1932 the Philadelphia Savings Fund Society was the first completely modern office building in the country. The president of the society makes the following observations on the rental and maintenance records:

"The type of architecture adopted has proved most successful and has resulted in

Municipal Art Society of N. Y.



Philadelphia, Pa. Howe & Lescaze, Architects Forum: Dec. '32, p 483

a building better adapted for the purpose than would have been possible had the style been conventional."



THE UNITED STATES NATIONAL BANK

"... Since building the addition to our Salem, Oregon branch, the deposits have increased from \$14,000,000 to \$17,000,000."



"... We expected our nursery business to double, but it has far surpassed our expectations and has given us the kind of publicity that helps us to maintain our position as the leading seed and nursery merchants in this area."

Our renting record has been excellent. The store and restaurant space was occupied as soon as the building was completed and those tenants have remained with us. The office space available for the public is 92.8 per cent occupied. While I cannot give figures to prove that the maintenance cost is less than would have been the case had the building been of conventional design, nevertheless, I believe such is the case. The orderliness and clean-cut arrangement of space, typical of this type of architecture, we believe is in large part responsible for our satisfactory rental experience.

3

THE PRECAMEDNESS SAVING FUND SOCIETY

"... The type of architecture

adopted has proved most suc-

cessful and has resulted in a

building better adapted for the

purpose than would have been

possible had the conventional

style of architecture been

In with I .

used."

"I am tempted to hazard a forecast and say that there will be but few large office buildings erected in the future designed along conventional lines."

BANK EXTENSION, Salem, Ore.

As an addition to the elaborate Victorian facade of the original building (shown at right), the forthright interpretation of modern banking requirements as expressed in the design of the new addition, in no way detracts from the parent building but is rather a compliment to its tradition and prestige. The bank's vice-president states that the new design was in large part responsible for increased business:

"Since building the addition to our Salem, Ore. branch, the deposits have increased from \$14,000,000 to \$17,000,000 As a matter of fact, over the past week



A. E. Doyle Associate, Architects, Pietro Belluschi, Designer Forum: Apr. '42, p 226

they have been well in excess of \$18,000,-000.

"While it is true that deposits in all banks in the northwest have increased, there have been abnormal increases in communities engaged in war industries where the payrolls are unusually large.

"There are no war industries in the Salem territory, and we cannot help but feel that a good share of our growth has been due to the beauty of the exterior and the attractiveness of the building's interior, as well as the conveniences available to our customers."

GARDEN CENTER, San Francisco, Calif.



Raphael S. Soriano, Designer Forum: Aug. '43, p 92

As a stimulating example to the traditionally prosaic seed-nursery industry, this new garden center located in a residential district of San Francisco is the first of its kind in the U.S. A clever combination of horticultural and display features were used in the design. The president of the company says:

"It was our desire to modernize and bring up to date our own business, if not to challenge the industry as a whole.

"We expected our nursery business to double but it has far surpassed our expectations and has given us the kind of publicity that helps us to maintain our position as the leading seed and nursery merchants in this area.

"The store while not large in area gives the impression of great space and is so skillfully designed as to present much greater quantities of merchandise than ever before, within easy sight and reach of the customer.

ALLANDIA DIND COMPANY me Hase

"We have a growing satisfaction in the thought that we were probably the first in our industry to enlist the aid of a modern designer."

SERVICE STATION, Yosemite National Park

Perfectly adapted in appearance to its California surroundings, this service station is planned and equipped to operate with maximum efficiency even when the weather is well below freezing. Radiant heating provides a uniform interior temperature so that motors may be tested and repaired under the most *favorable* conditions:

"We have carefully observed all features from a service standpoint and are greatly pleased with the ease of ingress and egress, the lack of congestion at the service blocks and the speed of operation. On a busy holiday we served 443 cars, or approximately a car every two minutes during the hours of operation, and at no time was it necessary for a patron to wait an undue length of time.

"Were we to install another unit under similar conditions and surroundings, there are no changes I would make, as this



Eldridge T. Spencer, Architect

station has proved entirely satisfactory from both the operating and the architectural standpoint. Furthermore, we have received many favorable comments from the motoring public."



RESIDENTIAL. For the individual house, contemporary design offers greater livability through planning unhampered by styled exteriors. The increasing number of modern houses indicates they offer the investor more for his money. Applied to multi-family structure this contention can readily be checked in terms of high occupancy and low tenant turnover.

APARTMENT BUILDING, New York

The uniform good light and ventilation throughout these apartments is due to the fact that the building mass is divided into two parts and occupies less than half of the valuable plot. Because of its many unusual features the rental record has been exceptionally high:

"Modern architecture contributed abundantly to the direct solution of a host of functional requirements which were of utmost importance to the income-paying



Mayer & Whittlesey, Architects Forum: May '41, p 311

ability of the enterprise, and also produced a handsome building.

"The conception of the building was in no way compromised by any ar hitectural preconceptions as we are fully aware would have been the case had we demanded stylized designs. Contemporary design itself simplified the planning problem and ironed out a number of maintenance-operating problems. Our normal market rents have considerably surpassed our best estimates and our usual vacancy factor seems to be zero."

RESIDENCE, Hockessin, Del.

The design of this house proves that a flexible plan can make alteration, rental and resale a simple matter even under present emergency conditions. Originally planned for architect-owner's family of four, circumstances in warcrowded Wilmington led to the conversion of the house into three apartments. The owner found that the basic freedom of the design permitted the alterations to be made with a minimum of expense and trouble:

"When my husband went into the Navy I was convinced it was all wrong for us to have too much house. In a surprisingly short time I found myself with two tenants, officers and their wives all working at the Ferry Command. The house was originally planned with no idea of possible conversion but as each room has maximum crossventilation and there are many outside doors it was feasible to divide it into three



Victorine & Samuel Homsey, Architects Forum: Sept. '40, p 160

apartments, each with its own entrance, outdoor sitting place, pleasant orientation and outlook.

"It seems to me that a house with a flexible plan could meet other emegencies such as depressions, etc., and would be a much better investment for the owner and less risk for lending institutions."

RESIDENCE, Hollywood, Calif.

Though the loan was reduced \$500 because of the flat roof, this house was finally built in spite of the many and not unusual obstacles which faced the owners. Today, they are more than ever convinced that their decision to build a modern house was wise:

"The longer we live here the more satisfaction we get out of the house. As Julius Schulman



Ralphael S. Soriano, Designer Forum: Dec. '41, p 401

for salability, we must have had at least a dozen offers.

"Rest assured, in spite of the fears of lending institutions, there is no trouble in selling a well-designed modern house."

SOLAR HOUSE, Glenview, III.

Exhibiting one modern house designed by George Fred Keck led to the construction and sale of 31 others within a year. The public reaction to this type of architecture as opposed to traditional, is outlined in the builder's account of his experiment:

"In the spring of 1940 Mr. Keck designed a house using large glass areas for solar heat and taking advantage of a nice view. The use of clerestory windows, plywood paneling in many rooms and considerable stone work are a few of the features which attracted the public.

"This house, built in a suburb eighteen



George Fred Keck, Architect Forum: Aug. '43, p 6

miles from Chicago, was opened to the public in September as the Solar House. The reaction was excellent and on one Sunday we had 1,700 visitors. In a few months I had more than 200 people interested in building and desiring to incorporate some or all of the features of the Solar House.

"The demand of the public was such that during the winter I subdivided 10 acres into 33 lots and opened it in April, 1941 as Meadowbrook Village. One street was set aside for modern and one street for traditional architecture. This segregation made for conformity of architecture and we enjoyed full 80 per cent loans throughout the subdivision.

"Meadowbrook Village was born in trying times. Hitler was fast overrunning Europe, prospective customers were becoming jittery, prices were going up. In spite of these difficulties, houses averaging from \$10,000 to \$12,000 sold faster than we could build them. There were so many prospective buyers for larger and more expensive homes that I subdivided another 13 1/3 acre tract into 24 lots. In a few months the first subdivision had convinced me of the public's desire for modern and as a result this property. called Solar Park, was restricted entirely to modern."

DUPLEX HOUSE, Palm Springs, Calif.

Originally designed as an inexpensive rental property located in a California winter resort, the architect's careful study resulted in important advantages:

"From the time of its completion the house has been almost continuously occupied. This is rather unusual in Palm Springs since the community is a winter resort and most houses are rented only during the season. However, the careful attention of the architects to the problem of summer shade, provided by the cantilever overhang of the roof, while still permitting the lower winter sun to shine into the rooms, was a feature which immediately *Stephen H. Willard*



John Porter Clark and Albert Frey, Architects Forum: Apr. '40, p 231

appealed to year-round tenants. The generous glass area, cross-ventilation and convenient arrangement of living space, while not necessarily limited to modern design, were undoubtedly more easily and economically achieved through its use.

"From the strictly financial standpoint the duplex has proved an excellent investment, and without exception, each tenant has been delighted with the feeling of spaciousness and being outdoors. I think only modern architecture could make this possible in so small a house."

RESIDENCE, Westport, Conn.

Financing this house was difficult because in Connecticut the general policy of banks and insurance companies was apparently to lend money only on standard Colonial-type houses. The owner describes his determination to keep intact the architect's original plan



Antonin Raymond, Architect

and the subsequent gratifying results: "Four insurance companies, one real estate company and two banks turned us down for a loan, even though we were asking for less than 50 per cent. Finally we came in contact with The Bridgeport People's Savings Bank, whose board was willing to take a mortgage on a modern house such as ours. They were not only willing but apparently glad to do so. Before fuel rationing went into effect we used about 0.9 gallons of oil per sq. ft. of floor area. We believe that the fuel economy is due to the design of the building which included large window areas facing southeast, south and southwest while to the north the window area is comparatively small. During zero weather when the sun is out, its heat keeps the house at 68-70 degrees from about 9:30 a.m. to 4:00 p.m. without assistance from the oil burner.

The Havens house is a building so powerfully influenced by a single requirement—enjoyment of the view—that the basic plan scheme and the structural system were affected. Situated high on a hillside, the house overlooks one of the most dramatic views in the San Francisco Bay area.



HILLSIDE HOUSE FOR WESTON HAVENS

BERKELEY, CALIF., HARWELL HAMILTON HARRIS, DESIGNER

Photo: Roger Sturtevant



Houses on hillside sites are a West Coast commonplace. Despite a wide variety of solutions, they invariably have one characteristic-the house burrows into the hill with the result that many rooms have windows only on the view side. This rarely appears as a disadvantage since it is easy to locate service elements along the retaining wall at the rear. Departure from this formula, for one thing, marks the Weston Havens house as a startling innovation. No less startling are the "inverted gables." In particular, it is these gables with their fine, sharp, copper-sheathed edges which give the house the quality of being poised in flight.

Two factors contribute to this impression. One, already suggested, is the relationship of the house to the hill. Instead of being built into the slope, the house stands clear of it, with a footbridge serving as the connection to the street. As a result the house opens to the back as well as the front. The second factor is even more important visually: the use of "inverted gables" which extend the view not only out, but up.

Needless to say, the design of the house did not begin with the idea that it was about time someone built a gable upside down. It began with a determination to do something about the view (the Golden Gate and San Francisco lie to the west): "The house," says Mr. Harris, "does not frame the view; it projects the beholder into it. The view is no mere segment of something seen through a hole. It is instead an extension of the sky, the water and the hills, above, below and behind one. The height above the ground, and the lack of visible connection with it, together with the soaring effect produced by the rising ceilings as they move outward, tend inevitably to lift the beholder into the sky. It is a sky house more than an earth house."

The design has been questioned on the basis of orientation: its enormous windows face directly west, where the normal glare of the afternoon sun is intensified by reflections off the Bay. It must be said, however, that the designer and his client were both aware of the problem, but decided in favor of the view. Since the house is used less in the afternoon than in the evening, the decision seems well taken.



OUSE FROM THE HILLSIDE TO OPEN BACK AND FRONT, AND ITS "INVERTED GABLES"

HARWELL HAMILTON HARRIS, DESIGNER



SEPARATION OF THE HOUSE FROM THE SLOPE HAS CREATED AN UNUSUA

The only part of the house which adjoins the street is a separate element containing the garage, and, on the floor below, a maid's room and bath. The house proper, which has no connection with the hillside except its inconspicuous foundations, is linked to the street by a footbridge and a flight of stairs. It will be noted that the bridge, like the main structural frame, is constructed in the form of an inverted gable. This repetition of a structural idea helps to give unity to the design as a whole. Another example of the same device is the repeated use of double wood members in ceilings, the bridge and the retaining wall.

Because the house stands free of the slope, it is open at the back as well as the front, a fortunate circumstance in view of its east-west orientation. There is sufficient space at the rear to include a badminton court which is partly sheltered from the winds off the Bay. The retaining wall, which breaks into a series of narrow planted terraces, is one of the most successful features of the design. Attractive in itself, it also serves the valuable function of connecting the house visually with the hillside.

The bedrooms are located at the level of the rear court, enjoying through ventilation with complete privacy. The intimate relationship of these rooms with the court is suggested by the upper photograph on the facing page.



VIEW 1. ENTRANCE LEADS DOWN A FLIGHT OF STEPS TO A COVERED BRIDGE SPANNING A SHELTERED COURT





AN, MORE LIVABLE IN MANY WAYS THAN THE CONVENTIONAL TYPE



VIEW FROM THE BEDROOM, ACROSS SHADED TERRACE TO REAR COURT

IEW 2. REDWOOD RETAINING WALL AT RIGHT ALSO FUNCTIONS AS A TERRACED GARDEN. NOTE BRIDGE AT BACK



The plan of the main (upper) living floor shows the entire west front taken up with a single space loosely subdivided into several areas. A large coat closet, strategically placed facing the entrance from the bridge, is one of the elements used to provide a degree of separation between one part of the living space and another. Rooms on this floor, incidentally, are very well provided with closets, all wide and shallow, all furnished with sliding doors. There is a bedroom at this level, its windows giving east and west exposures, with a bath conveniently accessible from the living room.

The kitchen, whose fixtures are arranged in two parallel rows, can serve the dining space through a conventional double-acting door or more directly over a counter. Like the other rooms it is equipped with a large closet and excellent windows. The kitchen is separated from the entrance hall by a sliding door; the plan shows two others in the same area, one to close off the dining space and another to separate the hall from both living and dining rooms.

Photographs on the opposite page show the sloping ceilings whose introduction led to the development of the inverted gable construction. To provide balanced lighting, the designer introduced a skylight which runs the full length of the bookshelves. Construction of the skylight is shown in the drawing. Note that both natural and artificial light come from the same source.



THE DISTINCTIVE PLAN REFLECTS HARRIS' INSISTENCE ON SIMPLE, DIRECT SOLUTIONS TO BASIC PROBLEMS



HE CONTROLLING FACTOR IN THE PLANNING OF THE HAVENS HOUSE

Photos: Roger Sturtevant



VIEW 1. WEST WALL OF LONG LIVING ROOM IS ENTIRELY OF GLASS

VIEW 2. SKYLIGHTS FOR NATURAL AND ARTIFICIAL ILLUMINATION PROVIDE A DIFFUSED, EVEN SOURCE OF LIGHT



The sloping ceilings of rooms on both floors continue out past the windows to form the overhangs. While the ceilings are finished with sheets of asbestos cement, 3 ft. in width, the exterior covering (see photograph below) is waterproof plywood painted to match the natural asbestos color. The deck at the living floor level is wide and extends around both ends of the house. Its long, narrow shape and the height from the ground must give this terrace the effect of a ship's deck.

The main stairway is the only element in the house which makes use of curves; its shape, however, is as logical from the viewpoints of function and material as the straight-line surfaces elsewhere. The stair is of birch, enclosed within walls of redwood plywood.

In the dining area there is a skylight similar to the one in the living room. The world map at the back of the room, by Patricia Fudger, has been applied to folding doors which conceal the serving counter to the kitchen.

Throughout the house, and especially on this floor, elaborate furnishings are conspicuous by their absence. Most of the storage space and seating is built in, while the movable pieces, many of which are by Aalto, Mathsson and other Scandinavian designers, are appropriately light in appearance. The undeniable air of luxury which the house possesses is due not to its finishes or furniture, but to the general handling of space.

Man Ray THE SHARPLY PROJECTING ROOF OVERHANG IS AN INTEGRAL PART OF THE "INVERTED GABLE" CONSTRUCTION





MUCH TO ESTABLISH THE GENERAL IMPRESSION OF SPACIOUSNESS





MAIN STAIR SHOWS INTERESTING USE OF CURVED PLYWOOD

NG ROOM IS PART OF THE GENERAL LIVING SPACE. NOTE BUILT-IN LOUD SPEAKER IN WALL ABOVE CABINET



The lower level of the Havens house is one of the most interesting variants of the open plan ever developed. Each of the bedrooms has a wide, brick-paved terrace, sheltered by the standard sloping ceiling. The circulation has been so arranged that each bedroom, despite the very open treatment, is entirely separated from the other, and the cluster of baths and closets at the center functions as a very effective sound barrier.

The concept of luxury as the result of architectural rather than decorative treatment is very well illustrated by the large photograph of the bedroom. Wall finishes, fabrics and floor covering are exceedingly simple and inexpensive, while the furniture consists only of a few unobtrusive pieces. Such rooms not only suggest a change in approach towards expensive houses after the war, but offer possibilities for homes of moderate cost as well.

Certain features of the upper level may be noted on the bedroom floor. The sloping ceilings, for instance, are partly sheathed, partly open joists; this open section contains the lighting fixtures. A special feature is the use of warm-air radiant heating. To quote the designer: "These innovations are integral parts of the design. . . There is modern lighting, but not modern lighting fixtures. There is modern heating, but neither registers nor radiators. Lighting is illumination and heating is temperature; neither is furniture."



GROUND FLOOR IS A BRILLIANT EXAMPLE OF THE POTENTIALITIES OF THE PROPERLY HANDLED OPEN PLAN







HEATING. According to Dr. R. M. Langer, who designed the system: "It would be difficult to heat this house efficiently with a conventional system. The area of glass, the sloping ceilings, and the fact that most of the air spaces connect, cause difficulties which can be avoided, however, by a radiant system.

"Air from the furnace passes through ducts above the ceiling and below the floor. A fan recirculates the air indefinitely, an economy which would be impossible if the air entered the rooms. The radiating surfaces are so large that no high temperatures are necessary.

"The heating system consists of a conventional gas furnace with a blower somewhat larger than usual. Ceiling joists are boxed in on top with plywood to form ducts the full width of the ceiling (diagram, left). The insulation needed to make this system economical also keeps out the summer heat."

CONSTRUCTION OUTLINE: STRUCTURE: walls-redwood boarding each Exterior side of Douglas fir studs. Floors--oak. Ceilings - Flexboard, Johns - Manville. ROOF-built-up, Johns-Manville. Deck-Monocork, Armstrong Cork Co. Flashinggalv. iron and Copperskin, Angier Corp. INSULATION: Roof and overhanging floors-Fiberboard, Celotex Corp. and 1 layer aluminum foil, Aluminum Corp. of America. WINDOWS: Sash- Douglas fir. Weatherstripping-interlocking metal, Chamberlin Metal Weatherstrip Co. Glass -crystal, Libbey-Owens-Ford Glass Co. FLOOR COVERINGS-linoleum, Armstrong Cork Co. PAINTS-Samuel Cabot, Inc. DOORS—American Plywood Corp. HARDWARE—Schlage Lock Co., Frantz Mfg. Co., Oscar Rixson Co., Stanley Works, Norton Lasier Co. KITCHEN EQUIPMENT: Range-Thermadore Electric Mfg. Co. Refrigerator - Frigidaire Sales Corp. Fan-Pryne Co. BATHROOM EQUIPMENT-Crane Co. and American Radiator-Standard Sanitary Corp. Tile (shower) — Gladding, McBean & Co. HEATING-Fraser Furnace Co. Water heater-Rudd Mfg. Co. METAL COUN-TERS-Lualite, Alleghaney Ludlum Steel Corp.



BATHS ALSO HAVE GLASS WALLS (4)

VIEW 3. VENTILATION IS PROVIDED BY TWO SETS OF DOUBLE DOORS. ALL OTHER GLASS IS IN FIXED SASH





FIRST PRIZE WENT TO A CLEARLY STATED, WELL WORKED OUT SOLUTION DESIGNED FOR USE EITHER IN ROW HOUS

PRIZE WINNERS in California Arts and Architecture's "Designs for Postwar Living" competition show that U. S. architects have lots of good ideas for better houses. But whether these ideas are what people really want remains an open question.

"... Broadly, it is the intention of this competition to arrive at a pattern of living for the American worker... Compose the family as you will, as long as it may be called fairly typical... The house may be designed as a separate unit or one in a planned community... it is the intention of this competition to allow the widest possible latitude within the limits of common sense...."

With this challenging statement, *California Arts and Architecture* last April prefaced a competition program open to all U. S. designers. The results, judged last month in Los Angeles by a jury consisting of Gregory Ain, Charles Eames, Richard J. Neutra, John Leon Rex and Sumner Spaulding, were heartening—although perhaps not so good as might have been expected from the excellent program. The jury was unanimous in its selection of Eero Saarinen's and Oliver Lundquist's scheme (above) for the first prize of \$1,000, chosen from among some 512 submissions. It wrangled for six days over the balance of the prizes. Second and third prizes (\$500 and \$250) were finally won by the team of I. M. Pei and E. H. Duhart, and Californian Raphael Soriano. Honorable mentions carrying \$100 awards were given to Susanne and Arnold Wasson-Tucker, George A. Stortz, Royal A. McClure, B. H. Bradley and Lois and Fred Langhorst. Shown on the following pages in addition to the prize winners are two non-premiated designs which attracted particular comments from members of the jury. The competition was sponsored by a group of 23 manufacturers of building materials.



JECTS OR AS A FREESTANDING UNIT. FEATURE IS FREE LIVING SPACE BETWEEN PREFABRICATED, MOBILE UNITS

FIRST PRIZE:

Eero Saarinen and Oliver Lundquist

EERO SAARINEN was born in Kirkkunmi, Finland in 1910 and came to the U.S. in 1923. He studied sculpture in Paris, attended the Yale School of Architecture, where he won many student prizes and a traveling fellowship on graduation. Since then he has almost made a habit of winning competitions (Organic Design competition, Museum of Modern Art: Smithsonian Gallery competition, and others). Among the buildings and projects with which he has been associated are the Tabernacle Church in Columbus, Ind., a housing project in Centerline, Mich. and the Crow Island School in Winnetka, III. He is at present with the Office of Strategic Services in Washington. OLIVER LUND-QUIST, 26, studied architecture at Columbia and New York University. He worked on several of the New York World's Fair buildings, and as an industrial designer in the office of Raymond Loewy. Since that time he has been employed in the Office of Strategic Services.

From the competitors' statement:

"The economic and social demands for postwar housing must be met by extensive utilization of our assembly-line potential. The PAC (Pre-Assembled Component) method exploits the assembly-line integration of all internal fixtures within hulls $3 \ge 9$ meters.

"The biological and mechanical functions of the home—sleeping, dressing, bathing, cooking, washing, heating and cooling—are standardized and incorporated into PAC's "A" and "B." "A" contains kitchen utility, bath and single bedroom; "B" double and single bedrooms and bath. PAC's can be used in a variety of combinations: "A," "AB" and "ABB."

"By attaching these units to the living space (which can form a single house or row housing, motels or even a tent) a maximum adaptability is achieved. Because the PAC's can become standarized for a wide variety of climates and income groups, it is estimated that PAC can answer 80 per cent of postwar housing demands.

"The social functions of the home are allowed a greater individuality by virtue of the standardization of the biological and mechanical elements. Prefabrication methods are adaptable to the living space but local whims may govern."









PERSPECTIVE



PLOT PLAN

SHOWING AN OBVIOUS GROPIUS INFLUENCE, THIS DESIGN IS BASED ON A MOBILE, TWO-STORY UTILITY UNIT

SECOND PRIZE

I. M. Pei and E. H. Duhart

I. M. PEI was born in China and came to the U. S. in 1935. He received his degree in Architecture from M.I.T. in 1940 and won various medal awards, including the Perkins Traveling Fellowship. He worked as a research assistant for the Bemis Foundation, 1941, for Stone & Webster, Engineers, 1942 and is now in the office of Walter Gropius. E. H. DUHART was born in Chile and studied in that country and in France. He has done research work in housing and acted as assistant professor of design in the Catholic University of Chile. He received his master's degree from Harvard in 1943, studying under Professor Gropius.

From the competitor's statement:

"The house is designed for a typical worker in the postwar period. It is intended to accommodate a couple, their child and an occasional guest. It must be simple, direct, efficient and flexible. The client has no prejudice against mass-produced houses because he feels standardization has already proved its worth. He has a strong faith in esthetic possibilities through design.

"The solution assumes that with various timesaving devices at our disposal, the kitchen is no longer to be designed as the housewife's perpetual environment. Rather, it is an efficient work space which will allow her to do her daily work easily and well."





CONSISTING ENTIRELY OF UNIFORM MOBILE UNITS, THIS HOUSE CAN GROW IN STAGES FROM 250 TO 1,000 SQ. FT.

THIRD PRIZE

Raphael S. Soriano

RAPHAEL S. SORIANO was born in Rhodes and came to the U. S. in 1924. He studied architecture at the University of Southern California and worked with Richard Neutra. His first house was exhibited in 1937 at the International Exposition in Paris.

From the competitor's statement:

"The appearance of this house is the result of a method of prefabrication and plan layout. It is intended for a completely planned community. However, it will fit excellently on a lot $50 \ge 125$ ft. and is shown on the plot plan that way.

"For a community where different plans may be required the four sections and garage can be rearranged in different ways without changing the relationship of the elements.

"As explained on the drawings, the same house can be bought in three complete sizes to fit any pocketbook and any size of family—500 sq. ft., 750 sq. ft. or 1,000 sq. ft. The operation of changing from one size to another is simple, parts are readjusted and the house is bolted down and joints sealed. In all of the stages of development all rooms have the same orientation and open on the same outdoor area.

"Each section comes completely equipped with prefabricated and appropriate modular furniture, wiring, plumbing, light fixtures, heating and ventilating. Inside and outside finishes are integral with the structure. The two bathroom units and kitchen are stamped completely of metal. Heating can be from pipes under the floor or walls."







THEODORE LUDEROWSKI (not premiated) is 32 years of age and now serving in the U. S. Naval Reserve. He worked in the New York office of James Gamble Rogers and was awarded a scholarship in 1939 for study at Cranbrook Academy. Before joining the Navy he worked in the Saarinen office.

From the competitor's statement:

"This house is based on the stressed-skin system of construction exemplified by the wood barrel and the silo. The walls are assembled from tongue-and-groove wood staves 6 in. wide and $2\frac{1}{2}$ in. thick, compressed into a tight structural cylinder by adjustable metal bands around the circumference at the levels of the floors and ceilings, without requiring framing. The intermediate bands which usually appear on silos are eliminated through the use of heavier staves and because there is no internal pressure.

"Openings for doors, windows and continuous glass areas may extend from floor to ceiling, and the staves may be used as mullions at a maximum spacing of 7 ft. for a unit 20 ft. in diameter. The wall thickness of $2\frac{1}{2}$ in. provides adequate insulation and is completely weatherproof.

"Floors are constructed of plywood on light joists in quartercircle segments and bolted together on the job. These segments contain pipes for radiant heating. In two story construction, only the intermediate floor is heated, radiating heat upward into the second floor and downward into the lower level. Roof and sheltered areas are canvas covered and sized and painted. Any combination of units, subdivided or in clusters, may be used for one or two stories, one story on stilts, or a combination of both. Staves may also be extended above roof levels to form solid or open rails, wind breaks and sun shelters."

BARREL STAVE SECTIONS, EXPERTLY COMPOSED IN A SIX-ROOM PLAN, ARE JOINED BY GLAZED HALL AND DECK



RALPH RAPSON and DAVID RUNNELS (not premiated)

RALPH RAPSON was graduated from the University of Michigan in 1938 and took post-graduate courses at Cranbrook. He has worked in the office of Saarinen & Swanson and collaborated with Eero Saarinen in competitions.

DAVID RUNNELS is also a former Cranbrook student who has worked with Saarinen & Swanson, studied at the University of Illinois and as a special student at the University of Stockholm. Their "fabric house" was first published in the September, 1942 issue of THE FORUM, pages 87-89.

From the competitors' statement:

"This plan is more than a solution; it is a statement of a basic living requirement—flexibility. The postwar individual, long weary of wartime regulations and restrictions, will demand the freedoms for which he fought. His shelter must, in three dimensions, express these freedoms. No longer must man be pigeonholed into 'rectangularism.'

"Since every family has ever-changing requirements, shelter must have one major characteristic—flexibility....

"It will be possible for Mr. A, with a wife and two small boys, a particular site and particular living requirements, to practically mold his house to these conditions. On the other hand Mr. B, with entirely different requirements and a different site, can just as easily 'wrap' himself in his own shelter with the same materials.

"Basically this shelter is an insulated tent. Since all walls and roof are fabric, with 1 in., light metal, telescopic pipes integral with the rolls, maximum freedom of planning results. Kitchen and bathroom panels are completely prefabricated units stamped of light metals."





ACCORDING TO JUROR CHARLES EAMES, THIS DESIGN WAS "KILLED" FOR SUGGESTING THAT THE OWNER ACT AS HIS OWN ARCHITECT





CENTER SECTION CONTAINS COUNTER-HIGH SHOWCASES AND MAKE-UP TABLES. LIGHTING WAS MAIN PROBLEM

COSMETIC SHOP for R. H. Macy & Co. Richard G. Belcher, Architect.

Modern design combines with glamour to create an attractive setting for display and salesmanship. Helen Needham, Decorator. The principal problem in creating merchandise display is one of unification. Architect Belcher, in designing Macy's Cosmetic section, had to unify eight separately functioning sales departments into one cohesive display unit. The methods used were subtle: A furred ceiling over the entire section gives it the character of one large booth. Spot lighting that would flatter the merchandise—and, presumably, the customers—was used throughout the area, and to perfect a feeling of unity, a fine vocabulary of detailing was applied in the design of the entire shop.

The plan is orthodox, and the display methods used merely an improvement on established trends. Most interesting is the application of certain details in cabinetwork, which have become the trademark of the modern movement (see design data, second page following). One of the failings of modern design to date has been in just this field, where salesmanship demands "glamour" in addition to smartness. Architect Belcher's fine attempt to combine the two is one in a series of experiments worth watching.

FINISHES AND EQUIPMENT: All exposed woodwork of bleached Prima Vera. Panels: Old Dominion Veneer Co., Bristol, Va. Showcases have $\frac{1}{4}$ in. polished plate glass. Makeup table tops and showcase trim is of $\frac{3}{4}$ in. Crystalex polished plate glass. All glass by Pittsburgh Plate Glass Co. Floor of Travertine marble. $\frac{1}{8}$ in. thick Armstrong linoleum for tops of wrapping units. Wall coverings of $\frac{1}{8}$ in. Masonite. All flxture bases by Formica Insulation Co., and all special hardware by Albert Voight.





0 1 2 3 4 5 6 7

2

SHOW AND DISPLAY CASES

RICHARD G. BELCHER, ARCHITECT



DESIGN DATA

THE ARCHITECTURAL FORUM

4



That's the Kind of Hardware Used on All



This unretouched photo-micrograph shows a section of Parkerized and Painted Ro-Way Track after expo-

sure to the salt spray test for 251 hours. At 492 hours, there was evident only a red rust spot about the size of a pin head.

Other Exclusive Features of Ro-Way Doors include:

- "Crow's Foot" Outer Bearing Support.
- "Zip-Lock" Twin Torsion Spring Adjustment.
- "Tailor Made" Springs-powermetered after door is weighed.
- New Friction-Reducing Track.
- Improved Track Rollers with "double-thick" wearing tread.

OVERHEAD TYPE DOORS

The Ro-Way "one-two" process of treating all Hardware parts puts an end to "creeping rust" and insures both longer service and better appearance from these improved Doors of the Overhead Type. Perhaps you have noticed the absence of rust streaks on the painted steel parts and tracks of Ro-Way Doors. That clean, fresh look they retain through long service is due in part to the way Ro-Way protects the hardware against rust and corrosion.

Note this important fact, too. The metal parts of Ro-Way Doors are Parkerized after fabricating. That means the inside surfaces of bolt holes and the ends of sheared parts have been treated just as carefully as the exposed surfaces.

Parkerizing is the rust-protecting process so widely used by makers fine motor cars, refrigerators, etc. We believe that purchasers of Overhead Type Doors are entitled to the same engineering care and protection.

So remember when Ro-Way Doors go on the job, there goes with them this double protection of all hardware parts. That's just another extra value which Ro-Way gives, without extra cost.

Write for special folder on Laboratory Tests showing how well Ro-Way hardware parts withstood exposure to salt spray for nearly 500 consecutive hours.

ROWE MANUFACTURING CO.

969 Holton Street

There's a Rollay for every Door way!

Galesburg, III., U. S. A.

The A-B-C's of Wartime Construction RUD CONSTRUCTION DELAYS BUILD SOUND STRUCTURES CONSERVE CRITICAL MATERIALS Use readily available, time-proved LEAD!

For plumbing and water distribution, for roofing, ilashing, gravel stops and various waterproofing, for corrosion-resistant equipment — for all essential construction purposes LEAD is promptly available and unrestricted by WPB orders. It can speed up construction for you since it is stocked by dealers and manufacturers in all parts of the country and you need cut through no complicated red tape to get it.

The excellent performance of LEAD for these purposes is well recognized and time-proved. LEAD can help you make war time construction good construction.

LEAD is classed by WPB as least critical of common construction metals. When you use it, you save more critical materials for essential war work and you in no way interfere with war production because there is enough lead for all essential purposes.

You can use LEAD to build faster and better with the least amount of critical material. We will be glad to add your name to the mailing list if you do not receive our free magazine LEAD. It will keep you informed of latest developments in LEAD and Government orders affecting its use.

LEAD IS NOT RESTRICTED FOR THESE APPLICATIONS!

Soil, waste, vent, water service and chemical pipes. Traps, bends, floor flanges and other fittings. Roofing, flashing, gravel stops, waterproofing. Came or glazier's lead. Chemical equipment. Calking lead and lead wool. Other essential uses.



420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

YOU'RE MONEY AHEAD WHEN YOU SPECIFY LEAD

MONTH IN BUILDING

(Continued from page 46)

plans and specifications. A school board member who had studied drawing at college drew up plans, got them back promptly with a notice that they must be signed by a registered architect. The board members found a registered architect who told them as gently as possible that because they had failed to notify WPB within ten days of the fire of their intention to rebuild, they would have to apply to the regional WPB office in Detroit for a permit to ask the Grand Rapids WPB office for an emergency permit to build. While they puzzled over application forms, somebody told them that even with an emergency permit they could not build until after they had advertised for bids in a state-wide publication. Then they discovered that voters would have to approve the rebuilding plan at a meeting held at least ten days after notice of the meeting had been legally posted. It was at this point that one of the board members, leafing through old minutes, found that 75 years ago voters had approved and built their school in a single day.

Plant. Finished at the year's half was 80 per cent of the nation's publicly-financed war plant, 90 per cent of the war plant supplied by private capital, said WPB Chairman Donald M. Nelson. When the total program is realized, the U. S. will have spent \$14½ billion; private capital, \$5 billion.

Land Scandal. In the backwash of the major swindle of Italian Fascism, a minor real estate swindle surfaced. To jail went Mussolini's handsome son-inlaw, Count Galeazzo Ciano, accompanied by Carlo Scorza, former Fascist party secretary, and Fascist Deputy Giuseppe Frignani, director of the Bank of Naples. Charge: buying up land near Rome which the party leaders knew had been selected as the site of the Rome international fair, once scheduled for 1942.

Detroit Deal. Detroit's big league, already edgy about Henry J. Kaiser's boast that he can turn out a \$400 postwar auto, jumped nervously when florid, cocky John Cunningham, engineer, moved into the Statler, told reporters he had bought a Detroit plant for Kaiser use. Kaiser disclaimed the deal by long distance telephone. After eight hours of questions from Army and FBI officials, Cunningham, no longer cocky, said it was all a mistake that started over too many drinks, guessed he was in for a long, bad hangover.

(Continued on page 100)

HELPING BOOST THE BOMBER BIRTH RATE

How Cardox Systems Protect War Industries

- Timed discharges, as needed, through built-in piping systems . . . supplied instantly from a single storage unit holding tons (if required) of liquid Cardox CO₂.
- Massdischarge of Cardox CO2 "knocks out" fire, by . . .
- Reducing oxygen content of the atmosphere below the concentration necessary for combustion, and . .
- Cooling combustibles and fire zone below ignition temperature . . .
- Extinguishing fire quickly and completely without damage from extinguishing medium.

CARDOX—CO₂ Systems with Enhanced Fire Extinguishing Performance

- A. Uniformity of CO₂ characteristics. B. Extinguishing medium with uni-
- formly greater cooling effect. C. Accurate projection of CO₂ through greater distances.
- D. Timed discharges, as needed, through built-in piping systems . . . supplied quickly from a single tank holding tons of liquid Cardox CO₂.

• Before a Flying Fortress ... or any other war plane ... takes to the air, an amazing number and variety of parts must be fabricated, assembled and tested. Should fire occur anywhere along the line... throwing production schedules out of time ... the bomber birth rate is likely to take a dangerous nose dive.

There are Allied planes making it tough for the Axis today that wouldn't be in the air except for the fire extinguishing performance provided by Cardox Fire Extinguishing Systems.

Engineered applications of Cardox Systems are guarding against delay of vital war industry-for example, in plants producing:

Airplanes, Aviation Engines, Aviation Carburetors, Airplane Parts, Engine Parts, Plastics, Rubber Products, Processed Fabric, Tanks, Tank Engines, Cold Strip Steel, Armor Plate, Forgings, Solvents, Motor Fuel, Electric Power.

Cardox Fire Extinguishing Systems give a maximum of protection . . . guarding *time* as well as equipment . . . by providing (1) im-

mediate extinguishment by cold, inert carbon dioxide, which quickly smothers and "cools out" large or small free; (2) elimination of damage by the extinguishing medium means machines and materials are usually back in production quickly.

Today Cardox is concentrating its engineering and manufacturing facilities on two vital phases of America's current emergency: (1) The design and manufacture of Cardox Fire Extinguishing Systems needed by a wide range of war industries to maintain and increase the birth rate of battle equipment; (2) working with industry on plans to increase the efficiency of fire protection both today and after the war.

If you would like more information, write on your company letterhead for Bulletin 1493.

CARDOX CORPORATION BELL BUILDING • CHICAGO, ILLINOIS District Offices in New York • Detroit • Cleveland • Atlanta • Pitrsburgh San Francisco • Los Angeles • Seattle





THE big news today in the architectural field is the conversion of thousands of old houses into modern, multiple-family dwellings for war workers. This conversion work must be low in cost. It must not use critical war materials. And, most important of all, *it must be completed quickly!*

When these conversion jobs come to you, put speed into them by specifying durable floors of Armstrong's Linoleum and Linoflor.

These Armstrong Floors can be installed right over old floors with a minimum of labor and the maximum of speed. Once properly installed, they give years of lasting service, never require expensive refinishing. And, best of all, they're the easiest of floors to keep clean.

To meet your decorating requirements, Armstrong Floors are available in a variety of types and designs, all reasonable in price for low-cost housing work.

See 1943 Sweet's for more information on Armstrong's Linoleum and Linoflor. For samples and file-sized specifications, write to Armstrong Cork Company, Floor Division, 2309 State Street, Lancaster, Penna.



MONTH IN BUILDING

(Continued from page 98)

PEACE, IT'S WONDERFUL

Ready to be friends are two national organizations in the home building field who for almost three years have been fighting each other for the privilege of fighting the home builder's battle in Washington. Clasping hands firmly at a late-August meeting at Washington's new Statler hotel, directors of the National Association of Home Builders and the National Home Builders Association said they would henceforth be one. Differences between NAHB and NHBA have been far more than alphabetical. NAHB is the direct descendant of the Home Builders Institute of the proud National Association of Real Estate Boards, with a membership nucleus drawn from large-scale developers of swank subdivisions. Such men have a natural affinity for local real estate boards not shared by the large numbers of smaller builders producing low cost housing and reluctant to add brokers' fees to marketing cost. When war stopped all but low cost housing, high priced subdivisions folded. Low cost builders thrived, busily organized on a local basis, generally thumbed a nose at affiliation with real estate boards.

Secession

Trying to keep home builders within its organizational skirts, the National Association of Real Estate Boards refused to give its HBI offspring the independent status that would enable it to reach a large national membership, left the way wide open for organization of a seceding and rival group. A year ago the realtors saw their mistake, cleared the way for a merger by insisting no longer that builders must belong to a local real estate board to join HBI. For two hot and weary days directors of both builders' groups glared at each other around a Washington peace table, found the way to organizational peace full of thorns. HBI emerged from the unpeaceful conference with nothing but a new name-National Association of Home Builders, and federal officials dealing with the two building groups grew steadily more confused as to who was representing whom for what. Anxious to end this obvious mess, building leaders went on painstakingly smoothing the way for association amity, finally reached last month's blend. Youngish Fritz Burns, aggressive, able Los Angeles realtor-builder, is president of the combined group; Frank Cortright continues as executive head; Harold Schulenburg, St. Louis, NHBA president, will serve as secretary.

(Continued on page 102)

18 MINUTES AND A SCREWDRIVER

—all that is required to assemble

The shower cabinet that was ready for quantity production when the government called for a durable war shower using a minimum of critical materials.

The Volunteer embodies the trim beauty characteristic of all Fiat showers and at the same time conforms to government regulations in the restricted use of steel. The Volunteer is approved and accepted by Army, Navy and Federal Housing Engineers for military and essential civilian use in cantonments, war housing projects and alteration jobs. One new construction feature incorporated in the Volunteer, is the spring tension corner joint that makes assembly on the job remarkably easy and also serves to give the rigidity and strength essential to a good shower cabinet. The non slip, precast, reinforced concrete receptor is a time tested Fiat product that has proved its advantages on thousands of installations. The walls are constructed of tempered, hard-pressed, treated, fibreboard finished with a baked-on enamel.

The Volunteer is a truly prefabricated shower cabinet. The pilaster columns are permanently fastened to the front of the side panels at the factory. The spring tension joints in the rear are fastened to the back panel wall before shipping. Only a few self threading metal working screws placed in holes punched in the side walls are required to complete the fastenings.

The Volunteer is available on adequate priorities through plumbers.

FIAT METAL MANUFACTURING COMPANY

1205 Roscoe St., Chicago, Ill. 21-45 Borden Avenue, Long Island, New York 32 So. San Gabriel Blvd., Pasadena, Calif.



nleen.



5 MINUTES-Mechanic is shown putting enameled fibreboard back panel in place on receptor.



11 MINUTES-Side panel is snapped into place in tension joint, attached to back panel at factory.



15 MINUTES-Mechanic puts onepiece top in place. Front stiles are attached to side panels at factory.



18 MINUTES—With the installation of a few screws job is done. Shower stall completely assembled.

MONTH IN BUILDING

(Continued from page 100)

POSTWAR WANTS

As anxious as anybody else to help define the shape of things to come, Printers' Ink, analytically-minded advertising weekly, asked Fact Finders Associates to find out what war workers think will happen to them when the war is over. According to this newest opinion sample, what workers think about employment and living conditions generally turns out to be something quite different from what they think about their personal postwar destinies. Example: Most feel that wages will be lower, prices as high or higher, taxes heavier, but have ambitious personal plans to buy a home, automobile, or major household appliance.

Fact Finders questioned 819 men and women workers in Baltimore, Houston, Newark, Jersey City, Kansas City, Milwaukee, Hartford, Portland, and Youngstown. About 10 per cent said they planned definitely to move at war's end, most of these wanted to go back home. An additional 22 per cent expected conditions that would force them to move. This is a good deal lower than the estimate reached by an



INSULATION TESTS conducted at the University of Minnesota, and reported at the semi-annual meeting of the ASH&VE, June 8th, 1943, proved that, within reasonable limits, the thicker the insulation, the better. Of course $3\frac{5}{8}$ " is the practical thickness for walls; and 4" is normally recommended for ceilings.

Another point developed was that there is no difference in the insulating value per inch of thickness of Mineral Wool, whether installed in ceilings or walls.

Furthermore, the cost per inch of Mineral Wool decreases with the thickness... demonstrating, once again, that the thicker, the better.

A copy of the report mentioned above may be obtained by enclosing 6 cents in stamps to cover postage and mailing with a request, to the address given below.



earlier and broader Gallup survey made in five major war production areas. The Gallup poll found that more than half of the war workers questioned planned to move. Like many another forecaster, Fact Finders looked at future housing demand, found it substantial. Twenty-one per cent of the workers plan to buy a house, most of the others plan house repairs. Other popular wants are, in the order named: automobile, electric refrigerator, electric washer, radio, vacuum cleaner, gas stove, toaster. But the largest group of workers thought their weekly wage would be cut by 25 per cent; the next largest group expected a cut nearer 50 per cent.

ARMY ADOBE

Like the Mission builders of two centuries ago, Army engineers at Camp Stoneman poked into clay-rich California soil, found near their camp rifle range one of the finest adobe deposits



G. I. BRICKS are sun-dried

in the U. S. (45 per cent clay with no soluble salts). Lacking lumber, the engineers decided to make bricks, set up a plant that turns out 1,500 a day, needs only seven men for operation. California's early Spanish settlers dug a shallow pit near their building site, therein mixed sand, clay, water, with straw or tile chips for binder. The Army uses a pug-mill (meat-grinderlike apparatus that churns clay with revolving teeth), adds to the classic brick formula a petroleum stabilizer. First construction with G. I. bricks: a recreation hall to house bowling alleys.

SUNSHINE CITIES

No longer host to the Army, Florida resort owners put their promotionwise heads together, groped for a campaign line that would fill hotel rooms yet not sound like a jarring note in a nation at work and at war. No pleasure seekers will be advertised for, said the keepers of the nation's playground, rolling their eyes decorously toward Washington. But the hotel men found these ways in which a trip to Florida will speed victory: Thousands not needed in the war effort can save

(Continued on page 104)
They'll keep rolling -

YOU can leave that part of it up to the Army. But it's our job to "keep 'em rolling" off the production line. It's your job too, whatever your walk of life, to help put power behind this effort, whether you are engaged in actually building combat tanks or tank hulls, as we are, or the engines that drive them, the guns that arm them, the ships that carry them, or the homes that shelter the men who do any of those things. You may be doing your

BUY U. S. WAR BONDS AND STAMPS

> job by offering a word of encouragement to a tired worker, or by stepping hard on a silly rumor of the kind that Hitler would

like to hear, and — as with all of us — by buying the War Bonds that are the real power behind America's drive for freedom.

Here at Fitzgibbons we're "keeping 'em rolling"—a steady stream of huge welded steel combat tank hulls ready for the final assembly at one of the great tank arsenals. The men, women and equipment of Fitzgibbons are doing their bit in putting the ax to the Axis.

FITZGIBBONS BOILER COMPANY, Inc. 101 PARK AVENUE, NEW YORK 17, N. Y. Works: Oswego, N. Y. • Branches in Principal Cities



For the post-war era, Pluswood offers you a brand new technical material, high in aesthetic value, with an exciting weight-strength ratio. A wood alloy, made by a chemico-mechanical process, it possesses structural strengths exceeding those of many metals. A non-conductor with amazing qualities of density and toughness. Pluswood can be made to your pre-determined engineering description. Thick or thin, pliable or rigid, this wood of new wonders is available in thickness ranging from 16 inches to 1/16 of am inch, and in any size up to 7 feet by 18 feet. Highly resistant to swelling, shrinking, corrosion, fire, and thermal shock—Pluswood will retain its dimensional stability so completely that only micrometer measurements indicate changes.

A dependable, responsible organization stands behind Pluswood from forest through saw mills, veneer mills and factory — established by the Lullabye Furniture Corporation, since 1897 America's foremost manufacturer of juvenile furniture. Pluswood maintains a laboratory service that you are urged to use without obligation. Write today for an engineering data bulletin that will give you more complete information.



- WOOD Select northern birch or maple — cut from vast tracts of timber reserves in northern Wisconsin and Canada.
- RESIN Impregnated into veneers by methods and techniques developed by Pluswood research.
- HEAT 300 K. V. A. high frequency electrostatic generating unit-largest in the country + for this purpose-delivering \$40,000 B.T.U.'s per hour.
- PRESSURE Largest and most powerful press in the plywood industry—with total pressing capacity up to 5,000 000 pounds.



MONTH IN BUILDING

(Continued from page 102)

precious fuel by wintering in a climate where the average fuel bill is \$15. Elderly or retired persons living in congested war areas can rent their homes to war workers and move to Florida for the duration. War workers in need of a vacation can rejuvenate themselves in Florida sunshine for the work ahead.

UNEASY SEAT

Especially in west coast war production areas where retail outlets are far from furniture manufacturing centers, the first wave of incoming workers quickly swept stores bare of essential household equipment. By the time federal war housing projects were ready to move into, most of the families eligible as occupants could find either no furniture at all or only merchandise far beyond their means. Promptly accepted by many a family forced to improvise beds from automobile seats and tables from packing boxes was the reluctant and unpublicized offer made by the Federal Public Housing Authority to lease furniture to tenants in Authorityoperated projects. FPHA was reluctant to go into the furniture business for a variety of reasons: Legislative authority for the venture was doubtful; officials were not anxious to be accused of competition with private enterprise in the furniture field; care of the furniture would undoubtedly turn out to be another management headache, of which FPHA already had plenty.

Since the early days of war housing when John M. Carmody as FWAdministrator tried and failed to rent unfurnished dormitories, federally built accommodations of this type have been furnished. Finally FPHA took another look at the Lanham Act, decided authority could be stretched to cover furniture leasing arrangements for family units. Hedging against the wails they knew would rise from the ranks of retail dealers, officials required tenants who wanted to rent furniture to show that they could not obtain it through regular channels at a price they could afford. Moreover, FPHA looked at the whole thing as a temporary proposition, urged tenants to buy their own furniture as soon as possible, release government supply for use elsewhere. But there has been little of the turnover expected; supply has remained low in many places, and migrant families are not anxious to invest in household equipment.

To rent furniture FPHA feels is basic equipment for a three-bedroom dwelling housing six persons, a war (Continued on page 106)

announcing

after 10 years' research . . . a scientific contribution to

masonry protection



years ago the A. C. Horn Company began scientific research toward finding a more effective preservative treatment for masonry surfaces.

Four years of laboratory work led finally to WATERFOIL . . . an irreversible inorganic gel which hardens into a heavy coating of microscopic spongelike character and practically "welds" itself into the minute voids of masonry materials. The laboratory tests were followed by six years of application to many structures. The results confirmed its superiority.

We now offer WATERFOIL for general use as a unique treatment for exterior masonry surfaces. "Waterfoiling" impedes water penetration, lengthens the life of masonry materials and beautifies the structural surface. "Waterfoiling" requires no skilled labor in its application. WATERFOIL is made of non-critical materials... it is not a paint... it contains no Linseed Oil— Casein — Resin Emulsion or Cement. No priorities are involved. It is immediately available! Write today for full details.





day-and-night war Full-speed, production brings the longknown advantages of Kinnear Steel Rolling Doors into sharper focus than ever before. Their capacity for years of hard, continuous use under the most grueling conditions has been proved over nearly half a century. To meet tomorrow's demand for extra door convenience, ruggedness and space economy, specify Kinnear Rolling Doors. Built any size, to fit any type of opening. Write today for complete data! The Kinnear Mfg. Co., 1640-60 Fields Ave., Columbus 16, Ohio.

ALL STEEL PROTECTION! Kinnear's tough, interlocking steel slat construction prevents theft or intrusion, resists accidental damage, defies fire, wind and weather!

MOTORIZED EFFICIENCY! Extra savings in time and labor are gained when Kinnear Rolling Doors are equipped for smooth, rapid, dependable motor operation. This permits the added advantage of remote control, with convenient push-button stations at any number of points.

SAVINGS IN SPACE! Floor, wall and ceiling space around each opening remains clear and usable at all times when Kinnear Rolling Doors are installed. Another score for Kinnear's famous coiling upward action!



MONTH IN BUILDING

(Continued from page 104)

worker would pay \$8 a month. At this rate FPHA would get its investment back in about two years. The worker would get one double bed, four single beds, with spring, mattress and pad for each, three chests, three mirrors, a three-leaved dinette table, four dinette chairs, three occasional chairs, and two ash trays. Seventy per cent of all FPHA furniture so rented is in use on the west coast.



FPHA FURNITURE is simple, sturdy

Carefully drawn furniture specifications have been kept as simple as possible and supplying manufacturers have gradually been sold on standard patterns for basic pieces. Essential design principle is that all pieces be scaled down considerably below standard sizes to fit into small rooms. Furniture is sturdily and solidly built of wood. Actual purchasing was soon put in the hands of the Smaller War Plants Corp., which has been notably successful in spreading the contracts among smaller manufacturers. While FPHA was prepared for complaints from furniture dealers, it did not anticipate the rather sizeable opposition which promptly came from private builders of war housing, who felt that furniture supply operations gave federal housing an unfair competitive advantage. But, reluctant as it is to step on any more private builders' toes, FPHA can see no way in which federal housing money could be legitimately used to supply material for use in private housing.

(Continued on page 108)



What are YOUR plans for postwar Homes?

How they'll look—how they'll be designed and built—is strictly *your* affair. But your plans in this direction are of vast interest to General Electric engineers whose job it is to design the heating and air conditioning equipment for your postwar homes.

Will the trend be towards one-story, basementless construction? Will there be greater use of concrete and masonry? Will there be more window area, more roof area, more ceiling and wall insulation? These are just a few of the things that we need to know in order to tell you what you want to know.

Our designers are reaching the point where

they require *your* ideas to match against their own . . . and we intend to ask you for them in the very near future. We are not promising any immediate postwar miracles . . . but your help and advice will hasten the day when we can announce an advanced line of G-E heating and air conditioning units . . . compact . . . efficient . . . and with greater output for less cost.



General Electric Company, Heating and Air Conditioning Equipment Divisions, Section 3139, Bloomfield, New Jersey.



LISTEN TO THE GENERAL ELECTRIC RADIO PROGRAMS: "THE HOUR OF CHARM," SUNDAYS, 10 P.M., E W T, ON N B C . . . "THE WORLD TODAY" NEWS, WEEKDAYS, 6:45 P.M., E W T, ON C B S



While we are devoting 100% of our effort to illumination on ship and ashore to help win the war, we look forward to Peace and the increased service we can then render.

Our research, engineering, manufacturing and application facilities have been accelerated.

Our staff is unimpaired. Our vision of what lighting will be after the war is an inspiration.

Let's all pull together to get it over with, soon.

Allard Hendrickson lo.,

Lighing Fixtures Illuminating Engineers 337 ADAMS STREET BROOKLYN, N. Y.

MONTH IN BUILDING

(Continued from page 106)

THREE FOR REBUILDING

To those who feel that plans bigger than blueprints must now be made for city growth, three recent appointments made news of the most hopeful kind:

Recognizing that a plan for physical improvement of Philadelphia must be backed by a workable plan for financing the improvements, Mayor Bernard Samuel appointed a new nine-man commission to draft both plans, chose one of Philadelphia's best financial and legal brains to head the undertaking. As a Drexel & Co. partner, Edward Hopkinson, Jr. is able to approach the



HOPKINSON: planning newcomer

involved problems of municipal finance with the casual ease of an investment banker accustomed to funding operations on a gigantic scale. As a Philadelphian whose direct ancestor used to walk down Market street deep in discussion with Benjamin Franklin, he has an almost inborn concern for his city's future that could be matched by few professional planners.

Of Hopkinson's great-great-great grandfather Franklin wrote: "The power of points to throw off electrical fire was first communicated to me by my ingenious friend, Thomas Hopkinson, whose virtue and integrity in every station of life, public and private, will ever make his memory dear to those who knew how to value him." Thomas Hopkinson helped Franklin found the College of Philadelphia, which later became the University of Pennsylvania, Hopkinson's great-great grandfather graduated from the University's first class in 1757, signed the Declaration of Independence. His great grandfather wrote "Hail Columbia." Hopkinson himself fell easily in step with this

substantial tradition of civic virtue, became the voungest trustee ever appointed by his alma mater. Named in 1930 as head of a "Committee of Fifteen" to investigate Philadelphia's confused finances, he was frequently mentioned thereafter as an ideal business man's candidate for mayor. While he has an unassuming and friendly manner that instantly endears him to Philadelphians self-conscious about a lack of distinguished ancestors, Hopkinson is no handshaker, has always felt more at home on a cricket field than å speaker's rostrum. His appointment to Philadelphia's new commission marks the first time his city has called upon him for service in the planning and housing field.



GIULII: housing veteran

Houser from the Heart

Apostle of good living, wine-maker Nicola Giulii has for a long time been interested in better housing for everybody. In 1933 he was appointed to the Los Angeles Municipal Housing Commission, worked hard to establish the city's housing authority in 1938, has served as authority chairman ever since. Last month he was elected to his sixth term. Giulii who combines shrewd good judgment with an engagingly light-hearted approach to weighty discussions, lost no time in going to see solemn Nathan Straus when the U. S. Housing Authority was set up, came home with \$25,000,000 in his pocket for the Los Angeles Housing Authority. Under his leadership, the authority built ten housing projects, now operates five additional federally built war housing projects in the harbor area. He has served the National Association of Housing Officials as president and vice-president.

Italian-born, Giulii studied music in Italy and Vienna, abandoned an opera-

(Continued on page 110)

That's the third mistake in this letter!

My nerves are a wreck with all this noise!

SLAM

Does the Office Efficiency of Your Clients suffer from NEEDLESS NOISE?

E bound to make miner in a noisy office are bound to make mistakes. For even those who are not consciously bothered by it, excessive noise, according to medical authorities, makes the muscles more tense, the blood pressure higher.

And when working under the strain of wartime conditions, needless noise becomes an even greater

menace to efficiency . . . can cause serious errors. Help your clients step up office efficiency by bringing noise below the level of disturbance with J-M Acoustical Materials. Installation can be made easily, inexpensively and with no interruption to

routine. They are attractive and require little if any maintenance. Their scientific sound absorbing qualities are based on J-M's more than a quarter century of experience in sound control.

Without obligation, we'll be glad to send you our

Sound Control Brochure, No. AC-25A. Address: Johns-Manville, 22 E. 40th St., New York, 16, 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

Johns-Manville Acoustical Materials



White lead, notes the *Britannica*, has greater covering properties, is more durable than any other paint base. Pre-Christian builders and painters esteemed it. Those comparative moderns, Michelangelo and Titian, used it with enduring effect.

Coming closer home, since 1843 generations of American architects have proved and *approved* Eagle White Lead for its maintained purity (100% pure white lead) . . . its superbly beautiful finish . . . its tough, elastic, wear-andweather defying properties.

We've learned a lot of things, making Eagle White Lead for a century. And your clients benefit from this experience every time you recommend this fool-proof paint. It wears stubbornly and slowly. Its flexible film does not crack or scale ... leaves a perfect surface when repainting time finally comes.

Now more than ever before, buildings should be preserved against time and the elements. Ample supplies of *pure* Eagle White Lead are available. And Eagle White Lead costs no more than other paints. We invite you to recommend it.

THE EAGLE-PICHER LEAD COMPANY, CINCINNATI, OHIO Members of the Lead Industries Association



MONTH IN BUILDING

(Continued from page 108)

tic career in 1910 to become sales manager of the Italian Vineyards Co., of which he is now president and general manager. A natural and irrepressible host, Giulii feels that, next to decent housing, fine wines with good food are most likely to improve the human race. But, he is apt to tell dinner guests, his wineries are business—housing is from the heart.

Planning Pioneer

Ahead of the Urban Land Institute, focus of real estate effort to find a way to rebuild American cities, looms a

Underwood & Underwood



EVANS seeks urban rebuilding

hard year's work. Before Congress adjourned Senator Robert F. Wagner (Dem. N. Y.) introduced a bill to give legislative life to ULI's longstudied proposal for federal land acquisition aid as a preface to urban redevelopment by private enterprise (ARCH. FORUM, July p. 37). Now busy marshalling public support, ULI is anxious to get all the help it can in pushing through the fall Congressional session the bill it conscientiously believes is a common-sense remedy for many of our urban ills. Last month ULI President Hugh Potter, Houston realtor, looked around for a top-notch addition to his board of trustees, chose Pittsburgh's George E. Evans.

Evans, whose family helped to settle Pittsburgh, got worried about the high cost of urban blight as far back as 1920. With a real estate man's sensitivity to shift in property values, Evans saw earlier and clearer than most how city slums spread infection over an ever-widening area. Giving up his own real estate, building and lumber business in 1934 to serve on the City

(Continued on page 112)

WE CUT OUR FUEL COSTS 20% WITH HOFFMAN TRAPS"

- says Official of Mid-west Bottling Plant



HOFFMAN 50 SERIES TRAP FOR HEAVY DUTY Easy Inspection and Servicing Easy Inspection and Servicing Periodic inspection of heating equipment is a maintenance "must" today In the Hoffman 50 Series Trap all working parts are mounled on the cover—easily removed without breaking a single pipe connection. This trap can be opened up, examined and put back into service with a minimum of time and effort.



Every Part Renewable

Scarcity of materials pines special point to the REVERSIBLE Valve Pin and Seat feature of the Hoffman 50 Series Trap, which provides twice the normal life and wear. Thermostal, Valve Pins and Seats can be replaced when necessary, re-storing trap to full efficiency without janking the entire unit.





THE LARGER THE STEAM PLANT, THE GREATER THE SIGNIFICANCE OF THIS EXAMPLE OF SPENDING A LITTLE TO SAVE A LOT

"Our plant," explains the Superintendent, "uses 180° water to sterilize bottles. Formerly we had to maintain a steam pressure of 10 lbs. to heat the water. Now, after modernizing with Hoffman 50 Series Traps, steam at 4 lbs. pressure does the trick. Translated into terms of fuel, the drop in steam pressure has resulted in a saving of over 20%."

We quote this case, not because it is an outstanding example, but because it follows the usual pattern when antiquated steam traps are replaced with modern Hoffman units.

There never was a time when elimination of waste from steam plant operation was more vital. Fuel shortages and the need for ever-growing

production make full efficiency imperative. Therefore, for modernization jobs and for new steam plants, specify Hoffman Traps as an investment paying measurable dividends in fuel saved.

Hoffman engineers are always available for consultation. Your request for engineering data will be promptly honored-without obligation. Write for the latest catalog of Hoffman Steam Traps. Hoffman Specialty Co., 1001 York St., Dept. AF9, Indianapolis 7, Indiana.



HOFFMAN Controlled

Makers of Valves, Traps, Vacuum and Condensation Pumps, Forced Hot Water Heating Systems. Sold by leading wholesalers of Heating and Plumbing Equipment.

STEAM HOT WATER

No. 103W-Wood Cabinet Kiln dried hardwood; joints double-locked, glued and tenoned. Neat mirror frame of STEEL (by permission of WPB) finished to match the cabinet.

1000

WOOD BATHROOM CABINETS

With production of famous MIAMI Metal Bathroom Cabinets necessarily discontinued for the duration, MIAMI Wood Cabinets are "filling the breach."

In present war housing, and for all essential replacements, these attractive Wood Cabinets are doing a serviceable job — and in addition are saving war-vital metals.

MIAMI Wood Cabinets are now available in quantity. They are of modern "streamlined" design, with mirrors framed in *steel* (by permission of WPB). Complete in every detail, and equipped with convenience features that are standard in Miami Metal Cabinets.

Details and folder sent on request. Write Dept. AF.



No. 102W

Some Models Of Miami Metal Cabinets are still available from distributors' stocks ... and after the war we will again be in full

> MIAMI CABINET DIVISION The Philip Carey Mfg. Company Middletown, Ohio

production of fine MIAMI Metal Cabinets.

MONTH IN BUILDING

(Continued from page 110)

Council, Evans felt an increased sense of responsibility for mobilizing municipal action to rid Pittsburgh of its depressed districts, check the flight of taxpayers to suburbia. Soon after Congress established the U. S. Housing Authority (1937), he was able to organize a housing authority for Pittsburgh, has served continuously as its chairman. He was 1941 president of the National Association of Housing Officials and is at present chairman of the Pennsylvania State Housing Board.

Mild-mannered George Evans has a host of friends, most of whom envy his notable talent for quietly falling asleep in a dull meeting, envy more his uncanny knack for waking instantly when the conversation gets near home, fully prepared to cite vital statistics on just about any real estate, housing or city planning venture in Pittsburgh since the turn of the century. Proudest is Evans of Terrace Villages, a 3,000family slum clearance project that has become a national model, built by the housing authority in Pittsburgh's rundown-at-the-heels Hill District. Evans is now readying a postwar plan to tear down the rest of the district's slum dwellings, encourage private capital to supply adequate housing.

MET HOUSING IN TROUBLE

In trouble on two coasts were housing plans of the Metropolitan Life Insurance Co. Reluctant to grant priorities for the durable materials Met feels it needs for long-term investment projects, WPB suggested that construction of Park La Brea in Los Angeles and Parkmerced in San Francisco be abandoned. With foundations already in for these two \$121/2 million rental projects, the Met battled vigorously, finally got permission to finish half of each. In New York, civil-libertarian Eliot D. Pratt filed a new taxpayer's action aimed to block the Met's \$50-million Stuvvesant Town, to be postwar built on eighteen lower East Side blocks (FORUM, June p. 50, July p. 40). Charged Pratt: Award of tax exemption in a private contract is unconstitutional. Use of city funds and property would be discriminatory since Negroes will not be admitted as tenants. Public funds may be expended without benefit to taxpayers since, under the contract, construction may not be enforced unless prices of labor and materials are not higher than those of January 1, 1943. Still pending in the Court of Appeals is a property owners' suit against Stuyvesant Town, based on other grounds, earlier dismissed by the Supreme Court for lack of evidence.

Back the Attack

Quick...Easy! This picture shows how GIANT size KIMSUL is expanded over floor joists in a prefabricated section. Flooring is nailed right over the insulation. A quick, easy job.

How GIANT size KIMSUL* saves time on Prefabricated Construction

If you could watch a couple of men handling KIMSUL, you'd be amazed at the ease and speed with which they work. All they do is to roll out the KIMSUL blanket (just as you'd roll out a rug) right over the face of the framing members, covering an entire prefabricated section in one simple, speedy operation. Then the flooring or sheathing or wall paneling is nailed right over the KIMSUL blanket to hold it securely in place. Once installed, this uniform blanket of insulation can't sag, sift, shift or pack down.

This extra speedy installation is made possible only because GIANT KIMSUL is expandable and because it comes in widths of 4' and wider in some specifications, by 250' long.

How KIMSUL is different from all other insulation

KIMSUL is one of the most effective heat stoppers known to science. It has a thermal conductivity of .27 Btu/hr./sq. ft./ deg. F./in. Furthermore, it is the only insulation that is delivered compressed to 1/5th its installed length. This means only 1/5th as much transportation, only 1/5th as much storage, only

1/5th as much handling. Every KIMSUL blanket is treated to resist fire, moisture and mold. Send today for your copy of a new illustrated book, "KIMSUL, for Modern Protection against Heat and Cold." Use handy coupon for ordering.



KIMSUL installed in floor



and the second					
	KIMBERLY-CLARK CORPORATION, Est. 1872 Building Insulation Division AF-943 Neenah, Wisconsin				
		L' Flease have a KIMSUL Representative call.			
		Send free copy Modern Prote	of new illusti ection against	rated book "KI Heat and Cold'	MSUL for
K	MSULATION	Name			
E.	Ħ	Street			
		City		State	
-	N. HILT 18111	*KIMS	UL (trade mark) means Kimberly-	Clark Insulat

KIMSUL IS MANUFACTURED BY KIMBERLY-CLARK CORPORATION, NEENAH, WIS.



Maintenance Men Like This Long-Lived Wolmanized Lumber

FIND A MATERIAL that your maintenance men recommend, and you can be sure that it won't cost you very much for upkeep. Wolmanized Lumber* is that kind of material. It doesn't need much attention, even on the toughest jobs, because it is able to resist decay and termite attack.

TEXTILE MILLS use a lot of Wolmanized Lumber. It is easy to erect in the first place—goes up fast, just like any other wood construction. It provides the resilience so necessary in mill buildings. And it stays up, even though exposed to high humidities and temperatures, conditions that foster decay.

WOLMANIZED LUMBER is ordinary wood made resistant to decay and termite attack by vacuum-pressure impregnation with Wolman Salts* preservative. "Fibre fixation" prevents leaching-out of the preservative. This lumber offers all of the usual advantages of wood—high insulating value, light weight, low cost. It is clean, odorless and it can be painted.

WAR CONSTRUCTION is taking most of the Wolmanized Lumber produced. Whether for housing personnel or equipment, or for manufacturing plants, wood is speeding completion of these buildings. Wolmanized Lumber assures them of long life. It will do the same for your peacetime construction. American Lumber & Treating Company, 1647 McCormick Building, Chicago, Ill.

*Registered Trade Marks



LETTERS

(Continued from page 36)

them an integral part of all buildings? Too residential? Why? Don't we live when we work? We can and should be as content with our surroundings while we work as when we play, relax, or just loaf. It would be many times more profitable.

What about the parking problem? Surely there will be more automobiles in 194X than in 1940. Are we going to park them in front of a long row of windows, or where they will be underfoot? To merely provide space for them is not enough. In hotels the idea of giving the people inexpensive quarters in which they would enjoy relaxing is not visionary and impractical. Must they be combinations of night clubs and drugstores with rooms? Why can't the attitude of "for the user and not the owner" be taken? We still cling to the idea that servants give us something more than comfort.

194X will be after this war but many things sure to follow have been neglected. The most obvious to us now is the threat of aerial attack-a blessing in disguise. This will affect architecture as surely as did the invention of gunpowder, and I can promise you that it will not be in the design of bomb shelters. New materials will be available, perhaps resulting in their gross violation, if this issue is to be taken seriously. Millions will know how to fly, giving them longer vision, still more millions will have traveled far and wide giving birth to germs of dissatisfaction and questioning. We are on the threshold of a great dawning, but it is not seen in the May issue of THE ARCHITECTURAL FORUM.

For 194X more thought must be given to the human, his behavior, thoughts and reactions. The architect, the good architect, in the next decade will be more of an educator than a builder, more of a philosopher than a designer. He will let the people show him how to be an architect. The people if studied will give the architect laws, true and infallible, as true as the law of gravity and as over-all in their application. People do not change, only their habits; and only through a study of these laws can we look sanely at these habits and so provide for and house them as they change.

This letter is as brief as I could make it and has left much unsaid. But it is submitted with the hope that some will stop and think of what I am trying to say. It is by no means original, which makes the May issue of THE FORUM even more inexcusable.

DIETRICH A. NEYLAND

Shreveport, La.

DEATH PLUNGE OF A SEA WOLF

Another U-boat snatched from its wolf pack, blasted up by depth charges to final destruction in a cross-fire from destroyers. Fletcher Pratt, noted naval authority, helped us prepare this picture.

On every battle front, Westinghouse-made weapons and equipment are in the fight. On the production front, Westinghouse Air Conditioning and Industrial Refrigeration provide correct conditions of temperature, humidity and air cleanliness to make possible uniform quality, high precision, fewer rejections, faster output.

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

In helping solve "conditioning" problems, Westinghouse draws upon years of experience with thousands of varied installations. The exclusive hermetically-sealed compressor assures economy, dependability, long life. Inquiries are invited from producers of war materials and from postwar planners.

WESTINGHOUSE ELECTRIC & MFG. CO. 721 Page Boulevard Springfield, Mass. Plants in 25 Cities...Offices Everywhere



SPEED COUNTS. Matched sets of huge propulsion gears for warships are cut in rooms held at constant temperature throughout the entire operation of several days, to insure perfect fit.



SUB DETECTED. Where delicate instruments used for detection and communication are assembled, air conditioning prevents rejects caused by excess humidity, temperature and air-borne dust.



EYES IN THE SKIES. So exacting are the manufacturing requirements in many aircraft parts and processes that air conditioning is used to control temperature, humidity and air cleanliness.



ON THE COURSE. To protect the fine parts of navigation instruments from perspiration and dust during manufacture and to permit the precise fitting required, constant air conditions are maintained.

Tune in John Charles Thomas, Westinghouse Program, NBC, Sunday, at 2:30 P.M., E.W.T





FORUM OF EVENTS

(Continued from page 4)

CIVIL SERVICE

THE U. S. GOVERNMENT badly needs business and industry analysts. Specialists in factory management, traffic management or expediting of production should contact the regional Civil Service office.

DIED

WILLIAM HIGGINSON, 76, in New York City. Mr. Higginson, retired senior member of the firm of William Higginson & Son, designed the first reenforced concrete structure in this country: the Robert Gair Co. building constructed in 1900. His associate was Henry C. Turner.

Born in London, he came to this country at the age of seventeen and became the designer of some of the largest industrial plants in the U. S. Among those for which he was responsible were the Bush Terminal Building in Brooklyn, the Loose-Wiles Biscuit Company buildings and the Wrigley Company plant in Staten Island.

FRANCIS JAQUES, 62, in Pittsfield, Mass. Mr. Jaques, the architect of Pershing Hall in Paris, local Headquarters of the American Legion, was born in France, graduated from Harvard in 1905, and from the Ecole des Beaux Arts in 1912. When the war started in Europe, he volunteered for the American Ambulance Service for duty in France.

In 1917 Mr. Jaques was transferred to the A.E.F. to become a captain of engineers. After the war, practicing in France, he specialized in renovating châteaux. When the Germans invaded France in 1940 he returned to America.

JOHN WATSON ALVORD, 82, in Douglas, Mich. Mr. Alvord, senior member of the engineering firm of Alvord, Burdlick & Howson of Chicago, was one of the last of the city engineers responsible for the public improvements of large suburban areas that are now a substantial part of Chicago proper. In the late 1880's, Mr. Alvord organized and conducted the surveys for the World's Columbian Exposition, which coordinated and located most of the "White City" of 1893.

A former president of the American Water Works Association, Mr. Alvord served about 300 municipalities with water supply and sewerage projects. He was a member of the Institution of Civil Engineers of Great Britain, the American Association for the Advancement of Science; served the U. S. Housing Corporation as chief engineer during World War I.

(Continued on page 118)

We plant trees-and harvest

PRESDWOODS!

A great reforestation project covering thousands of acres is being carried on constantly in the state of Mississippi.... The "crop" to be taken from these trees is not just ordinary wood, but the cellulose fiber and lignin of which wood is composed.

FROM today's crop, trees are literally taken apart by an amazing explosion process. Next, the fiber is interlaced to provide equal strength in *all* directions. Then — in varying degrees of plasticity in different weights and densities — it is welded together again, using lignin's great bonding power to produce hardboards of remarkable properties.

These ligno-cellulose hardboards are known as the Masonite* Presdwoods,* and they are perhaps the most versatile materials the world has ever known. They have tremendous strength. They are easily worked yet are warpless, chipless, splinterless, when properly used, and will take a baked finish . . . can be painted, bent and accurately machined on wood-working tools to almost any shape.

Right now the Presdwoods are in the firing line of war; they have more than 500 uses in America's great victory program, releasing for vital purposes rubber, steel, aluminum, and other strategic materials. Naturally, they are not readily available for the usual civilian purposes. But after the war they will again be plentiful for the homes you build or design . . . in such uses as for sturdy exteriors, beautiful walls and ceilings, built-in furniture, kitchen cabinets and counter tops, and many others. Masonite Corporation, 111 West Washington Street, Chicago 2, Illinois.

*Trade-mark Reg. U. S. Pat. Off. "Masonite" identifies all products marketed by Masonite Corporation. COPYRIGHT 1943, MASONITE CORPORATION



FORUM OF EVENTS

(Continued from page 116)

AWARD

PVT. SANTE GRAZIANI of Cleveland has

been awarded the first prize in a mural competition for the Springfield, Mass. Museum of Fine Arts. The \$4,500 award competition was announced last October. It was stipulated that the mural (below) should be executed in



50" Boiler Picked For Coupling Plant

In the Fall of 1942 the THOMAS FLEXIBLE COUPLING CO., Warren, Pa. installed a new heating system in their modern daylight plant which included a Burnham 50" Twin-Section Boiler.

They wrote us on June 16, 1943 (unsolicited)

66 With your Burnham Boiler and 11 Unit Heaters, we believe we have one of the finest Heating Systems that can be designed. Our oil consumption for the past season—Oct. 14, 1942 to June 15, 1943—was only 14,659 gallons, working 24 hours a day, 6 and 7 days per week. We have had very satisfactory heat from our installation in spite of the severe winter and continuous temperatures of 20° below Zero.??

Complying with the oil conservation program, this installation is now being converted to stoker firing, but with the *husky* 50" Burnham, equally good results will be obtained.



oil, must cover the history of Springfield, deal with Springfield as an industrial center, or show the place of the museum in the community. Arrangements have been made for Pvt. Graziani to execute his design after the war.

SCHOLARSHIPS

UNIVERSITY OF ILLINOIS: The Lydia E. Parker Bates Scholarships in Fine Arts have made possible grants-in-aid to undergraduate and graduate students in the graphic division of the College of Fine and Applied Arts. These scholarships vary according to the need of the student. Write to the College for further information.

UNIVERSITY OF PENNSYLVANIA: The Albert Kahn Scholarship in Industrial Architecture this year will cover full tuition. A student who has completed four years of a four or five year course in Architecture, and who has shown outstanding ability in both Design and Construction at any accredited School of Architecture, will be eligible. Write for application blanks to Dean George S. Koyl, School of Fine Arts.

APPOINTMENT

JOHN B. BARRY has been appointed vice president of Designers for Industry, Inc. This Cleveland company at present specializes in aircraft products and tool engineering, industrial design and postwar product development. In his new post, Mr. Barry, who was formerly associated with Fact Finders Associates, Inc., will cooperate with a staff of 148 design engineers and specialists, who are doing postwar work for a number of leading manufacturers.

U. S. ARMY DISPLAY

JOSEPH ARONSON, New York designer, has created a series of simple display stands for the exhibit of military equipment by the Quartermaster Corps. Purpose of the exhibit is to attract potential suppliers, provide a place where items may be inspected and specifica-



Drix Duryea, Inc. tions checked. Display "islands" were built of U. S. Plywood's "Weltex," floored with Armstrong linoleum. Display items include Ski Troopers' equipment, Army as well as WAC uniforms.



EXHIBIT CASES

* WITH MICHAELS INNERLOCKING FRAMES

Because of their distinctive appearance and unusual constructional features, Michaels Time-Tight exhibit cases are becoming increasingly popular. Time-Tight Innerlocking Frames, exclusive with Michaels, are a comparatively recent development, and designed to meet fully the requirements of all users of exhibit cases.

Time-Tight cases are available in various types and sizes. There are Table Cases, Wall Cases, Aisle Cases, Suspended Cases, Recessed Cases. A few are shown below. You'll be interested in all the details of these unusually fine and practical exhibit cases. Descriptive folder giving complete information, will be sent on request.

Michaels' entire resources are dedicated today to the manufacture of war needs. But when the war has been won, Michaels will resume the production of Time-Tight Exhibit Cases, Bronze Tablets, MI-co Parking Meters, and many other products.



Type No. 130. Front panel hinged. Six glass shelves adjustable every inch. Vehisote back. Removable panels may be substituted for hinged panels if desirable.

Type No. 120. Top sloped lids, having two point lock and lid supports.

below Type No. 170. End panels hinged. Removable panels may be substituted for hinged panels if you prefer.





Type No. 200. Suspended case. Frost panel hinged. Shelves adjustable every inch. Wood or metal supporting shelf. Removable or hinged panels furnished as desired. Dimensions should be determined by available wall space and type of exhibits to be used.



MUSEUM CASE DIVISION OF THE MICHAELS ART BRONZE CO., Inc. Manufacturers of many products in Bronze, Aluminum and other Metals COVINGTON, KENTUCKY



Better Heating

-Toudy and Tomorrow,

For fifty years, America's best heated buildings have used steam as a heating medium—steam harnessed and brought under control with Webster Systems of Steam Heating.

Today, when excessive fuel consumption is not only wasteful but unpatriotic as well, the building equipped with a Webster Moderator System is assured of heating comfort with minimum fuel consumption. "Control-by-the-Weather" is provided by an Outdoor Thermostat, which automatically adjusts the basic rate of steam delivery with every change in outside temperature.

Architects, engineers, contractors and building owners who are planning building construction or modernization, for both now and after the war, are demanding economy as well as comfort in heating. That is why controlled steam heating plays such an important part in the planning being done today.

Unique in comfort, economy and trouble-free operation, the Webster Moderator System is continuing to gain the approval of men who are planning ahead.

WARREN WEBSTER & CO., Camden, N. J. Pioneers of the Vacuum System of Steam Heating Representatives in principal Cities : : Est. 1888



We have a book that gives performance information about the Webster Moderator System of Steam Heating in buildings of every type. It will help you in planning new construction or modernization of existing buildings. "Performance Facts" is yours for the asking. Write for it today.



BOOKS (Continued from page 28)

necessary, so that most plans have to be revised — downward. Realizing this, many planners have gone all out to propose improvements which to their detractors smack of megalomania and the politics of wonderland. Nothing will damn a plan so thoroughly as the description "idealistic."

PROBLEM

The final task that can be undertaken only after the needs have been stated and the remedies proposed, will be the creation of the machinery of planning. This is the most difficult job of all. It will require education, propaganda (the documentary film The City was an excellent step), and tireless efforts to create plans everywhere so as to establish at least a basis for discussion, a criterion on which policy can be founded. Every square mile in the U. S. needs such plans. Once there is a plan, black on white, to discuss, there will be hope that something is going to be done. In his introduction to the London County Council plans, The Right Hon. Lord Latham, Leader of the Council, said: "Just as we can move mountains when our liberties are threatened and we have to fight for our lives, so can we when the future . . . is at stake. If only we will. The cconomics are difficult, the timing is difficult, the moral, intellectual and physical effort is difficult . . . as the opportunity is inspiring, so is the task immense . . . Therefore, let us begin now!"

AN AUTOBIOGRAPHY, by Frank Lloyd Wright. Duell, Sloan & Pearce, Inc., New York. 560 pp., 8/2 x 8/2. \$4.50.

There is a world of difference between the circumstances under which An Autobiography first appeared and its current revival in revised and expanded form. When the book was published around 1932, Wright was famous as an architect practically everywhere in the world except in his own country. Here he was still known to the public at large as an extravagant and eccentric individual whose private life had a way of getting into the papers all the time. To the architects he was hardly known at all. Architects in the busy twenties had a good enough time peddling their fancy facades without fretting about "organic" architecture or listening to its most articulate practitioner.

In the decade since 1930 a change of extraordinary swiftness took place. A new generation of architects, impatient with academic precepts, eager to find a more valid expression of life in

(Continued on page 124)



ARCO RAYS—the Mill White with Fog Control—sprays onto your factory walls with a minimum of "fog" and splatter. As a result, production goes on almost unhindered during the painting, and a dry cloth is all the clean-up that's required!

ARCO RAYS is one of Arco's long list of maintenance specialties—mill whites, floor treatments, metal protectives, wall paints, concrete and masonry coatings—products that have played an important conservation role in three generations of American industry. Write for details.







2 "Hello Mr. Architect - If it's 'good paint' you're looking for, let me remind you that 'good paint' is my middle name. Yes, I'm the Dutch Boy - and when I say 'good paint' I mean Pure White Lead - the paint that doesn't crack and scale. It not only lasts longer itself but makes property last longer too. And you can use it on any surface - wood, concrete, stucco, brick, plaster, wallboard"



4 "And that's not my only news. Today you can also specify Dutch Boy in a new form-as a ready-to-use Paint. It also is pure white lead-and

finishing coat and general painting.

"Used together you can't top 'em in sparkling whiteness and real weather fight for two-coat painting - even on new wood.

"One thing more. Whether you specify the paste or the paint, there's no shortage of white lead ... no change in Dutch Boy's famous quality."

Specify

45

PASTE OR PAINT

DUTCH BOY PURE WHITE LEAD



it's all ready to spread. Comes two ways-as a special 'Exterior Primer' for extra sealing and hiding and as an 'Outside White' for

land, St. Louis, San Francisco, Boston (National Boston-Lead Co.) Pittsburgh (National Lead & Oil Co. of Penna.), Philadelphia (John T. Lewis & Bros. Co.).

SEPTEMBER 1943

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THE AMERICAN ROLLING MILL COMPANY

BOOKS

(Continued from page 120)

America, turned automatically to Wright and his work for leadership and inspiration. During this period Wright executed some of the most important commissions of his entire career, notably the Johnson Wax Company's office building at Racine, the Edgar Kaufman house, "Fallingwater," and a great number of the "Usonian type" houses. The press again honored him with its attentions, but this time had the good taste and sense to concern itself with his architecture. The new edition—itself a recognition of Wright's changed status in his own country—contains a fifth book, "Form." Like the other, earlier four, it is a rambling collection of anecdotes on work and travel, comments on friends and enemies, and statements of political opinion.

The evaluation of an autobiography is always difficult. For one thing, it is usually produced by a person who is anything but a writer by trade, but as a literary effort it has to be judged on that basis. For another, its interest hinges largely on the career described. On the second count the reader is fortunate, for Wright's life has been one of



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Officers' Quarters at a U. S. Army Base were finished quickly and economically with portland cement stucco made with Atlas White Cement.

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*

A-F-C-8

extraordinary richness and variety, marked by continual conflict with the society in which he found himself, punctuated by extremes of personal triumph and disaster. In this book he has written about his 70-odd years of activity with candor and humor, revealing one of the most remarkable if not always the most agreeable personalities of our time.

The rather staccato treatment of An Autobiography reflects the nature of Wright's career. The book shifts constantly from stories about jobs built or lost to recollections of the sights and smells of the Wisconsin countryside, to difficulties with creditors-to anything in fact, that happens to come to mind. The fascinating and little-known tale of Wright's adventures in Japan as a print collector, for instance, appears in the fifth book, which is supposed to deal with events which took place many years later. Actually, these sudden shifts in time and space are not particularly confusing, and they add up to a much more readable account than the more conventional "I did this in 1906, that in 1907 and something else in 1908" method.

Throughout the Autobiography there is an ample supply of ammunition for those who have always carped at Wright's arrogance. On music, for example, he has this to say: "About 25 years ago I sat playing the piano in my own way (no notes, so no pattern) letting the piano play itself for its own amazement. Carl (Sandburg) was listening. I suddenly stopped and wheeled around toward him with one of those mischievous impulses that I like to practice upon my friends and that so often ruin me. I said, 'Carl, if my mother hadn't decided for me that I was to be an architect, I should have been a very great musician. And since the mind for greatness in either art is the same, I should have ranked with Beethoven, I am sure!" On his influence (a speech in Chicago): "Ladies and Gentlemen. I give you Mies van der Rohe. But for me there would have been no Mies-certainly none here tonight." On his architecture: "It is a trifle hard to hit the bull's-eye every time all the time." Or "So let's say here that it (the Johnson Wax Building) is technically, and in the entire realm of the scientific art of Architecture, one of the world's remarkably successful structures. I like it. They like it. Let it go at that." And to England, on the possibility of losing the empire: "Don't grieve too much, Britain. Empire is no essential."

Interesting as these and other statements may be as manifestations of a thoroughly cultivated ego, they are important only as a revelation of charac-

(Continued on page 128)

NEWS ABOUT GLASS from "Pittsburgh"

READY-BUILT CARRARA GLASS SPLASH-PANEL

This Carrara Splash-Panel prevents wall discoloration, is easy to clean. It is prefabricated as a unit, with glass mounted on plasterboard, ready to be nailed to studding. The plastered wall finishes flush with the face of the glass. This is a low-cost, practical item, eminently suitable for use in housing project kitchens.

SCHOOL DESIGN almost invariably includes large window areas . . . and many architects have found Pennvernon Window Glass an exceptionally satisfactory glazing material for them from both functional and aesthetic standpoints. This is the Pennvernon-glazed Whitesboro Central School, Whitesboro, N. Y., Architect: A. F. Gilbert.

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BOOKS

(Continued from page 124)

ter. Without this "arrogance"-and the underlying fighting spirit it reflects -it may be doubted if Wright would have survived his interminable series of personal and professional disasters and produced the acknowledged masterpieces which stand today. From this point of view, an occasional vainglorious quip (made with tongue in cheekand cheek in tongue) does not seem too high a price to pay for the buildings. But this is not the whole story on the much - publicized Wright ego: "My trouble too, is I know, that I still yearn to be on good terms with myself and have never vet succeeded in getting rid of this deep-seated, inherited, tragic, ancestral plague-the desire to stand well with my kind-to win the esteem and affection of my fellows." It is typical that Wright takes a quite normal human characteritic and dramatizes it to the point ("deep-seated, inherited, tragic, ancestral plague") where it becomes an exclusive Wright property. But it explains many of his less attractive antics.

Overriding all of these personal foibles and failings is the fact of the architecture, and of the life dedicated



FLOORS OF THE FUTURE What Will They Be?

You read much about the "house of tomorrow"-predictions that new forms of glass, metal, plastic, and plywood will be found in every room . . . that kitchens will be mechanical wonders . . . that bathrooms will be like those in the movies . . . that windows will wind up and down like those in an automobile . . . that roofs will slide back and forth at the owner's command.

What about the floors? What kind of flooring will be used in the "house of tomorrow"? Of one thing you can be certain . . . that it will be made of hardwood. No satisfactory substi-

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a better hardwood flooring to match the improvements in other building materials. We can't tell you now what the new postwar flooring will be. But you may rest assured it will be a

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to the sole end of producing architecture. From this only, come hell or high water-and there was plenty of both-Wright never deviated. And for this reason if for no other, An Autobiography is a great and inspiring book.

Somewhere in his remarks on his work, Wright says "It takes a developed 'someone' to see the Johnson Administration Building altogether. That is, to see it all. But most folks see enough to delight them or make them envious. Or make them mad." This is perfectly true, and not only of this building. As proof, consider the decades that passed before a generation of architects, capable of understanding what Wright was driving at in his magnificent houses of 1905-1910, appeared in this country. For those interested in architecture as a fully developed social art, it is becoming clearer all the time that Wright's best work has a richness, a dynamic movement, a poetic quality-and above everything else, a sense of truly threedimensional enclosure of space which has not been matched in this generation, or in many others. While his contemporaries were sealing space in tight little rectangular boxes, Wright was letting it flow freely and beautifully around the structure and through it. Anyone-any "developed 'someone'"who has visited Taliesin (the most lovely and human of all his houses) cannot escape a feeling that here is a quality which had been lost to building since the last of the French Gothic cathedrals. Against these facts the arguments of those who have tried to belittle his work bulk small. If some of his houses occasionally leak, if his furniture is "probably the worst in world history," if his continuing infatuation with the geometric ornament of Austrian "Secessionist" vintage seems as out of date as feather boas, it probably won't matter much in the long run.

In An Autobiography there is much of the quality of the architecture itself. It too is filled with a turbulent richness that is often captivating, frequently contradictory. Much of the writing is simply warmed-over Walt Whitman, but along with it there is pungent, graphic description, swift anecdote and a pointed, highly personal wit. Wright's political philosophy is essentially anarchist, and as oldfashioned as his ornament; but along with it come profound and illuminating comments on the American scene, while his articles in Book Five on Russia (written in 1937) read today like prophecy verified. An Autobiography, like everything Wright has done is on a big scale. In it both faults and virtues are magnified many times. If it

(Continued on page 132)

U. S. BULLETIN ***** SEPTEMBER

ORDER ESSENTIAL HEATING EQUIPMENT NOW ! Boilers, Radiators, Conversion and Repair Parts available to qualified users

U. S. RADIATOR manufacturing facilities are being heavily taxed by production of vital fighting and other military equipment. This means that boilers and radiators for essential civilian, hospital and other war requirements should be ordered now without delay. Waiting till the fall heating season arrives may be a serious matter.

This also applies to conversion and repair parts for both steel and cast iron boilers. These units are available now, but they may be difficult to obtain by the time cold weather comes.

PACIFIC STEEL BOILERS should likewise be ordered right away. For information concerning priorities under which they are available, and can be delivered, get in touch with the Pacific Steel Boiler Division of U. S. Radiator right away.

RADIANT WARMTH

PA(IFIC)

U. S. RADIATOR IN THE WAR

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TOMORROW'S

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BAYPORT . MINNESOTA

BOOKS

(Continued from page 128)

shifts, often for no apparent reason, from heights of wisdom and understanding to almost childish petulance and fits of boasting, it is no criticism of the book. Both extremes are human, and this book is one of the most thoroughly human documents of our time.

COLOR AND METHOD IN PAINTING, by Ernest W. Watson. Watson-Guptill Publications, Inc., New York. 141 pp., 12 color plates, 150 other illustrations. 9 x 12. \$5.00.

For many years Ernest Watson has functioned as an artist, teacher and writer on art techniques, and he has distinguished himself more in the latter than the former, possibly because good teachers are less numerous in this field than good artists. In this book he has found an almost perfect formula for the average art student. He has taken twelve American artists, among them Charles Burchfield, Eliot O'Hara, Speicher, Brackman and Sample, presenting in each case the "inside story" on how they work. For some mysterious reason this kind of information is highly prized by students, the idea being, apparently, that if one knows



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what Burchfield uses in the way of brushes, paint and paper, a Burchfield water color is more likely to result. Even if this notion is unduly optimistic, the information is nevertheless useful to anyone interested in the technique of his craft, and it has been very well organized by Mr. Watson with a great many illustrations.

PEOPLE'S HOMES, A Report by Mass-Observation. Published by John Murray, 50 Albermarle Street, London, W.1. 228 pp. 51/4 x 81/2. 10/--.

Mass-Observation, a kind of sociological Gallup Poll in England, has conducted a survey of what sort of homes British workers want. Allowing for a margin of error due to differences in temperament and tradition, the answer could be applied to the U.S.

The answer, of course, is that they want decent homes. Beyond this there are some amazing revelations on matters of detail. Most people want separate cubicles for bath and w.c. An almost equal number want "large windows everywhere." In a breakdown of the types of shelter British workers prefer, we get 49 per cent wanting a small house or a small modern house (our italics); 21 per cent would stay in their present homes; 12 per cent wanted a bungalow; and only 5 per cent wanted to live in an apartment. These figures, however, are deceptive: A very substantial number liked the additional amenities of apartment life. Their reasons for rejecting apartments were based on intelligent criticism of the lack of space, gardens, sound-insulation and elevators. There is reason to think that a major shift in these percentages would occur if inexpensive apartment blocks were planned well. As a working class woman of 25 said: "I want a flat in one of those really new buildings . . . and a flat roof -a roof garden . . . just one very large room for a living room . . . just a small medium-sized kitchen (sic.) . . . ' and, again: " . . . I like large windows . . . the bathroom and lavatory must be separate. . . . " The romantic, picturesque nonsense about "ye olde English working class cottage" seems to have been propagated by those whose self-interests are served by its perpetuation. . . .

How accurate a survey is the Mass-Observation poll? Founders Charles Madge and Tom Harrisson (exornithologist, ex-explorer, ex-investigator of Malekulan cannibals) claim their survey to be scientific, admit their field of inquiry to be limited (one large industrial town, a small cathedral town, a naval base and dockyard, an East London suburb, a West London (Continued on page 136)



"SOMEWHERE IN AFRICA" (Upper left) Approach to native town. (Upper right) Construction of Staff House. (Center) The American Clipper takes off for distant lands. (Lower left) Administration Building. (Lower right) Pan American Hangar in Africa.

Photos, Pan American World Airways System



HIS is a war of transoceanic transportation. Government officials, representatives, the armed forces and industry of the United Nations must reach across six continents and over vast stretches of ocean. Wherever war has struck, Pan American men and ships have carried on. Construction and maintenance of airport facilities in many parts of the world have been accomplished under difficult conditions. The whole inspiring, heartening story must await the advent of peace for full recital.

Here, too, as in other phases of the war, Pratt & Lambert Paint and Varnish have played the role of protection and preservation. While the resources of the extensive Pratt & Lambert laboratories have been severely taxed, there has been no neglect of industrial and commercial demands on the home front. In fact, architects and engi-

neers have found a closer co-operation and a more intimate knowledge of their problems demonstrated by the Pratt & Lambert Architectural Service Department nearest them.



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Fairchild needs aeronautical, structural, mechanical and electrical engineers.

It needs architects, draftsmen, machine designers and others similarly qualified.

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Candidates should have at least a high school education and 5 years of actual engineering or drafting experience. Age range 28 to 50. They must be American citizens. Those now employed at their highest skills in war work will not be considered.

In replying please send photo (any kind) and give details of experience, education and general background. Replies will be treated confidentially.

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Our engineers are ready to assist builders and designers of war and postwar structures.

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Walls and ornament cast integrally with frame and floors in one firesafe, economical material.

Armory and Community Building at Iola, Kansas, designed by Architect Garrold A.Griffin, of Wichita, Kansas

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

BOOKS

(Continued from page 132)

borough, two garden cities, three municipal housing estates, two blocks of working class flats). Yet their attitude is not always objective or scientific in interpreting percentages. Thus, in one case 7 per cent will constitute a strong demand, while on the next page 79 per cent is considered a weak section of opinion. Elsewhere a sampling of opinion records precisely the same reasons in six differently worded statements to support the contention that some people want smaller windows. To the casual reader it will seem therefore that a majority is on that side of the fence. Similarly in a grouping of answers under three headings ("comfort," "labor-saving" and "convenient"), all of which seem to mean the same thing, an illusion of volume of opinion is created that does not exist.

Despite these faults the book is a step in the right direction. Our criticism is intended merely to put potential readers on their guard. These opinions are not bible truths. They are as complete a welter of well intentioned information as has been compiled to date.





efficiency in war lift equipment, will be made available for food service and supply handling in the restaurants of tommorrow. The ROTO-DRIVE principle of lift operation is distinctly a Sedgwick achievement. It makes possible many

ly a Sedgwick achievement. It makes possible many improvements in handling food, accessories and supplies between floors and between sidewalk and basement.

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SEDGWICK MACHINE WORKS





HOUSE PLANNING, by Wooster Bard Field, Architect, A.I.A. McGraw-Hill Book Co. Illustrated. 271 pp. 9 x 11. \$3.

"The Beauty of the house is Order. The Blessing of the house is Contentment. The Glory of the house is Hospitality and the Crown of the house is Godliness. *House Planning* is the effort to create a structure in which these qualities may grace the home life of the dweller." Being dwellers ourselves we were touched to see this introductory motto to Wooster Bard Field's book on house planning.

After a 36-page comment on the tools and limitations that condition an architect's life, the author finally gets there-"there" being the inevitable doorways, halls, stairways, fireplaces, dressing rooms, etc. After an eightpage jaunt across the entire fields of illumination, heating, air conditioning and thermal insulation, he is back at "Factors affecting both plan and elevation,"-"Architectural Styles" and the rest. This "rest" includes such quaint delights as "A Well-Appointed Bath of Average Dimensions," and "The living room where quiet comfort reigns, and all the family rests from daily toil, enjoying each the other, or fine books, or friends we love and like to entertain. What matter be it great or small, we know it is beloved and always will be so." These latter specifications, far from promising quiet comforts, seemed conducive only of utter, chaotic bedlam. We must confess, however, to being charmed by the writer's eighteenthcentury ideas on the subject. "For 22 years," he says, "the author has endeavored to bring the subject of house planning before his classes . . . to give the students a comprehensive view of the problems involved . . . while on their part an open mind is maintained and a tendency to ask 'why?'" This tendency to ask "why?" might be said to express in a nutshell the reactions of this reviewer.

ART PARADE. Seeing the past 40 years through Art News and the Frick Collection. The Art Foundation, Inc., New York City, Hastings House, Publishers. Illustrated. 118 pp. 91/2 x 121/2. \$3.50.

While most readers have probably been spoiled by the excellent publications of the Museum of Modern Art, one can not help feeling that *Art News* owed itself and the Frick Collection a better presentation of the latter than that just published. This is the kind of art book that has made the comics the primary source of American esthetic inspiration. But for a Rubens and a Pisanello drawing, and for the rare pleasure of seeing an El Greco in the coloring of Life-Saver "Ju-Jubes," this book is conducive of little else except boredom.

SAVES...5½ lbs. of copper per valve!

• Saves water. • Amazing endurance to both use and abuse. • Fewer parts.

Conserves more than

51/2 pounds of copper.

Shipping weight reduced by 2¹/₂ pounds.

Corrosion resistant.

Sloan Victory Flush Valves save over 5½ pounds of copper per valve for war matériel. This means that Sloan alone is conserving over 2,000 *tons* of critical copper annually, based on 1942 production figures.

This amazing reduction was brought about through the substitution of plastics and malleable iron. All the malleable iron parts are attractively finished with a baked-on protective coating applied both inside and out. A plastic sleeve lines the iron body to provide a smooth, wearresisting surface for moving parts.

While the Sloan 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. Its outer shell, now of transparent plastic, permits visual inspection, thus assuring the ultimate in protection against back-syphonage.

In the new Victory Valve, the Sloan Valve Company has applied its every resource to produce a high quality flush

valve, and vacuum breaker which in cooperation with the War program, used the irreducible amount of precious copper.

Remember: it is *patriotic* to specify and order Sloan—the flush valve using the least amount of critical metal.



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

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VICTORY TYPE FLUSH VALVES

NUMBER OF WAR PROJECTS USING MINWAX WOOD FINISHES



lf it's a war project

if it's a wood finish your best bet is MINWAX

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 Add invasion barges to the long list of war jobs Douglas Fir Plywood is doing. This sturdy, lightweight engineered lumber is being used for transportation equipment of all kinds, for military and war worker housing, for factory construction and scores of other purposes. Because of this wide and varied experience, you're sure to find Douglas Fir Plywood one of your most useful post-war construction materials.

• Here's another type of plywood barge — officially known as a lighter — built by Higgins Industries, Inc., of New Orleans. Sides and decks of these 18x64foot barges are covared with 2 layers of %-inch Exterior-type Douglas Fir Plywood. This Miracle Wood adds rigidity, is quickly applied and easily repaired if damaged.



● (Above) The bottom skin of these Higgins lighters consists of (from left) outer planking, a layer of thoroughly waterproofed carvas and an underlay of % -inch Exterior-type Douglas Fir Plywood. The Higgins Industries use vast quantities of plywood in the many types of auxiliary vessels they are building.

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 FREE WAR USE FOLDER

Scores of actual photographs show plywood's busy war career. Write Douglas Fir Plywood Association, Tacoma Bldg., Tacoma, Washington, for YOUR copy. DOUGLAS FIR PLYWOOD Real Lumber MADE LARGER, LIGHTER SPLIT-PROOF STRONGER


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TIMBER ENGINEERING COMPANY NATIONAL MANUFACTURERS OF TECO TIMBER CONNECTORS AND TOOLS WASHINGTON, D. C. PORTLAND, OREGON

TECO

BLANFORD INTERVIEW

(Continued from page 64)

the over-all war effort through close cooperation between the NHA, the War Production Board and the War Manpower Commission. All available channels have been mobilized for the war housing job-private builders and contractors, lending institutions, local housing authorities, the building supply industry, and labor. The cooperation and teamwork of war industry communities have been enlisted to assist capacity use of existing structures for

the housing of war workers. Without this unified approach, an effective war housing program could not have been carried out in the face of the enormous migration of war labor, the constantly shifting needs resulting from changes in the war and extreme shortages in most basic materials used for housing.

In my judgment, the advantages secured in wartime from a unified approach to housing apply with equal force to the postwar period, if we are to achieve a really adequate postwar housing program. There is increasing realization that housing is one, broad, interrelated problem, rather than a

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CABINETS

127 YEARS

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tities and on time is our prime responsibility. But that isn't all!

Not specifically mentioned, but nevertheless a very real part of our war contracts, is the duty to do the job at the lowest possible cost.

Take the case of the (CENSORED), small but extremely important part of a deadly anti-submarine weapon. Originally the cost was estimated at \$15 apiece, yet due to Lawson experience and efficiency we are producing those parts at a cost of only \$5 apiece. This means a saving to the taxpayer of \$10 on every (CENSORED).

Tomorrow, when we again turn to the manufacturing of a complete line of bathroom cabinets, this experience will help us to make better cabinets for you at lower cost.

THE F. H. LAWSON CO.

BATHROOM CABINET DIVISION, CINCINNATI, OHIO

series of unrelated problems which can be neatly segregated into separate compartments. This realization is a reflection partly of the experience we have all gained through a unified attack on war housing; it also reflects broader recognition by all groups of the realities of the housing program.

I therefore believe that teamwork and a unified approach to housing should be preserved in the postwar period. On this basis, the resources of all groups concerned with housinglocal government, builders and contractors, lending institutions, building supply manufacturers, labor and the Federal Government-can best be teamed up and brought to bear with full force on the achievement of the maximum potentialities of postwar housing. On this basis, we can attain unity of research, a unified legislative approach, greater stability in financing, and a more thorough attack on all phases of the housing need, with a maximum area for productive enterprise. What form this unified approach to housing will take in the postwar period and what its relationship to other federal activities will be are, of course, matters for determination by the Congress and the President.

9. The criticism is sometimes made that government housing agencies are resistant to modern design and to new construction methods such as prefabrication. Is this criticism justified?

BLANDFORD: The NHA is definitely interested in new methods of construction and in modern design within a framework of orderly evolution of consumer tastes and demands, and orderly adjustment of the production and financing techniques of the building industry. We also favor governmental support of research and technical studies to keep the housing industry on the highest possible plane of technical development.

We do not believe, however, that the government should promote on a large scale any specific construction methods or designs in advance of proof of their economic feasibility or public acceptance. Nor do we believe that large scale housing projects are proper subjects for extensive experimentation with untried methods or designs. There is clearly a need for intensified laboratory experimentation with new construction methods, new materials and new designs for housing and small scale demonstrations of the most promising results as parts of actual developments.

TWO-MILE CURTAIN TWO-MILE CURTAIN TWO-MILE CURTAIN GOING UP! OF HOT STEEL...GOING UP! With desperate fury they dive in



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ARM

With desperate fury they dive in . . . trying to break through to bomb their target. But these Nazi bombers get just so far, then— WHAM! . . . they crash into a curtain of hot, tearing steel. For down there on the ground is a ring of American anti-aircraft guns . . . each one hurling more than a hundred two-pound shells two miles into the sky—every minute!

The performance of our high calibre, rapid-fire anti-aircraft guns is amazing. But even more remarkable is the production achievement that has made these guns possible.

To produce such intricate mechanisms on a mass scale was a stern challenge to American industry. Just how well this challenge has been met is, of course, a military secret. But on every fighting front, the mounting number of dead Nazi and Jap airmen is mute testimony to the job that has been done ... a job that reflects the ability of America's industrial might to produce whatever is necessary for victory, be it planes, tanks, ships, shells or guns.

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At only \$300, this house "points the way" in meeting the present urgent demand for low-cost housing for farm, industrial and military personnel. Completely prefabricated, easy to erect—takes four men three hours. Very fine construction at the price.

You owe it to yourself to ask us for folder giving full details on this great value.



Buy a Home in the Peace to Follow with the Bonds You Buy Today



"THE NATION'S FAVORITE"

"Better designs . . wider selections . . faster service" —these things won wide preference for metal trims trade-marked CHROMEDCE. Our post-war plans for maintaining leadership are backed by improved facilities and increased skill in extruding, processing and fabricating metals. "The Nation's Favorite" will be a post-war as well as a pre-war truth when applied to metal trims trademarked CHROMEDCE!



airplane wheels need lasting protection

yp or dou

Wheel and brake assemblies of many planes contain magnesium alloy parts. These parts must be protected against corrosion, on the ground or in the air.

Aluminum paint is used for this job because tests have proved that it provides the best possible protection. Moisture, which induces corrosion, is most effectively kept away from the magnesium by the overlapping flakes of aluminum pigment.

The better these flakes "leaf" together, the better the protection. For that reason, Alcoa Albron Paste Pigment is widely used. Its leafing properties are unexcelled.

Aluminum paint made with Alcoa Albron Paste is also used to protect many aluminum and steel parts of planes. It has won these wartime jobs as the result of its outstanding performance in countless industrial and civilian uses in peacetime, uses for which . . .



Production line in a plant where airplane wheel and brake assemblies are made and painted with aluminum paint.

SOME DAY YOU'LL BE USING Aluminum Paint AGAIN

ALBRON

ALUMINUM COMPANY OF AMERICA

1947 GULF BUILDING, PITTSBURGH, PA.

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

KEPORTER (Continued from page 8)

wind produces a wood grain running in the opposite direction from the preceding wind. Veneer roll can be wound on square mandrels or on irregular-

Courtesy, Plastics World

shaped forms with greater ease than is required for winding strips in a continuous spiral. Grain direction and size of panel may be predetermined to fit any shape, eliminating laborious winding and stapling of spiral strips.

High density plywood, also a wartime product, is a result of the application of electrostatic heating. Previously, thick sections could not be bonded by oven heating without injuring the wood. Cold-setting glues have been found unsatisfactory and impractical. High-frequency electric heating, however, penetrates the entire section, heating it uniformly. Material pro-



duced has the original stren characteristics of wood, compa one-half the original thickness weight double that of the raw High tensile strength of Pregwo veloped by Formica Insulation Cincinnati, Ohio, makes it a competitor of metals.

Aircraft propellers, illustrate block and finished form, are mad of 1/8-in. maple veneers. These are pregnated by soaking in phenolic in varnish and then curing. Ven are stacked, and under high pressu and temperatures resin softens a wood is squeezed down. After coolin boards are machined to size by sa ing and planing. Standard-size board are then glued together by the elect trostatic machine into blocks from

COMPLETE CONTROL of air supply pos-



Name: Velocitrol.

Features: Designed to provide adjustable control of air volume, pressure and distribution across a supply outlet, Velocitrol supplants splitters and volume dampers. Frame of 16-gauge steel, 21/8-in. wide, holds several pairs of pivoted louvers which are of 24gauge steel. Friction pins on each louver allow it to be set by hand, and positions are maintained when once set. Fireproofed felt-edged strip fits between frame and supply duct. Maximum size in one piece is 12x48 in., although larger sizes can be constructed of frames spot welded together. Rockford, Ill. Barber-Colman Co.,

(Continued on page 148)

unit ventilat COLD WEATHER will again find School

conserva

and

Authorities struggling with the problem of fuel conservation. Fortunate are those whose schools are equipped with Herman Nelson unit ventilators which operate in accordance with the Her-Nel-Co Method. These units when properly controlled introduce air from out of doors only when necessary for maintaining proper temperatures in the classrooms. They save all of the fuel formerly used to heat large quantities of cold air continuously introduced from out of doors even when not required.

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gaged in producing equipment to hasten victory. With peace, we will resume the designing, developing and pioneering of equipment to provide better schoolroom ventilation at less cost.



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Sales and Service Offices in Principal Cities The Herman Nelson Corporation

Autovent Fan & Blower Division, Chicago, Illinois Manufacturers of QUALITY HEATING, VENTILATING AND AIR CONDITIONING PRODUCTS





• Truscon Open Truss Steel Joists will be quickly available when peacetime construction plans become realities and new structures demand rapid, safe and permanent floor construction. Adequately proved strength . . . lightness of weight . . . adaptability to a wide variety of requirements, including sound- and fire-resistant construction . . . these are a few of the many features of Truscon O-T Joists. They are designed and manufactured in accordance with the specifications of the Steel Joist Institute, and the Simplified Practice Recommendations of the U. S. Department of Commerce.

Other Truscon products for post-war construction are: standardized reinforcing and structural steel for every kind of building design; steeldeck roofs; steel buildings from standardized parts; steel doors, especially for modern airplane hangar needs; steel windows for every type of building construction. Wartime demands have been met by Truscon Ferroglas design, a radical new adaptation of steel and fibre glass; and by Light Steel Framing, which permitted amazing new records in barrack construction. In addition, Truscon armament production records have contributed materially to the war effort.

Today, Truscon is one move ahead in the development of steel building products and designs for tomorrow's construction. Keep in touch with Truscon to be a step ahead in your peacetime building plans.



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For over 60 years Cabot's Shingle Stains have been the country's leading quality stains. *Today*, that quality is still the same . . . and more important than ever. Cabot's Shingle Stains are easy to apply —cost less than paint—preserve and bring out the natural beauty of the wood.



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• Consolidated Vultee Aircraft Corporation plays an important part in the production of all types of aircraft for the United Nations' Fighting Forces. This effort to maintain production must be supported by an adequate supply of manpower. There is a serious shortage of Engineers which may dangerously interfere with this production of airplanes we need.

If you are a graduate engineer and would like to engage in essential war work, there may be a place for you at Consolidated Vultee Aircraft Corporation—a position offering ample opportunity for advancement and increased earnings. Aeromautical experience is not necessary.

If you are a United States citizen not now employed in an essential war industry, agriculture, dairy, poultry, ferrous and nonferrous metal, or lumber industries; or if you have a certificate of availability from the United States Employment Service office or War Manpower Commission of your area; write us today stating your school, degree, age, experience, draft classification, and marital status. We will send you complete information.

We have plants located in California, Texas, Tennessee, Louisiana, Michigan, Pennsylvania, Florida, Arizona, North Carolina, and Kentucky. In the event you are accepted for employment, we will assist in locating housing facilities for you and your family, and will pay your expenses to the place of employment.

This is your opportunity to get into essential war work and, at the same time, a business with a great future. DON'T DELAY! Write us today!





★ More alert and more vigilant than thousands of guards standing elbow to elbow, completely encircling your industrial properties and plants, A.A.I. Automatic Alarm systems provide modern, dependable protection, 24 hours a day, against the constant threats of sabotage, espionage and theft. Used in connection with any type of industrial guard fence, Automatic Alarms, operating on the principle of sound detection, "hear" and report danger with unerring speed and accuracy, dispatching guards to the actual zone of disturbance. Relatively low in cost. Easy to install and maintain.

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Marching back to .. What?

D URING the first six months of peace, a U. S. Chamber of Commerce survey indicates that 1,015,000 families intend to build or buy new homes— 592,000 intend to modernize kitchens—496,000 plan new bathrooms.

But what kinds of homes? How importantly will advanced design, improved construction and new materials influence their planning?

Architects and builders already have the answers to many such questions in the versatile performance of steel, not only in industrial buildings but also in dwellings. These qualities will serve an even more important need when it comes to designing the "homes of tomorrow." Modern construction will create many new demands for which the use of steel is a practical "must."

For no other material can serve so many purposes so well. Wherever there is need for strength, durability, resistance to the elements and fire there will be found a steel suited to that need. Mass production of prefabricated units, which seems destined to increase, is just one of the instances in which steel can serve to advantage.

We have collected a fund of valuable information concerning the most frequent uses of $U \cdot S \cdot S$ Steel Products in home building. This information makes interesting reading in a fully illustrated brochure, "85 Ways to Make a Better Home." Just drop us a line and we shall be glad to forward your free copy.

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Properties and advantages of Special U⁻S⁻S Steels

U-5-5 COPPER STEEL—Twice the atmospheric corrosion resistance of plain steel. Furnished black or galvanized for gutters, downspouts, flashings, duct work for airconditioning systems and furnace construction.

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U-S-S PAINTBOND—A galvanized Bonderized Steel. Permits immediate painting, Paint holds tighter, lasts longer. Highly recommended for all outdoor uses such as gutters, downspouts, ducts, and all sheet metal work.

In the South and West, U·S·S Dul-Kote, with properties similar to Paintbond, is available.

U.S.S VITRENAMEL—Porcelain on U.S.S VITRENAMEL has almost unlimited possibilities both for interiors and exteriors. Base metal is easily formed into attractive shapes. Porcelain finish is durable and easily cleaned.

Ideal for wall panels, roofing, shingles, shutters, tiling, and bathroom, kitchen and laundry equipment. For bathtubs, lavatories, sinks, stoves, refrigerators, washing machines, hot water heaters, laundry trays, specify U-S-S VITRENAMEL.

U-S-S STAINLESS STEEL — a "perfect metal" for sinks, drainboards, work surfaces, kitchen and bathroom trim — any place where a permanent, sanitary and beautiful service is desired.



BUILDING REPORTER

(Continued from page 144)

TWO-THREAD SCREW holds materials tightly together.

Name: No-Slip Screw.

Features: Because this new screw has two threads of different pitches, it pulls boards together by an amount equal to the difference between the pitches of these threads. When properly installed, No-Slip screw leaves only a small hole which can be sealed with plastic wood. Screws are recommended for flooring, boats, store fixtures, furniture and all kinds of fine cabinet work. When used to draw flooring to sub-floor, they permanently anchor floor in place, and eliminate squeaky or buckling boards. To install, a small hole is drilled to





be larger, as current trends continue. While generous fenestration opens exciting design possibilities WINDOW EFFICIENCY will have to be examined more critically than ever before.

When stock-size Pella Casement Units are available again, compare these three design features with the field for BEAUTY and EFFICIENCY:

WOOD and STEEL both used in Pella Casement frames to combine beauty and strength.

ROLSCREENS, original roller-type inside screens. The ultimate in screen efficiency and convenience.

DUAL GLAZING, the single-panel type that mounts on inside of sash. Inconspicuous. Quickly and easily removed for cleaning.

Watch too, for the new Pella DOUBLE HUNG Windows which make the Pella line of windows COMPLETE for postwar homes and commercial buildings. ROLSCREEN COMPANY, PELLA, IOWA.





Investigate Pella Awning-Type Windows available with screens and storm sash. For 2 x 4 frame, thin wall or masonry construction. White pine. Toxic treated. WRITE FOR FREE FULL-SIZE DETAILS. Address Dept. 193.

Tella WINDOWS CASEMENT * "AWNING" PROJECTED WOOD SASH

Made by Makers of Famous Pella ROLSCREENS and Pella VENETIAN BLINDS

a depth equal to three-quarters the length of screw, which is then screwed into this hole. Coarse threads first pass through the hardwood and then into the soft underflooring. The slightly larger fine threads begin to engage the hardwood surface flooring, and as screw goes further down, difference in pitch between the two threads causes the two boards to be pulled together gradually until finally both boards become tightly joined. The top of the screw then may be broken off with a pair of pliers or by a hard twist of the screw driver. Breaking-off point of screw, when properly installed, is always below the surface so that the small hole left can be filled with plastic wood. Screws are packed in gross and halfgross lots for the use of woodworking manufacturers and contractors.

Manufacturer: Wil-Son Infra-Red Mfg. Corp., 154 West Erie St., Chicago, Ill.

TWO-COMPARTMENT SINKS now made in larger sizes.



Name: Perma-Gloss Flat Rim Sinks. Features: Vitreous china glazed sinks are acidproof, will not craze or dent. Larger sizes, 30x18 in. and 32x18 in., together with the other sizes, 20 or 24x18 in., cover practically every need. Sinks are particularly suitable for mounting in kitchen cabinets with linoleum tops.

Manufacturer: Sanitary Ware Div., General Ceramics Co., Metuchen, N. J.

WATER-RESISTANT TREATMENT protects

exterior masonry surfaces.

Name: Waterfoil.

Features: This decorative treatment comes in five basic colors. One coat has the equivalent thickness of three or four coats of average paint. It employs no critical materials in its manufacture, such as linseed or tung oil, lacquer or resin. Rather it is made of irreversible inorganic gels. These gels harden into a heavy coating of microscopic spongelike character, which impedes the penetration of water from the exterior but permits the escape of water vapor developed by abnormal temperatures. Waterfoil is recommended as a protective coating for buildings which have been suffering from wartime neglect due to the scarcity of paint materials.

Manufacturer: A. C. Horn Co., 43-46 Tenth St., Long Island City 1, N. Y. (Continued on page 152)



HENRY MILL METHODS



1 DESIGN ENGINEERING-SPECIALIZED, RESOURCEperienced in the use of wood for all structural purposes, is available to help solve your particular structural problem.



2 MACHINE PRODUCTION — "Assembly line" production methods with specialized equipment enables the Henry Mill to prefabricate heavy timber structures faster, cheaper, and with greater precision than is possible with hand-framing methods.



3 ERECTION RESPONSIBILITY — When required, the Henry Mill will erect their prefabricated structures with trained field personnel.

* 36 Barges designed and prefabricated by Henry Mill for use in Northern lakes and rivers, required only 36 hours assembly time at Waterways, Canada, with a crew of 60 men. Same crew required 14 days to hand-frame and assemble a conventional type barge. Bechtel-Price-Callahan, General Contractors, Canal Project.

Faster, Cheaper, Better, Heavy-Wood Construction *Now Available!*

HENRY MILL is an acknowledged leader in timber engineering—and in bringing modern machine methods to prefabrication of heavy timber structures. This approach makes wood the fastest, cheapest, best material for many structures heretofore considered "out of wood's field."

YOU WANT THIS BOOK—Owners, architects, engineers and contractors are invited to write Tacoma office for 90-page book, now on press. Describes Henry Mill methods and shows details of many completed projects.





FOR APARTMENT

MINNEAPOLIS - HONEYWELL Offers

2 CASH PRIZES OF \$2,000.00
2 CASH PRIZES OF \$1,000.00
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for Winning Designs of a Hot Water or Steam System and its Controls for a Six Story Apartment Building, Giving Tenants Individual or

Personalized Heating Control

MINNEAPOLIS-HONEYWELL announces a \$10,000 Competition for the design of a system of steam heating and its control, and a system of forced hot water heating and its control in a hypothetical six story apartment building.

MINNEAPOLIS CORRECTIONS

COMPETITION! HEATING DESIGNS

CONTESTANTS will be furnished complete architectural drawings and layout sheets upon which to submit their designs. The purpose of the competition is to provide a design of a heating system which will incorporate greatest tenant health, comfort and convenience, reasonable first cost, low operating and maintenance cost and some form of Individual or Personalized Heating Control whereby tenants may have the exact temperature they desire in their own particular apartment. It is therefore necessary that contestants arrange their design of the heating system so that at least one thermostat be installed in each individual apartment.

Eligibility

Any persons in the United States, its dependencies, or Canada, who are not employees or representatives of the Minneapolis-Honeywell Regulator Company, their subsidiaries, their advertising agency or who are not judges of this competition, or who are not employees or representatives of any company deriving a substantial proportion of income from the sale of automatic controls, or who are not relatives of the aforementioned, are invited to compete.



GENERAL RULES

All entries must be postmarked not later than midnight November 15, 1943.

Only one layout of each type of heating system may be submitted by a contestant. He may choose either a hot water or steam system of heating, or both, but only one prize will be awarded to a contestant.

3 Detailed instructions with complete architectural layouts will be provided each entrant, together with informative booklet describing Personalized Apartment Heating Control.

Piping, radiation or boiler need not be sized, but material used and piping layout are to be considered of major importance, particularly in regard to economy.

• Entries will be judged on the basis of design merit only and not upon the manner of presentation. Elaborate details or ornamentation are discouraged.

6 It is not necessary to indicate equipment on the layout by manufacturers' trade name or type number. The general name applying to the piece of equipment shown need only be used.

All entries will be judged anonymously by a jury consisting of a nationally recognized consulting engineer, a nationally recognized architect and a representative of Minneapolis-Honeywell.

Minneapolis-Honeywell Regulator Company reserves the right to reproduce in brochure or other form, any or all of the layout entries submitted in this competition. All entries shall become the property of Minneapolis-Honeywell Regulator Company.

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY 2740 Fourth Avenue South · Minneapolis, Minnesota

Please send me entry form and complete architectural layout sheets for your \$10,000.00 Personalized Apartment Heating Design competition.

Name		
Firm		-
Address		ales an
City	State	

TEMPERATURE CONTROLS

BHILDING REPORTER

(Continued from page 148)

TRACING CLOTH made moisture sistant.

Name: Whitex.

Features: This improved white pencil tracing cloth is moisture resistant on both sides. In many parts of the country this feature will be a safeguard against climatic conditions which might mar the prints. Fine-tooth surface of Whitex also permits sharp prints.

Manufacturer: The Frederick Post Co., Box 803, Chicago Ill.

ADHESIVE bonds metals to metals, or rubber, plastics, leather or wood to metal. or to each other.

Name: Reanite Bonding Process.

Features: This new method of bonding is already in use for vital war applications and is expected to find many peacetime uses. In repeated tests, in metal fabrication, the Reanite joint has proved stronger than either riveted or spot-welded assemblies. On tests of bonds formed between nonmetallic materials or between metals and nonmetals, the materials themselves gave way before the bond. The ability to weld thin metal sheets to plywood opens up a wide new range of uses for such



'Till Victory comes, the dropy forged Von Duprin exit devices you installed before the war have acquired value far beyond the dollars and cents of their cost.

Those devices are precious because they are now irreplaceable. They ge among the many fine things which are not to be had while war lasts.

Take carle of them. Have them given the attention their fine craffsmanship deserves. The reasonable care which always pays, is doubly imporant now.



materials. Since the Reanite joint is unaffected by fresh or salt water and is extremely resistant to vibration fatigue, its use is indicated for small. high-speed boat construction where lightness, strength and rigidity are essential. Prefabricated housing units, light-weight, durable kitchen cabinet assemblies, refrigerators, furniture and other products combining the desirable properties of wood, metals and plastics are probable applications. The bind develops its maximum strength at room temperature, but is fully effective over a range from -40°F. to 300°F. Manufacturer: The U.S. Stoneware Co. Akron, Ohio.

PLASTIC REFLECTOR for industrial use. Name: Commodore Industrial Reflector.

Features: To conserve steel, a plastic reflector that uses only 13 oz. of the critical material has been devel-



oped. Of translucent Plaskon, reflector directs 75 per cent light downward and 11 per cent upward through piercings in the deflector, thereby illuminating the ceiling and avoiding sharp lighting contrasts. Comes in two sizes-15 and 19 in. for lamps from 200 to 500 watts. Both are supplied with husk and iron cap which can be mounted on pipe, cord or box cover. Fifteen-in. size is equipped with socket adapter so that it can be screwed into any socket. Manufacturer: The F. W. Wakefield Brass Co., Vermilion, Ohio.

FUSED-STONE TUB not restricted by priorities.



Name: Pearlon Tub.

Features: This regular-size bathtub is made of Haydite, a stone fused at extremely high temperatures, then ground and molded into an integral unit. It is then polished to a permanent lustrous finish, which is light gray in color. Pearlon tub incorporates Glider All Plastic Bath Drain (ARCH. FORUM, Dec., 1942, p. 114). Tub weighs 475 lbs. and is installed in the same manner as cast iron or steel recessed tubs. Manufacturer: The Bloch Brass Co., 12217 Euclid Ave., Cleveland, Ohio.

(Continued on page 156)

FLOOR LEVEL

Guessing ahead is now the great American game. We think this is fine and valuable - but, above all, we believe first in getting today's job done. For our part, we're shipping thousands of feet of Kentile for barracks, hospitals, powder plants. We're also shipping plenty of Kentile for remodelled stores, housing projects, new offices - all the many civilian places that need freshening. Kentile is available in any quantity wanted - immediately - without priorities. And this MODERN Kentile also gives you a good idea of Post-War possibilities. It's springy and resilient underfoot, yet longer-wearing than steel or marble - it's laid with amazing speed and can always be altered in any part - is so stain-resistant and easily cleaned by mopping that it is a prize floor for utility yet offers the glamour of a billion patterns and color combines (its 44 colors and 15 sizes of tiles are set piece by piece.) There are, in fact, 15 advantages to Kentile - 15 reasons why it is called "today's floor of tomorrow." To solve any current flooring problem or to peek into tomorrow's world, know them all. Write now for our full color, detailed Kentile catalog, sent without any obligation.



TUK

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DAVID E. KENNEDY, INC. Established 1899 58 2nd AVE. BROOKLYN, N.Y. (15)





San DURO All Plastic Soap Dish



an DURO Plastic umbler and Toothbrush

Consider these new San DURO ALL PLASTIC Bathroom Accessories in your new home plans! They offer the word in functional beauty of latest style and design in such essentials as Dishes, Tumbler and Tooth-Holders, Towel Rack, Toilet Soap brush Paper Holders, and others. And with all their new streamlined beauty, they are sturdy, strong, highly practical from a utility standpoint and. though they can be installed quickly and easily, they present a welcome "Built-in" appearance.

Write TODAY for details on the new San DURO ALL PLASTIC Bathroom Accessories, Plumbing Littings and the sensational San DURO ALL PLASTIC ONE-PIECE TOILET SEATS.

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LIPSE PLASTIC INDUSTRIES 5152 NORTH THIRTY-SECOND ST. . MILWAUKEE, WIS.



FOR FURTHER INFORMATION SEE OUR CATALOG IN SWEET'S

Take a buying tip from Uncle Sam when you need low-cost Hot Water

Specify AQULUX WATER HEATERS

That's what he is doing, and he ought to know... he's providing billions of gallons monthly for the Army and Navy alone. His hot water supply *has* to be dependable ... and inexpensive. And it has to operate under the toughest working conditions that exist.

0

When Uncle Sam installs an Aqulux Water Heater in a Mili-tary Hospital...in an Army Mess Hall...or on board a fight-ing ship he knows what it will do, for he has checked its per-formance. He knows he is buying hot water as cheaply as it can be produced for the job in hand. And he knows he is putting in equipment that will de-liver at maximum efficiency through years of severe usage.

If you have a water heating problem ... either immediate or future ... we suggest that you follow Uncle Sam's suggest that you follow Uncle Sam's example; investigate the performance of Aqulux Heaters. Large-volume, heavy-duty models with capacities to 540 g.p.h. available for orders that have W.P.B. approval. We will gladly send complete data. S. T. Johnson Co., 940 Arlington Ave., Oakland, Calif., and 401 No. Broad St., Philadelphia, Pa.

S. T. JOHNSON CO.

40 years of engineering and building fine Oil Burning Equipment



Matchbox Houses are out!



WELD joints ed togo

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

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



VERMIN-PROOF-Sheetrock is made from rock...it does not attract or support vermin of any kind.

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

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

SHEETROCK FIREPROOF WALL AND CEILING PANELS

Firetraps . . . houses with walls and ceilings that do nothing to stop the spread of fire . . . are fast passing from the picture. Today's new ways are replacing the old with interiors protected by fireproof Gypsum on walls and ceilings that stand guard when destructive flames attack . . . threatening to sweep away life's most cherished possessions and even life itself.

Pre-cast Sheetrock* leads the way with wall and ceiling panels of enduring beauty-made from Gypsum rock that will not burn, that acts as a fire-armor and seals the structure over which they are applied from an inferno of flame. Sheetrock wall and ceiling panels go u fast...trim may be applied immediatel ... no waiting. They are made in variou sizes and thicknesses ... take any form of decoration or may be purchase ready-decorated. Joints may be sealed with Perf-A-Tape* or made a part of th decoration with "Panel Wall" method For twenty years or more Sheetrock ha protected structures, lives and propert from fire. Continually, it is subjected to fire and breakdown tests in th U-S-G Research Laboratories.

As a result, Sheetrock has been in proved over the years and stands alon today as the best known and wide used Gypsum wallboard in the work

GYPSUM WALLBOARD . SHEATHING . LATH . PLASTER

The World's most widely used

Mineral for building Fire-Sealed

300 WEST ADAMS STREET, CHICAGO, ILLINOIS FIREPROOF GYPSUM

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

UNITED STATES GYPSUM

GYPSUM PRODUCTS . STEEL . INSULATION . ROOFING . PAINT

Walls and Ceilings

(Continued from page 152)

WEATHERPROOF BOARD has a variety of uses.

Name: 4-in-1 Utility Board.

Features: Originally developed to correct faulty wood floors, Utility Board may also be used as siding, roofing and interior lining. Flooring or mats of this laminated board reduce fatigue of standing workers and quiet noise of foot and truck traffic. Board consists of a semi-rigid sheet of special felt,



coated with a stabilized bitumen, and laminated under pressure with heavy asphalt-impregnated backing board. Standard sheets are 3x4 ft., and lengths



Are You Working on Post-War Plans?

When the war is over will your organization — your product — your service — readily adapt itself to postwar conditions? Have wartime developments revealed the extent to which new designs and methods must be considered?

We at White-Rodgers cannot answer these questions for you. But, if the control of temperature and pressure is essential to the successful application of your product or service, we will be glad to tell you about the White-Rodgers Hydraulic-Action principle of temperature control and the advantages it offers.

To assist you in setting up your post-war plans we have prepared a "Post-War Planning Checklist." We will be glad to send you a copy upon request.



ST. LOUIS, MO.

WHITE-RODGERS ELECTRIC CO.

1292j Cass Ave.

are nailed in place; over concrete, an adhesive is used.

Manujacturer: The Flintkote Co., 30 Rockefeller Plaza, New York, N. Y.

WATERPROOF ADHESIVE cements resilient floor materials to on-grade concrete floors.

Name: Armstrong No. S-220 Cement. Features: This new all-purpose cement makes possible a firm bond between resilient floor materials and concrete floors, eliminating stretching of floor material after the installation has been completed. A primer is not necessary unless the concrete floor is unusually dirty. Cement is available in 1- and 5-gal. sizes.

Manufacturer: Armstrong Cork Co., Lancaster, Pa.

SAFETY LOCK minimizes risks of lamps falling from sockets.

Name: Miller Safety Lamp Lock.

Features: An integral part of each socket of the new



Miller Aero-Designed fluorescent fix tures, safety locks are simple in construction and arranged so as not to interfere with fixture relamping and cleaning.

Manufacturer: The Miller Co., Meriden, Conn.

ZINC-PLATED STEEL a satisfactory substitute for more critical materials.

Features: When zinc is electroplated to a steel base, a galvanic action takes place which imparts additional corrosion resistance to the steel. Sheets can be bent, shaped, formed, drawn, soldered and spot-welded to meet most production requirements. Metal has a smooth uniform surface that is guaranteed against cracking or flaking. Zinc-plated sheets are made up to 36x96 in. in size, and in a range of gauges, tempers and finishes.

Manufacturer: American Nickeloid Co., Peru, Ill.

PHOTOELECTRIC RELAY for outdoor use. Name: Type CR7505-K108.

Features: This new general-purpose photoelectric relay can be used for counting, controlling, sorting and limiting operations. Weatherproof case has a sun shield and



large directional lens system to mini-(Continued on page 160)



Tomorrow

PROGRESS OF REVOLUTIONARY DEGREE

IN ARCHITECTURAL TRIM



TODAY, the entire production of SuVeneer Clad Metal is devoted to war time applications such as bullet jackets of gilding metal covered steel, which save tremendous quantities of copper every month. **TOMORROW**, this exclusive Superior development will offer many stimulating possibilities to the design engineer. Produced in strip form, with controlled thicknesses of clad metal (copper, silver, stainless steel or other alloys) on one or both sides,—SuVeneer Clad Metal may be stamped, spun, formed or shaped by any of customary methods.

Would you like additional facts for consideration in your post-war planning?

SUPERIOR STEEL CORPORATION · Carnegie, Pennsylvania

"There must be a better way of finding lost space, Watson."

Modernfold

DOORS RECLAIM LOST SPACE

Lost space can be put to work easily and economically with Modernfold Doors, thus increasing the amount of usable floor space. Accordion-like in action, they make available the area usually required for the swing of doors. Modernfold provides effec-



tive and economical room division, too. Extremely attractive in appearance, these fabric-covered, precision built metal framed doors fit perfectly with traditional architectural settings.

Include Modernfold in your plans. See how the array of colorful fabrics makes it possible to match any decorative scheme.





tou we never seen it before, because it's for a house that won't be built until "V-Day". But when that day comes you can bet the truly American insistence on "something better" will be satisfied on many counts. Victor's business is ventilation, and our promise is that never again will a new home owner have to depend on draft-making windows to keep air sweet and fresh. At the flip of a switch, cooking fumes and stale air will be gone.

For the amusing but accurate picture of post-war ventilation, write for your free copy of the booklet, "You'll Do It 26 Thousand Times Today." Address Dept. IB-137.



Building for Uncle Sam today so that we can build for you tomorrow.

2950 Robertson Rd. Cincinnati, Ohio



HIS is more than a war of mechanical monsters clashing in the night . . . more than a war of production.

It is a war for markets—your markets! The Axis wants your business—wants to destroy it once and for all.

With so much at stake, there is no doubt you will want to do everything you can to meet this Axis threat. Two ways are open: Speed production and put 10 percent of your income into WAR BONDS! The only answer to enemy tanks and planes is *more* American tanks and planes—and your regular, month-bymonth purchases of War Bonds will help supply them. Buy now and keep buying.

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.



War Savings Bonds

This space is a contribution to Winning the War by THE ARCHITECTURAL FORUM





BETTER LIVING Will Cost No More Than Ordinary Living Through the years leading up to the war, Ceco learned how to build good steel casement windows and sell them at a cost equal to that of ordinary windows. The easy ventilation, fine operating hardware and graceful, slender muntins could be included by the architect or builder at no extra cost. Right now the Ceco Manufacturing Division plant is devoted to war production! But Ceco will return to the making of all types of windows including residential casements . . . just as soon as the war is over! Tomorrow, you will be offered Ceco Windows that are better than ever, costing less than ever, bringing more and more comfort and livability to the homes you will build!

Other Ceco Peacetime Products:



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

BUILDING REPORTER

(Continued from page 156)

mize the effect of slanting sun rays. In addition, the lens system increases the relay's sensitivity. Relay can be mounted in any position and adjusted under actual operating conditions without removing the cover. Chassis can be removed easily from the case for inspection or servicing or for mounting with other apparatus in a combination enclosure. Relay operates on 115 volts AC or DC. In addition to having a phototube, relay contains a pliotron tube. The filament in this amplifier tube operates on full-line voltage, eliminating the need for a filament transformer. Tube incorporates a diode rectifier which functions when AC power is used.

Manufacturer: General Electric Co., Schenectady, N. Y.

UNIT HEATER has a five-way discharge. Name: Five-Way Vertical Discharge Unit Heater.

Features: Many individually controlled air streams from easily adjustable outlets permit varying the direction, dis-



tance and velocity of warm-air distribution, resulting in far greater heating coverage than heretofore. A single Five-Way heater can be used in place of two, three or four horizontal discharge propeller units with resultant savings in cost. Unit is available with 2, 3 or 4 warm-air outlets, and one unit can heat any shape space within the unit's capacity. It will heat rooms up to approximately 45 ft. in height. Aerofin coils of steel are coated with lead alloy to insure efficient heat transfer and form a corrosion-resistant surface. Manufacturer: Carrier Corp., South Geddes St., Syracuse, N. Y.

ASBESTOS SHEATHING for lockers.

Name: Careystone Flat Sheathing. Features: Newly designed lockers are now being made with Careystone Flat Sheathing. Asbestos-cement is a good substitute for metal since it will not rust, rot or corrode and is fire- and rodentproof. Plant carpenters or maintenance men can easily make lockers



with this sheathing. Material is available in sheets 48 x 96, ³/₈ in. thick. *Manufacturer:* The Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio.

FLUORESCENT LAMP STARTER has an average rated life of three years.

Name: Watch Dog, No. FS-40.

Features: This starter, which is the first to have a three-year rating, is the manual reset type for 40-watt lamps. Mechanical features that prolong the life of starter also help to conserve lamp, ballast, power consumption and maintenance service. Precision lamp starting not only prolongs starter's life but also conserves emissive material essential to lamp life. Close tolerances in the starter's mechanism make possible a quick and positive performance in the lockout of dead lamps, eliminating blinking and flickering when a lamp burns out.

Manufacturer: Appliance & Merchandise Dept., General Electric Co., Bridgeport, Conn.

(Technical Literature, page 164)

no A.W.O. I's here

WESTINGHOUSE NOFUZE BREAKERS ARE ON ACTIVE DUTY-



NOFUZE "DE-ION" BREAKERS



prevent *harmless* overloads from interrupting war production

protect circuits from dangerous overloads and "shorts".

restore service *instantly* with just a flip of the switch.

mobilized to protect war circuits

Absent? Yes. Absent for the duration from peacetime applications because the Westinghouse production of Nofuze Breakers is devoted to war requirements.

But far-reaching improvements are resulting from this wholehearted participation. For example, in the new line of "F" Frame Breakers, all ratings from 15 to 100 amperes have been redesigned into one compact frame size. Instead of 14 different models, 4 now serve the same purpose.

In a typical panel, the new breaker results in a saving of 38% of the steel and 18% of the copper over present panels. And although the new breaker is smaller and weighs less than half of some of the superseded units, it has better performance.

Westinghouse engineering facilities have been placed on a broad consulting basis to help with the job of protecting vital war circuits from unnecessary interruptions. Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pennsylvania. 1-60522



CIRCU

ROTEC

Hangar Building recently constructed at an Air Base, using Lupton "sliding-type" Steel Hangar Doors



Speed is vital . . . Modern Air Bases, to house and service our tremendous fleet of planes, are being speedily built. Lupton Steel Hangar Doors are being supplied ahead of schedule . . . doing their part to win the war. With Lupton "sliding-type" Hangar Doors, you can depend on troublefree operation and maintenance. Satisfactorily used for over twenty years in both Army and Navy Air Bases. Lupton Steel Hangar Doors are designed to meet exacting requirements for dependability and service.

See our Catalog in Sweet's

MICHAEL FLYNN MANUFACTURING CO. Allegheny Ave. at Tulip St., Philadelphia, Penna.



STEEL HANGAR DOORS

THE SHAPE OF

EYOND those War Bonds an aroused D public is so faithfully buying, postwar America is already beginning to take shape. We have a good start toward better living in a better America. But only a start! Because Victory must come first!

hings to

7ICTORY must come first on every fighting front! Victory must have first call on the skills of our engineers and technicians! Victory must come first in our factories and on our farms! Victory must come first in the minds and hearts of all Americans! Because the definite "shape of things to come" depends entirely on the successful conclusion of our global war. Then - and only then, will Oil-O-Matic skill, facilities and productive capacity again be devoted to building the products of better living.

7 AR BONDS are the only key to the two victories that mean better living in a better America. As War Bonds, America's dollars help build and buy the weapons of Victory for our fighting men. As War Bonds, these dollars mean Victory over inflation with its runaway prices and economic destruction. As War Bonds, today's billions of dollars will actually increase in numbers to become tomorrow's buying power for better living.

ARE YOUR GUARANTEE OF A

CORPORATION

WILLIAMS OIL-O-MATIC

BLOOMINGTON, ILLINOIS

Botter Tomorrow

BUY WAR SAVINGS STAMPS & BONDS THE BONDS YOU BUY TODAY

HEATING

SEPTEMBER 1943

TECHNICAL LITERATURE

INSULATION. Heat Transmission Through In-sulation as Affected by Orientation of Wall, 5 pp., 8x11½. Report concludes from a series of tests on the properties of mineral wool that the insulating value per in. of mineral wool is the same for both ceilings and walls and, regardless of the depth of application, its conductivity per in. of thickness remains the same. The tests sub-stantially confirmed the coefficient of heat trans-mission values used in the ASHVE Guide, while pointing out that allowance should be made for space occupied by studs or joists when accu-rately figuring overall U values. Prepared by F. B. Rowley and C. E. Lund for ASHVE meeting. June 8, 1943.

TIMING EQUIPMENT. Timers, Relays, Switches, 24 pp., 3%x9%. Condensed catalog describes functions of different types of automatic timing equipment and applications for which they are generally used. The R. W. Cramer Co., Inc., Constant of the content of the cont generally used. Th Centerbrook, Conn.

STEEL. Qualified to Serve, 20 pp., 11xS½. Booklet graphically illustrates huts and utility buildings supplied to the Armed Forces. These buildings feature the arch rib construction of strip steel. Units are shipped complete in com-pact crates, and are simple to erect without heavy construction equipment. Stran-Steel Div., Great Lakes Steel Corp., 1130 Penobscot Bldg., Detroit, Mich.

PIPING. If It's Piping Contact Flori, 64 pp., 84x10%. Well illustrated book covers the various ways in which piping can be used and lists present market prices. The Flori Pipe Co., St. Louis, 15, Mo.

CONTROLS. Sarco Cooling Controls, 12 pp., 84x104. Bulletin covers self-operated tempera-ture regulators and mixing valves to control cool-ing circuits on internal combustion engines, com-pressors, condensers, degreasers, stills, etc. Sarco Co., Inc., 475 Fifth Ave., New York, 17, N. Y.



Right for a thousand jobs!

Eljer's vitreous china sink and tray are adaptable and available

Here are two fine Eljer vitreous china fixtures developed to meet war restrictions on enameled ware. Their popularity suggests that they have earned permanent acceptance, because of their easy-toclean, glass-like surfaces. They readily fit into standard cabinets.

ELJER CO. · FORD CITY, PA.

Write for the folder "Eljer Fixtures for today's Industrial and Housing Needs".



STEEL FLOORING. Industry's Magic Carpet, SIELE FLOURING. Industry's Magic Carpet, Catalog MC 43, 24 pp., 8½x11. Attractive book-let, done in two colors with drawings and photo-graphs, presents steel flooring, gratings and saf-ety steps in many different designs for various purposes. Kerlow Steel Flooring Co., 222 Culver Ave., Jersey City, 5, N. J.

FARM BUILDINGS. The Board of 1,001 Uses on the Farm, 4 pp. folder, 12x18¼, 15 pp. drawings, 12x12. Farm building plans comprise easy-to-fol-low drawings and specifications for many types of small buildings to be constructed of Stonewall Board. This asbestos-cement board comes in standard sheets 4x8 ft. in 3/16, ¼ and 3/8 in. thicknesses, so that it is also adaptable to larger buildings. Drawings are available through Ruberoid dealers. The Ruberoid Co., 500 Fifth Ave., New York, 18, N. Y.

Ave., New York, 18, N. Y. PURIFIERS AND SEPARATORS. Three bulletins: Separating Oil from Steam, 3 pp., 8½x11. Dis-cussion emphasizes importance of selecting engine oil for its subsequent removal facility as well as for its lubricating properties. New Size Data on Relief Valves, 3 pp., 8½x11. Bulletin explains factors determining valve size, and supplies data showing how size and per-mitted pressure drop affect capacity that can be handled. Both prepared by W. C. Bennett. Acid-regenerated Zeolites, 7 pp., 8½x11. Paper discusses and presents data on characteristics of the newly developed acid-regulated zeolites. Also formulates a means by which characteristics of the effluent can be predicted from the accurate analysis of water supply. Prepared by F. Kem-mer and J. Thompson. Cochrane Corp. 17th & Allegheny Ave., Philadelphia, 32, Pa.

MACHINERY. Allis-Chalmers Annual 1942 Re-view, 64 pp., 8½x11. This year's review of com-pany's highly specialized equipment is as com-plete as previous ones, although edition is some-what smaller. It includes new methods for in-creasing production in almost every industry. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Alis-Chalmers Mfg. Co., Milwaukee, Wis. LIGHT-REFLECTING FLOORS. Light from Floors Speeds War Production, 24 pp., 84/x11. Booklet, prepared in collaboration with various authorities on illumination, design and construction, points out that concrete floors of white Portland ce-ment instead of gray Portland cement or other dark materials become giant reflectors of light instead of absorbers of light. Increase in illumi-nation helps to increase production, reduce acci-dents, boost morale and preserve health. Ex-amples show how white cement floors reduce shadows and dark areas, promote easier seeing by reducing the contrast between the visual task and the surrounding background, increase light-ing on underside work surfaces by 61 per cent, increase illumination on vertical work surfaces by 20 per cent. Universal Atlas Cement Co., 135 East 42nd St., New York, N. Y.

FLUORESCENT BALLASTS. Ballasts for Mazda F Lamps (fluorescent), 24 pp., 8x10½. Catalog in-troduces line of warplant ballasts with leads out the bottom, which help fluorescent fixture manu-facturers make savings in critical materials. Also introduces new line of 3-lamp ballasts, and a wide selection of 200-volt ballasts, General Elec-tric Co., 1 River Rd., Schenectady, N. Y.

ELEVATORS. Giving a Lift to the World for Fifty Years, 24 pp., 8½x11. History of elevators and dumb-waiters is illustrated with drawings and photographs. Sedgwick Machinery Works. 150 West 15th St., New York, N. Y.

CONTROL CENTERS. Trumbull Control Centers, #338, 4 pp., 8½x10. Description of centralized control equipment, which are assemblies of one or more standardized and prefabricated sections grouped to provide a flexible, totally enclosed control center with motor or feeder circuit opera-tion. The Trumbull Electric Mfg. Co., Plainville, Conn.

PRINT-MAKING. Handbook of Print-Making and Processing, 40 pp., 8³/₄x11. Handbook covers the use of blueprints, direct process prints, sepia prints and reproduced tracings, listing the advan-tages of each. Several printing machines are also described and illustrated, including the new 3Q Printer, a fast and easy-to-operate printer. Paragon-Revolute Corp., 77 South Ave., Roches-ter 4. N. V. ter, 4, N. Y.

REQUESTS FOR LITERATURE

F. Arnatt, East Dean Downlands Estate, Friston Hill, East Dean, England, wishes to receive manufacturers' literature on the following items of small house equipment: air conditioning, in-sulation, lighting fixtures, piping for domestic heating and water supply systems. General Manager, Guardian Estate Agency, 517 Aegis Building, Loveday St., Johannesburg, South Africa, wishes to accumulate data about advertisers' exportable products for postwar use.



DAYLIGHT ENGINEERING

IN THE

estaurant of Tomorrow

Today's crowded restaurants highlight the need for daylight engineering in tomorrow's restaurants. An atmosphere of spaciousness and light will add materially to the comfort and satisfaction of the dining guests.

To achieve these surroundings, rooms do not necessarily have to be large. Through use of larger window areas, translucent decorative glass walls and plate glass mirrors any room can be made to appear spacious, cheerful and inviting.

The translucent and transparent qualities of glass can also play an important part in the design of other restaurant features. The sanitary, acid-resisting surfaces of glass make possible entirely new and different work surfaces. Vitrolite walls or wainscoting will find increased acceptance and use because of its easy-to-clean, easy-to-look-at finish.

Libbey Owens Ford Glass for windows, mirrors, wainscoting and work surfaces, and Blue Ridge Glass for partitions, are available in a wide variety of types and colors. Be sure your records of this glass are complete. May we send you complete information? Libbey Owens Ford Glass Company, 2293 Nicholas Building, Toledo 3, Ohio.





UT TOMORROW'S PLANNING IN YOUR HANDS TODAY

Millions of Americans are being urged repeatedly by enestra advertisements to "START AN ARCHITECT IN A PLAN NOW", and thus be able to begin their ostwar building construction *quickly* after the war ends.

Some 2,500,000 readers of *Better Homes* \mathcal{E} *Gardens* magazine are being invited to start their architects at once on the plans for their postwar houses.

And some 550,000 businessmen who read *Newsweek* magazine are being urged to confer with architects quickly on plans for needed postwar business, commercial and industrial buildings, local schools, hospitals, etc.

In other national publications, school and hospital officials, house builders, realtors, building material dealers, and other groups of businessmen, are urged to "START AN ARCHITECT ON A PLAN NOW".

Thus, Fenestra is supporting the movement of leading postwar planning agencies to provide the fullest possible imployment *quickly*, after the war ends, *in private industry*.

Potentially, the Building Industry is America's No. 1 ndustrial employer. It *can and will* supply almost countess postwar jobs quickly for our returned fighters, if puilding construction is *ready to go ahead* on V-day—if comorrow's buildings are planned today.

Fenestra asks all factors in the Building Industry to oin together in this important forward-looking movement in behalf of the nation's future welfare.

Detroit Steel Products Company

Now Engaged Exclusively in War Goods Manufacture Dept. AF-9 • 2252 East Grand Boulevard • Detroit 11, Mich. Pacific Coast Plant at Oakland, California That's right... Full Postwar Employment in PRIVATE INDUSTRY

MAGAZ

realize how closely our country's prospecty is and an work the Installing Todustry, America's

Browning the follow of of building in the law measure (the state start) and save lows more of the seconomic constraints of 4020 Theor in the minim therites, do you could have recent of building helped bring new prospersy in America.

but employment and prosperire for seals of we plan new to first millions of jobs ready prockly, alter Victory. Doles and subsidies weekly. these a "Jag" of months, or even, y

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SIGNIFICANC

A REAL PROPERTY OF THE PARTY OF

DOODLED IN 1900. This dream-city-under-one-roof got a lot of giggles out of its New York newspaper audience 43 years ago. But that's about *all* it did get. It's just another building idea people laughed at, forgot---and never built.



Are you pipe dreaming or <u>Planning</u> for that Building Boom?

ANY WAY you look at it, America is outgrowing its shingles-needs acres and acres of new housing.

But, you're barking up the wrong two-by-four if you expect a building boom to follow the war just because America needs one. There was a great need for new housing before the war. And what happened? No boom.

"But this time," you may say, "the building industry has an ace up its sleeve...houses that are more functional, more livable, more attractive. We ought to get a building boom out of that."

Maybe! If you can get the market over its hurdle of doubt. For the home builders of America are in a state of indecision about their postwar homes: they hesitate to buy the old kind of homes, knowing there is something better—they are afraid to take the plunge into the new kind of housing until they know more about it.

What to do? Experts suggest: aim your selling at the kind of Americans who set the pace for the rest of the country—get the story of the new age in housing across to the million most influential families in America—get it before wives and husbands at the same time; together they decide when and what to build.

By far the most economical and effective way to reach these top-million men and top-million women* is through TIME, The Weekly Newsmagazine, for they vote TIME their favorite of all the magazines they read — by a margin of 7 to 1 over their next favorite.

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



BETTMANN ARCHIVE



THE GATEWAY



TO THE BUILDING MARKET

doorway

IN a very real sense, Curtis Woodwork openstoday-a doorway to tomorrow for architects who are planning postwar homes. For Curtis

Woodwork offers two important advantages which will be "musts" in the post-war world. First, the beauty, the friendliness, the quality which prospective home-owners dream of today. And, second, such important features of truly modern construction . . . the greater resistance which wood gains through scientific toxic and water-repellent features . . . plus the enormous cost advantage of stock designs. You'll want to study the many new Curtis Woodwork designs as a stimulus to your post-war thinking . . . send for your free copy of the Curtis Woodwork book. Curtis Companies Service Bureau, Clinton, Iowa.



Even the smallest post-war bome need not forego the charm of a beautiful entrance. In this Curtis design, informality blends with pleasing dignity.



Thanks to Curtis production methods, correctly styled and proportioned mantels are available at low cost for post-war bomes. Curtis offers a wide variety of mantel designs.



... to tomorrow

Curtis stock stair parts offer the architect wide scope in designing stairways for all types of homes, in all architectural styles.



Post-war homes will need plenty of storage space—and this Curtis china closet not only provides such facilities, but adds charm as well.



Beautiful simplicity such as this calls for the very highest degree of designing skill. Yet this is stock woodwork—as manufactured by Curtis.



SEND FOR THIS BOOK. "New Woodwork in Tune with the Times" contains new woodwork ideas by outstanding American architects. Mail your request to Curtis Companies Service Bureau, Dept. AF-9W Curtis Building, Clinton, Iowa.



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The advertising pages of THE ARCHITECTURAL FORUM are the recognized market place for architects and all others engaged in building. A house or any building could be built completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

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TODAY'S CLUES FOR POSTWAR FLUSH VALVES

While no one can lay down any very definite blueprints for the plumbing that will be found in postwar buildings, some valuable clues as to trends can be discovered in buildings completed within the last year or two.

Take hospitals, for example. Several outstanding institutions have been put into service during this period. The Jefferson Hospital at Birmingham — already recognized as one of the South's finest — is one of these.

Every piece of equipment that went into the Jefferson Hospital was selected with careful forethought to the comfort and well-being of the patients to be served. Noise reduction, for example, has been aided by the selection of Watrous *Silent-Action* Flush Valves.

In this detail there is a definite clue on postwar trends . . . the flush valves to be installed in most buildings of tomorrow will be smoothly functioning water control instruments which operate *silently* — without any of the tell-tale noise that once was associated with flush valves.

In fact, if we are to judge by the Jefferson Hospital's selection of Watrous *Silent-Action* Flush Valves, more and more careful attention will be given to—

- (a) the degree of noise elimination provided by a flush valve — and the PERMANENCY of the noise elimination.
- (b) the ability of the valve to be adjusted for maximum water savings.
- (c) the valve's simplicity and economy of maintenance.

Plans for Watrous Flush Valves for the buildings of tomorrow are already under way. You may be sure these valves will match fully the many other developments in building construction which are to come.

THE IMPERIAL BRASS MFG. CO.

1238 West Harrison Street, Chicago 7, Illinois





The Jefferson Hospital, Birmingham, Alabama Charles M. McCauley, Architect The Pate Co., Plumbing Contractors



• There are two of these utility rooms on each floor with service sinks equipped with Watrous Silent-Action Flush Valves. Watrous Silent-Action Flush Valves are also installed on fixtures in all bathrooms and washrooms.

The Name HOPE'S Guarantees 1818 WINDOWS 1943

MACHINE AND METAL TRADES HIGH SCHOOL, NEW YORK, N.Y. ERIC KEBBON, Arch.

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Hope's Steel Windows, offered in custom or standard sizes, provide a wide variety of layout, and credit for their harmonious proportions in a distinguished building goes to the architect. But the permanent satisfaction enjoyed by the users comes also from the weathertightness, controlled ventilation, maximum daylight and durability that are characteristic of Hope's design and construction...AfterVictory, new ideas and developments will increase these advantages and low prices will add to the number of buildings in which HOPE'S WINDOWS may be used.

HOPE'S WINDOWS, Inc., Jamestown, N.Y.

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The GHT Accent On Construction

Plastic glazing is taking on more jobs every day. It solves many problems arising in home, farm, and industrial construction. In the field of prefabrication, considerations of weight, breakage, insulation, and light transmission indicate its advantages. Troop hutments and portable buildings, glazed with plastic, enable easier shipment—without the danger of breakage. Munitions plants and other war industries find plastic glazing all but imperative for the protection of personnel and equipment against flying splinters. The home of tomorrow, assembled in either five 'ours or five months, will have certain well-defined needs or plastic glazing. There will be more needs as a result ' the nost-war planning now engaging the attention of

weight (an advantage in storm sash and overhead garage doors), exceptional light transmission, and superb unbreaking features. Indoors and out, they are resistant to adverse conditions. Their insulation value is high.

There are countless uses for plastic glazing around the farm, the factory, and the home. The Celanese Celluloid



Where man-hours count

Invarying performance, plus extreme ease and speed of operaation, make The "OVERHEAD DOOR" with the Miracle Wedge the ideal wartime door. This fast, reliable performance is the same in all climates, all weather. Here is a quality door, b complete unit and essential wherever man-hours and for count toward Victory.

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