Five Tested Ways
TO MEET TODAY'S BUILDING NEEDS
WITH MINIMUM USE OF CRITICAL MATERIALS!

CEMESTO
Combines Strength, Insulation,
Interior and Exterior Finish

CEMESTO is a revolutionary building material that comes in panels from 4' x 4' to 4' x 12' to provide a complete fire-retardant wall or roof unit. Thickness ranges from 1-9/16" to 2". Today, Cemesto with 12 years of research behind it is speeding construction of millions of dollars' worth of wartime homes, housing projects, factories, shops and hangars using a minimum of critical material. Can be used with either wood or steel framing. Saves time, labor, lumber and nails.

CELOTEX ASBESTOS BOARD
Builds Walls Fast!
This new Celotex product is a hard, durable combination of Portland cement and asbestos fibre, available in boards 4' x 8', for fast erection of interior walls and ceilings. Can also be used for exterior finish on temporary or permanent structures.

CELOTEX GYPSUM INTERIOR WALL UNITS Save Studding, Save Time!
These extra-thick gypsum wall boards are either 1" thick, and build strong, sturdy, good-looking interior partitions in the shortest possible time, with only a simple wood framework. Known as "single wall construction," this method saves much critical lumber.

CELOTEX GYPSUM ROOF SLABS Replace Wood Roof Decks
These new laminated gypsum roof deck slabs are offered in thicknesses, 2" wide, 8', 9', or 10' long, rigid, strong, light in weight and easy to handle. The big units cover roof areas quickly, saving important time. Roof covering can be applied immediately.

Get Complete Information on these and other new Celotex wartime developments as fast as it is released! A note on your letterhead will put your name on our mailing list of aggressive architects who want to keep up to date on modern building materials! Write today!
NEWS

WILLIAM WILSON WURSTER PORTFOLIO
Eight new jobs by a master of the California style: a ranch house, a university dormitory, a San Francisco town house, experimental war housing, a suburban residence, an office building in wood and a beach house.

FHA SURVEY
Leaders of the Building Industry tell what is wrong with FHA. . . . Suggest reforms in postwar period.

PREFABRICATION
Modular Shelter: a new system of prefabricated construction designed by Bernd Wagner which permits an unusual variety of expandable plans from standardized structural parts built with ordinary lumber.

A CITY RECONSTRUCTION PROGRAM
BY WALTER GROPIUS AND MARTIN WAGNER
A proposal for urban rehabilitation through the creation of new, small, self-contained communities.

CORNING GLASS WORKS
One of the last war factories to be constructed of structural steel is a plant for the manufacture of optical glass.

FORUM OF EVENTS
The U. S. Army produces the best guidebooks to date for global war . . . Demountable furniture brought into low-cost price range . . . Announcements . . . Awards . . . Obituaries.

PRODUCTS AND PRACTICE
Sound systems—more widely used than ever before—will require serious consideration in designing and planning modern buildings . . . Technical news . . . New products . . . Technical literature.

BOOKS
New Frontiers in American Painting . . . The first investigation of pre-Columbian art in North and South America.

LETTERS


With this issue, THE ARCHITECTURAL FORUM appears in a reduced format. An order of the WPB, curtailing the amount of paper available to magazines, presented a choice between reducing the total number of pages or their size. The latter option was taken. Readers of THE FORUM in its wartime size will find the same amount of editorial material, the same completeness of editorial treatment.
"I was thinking of the soldier who will want to visit some important old places. That's the way I used to spend all my leaves in France in the last war," says Howard Willard, the artist retained by the Special Service Division of the U.S. Army to illustrate guidebooks for soldiers in North Africa, India and New Caledonia. A definite improvement on some earlier booklets, these new ones are full of delightful two-color sketches, designed to acquaint the soldier with the background—which means, mostly, the architecture—of the area to which he has been assigned. Artist Willard's architectural activity dates from a drawing he made of a First National Bank front for an announcement, complete with palm. "As long as I lived in that town," he says "all I got to do was drawings of banks. Eventually I had to leave the county."

Willard's sketches are supplemented by shrewd and concise information on the customs of the country. North African samples: "When you are about to enter a house or a yard, call out to the women to cover their faces or get out of the way... Smoke or spit somewhere else—never in front of a mosque... Be kind and considerate to servants. The Moslems are very democratic... Avoid any expression of race prejudice. The Moslems draw no color line... Use common sense on all occasions. These people are basically no different from anyone else."

Excellent as the booklet on North (Continued on page 4)

RUINS OF CARTHAGE, A MERE BUS RIDE EAST OF TUNIS, DRAWN FROM SKETCHES MADE DURING PERSONAL VISIT
You supply the doorway

PEELLE HAS THE DOOR

Plus Immediate Deliveries
Thanks to Large-scale Prefabrications with few critical materials!

Built to meet today's exacting conditions. Backed by some fifty years of door-construction experience. Thus, whether it's an urgent present need or as yet a blue printed project, the NEW Peelle Plydoor is bound to solve your door problem.

The NEW Peelle Plydoor fits any opening, quickly installed, easily operated and economical, too. Prefabricated under a new principle of wood construction, stronger per pound than steel. So light it can be manually operated—glides up out of the way—or rolls back like a telescope into a self-contained unit. Can be added easily to buildings already constructed. And, best of all, you can get your NEW Peelle Plydoor now!

Take advantage of the Peelle experience and skill. It will pay you to let us send you complete data!
Africa is, the one on India has if anything, even more color. Diplomatically avoiding all possible toes that our soldiers might step on, the guidebook includes a State Department announcement governing activities of American soldiers in India. The highly involved system of castes, religions and languages is explained with gratifying clarity and sanity. As for the question of cows: “There are nearly 200,000,000 cows in India—one for every two persons—... They are no respecters of motor traffic... We Americans use the term ‘sacred cow’ in a joking way. In India there isn’t anything funny about it... no Hindu would dream of killing a cow.” And as for human beings: “... they feel it is only polite to tell you what you want to hear... If you ask: “Is this the right road to...? the Indian probably will say ‘Yes’, even if it isn’t...” And: “When you come into contact with Britishers in India remember they are naturally reserved. They respect each other’s privacy... They don’t speak to you because they don’t want to appear intrusive or rude. The Britishers dislike bragging and showing off....” Better than any Baedeker’s devised to date, and perhaps the first guidebook to make interesting reading, these U.S. Army products are doing more to create an understanding of our Allies than any official statements of policy. Moreover, they are turning every soldier into an ambassador of good will—a fact that will have a great deal to do with the creation of a better world after this war.

(Continued on page 100)

All illustrations have been reproduced by kind permission of the Special Service Division, Services of Supply, U. S. Army.
AFTER the war, hard, non-porous, durable Formica surfaces will again be available for construction of all kinds that must keep up appearances and still stand severe wear.

There will be new colors, patterns and methods of application which will adapt the material to more uses than the many for which it has already been used, in commercial establishments, public buildings, trains, ships, and apartments.

Many designers working now on new construction and new products for after the war are preparing for wider use of plastics. If you are doing similar work, at this time, we want you to know all about Formica. Get in touch with our offices.

THE FORMICA INSULATION COMPANY
4620 Spring Grove Avenue Cincinnati, Ohio

JULY 1943
Like the telephone and the radio, elaborate sound-distribution systems are rapidly becoming an integral part of modern buildings. With this extended use must come a realization that acoustical and mechanical provisions for the installation of sound equipment are necessary. Design features of the auditorium and the radio station must be transplanted to the factory, office, restaurant, hospital, hotel, apartment house and transportation terminal.

Paging is no longer the only function of systems of sound distribution. Such systems are being used more and more for the dissemination of news, music and radio programs. Restaurants provide soft music for their patrons. Hotels distribute radio programs to individual rooms. Planned music programs in offices and factories relieve monotony and improve morale of workers. In New York City one company (Muzak) sends out planned music programs 24 hours a day and 7 days a week over privately leased wires. These go to hundreds of subscribers in the vicinity. Some programs also include news and radio broadcasts.

Installation of equipment
With the expanded use of sound systems has developed a parallel improvement in the design and quality of the equipment, and also in fitting the equipment to a building. Essentially, such systems consist of a microphone and phonograph pick-up, radio receiving set, together with amplifiers and loud speakers connected by direct wires. Any number or combination of these elements may be made to suit individual requirements. For quality reproduction the various parts of the system should be matched in electrical output and input characteristics and in frequency range, and in turn the equipment should be designed to match the size of the building and the sizes and shapes of the different rooms.

Control may be centered at the source or at the loud speaker. Where control is at the sending point, a separate room is desirable to house the equipment and to permit monitoring.

Internal wiring and outlets for a sound-distribution system may be included in the plans of a new building, just as plumbing, heating and electrical facilities are included. Concealed wiring may often be run in the same conduits with telephone or intercommunication lines. Since several communication systems are often used in combination with each other, this method of wiring is undoubtedly the simplest and most efficient. High-voltage transmission is not required in acoustic wiring, but it should have low resistance to transmission of electrical currents. Hence, not too small a gage should be used. A low voltage pair of wires (No. 14 to 18 gage) is fairly standard for sound systems. The pairs are often twisted or provided with a shield that can be grounded to reduce transmission of extraneous noise currents along with the desired sound effects.

Outlets for plugging in loud speakers are three-pole polarized, partly for safety reasons and partly because the third or ground wire eliminates noise in the system. Spacing of outlets depends, of course, on the type and placement of the speakers. For most residential and
commercial installations, a wall speaker is feasible and often preferable. The wall provides an excellent baffle for the sound and gives a higher quality of sound reproduction than if the speaker is confined in a cabinet. For the same reason an opening through the wall for the speaker is preferable to confining it at the rear. In both cabinet and wall, the speaker must be so placed that the least distortion will result. The most natural position for a speaker is at ear height. If this is impossible, the speaker should be tilted and focused to best advantage. Speakers vary in their degree of coverage, depending on the area to be covered and range of nearby speakers. For industrial buildings, wall speakers are not generally practicable since they must combat machinery noise arising from the central area. For effective distribution of sound in such cases, baffles are suspended from the beams or ceilings at short distances from one another.

Hotels, apartments and restaurants
Hotels and apartment houses have long made use of intercommunicating telephones and paging systems. More recently they have distributed radio programs and recorded music to individual rooms or apartments. “Music by Muzak” is distributed from central studios in several cities of the United States to private homes, apartment houses and restaurants. Monitoring is done at the central studio, so volume changes are unnecessary at the receiving end, except in the case of restaurants, where the general noise level varies during the day and evening.

Sound in commercial buildings
Terminals and offices, hospitals and amusement centers need loud speaker facilities for instant communication, for reenforcement and distribution of sound. While paging has been the primary use, music is also distributed at certain hours.

Sound in industry
As a result of sound being widely used in industrial buildings for speeding communication, locating key personnel and giving emergency warnings, the addition of planned music programs has been fairly simple. First used in England, where sound systems are required for air raid protection, recorded and radio music is rapidly becoming an important aspect of the working day. Actual experiments made by Stevens Institute of Technology, have demonstrated that planned music has stepped up production efficiency as much as 5 to 10 per cent or even more. Further research on the effective use of music in industry is now being continued under the auspices of the Office of Production Research and Development, of the War Production Board.

Acoustics and sound systems
Theatrical and radio use of acoustical materials may well be extended to the factory or commercial building, as well as non-parallel walls, broken surfaces, etc. Absorptive materials may be placed with a view to reducing the background noise level without diminishing the effective distribution of sound. Reducing production noises will not only improve the quality of a sound system, but will also reduce the cost of installation and maintenance. Present noise levels range from about 40 decibels in a quiet office to more than 100 db in a boiler factory.

For this reason a sound-distribution system must be chosen that either amplifies above the noise level or which cuts through it at a different frequency. Since background noise is usually concentrated in a relatively narrow frequency width, it is possible to install a sound system which allows voices and music to be heard without increasing the general sound intensity.

Sound-distribution systems vary in the frequency ranges they reproduce. Early public-address systems had a range from about 300 to 2,500 cycles per second. The voice is intelligible within this range, although lacking somewhat in quality. Today 10,000, 12,000 cycles and even higher may be reproduced. For paging, however, a range up to 5,000 is adequate.

Where music is transmitted over a sound system, the range should be extended to 8,000 or 10,000 cycles for good reproduction. By definition, music is composed of fundamental tones and a combination of harmonics ranging in audible frequencies from about 20 to over 16,000 cycles. If the harmonics are audible in the upper frequencies, even though industrial noise covers up the fundamental tones, the quality of the music will be established.

STEREOPHONIC SOUND GIVES REMOTE AUDIENCE LEFT AND RIGHT “EARS”

Experiments have indicated that stereophonic sound, or auditory perspective, represents the closest approach yet made to perfect fidelity in the instrumental recreation of speech and music. Stereophonic transmission is accomplished through a dual or multi-channel reproducing system developed by Bell Telephone Laboratories, Inc. It can encompass the full auditory and an enhanced volume range of orchestral and vocal music, and even create effects previously unobtainable on a single channel system.

A permanent stereophonic transmission system has been installed for the Bach Choral Festival in Bethlehem, Pa. to transmit the program from the chapel to a nearby auditorium. Two electrically independent loud speakers flanking the stage in the auditorium simultaneously reproduce music picked up by two independent amplifiers in the chapel. Loud speakers, approximately the same distance apart as left and right microphones in the chapel, create the stereophonic illusion of an invisible choir across the stage.
**PRODUCTS AND PRACTICE**

**TECHNICAL NEWS**

Space heating with infra-red lamps: Because infra-red lamps radiate 90 per cent of their input wattage as heat, they make excellent sources of additional warmth in the home. Research by General Electric's Lamp Dept. indicates that they can be used to warm up the kitchen or bathroom on a chilly day or for heating infrequently used areas such as the basement and the attic.

R-40 Heat or Drying Lamps, or S-1 Sunlamps may be used as portable units, or they may be attached to the wall or ceiling. Such lamps may be turned on only when needed, and even though the air temperature is low, the direct and reflected radiation of infra-red waves will immediately cause bodily comfort. A person loses heat through radiation to cold walls, ceilings and floors even if the air temperature is comfortable. If some of these room surfaces are heated, air temperature may be kept at a lower level which would result in a lower consumption of fuel. Unlike other space heaters, an infra-red lamp's heating elements are not exposed to the air where there is a loss of heat through convection and conduction. Also, the short infra-red waves, reflected by light-colored surroundings, will heat up an area quickly at reasonable cost. Infra-red lamps could not only be put to good use in the present fuel shortage but might prove an effective and economical way to heat houses after the war—the regular heating system keeping the air at a certain minimum temperature and lamps switching on like lights in rooms whenever they were needed.

**NEW PRODUCTS**

**PLASTIC PLUGS**

**Name:** Plastic Pipe Seal Plugs. **Features:** Because these lightweight seals are precision-molded of plastic, both machine hours and critical materials are saved in their manufacture. Plastic seals are claimed to be tough, durable and noncorrosive and to effectively protect threads against all damage. Seals come in five sizes: ¾, ⅜, ⅝, ⅝ and 1 in., and other sizes can be readily supplied on application. **Manufacturer:** American Molded Products Co., 1644 North Honore St., Chicago, Ill.

**QUICK RELEASE HINGE**

**Name:** Burklyn Quick Release Hinge. **Features:** Originally developed to release ammunition chutes on aircraft machine guns, this hinge may be used on screen or storm doors and windows, etc. A bracket houses spring-loaded attaching pins which can be retracted by means of finger pads. Present models are made of noncritical low carbon sheet steel, come in lengths from 2 to 6 in. **Manufacturer:** Burklyn Co., 3429 Glendale Blvd., Los Angeles, Calif.

(Continued on page 126)
MONTHS before Pearl Harbor, Kawneer geared up its production to meet the tremendous demands of national defense. The pace has never slackened. Kawneer, in these recent years, has added immeasurably to its store of "know-how" on fabrication of rustless metals.

Stimulated also by the impact of new ideas, revealed in the recent Architectural Competition, Kawneer is now developing the new and better KAWNEER STORE FRONTS OF TOMORROW. Announcements will necessarily await the winning of the war, but when that time comes, you can depend on Kawneer to maintain its leadership in store front construction, established in 1905. The Kawneer Company, Niles, Michigan

Kawneer

ORIGINATORS OF THE RUSTLESS METAL STORE FRONT AND ALL-ALUMINUM RESIDENTIAL WINDOW
**Unique Properties of "Vinylite" Plastics** present many unusual opportunities to future-minded architects and engineers

It is easy to foresee, even with a passing knowledge of Vinylite Plastics, the important advances in architecture and interior decoration offered by these versatile products. Consider just two of the several types of Vinylite Plastics—elastic sheeting, and resins for surface coatings. The remarkable properties and the wide breadth of application for these products today suggest ways of solving many an architectural and building problem tomorrow.

Floor and counter coverings of elastic sheeting that will withstand many times the wear and abrasion of rubber and leather...Paulins and awnings that remain flexible and attractive despite rain, sun, and aging...furniture coverings that are virtually waterproof and cannot be stained...conveyor and power belting that will not deteriorate from oil...pliable weather stripping that will neither dry out with heat nor rot with moisture...these are but a few of the possibilities of Vinylite Elastic Sheet based on comparable developments today.

Vinylite Resin Surface Coatings offer equal inspiration to the architect and engineer...as non-yellowing, non-fading finishes for refrigerators and other household metal cabinets...as corrosion-resistant linings for storage tanks...chemical-resistant coatings for sewage disposal plants...and oil-resistant finishes for garage floors. Baking-type coatings, used today for protecting the interiors of metal food containers, offer many unusual opportunities as colorful, abrasion- and moisture-resistant lacquers for decorative metal trim.

You can obtain a picture of the possibilities of all the various Vinylite Plastics and their unique properties by writing for illustrated booklet 19, "Vinylite Resins—Their Forms, Properties and Uses."

Plastics Division
CARBIDE AND CARBON CHEMICALS CORPORATION
Unit of Union Carbide and Carbon Corporation
30 EAST 42ND STREET, NEW YORK, N. Y.
Installation of saran tubing and fittings is easily accomplished with standard plumbing equipment. Exceptional flexibility of the durable tubing simplifies operations in many situations normally requiring the use of extra joints and elbows. Flaring, bending and forming saran tubing are quickly mastered by workmen. Saran fittings are available for all tubing sizes—ranging from \( \frac{3}{8} \) to \( \frac{3}{4} \) O.D.

Saran tubing and fittings make their bow in the domestic plumbing industry this month. These revolutionary plastic products are being installed in 15,000 war housing units. Extensive development tests show that saran is most satisfactory on cold water lines and thermostatically controlled hot water lines. This initial installation alone saves 1,000 tons of steel and 120,000 metal fittings.

Saran, a Dow development, possesses chemical resistance, flexibility and toughness to a degree found in few comparable materials. Tubing and fittings are now being produced by fabricators who have worked closely with Dow in developing these products.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

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

SARAN
DOW PLASTICS
STYRON • ETHOCEL

Saran, a Dow development, possesses chemical resistance, flexibility and toughness to a degree found in few comparable materials. Tubing and fittings are now being produced by fabricators who have worked closely with Dow in developing these products.
90% of the area of any window is glass; and single glass dissipates indoor warmth, wastes fuel, sacrifices comfort. That's why even the smallest POST-WAR house will be insulated ... and equipped with insulated metal casement windows.

How can you "insulate" post-war casement windows easily and inexpensively? By using outside storm sash, thus reducing heat losses up to 60%, eliminating "cold feeling" windows.

How do outside storm sash eliminate condensation? By providing a dead-air space between the two panes of glass, which "warms" the inside pane to where the room air isn't "chilled" rapidly.

What's wrong with INSIDE storm sash? The greater the distance between the two panes of glass, the more the insulation. Inside storm sash usually don't afford the desirable 2" to 3" of dead-air insulating space.

Why not "double glaze" casement windows? So far double glazing is too expensive; tends to "sweat" between the glass unless all moisture from the sealed-air is removed; doesn't cover the joint between sash and frame where cold air may leak in, even in weather-stripped sash.

Are outside storm sash expensive? No, they're probably least expensive, since they more than just "insulate." They reduce air infiltration, drafts... hence, save fuel; they make weather-stripping unnecessary... another saving; they protect the whole window from bad weather... saving maintenance costs. Added up, these savings more than cover the small initial cost of outside storm sash.

How can you get an inexpensive metal casement and outside storm sash built together, for the small post-war house? Easy... file this page in your post-war follow-up. Then, after the war, consult your Mesker Window Engineer.
LA-DEL Axial-Flow Fans Save Space!

This is an age of streamlining and space-saving, both in the design of structures and the equipment they must contain. La-Del Axial Flow Fans are designed for the ultimate in space utilization and efficiency of operation.

The above illustration is a typical example of how La-Del installations save valuable space. The ventilating system at the left is a big, bulky unit installed outside of the air duct itself. Note the large cubic feet space it requires - space which otherwise could be used to more profitable advantage.

Now note the La-Del Axial Flow Fan unit at the right. It is entirely contained within the duct itself! Absolutely no extra outside space is required. And it serves the air movement needs of this job with much greater efficiency.

The entire La-Del Axial Flow Fan system is as compact as a kernel in a shell. Note the diagrammatic drawing. The adjustable pitch propeller blades are designed for peak efficiency with balanced characteristics throughout adjustment and fan operating range. This blade design actually broadens the useful operating range of a fan of any given size by fully 75%. Straightening vanes, having specific relations to propeller design, correct to a true axial flow the helical air motion caused by propeller blades. The streamlined tail maintains a uniform axial flow without turbulence.

Because our entire facilities are devoted to war work, La-Del Axial Flow Fans are not now available to industry. However, in preparation for intensive post-war activity it will pay you to have additional facts about this new idea in ventilation. Write for Bulletin No. 116.

LA-DEL CONVEYOR & MFG. CO.
New Philadelphia, Ohio

Pioneers in the Design of Axial-Flow Fans for Efficient Air Circulation
HOW PRECIPITRON WORKS

Here's the inside story of Electric Air Cleaning

There is really nothing mysterious about Precipitron—the new Westinghouse air cleaner that operates by electricity. Yet it whisks smoke, haze, dust and dirt out of the circulating air as if by magic. In fact, it removes 90% of all particles down to 1/250,000 of an inch in diameter. Even tobacco smoke, smallest and most elusive of all airborne invaders, is quickly "grounded" upon contact with the Precipitron.

Sealed within the ventilating duct so that all air must pass through it, the Precipitron operates silently, efficiently, with no more moving parts than a storage battery. At the front of the unit (or cell), two fine tungsten wires and three grounded rods create a strong electrostatic field. As each particle of dust or smoke passes through this field, it receives a positive charge of electricity, making it a "willing victim" for the next step in the process.

A series of collector plates are located back of the electrostatic field and as the charged particles pass through, they are drawn to the oppositely charged plates where they are deposited and adhere. At regular intervals these plates are cleaned with water and the deposit flushed harmlessly down the drain.

Today, Precipitron Electric Air Cleaning protects precision parts from air-borne grit and dirt . . . cleans ventilating air for large rotating machinery in steel mills and power stations . . . removes oil mist and welding fumes . . . performs many other important jobs for America's War Industries. For full information on Precipitron and its applications, write Westinghouse Electric & Mfg. Co., Edgewater Park, Cleveland, Ohio

*Trade-mark registered in U. S. A.

Westinghouse Precipitron

PLANTS IN 25 CITIES OFFICES EVERYWHERE

Tune in on John Charles Thomas, Sundays, 2:30 p.m., E.W.T.
Almost any pattern and color you want!

These rugged floors of ASBESTOS and ASPHALT effectively meet today’s requirements

If you have a flooring problem, investigate the advantages of Johns-Manville Asphalt Tile. This colorful, resilient flooring is readily available either for essential new construction or for necessary replacements of worn-out floors.

LONG SERVICE. J-M floors have a tough composition of asbestos fiber and asphalt and will withstand unusually hard wear. This ability to last longer is a primary requirement of every purchase in a war economy.

EASY TO MAINTAIN. The shortage of labor in most buildings is a serious problem today. J-M Asphalt Tile Floors help meet this problem because they require little care. Pre-waxed, they are ready for use as soon as installed and are easily kept clean.

LOW COST. J-M floors are made to pre-war standards of quality . . . are available at pre-war prices too! They cost less than any other type of resilient floor covering on the market.


A wide variety of plain and marbled colors meets any decorative scheme. Note particularly the interesting character of the J-M marbleizing which avoids all feeling of mechanical regularity.
A 100% RECORD

Awards on May 8th, 1943 to two plants in Kenosha, Wis., completed this 100% record for The American Brass Company.

ALL TEN AMERICAN BRASS CO. PLANTS IN U. S. A. HAVE EARNED RIGHT TO FLY ARMY-NAVY “E” FLAGS

This is the story in terms of war production

Our Connecticut plants were among the first in the brass industry to receive the coveted “E” Award for outstanding production of war materials. Since then all our plants, including those in the States of Michigan, Wisconsin and New York, have been similarly honored.

As the largest fabricator in the copper and brass field, The American Brass Company is keenly aware of its responsibility and its opportunity to serve the cause of the United Nations.

Since 1939, production has been tripled, with virtually every pound today going for war purposes.

WARTIME PRODUCTION RECORD OF THE U.S. BRASS INDUSTRY showing percentage increases over 1939

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1939</td>
<td>100%</td>
</tr>
<tr>
<td>1940</td>
<td>200%</td>
</tr>
<tr>
<td>1941</td>
<td>300%</td>
</tr>
<tr>
<td>1942</td>
<td>400%</td>
</tr>
</tbody>
</table>

This chart, based on 1939 peace-time production, shows the rapid swing into all-out war production, both by the copper and brass fabricating industry and The American Brass Company (not including Government-owned plants). All-time production records have been continually broken ever since the National Defense Program was initiated in 1940.

This record was accomplished by close cooperation between management and labor . . . careful planning for rapid conversion to wartime operations . . . intensive training of new personnel . . . plus efficient utilization of existing and new plant equipment.

Detailed figures, of course, cannot be revealed, but The American Brass Company is consistently breaking all previous volume records. In addition to its U.S. plants and that of a Canadian subsidiary, Anaconda American Brass Ltd., the company’s production also embraces three plants operated for the United States and Canadian Governments.

Shipments this past January were the largest in the company’s history. March exceeded January. The first quarter of ’43 was by far the greatest tonnage quarter in the records of the company.

PRODUCTION OF COPPER ALLOYS FOR AMMUNITION by The American Brass Co.

This chart shows the vast increase in production of copper-base alloys directly earmarked for ammunition in plants operated by The American Brass Company. This is one of the most vital needs for copper and brass. Tremendous quantities are required for all types of ammunition.

The American Brass Company is proud indeed that all the plants it operates in the U. S. A. have won the honor of flying the Army-Navy “E” for excellence in production. But it is even prouder of the organization and the will-to-produce that have made this record possible . . . and will keep it going.

THE AMERICAN BRASS COMPANY

Subsidiary of Anaconda Copper Mining Company

BUY ALL THE BONDS YOU CAN AFFORD . . . TURN IN ALL THE SCRAP YOU CAN FIND
When the government called for a shower cabinet, designed to use a minimum of critical materials, Fiat was ready on a production basis with the Volunteer. The Design Division, Office of the Chief of Engineers, U. S. Government approved the Volunteer to meet the needs of the Nation for war housing and military cantonments. In addition to filling government requirements, Fiat is supplying the Volunteer for civilian needs through our regular jobbers when adequate priorities are available. The Volunteer is priced at $37.50, F.O.B. Chicago, Ill., Long Island City, N. Y., New York City or Pasadena, California.

- The Volunteer Model contains only 25 lbs. of steel—has patented construction of corner joints. A truly prefabricated product that can be set up in 18 minutes with a screwdriver the only tool required.

FIAT METAL MANUFACTURING COMPANY

1205 Roscoe St., Chicago. • 21-45 Borden Ave., Long Island City, N. Y. • 32 S. San Gabriel Blvd., Pasadena, Cal.

JULY 1943
To art in America the war has meant a degree of isolation not known since the discovery of this continent. After the arrival of the last refugees from France, the ties to European art became temporarily severed, and the obvious reaction was to turn to our native efforts, both past and present. It may, therefore, be no coincidence that a major work on pre-Columbian art in America and an important book on the new painting in this country were published within a few days of each other.

Mr. Kelemen's book on American medieval art is a magnificent job of research, uncovering undreamt-of cultural development in North and South America. The book consists of a volume of detailed, scholarly writing and a second volume of illustrations, some of which the author had to travel far to obtain. There is an extraordinarily mature knowledge of materials and structure in the architecture and sculpture shown. The pre-Columbians' understanding of balance and pattern is something not consciously rediscovered until the present time, in the abstract painting of Mondrian or the patterns of Stuart Davis and George L. K. Morris. There are similarities between these early art forms and certain developments in Africa and Europe, which it will be the anthropologist's job to explain—though Mr. Kelemen claims that these are merely "optical illusions." He does concede that there were direct influences from Mongol cultures across the Bering straits. However that may be, it is clear from this excellent book, that the worst thing that ever happened to indigenous American art was the discovery of this continent.

Mr. Kootz, on the other hand, is the biographer of the rebirth of American art. His book is like a breath of fresh air: no punches are pulled, no bushes beaten about. Sample bushes: The "Nationalist" painters, the Bentons and Grant Woods, who have been surrounded with phony halos far too long. To them, and the "class struggle boys," the author says: "The plain fact of the matter is that the radical pattern of this school is as dull esthetically as the reactionary pattern of the Nationalist school. Both schools trade in local  

(Continued on page 110)
The inseparably bonded clad metal

Roll it—spin it—draw it—stamp it! This uniquely-produced composite metal, an exclusive development of Superior Steel Corporation, opens new horizons to designers now occupied in product development for post-war sales.

In SuVeneer Clad Metal, other ferrous or non-ferrous alloys are joined with plain steel, covering one or both sides in equal or different thicknesses. The ratio of clad to base metals remains constant through reducing and forming operations, providing high flexibility in product design and manufacture.

Mark "SuVeneer" well for the future... get the facts today!

"SuVeneer" in War

Steel, clad with gilding metal by the Superior process, forms the jackets of x-millions of United Nations' bullets each year—replacing the solid gilding metal jackets formerly used, and saving thousands of tons of copper monthly for other war needs.

Use of this Superior process for such war purposes has been granted without charge to a score of other steel companies, through the Duration.

"SuVeneer" in Peace

Reserved for tomorrow's designers

Copyright Superior Steel Corporation
How much will you want for postwar building?

This you know: When the shooting is over, there will be more aluminum... probably six times more... than there was before it started in 1939.

This you should ponder: The price of aluminum is lower today than it has ever been... 25 per cent lower, on ingots, than in 1939. You can toss out all the cost figures you ever used on aluminum. After the war, you will have a fresh new set to stir your interest.

This you should investigate: Aluminum technology is on the march to new horizons. Designers of war materiel are learning how aluminum alloys contribute to the betterment of those products; greater utility, longer life, finer appearance. Manufacturers and their workmen now accept the fabrication of aluminum as a matter of course.

This you remember: Before the war channeled all aluminum into fighting equipment, aluminum was being widely used by architects and builders. Doors, windows and sills, skylights, coping, spandrels and decorative devices; all are now giving a good account of themselves on homes and buildings all over the country. Postwar construction is certain to employ aluminum in a big way.

All of which calls for Imagineering. Let your imagination play with these facts: more aluminum, cheap aluminum, new aluminum technology. Engineer them into your designs now, on the drawing board, and be ready when wartime shooting stops and it’s time to get going on peacetime construction. Aluminum Company of America, 2166 Gulf Building, Pittsburgh, Pennsylvania.
PROPELLAIR Fans can help you solve problems involving heat!

The diagram at the right illustrates the design and operating principle of the Propellair Verti-Vent stack as an extremely efficient roof ventilator. It incorporates advanced features for solving ventilating problems where heat collecting at the roof must be drawn off in volume.

Butterfly dampers, operating within a wind guard, offer virtually zero resistance. The full displacement of the fan is discharged vertically, sending heat (plus smoke and dust, if any) high above the roof to reduce the possibility of return to the ventilated area. When not in operation this unit is efficient in retaining heat within the building until it is desirable to discharge it, as in foundries before pouring starts.

High-velocity discharge prevents rain from entering when the fan is running, and the dampers close gently and positively as the propeller coasts to a stop. A channel is provided for water to run off to the side of the stack and then onto the roof.

The Propellair Verti-Vent stack is a fool-proof, fully automatic ventilator, readily installed at the topmost points where heat and fumes collect. Available in sizes from 12" to 60" diameter, 2,100 to 68,000 c.f.m.

PROPELLAIR FANS OFFER THESE ADVANTAGES

AXIAL-FLOW, AIRFOIL PROPELLERS,
especially designed by Propellair engineers, deliver maximum air with minimum horsepower. Air flow is even over all parts of the blades—the whole fan works, not just the tips! These unique propellers are also non-overloading—from free air to complete block-off, horsepower remains virtually constant as long as motor speed is constant. The number of blades, and their angle and shape, depend on the job to be done.

CURVED ENTRANCE RING,
in addition to serving as a sturdy support assembly, reduces tip loss and enables Propellair Fans to deliver maximum air per horsepower. Introduced in 1930, as a result of exhaustive experiments and tests by Propellair engineers, this design makes possible the utilization of the “Airfoil” air-movement principle in the entrance ring as well as in the propeller.

If you have a pressing industrial ventilating problem, you should have our Propellair catalog No. 100. 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!
Cover has been removed from this 100-ampere G Frame NoFuze "De-ION" Breaker to show how interchangeable trip unit can be removed without disturbing other parts of the mechanism.

Interchangeable

TRIP UNITS

make NOFUZE BREAKERS adaptable for war or peace

Whether in khaki or "civvies", NoFuze Breakers provide circuit protection that can be accurately fitted to job conditions.

Today, when most Westinghouse Breakers are "mobilized" to protect war circuits, they are keeping current flowing safely, with minimum interruptions in war production.

When peace comes, with its equally great problems of conversion to civilian goods, NoFuze Breakers will permit economical and speedy change-overs. For example: In the larger frame sizes, trip units are removable and interchangeable. Thus if your conversion results in heavier or lighter loads, the present trip unit can be quickly replaced with one of the required trip rating. It's as easy as that.

Ask your Westinghouse representatives for help on your war circuit problems. Or write direct to: Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., Dept. 7-N.

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.

Westinghouse

PLANTS IN 25 CITIES... OFFICES EVERYWHERE

NOFUZE CIRCUIT PROTECTION
You watched us plunge all-out into war work when the shooting started. We knew what was coming. We knew the shortest road to peace. We were ready! Today with each passing hour more and more war material streams from our machines—but, with all this...we at LCN make time to plan the improved products, the new ideas, the increase in productive jobs that must be ready and waiting for those critical first days of peace. We must do this—all business must...if we are to forestall "make work" projects—if we are to win the peace as well as the war. So again we are turning the clock ahead...to be ready when war's final bugle sounds. Expect us, at that hour, to switch over men and machines with utmost speed to bring our plans to life.
There is a Ric-wil insulated conduit system engineered to your specific needs—the transmission of steam, hot water, oil, hot or refrigerated process liquids—providing heat transfer with the lowest possible loss.

1. **RIC-WIL INSULATED PIPE UNIT—SINGLE PIPE SYSTEM**
   Prefabricated complete units—pipe as specified, thoroughly insulated, in helical corrugated conduit, coated and wrapped with asphalt saturated asbestos felt. 21-ft. lengths for speedy installation. For underground or overhead systems.

2. **RIC-WIL INSULATED PIPE UNIT—MULTIPLE PIPE SYSTEM**
   Any specified combination of pipes in prefabricated conduit—insulated and protected the same as the single pipe system. Any or all of the pipe lines may be specially insulated to meet job requirements.

3. **RIC-WIL INSULATED PIPE UNIT—FOR PROCESS LIQUIDS**
   An adaptation of the multiple system used where a steam or hot water line heats fluids in other lines. Pipes are insulated from the exterior but not from each other. Sizes and specifications as required—conduit same as for other insulated pipe units.

4. **RIC-WIL STANDARD TILE CONDUIT—TYPE F**
   Vitrified glazed A. S. T. M. Standard Tile Housing—acid and waterproof—with foundation type base drain supporting weight of piping through correctly engineered pipe supports. Positive locked-in-place cement seals on sides and ends. For single or multiple pipes.

5. **RIC-WIL SUPER TILE CONDUIT—TYPE F**
   Same advantages as Standard Tile but with walls approximately double thick for strength under heavy traffic or where overhead load is above normal. Will support concentrated static load of 6 tons per wheel under actual installation conditions. Base drain of extra-heavy tile.

6. **RIC-WIL CAST IRON CONDUIT—TYPE F**
   Heavy reinforced cast iron conduit for use where underground pipe lines run close to or under railroad tracks. Durable, water-tight and vibration-proof. Positive locked-in-place cement seals on sides and ends with metal clamps for extra tightness.

7. **RIC-WIL TILE CONDUIT—UNIVERSAL TYPE**
   Where installation conditions dictate the use of a concrete pad Ric-Wil Universal Tile is recommended. Side walls are double-cell vitrified trapezoidal block design. Arch may be Standard Tile, Super-Tile, or Cast Iron.

8. **RIC-WIL TILE CONDUIT—TYPE DA**
   For oil or process liquids where conduit must be insulated but individual lines are not insulated from one another. Insulation is a diatomaceous earth lining, moulded and keyed to inside of tile. May also be used (Type DF) with fibre insulation for steam heat, power and superheated steam. Applicable to Standard, Super-Tile and Cast Iron.

Ric-wil accessories are available in all type systems; standard and special fittings, factory fabricated or field fabricated expansion devices, alignment guides, and anchors. Descriptive bulletins on request.

GET THE ORIGINAL— SPECIFY RIC-WIL
Since the advent of the National emergency over three years ago, The Herman Nelson Corporation has been developing special equipment for our war effort. The Herman Nelson Self-Powered Portable Heaters were designed particularly for our armed forces, and were successfully used as early as last winter at Army and Navy Bases everywhere.

These portable, light-weight, sturdy, self-powered ground heaters are mainly used for preheating aircraft engines in severe, cold weather. They have successfully produced a steady flow of heated air in temperatures as low as 65° below zero.

In addition, these units have served the armed forces well by supplying heat for small buildings, tents, freight car interiors, repair shops and many other applications where portable, self-powered heat is required.

At the same time, The Herman Nelson Corporation has been furnishing its standard peace-time products, such as hijet Unit Heaters and Autovent Fans and Blowers, for use in Army-Navy Projects and War Plants throughout the country.

THE HERMAN NELSON CORPORATION
MOLINE, ILLINOIS
Autovent Fan & Blower Division, Chicago, Illinois
Manufacturers of Quality Heating, Ventilating and Air Conditioning Products
Above: Morris Ketchum, Jr., and Lustron battery case for walkie-talkie radios. Recognized as an expert in the design of modern commercial buildings, Mr. Ketchum is associated with the New York architectural and engineering firm, Harrison, Fouilhoux and Abramowitz and is an instructor of Architectural Design, New York University.

FROM A WALKIE-TALKIE BATTERY

...A CAMERA STORE FOR 194X!

Stories of a number of wartime plastics uses contributed to this conception of a camera store for 194X by New York Architect Morris Ketchum, Jr. One which particularly fired his imagination, however, was a battery case for compact walkie-talkie radios molded from Lustron, Monsanto's lightweight, water and weather resistant polystyrene.

Starting with a ceiling of translucent Lustron panels which make use of those same qualities, Mr. Ketchum has gone on to visualize a complete store based on the logical development of wartime advances in several other Monsanto plastics as well.

Mr. Ketchum's store, however, is by no means an all-plastics creation. Where other materials promise to serve better than the plastics we may expect to have available in the near future, those other materials have been specified.

Ceiling: Standard size, clip-on panels of translucent Lustron — chosen for its lightweight, dimensional stability and acid resistance — carry over both the inside lobby and the interior. Above panels is overall lighting system including both incandescent and fluorescent illumination.

Ceiling moldings support panels, also serve as continuous wireways or plug-in strips for down-light fixtures. They might be formed from any one of three Monsanto plastics, Lustron, Resinox, or the newest of the family, melamine. As panels are removable, lighting system is easily rebuilt.

Canopy fascia: plastics-bonded plywood which could be surfaced in any desired color with new types of recently developed weather, water and age resistant melamine resins.

Canopy sash: molded from translucent, colored Lustron. Thanks to Lustron's ability to "pipe" light, they could be edge-lighted from a concealed source in the canopy fascia.

Photomural wall, eight feet high and the length of the store, is mounted on continuous length of Resinox or melamine-bonded plywood. A film of transparent plastic protects it from wear and careless hands. As a result, it can be cleaned with soap, water and scrubbing brush.

Projection screens: Rear wall of sales area is a large, recessed screen on which could be shown still or motion pictures. Screen, perhaps of a plastics composition, is recessed to increase its luminosity and might also be mounted on light, dimensionally stable, plastics-bonded plywood.

Supporting columns: thin, strong columns of steel or one of the new, light metal alloys. Where maximum strength per unit of area is desired, metals are still superior to plastics.

Door, glazing, and show-cases might some day be formed from non-shatterable, flexible or semi-flexible sheets of transparent plastic but in predictable future should be glass.

WHAT EVERY PROPHET SHOULD KNOW

Frankly, much development work has yet to be done in laboratories of established building materials suppliers and plastics manufacturers alike, before the store Mr. Ketchum has sketched opens for business. As one of the nation's largest producers of plastics, however, Monsanto is interested in encouraging intelligent, creative prophecies like Mr. Ketchum's. For only when the logical possibilities and limitations of plastics are fully understood can they contribute to the fullest to a better postwar world.
They've learned a lot about fuel saving!

Adversity is a great teacher. Thousands of dwellers in homes large and small have found out things they never knew about heating economy. Some of them learned the hard way—discovering for the first time that their heating equipment is wasteful of fuel, and that restricted rations mean discomfort. Now they're watching the fuel situation with hawk-like intensity, and praying for a mild winter.

Others, however, have a self-satisfied look when the subject is broached. These are likely to be the people who have Fitzgibbons Steel Boilers or Air Conditioners. They will perhaps shut off a spare room or so, use care in other ways, and without sacrifice of comfort will keep within their budgeted fuel ration. These people are feeling pretty thankful today, for the excellent judgment of their architects in specifying "Fitzgibbons."

Among the less fortunate, more and more often you hear the plaint—"Wish I had a Fitzgibbons—I'll never build another house without one!"

Fitzgibbons Boiler Company, Inc.
101 Park Avenue, New York 17, N. Y.
Works: Oswego, N. Y.
Branches and Representatives in Principal Cities

BUY U. S. WAR BONDS and STAMPS
Today Revere is 100% committed to war work. But looking to the day of after-Victory, it is even now preparing to supply the demands of the building industry for roofing, flashing, pipe, tube and architectural shapes in copper and its numerous alloys. And, as ever, Revere will continue to provide expert technical advice to those with special problems in employing its products.

In still another way Revere looks to the future. It believes that the current lively public interest in planning post-war housing—community or otherwise—should be definitely encouraged. Hence, in its current national advertising, it is presenting the ideas of some leading architects and designers. Most of their thinking is concerned with how to make possible "the more ample life" and is well exemplified by Mr. Lescaze's suggestion for a Town Leisure Center. Public reaction—in the way of booklet requests for detailed information of the individual projects—has been excellent.

Revere believes that its effort to encourage post-war planning—in the concrete fashion which it is now doing—is bound to benefit every one concerned with the industry: architect, builder, contractor, dealer, realtor, manufacturer and financier. Revere is certain, too, that the extended use of copper and its various alloys will make any building more durable, better to look at, better to live in, better to own, rent or sell.
Admission Free!

"I am working on the basic design for such a building, using the latest construction techniques and materials. In a project of this kind, naturally the use of copper should be considerable in view of its wide adaptability to the builder's needs. I know that the cost would easily come within reach of hundreds of towns throughout America. Why not start now to plan for this in your community? Revere has prepared a free booklet giving more information about it. Write to Revere."

WILLIAM LEMAYE

For Americans, especially, important things are at stake in this war. After victory all of us can look forward to happier, richer ways of living than ever before. Not only are new, low-cost homes already taking shape in the minds of architects and engineers, but out of these plans can arise new communities, reborn cities and towns, new types of buildings to make better living available in millions.

Revere does not produce buildings or expect to in the future, but we know that in tomorrow's homes copper and its alloys will play a newly important part. In thousands of homes today Revere copper now gives lasting protection against the weather, delivers rust-free water, helps reduce heating costs. In days ahead it can bring us new comforts and conveniences, can make our homes better to own, or rent, or sell.

All of us are now working for Uncle Sam. No copper is available except for war. But the research going forward in Revere's laboratories TODAY can help make better living available to all TO­MORROW.

 Naturally, in this limited space, Mr. Lemayele could describe only a few details of his concep­tion for a future center. For more inform­ation about it, write to Revere for free illustrated booklet.

REVERE
COPPER AND BRASS INCORPORATED
Founded by Paul Revere in 1801
Executive Offices: 250 Park Avenue, New York

This advertisement appears in Saturday Evening Post, June 19, 1943
Are you *Doodling* or Planning for that Building Boom?

Sure—there's a terrific need for new housing.

But if that's why you're dreaming of a postwar building boom—just remember what a need there was before the war.

And what happened? No boom.

No—need alone does not necessarily mean demand. So, to help create demand as quickly as possible after Victory comes, *TIME* offers a practical five-point plan for building postwar building markets:

1. Get ready to make sales the minute peace comes. To do this job, you can tap the dammed-up postwar buying power of over a million *TIME*-reading families. These men and women prefer *TIME* 7 to 1 over all the other magazines they read that carry advertising. They have the "habit of progress"—the money to buy what they want (their incomes are 2½ times the average U. S. family's).

And *TIME* can help you put all the other four points of this plan to work for you—can help you

2. Stimulate confidence in new techniques, materials, designs;

3. Interest both men and women, because they jointly decide when and how to build a house;

4. Stir up prospects for non-residential buying;

5. Get the middlemen on your side.

Ask your advertising agency to tell you how—or watch these ads.

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*DIME* GATEWAY TO THE BUILDING MARKET

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*TIME* GATEWAY TO THE BUILDING MARKET

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THE ARCHITECTURAL FORUM
Many of the world’s most famous architects and builders have found in Michaels craftsmanship the full expression of their artistic ideals, faithfully reproduced in everlasting metals. For three-quarters of a century it has been our privilege to cooperate closely with architects and builders in the development and production of products which add so much to the character and beauty of their creations. After the war and peace have been won, we look forward to resuming our interpretation of the genius of architect and builder.

**THE MICHAELS ART BRONZE CO., INC.**

COVINGTON, KENTUCKY

Manufacturers of many products in Bronze, Aluminum and other Metals
Out of the wide variety of war duties Marlite is now performing—out of thousands of pre-war installations come promise of the beauty and utility Marlite offers for post-war building. Plastic-finished Marlite walls in thousands of war plant wash rooms are furnishing new proof of the ability of its high-heat-bake finish to withstand wear and tear—resist stains. From hospital operating rooms comes daily proof of the ease with which Marlite may be kept clean and sanitary. It is "selling itself" to tens of thousands of women who see it in factory rest rooms and first aid stations.

ON DUTY TODAY IN

- Industrial washrooms, showers and first aid stations.
- War housing showers.
- Industrial Offices.
- Home remodeling for worker housing.
- Home and commercial building repair.
- Industrial cafeterias.
- Hospitals.
- And a great many others.

FOR BEAUTY TOMORROW IN

- Homes—from basement to attic.
- Hotel lobbies, dining rooms, halls and bathrooms.
- Cocktail bars.
- Super-Markets.
- Smart retail shops.
- Theater lobbies.
- Bowling alleys.
- Restaurants.
- Professional offices.
- And a great many others.

ADVANTAGES THAT COUNT!

When you specify Marlite, you're offering your client (home, commercial or industrial) the advantages of lustrous beauty and practical cost with a choice of in-colors, tile-pattern, horizontaline, genuine wood-veneers and marble-patterns—all, over 100 colors and patterns. You're making long life a part of the room Marlite surfaces never need repainting. Marlite reduces cleaning labor and time. Specifying large, wall-size panels of plastic-finished Marlite also makes possible quick, easy installation even by a novice carpenter with ordinary tools.

ARCHITECTS! Send for Descriptive Catalog

If better acquainted with this ultra-modern material for fast, practical, essential building now...to help you plan for the expanded building program that's reliably on the way after Victory. Send for your copy of the complete, full color catalog, today—obligation.

MARSH WALL PRODUCTS, INC.

71 MAIN STREET  DOVER, OHIO
What's an AIRPLANE EXHAUST SYSTEM got to do with ROOF DRAINAGE?

The head is pointing to a spot too hot for most metals, but Armco Stainless Steel can take it! It's an aircraft exhaust collector ring.

The same tough, long-wearing Armco Stainless Steel that architects once specified for gutters and downspouts in better homes is now serving in exhaust systems of warplanes.

Here, temperatures run as high as 1700°F. Only a most heat-resistant metal such as Armco Stainless can take this punishment. Other advantages are its strength/weight ratio and its excellent resistance to corrosion and abrasion.

Modern war machines are putting Armco Stainless Steel, like other Armco special-purpose sheet metals, to terrific new tests. And it's measuring up, as you might expect.

War is teaching us many new facts about sheet metals — information that will be useful to you in your post-war designing. The American Rolling Mill Company, 961 Curtis Street, Middletown, Ohio.

THE AMERICAN ROLLING MILL COMPANY

JULY 1943
A specialist criticizes two May projects . . . Travelodge meets a competitor . . . A lawyer asks what prefabrication will do to mortgages . . . The anti-Allen movement gets under way.

MAY'S AUDITORIUMS
Forum:
The May number with its proposed additions to communities of the future is a most interesting and challenging number. I would, however, like to make some criticism, both destructive and constructive, on the proposed high school and trade school auditoriums. The program is sensible, but the solution you present doesn't seem to be as well planned.

First the high school: The auditorium seems to be planned with great care for the least possible use. The stage, as pictured in the little sketch on p. 54, has tremendous horizontal width and practically no usable depth, and would obviously isolate a speaker. The sight lines for the auditorium are quite successful, but an auditorium with a capacity of 2,400 needs some means of cutting down the proscenium for the type of stage production requiring intimacy. There is no place for storage, costumes or construction of settings. The stage itself needs complete re-planning.

The trade-school auditorium is more adequate, but it too is hampered by inflexibility in the stage and adjacent areas. Placing of the stage-craft shop directly behind the playing space with the large, folding doors for access, deprives the stage of any possibility of using a cyclorama and makes it almost impossible to utilize the stage shop while rehearsals are going on. The playing space is cramped, and it seems unwise in these days of flexible equipment to provide the stage with only the traditional picture-frame proscenium. At the basement level the dressing rooms should be separated so that the boys and girls can have access to their respective toilet rooms without entering the general assembly or green room. The toilet rooms should also provide shower facilities. The general room, indicated by No. 1 on the plan, provides good entrances and could be used for makeup and final costume checking, but the boys' and girls' dressing rooms should have their own entrances.

I would be most grateful if some of these suggestions could be passed on to the architects of the schools proposed in your May number. The design of a community center or an educational theater is a highly specialized matter and one on which it is difficult to find adequate data. Having worked in enough theaters with varied degrees of impossible designing, I have strong convictions on the subject, as you may see. If, in a newly proposed project some of these mistakes can be eliminated, the users of these schools will have occasion to rejoice.

Janet K. Smith
Professor and Department Head
Iowa State College, Ames, Iowa.

PREFABRICATION
Forum:
While riding down the road outside of Lynchburg, Va., we discovered serious competition in the prefabricated building, shown in the picture which is enclosed.

Alsen D. Thomas
The Travelodge Corp.
Lynchburg, Va.

Forum:
I am Chairman of the Real Property Financing Committee of the Real Property, Probate and Trust Law Division of the American Bar Association. At the forthcoming convention of the Association in August I will discuss prefabricated housing and real property financing. This discussion will consider this subject from the legal viewpoint; that is, what new legal concepts will result from a widespread use of prefabricated housing, and I am therefore anxious to secure material with respect to the following phases:

What effect will the prefabricated houses have on taxation, foreclosures, deficiency judgments, redemptions, zoning laws, building ordinances, and the substantive law of real property generally? Since these houses are demountable and therefore mobile, will they be financed as real estate mortgages or chattels? What effect will the factor of mobility have on interest rates and mortgage terms?

I am mindful of the many arguments for and against prefabricated homes and the problems which have confronted this market in the past. It is difficult, of course, to predict the future, but it seems almost certain that some of the business institutions now operating in this field are going to continue their operations after the war and endeavor to market their products as a desirable and more economical home in lieu of the present construction at the site.

Bettin Stalling
Chicago, III.

It has occurred to a number of people that widespread use of prefabrication might have a very marked effect on real estate financing and land tenure. Obviously, if houses are manufactured in such a form that they can readily be shipped from one site to another, they will take on more the character of chattels than real property improvements, as at the present time. An excellent example of the effect of this type of construction on financing and sales methods is the “dining car” type of restaurant. Diners are sold on a time-payment basis and are frequently traded in and resold used, like automobiles.

For anything like this to happen in the house field, however, prefabricated houses would have to be more highly developed than most are at the present time. Also, it is obviously of great importance that a considerable part of the cost of the housing unit lies underground, in the form of utilities, and on the ground surface, in the form of streets, sidewalks, and so forth. Probably the major shifts in financing methods would occur in the case of the so-called “mobile” type of house.—Ed.

NO FOURTH TERM FOR ALLEN?
Forum:
Since you have been kind enough to ask for suggestions by which The Architectural Forum might be improved, I have one which I believe to be pertinent: I wish you could find some legal, equitable, effective and permanent means of keeping Mr. Roger Allen's letters out of the pages of your magazine.

Harley J. McKee, Teacher
University of Cincinnati

(Continued on page 92)
Why dry-built full-wall construction?

"Faster, easier application. Better, crack-proof walls."

These are the proved advantages most often cited by big project builders who have used full wall size Strong-Bilt Panels. In this resume of their experience is the complete answer to the "why" of dry-built full-wall construction.

1. Strong-Bilt Panels save time and labor. One panel covers the entire wall of an average room. There is no "drying out" period. Precut to size, the panels go up in record time.

2. Apply them any month of the year. Users are amazed at the ease of handling and speed of application. Floating Fasteners anchor the panels securely from the rear.

3. No face nailing. Not a single nail hole to mar the beauty of the finished surface. No nail holes to fill. No joints to tape. No plastered joints or danger of cracking.


5. A beautiful finished job! Women love the distinguished appearance of the rich pebbled surface. This is the identical product used in many of America's finest homes. Easily kept clean.

Reasons such as these are influencing the type of improved interior wall linings being planned for many postwar homes. For free descriptive booklets covering both prefabricated and conventional construction, write The Upson Co., Lockport, N. Y.
At the Curtiss-Wright Airplane Division in Buffalo, they’ve just completed one of the most modern aeronautical research laboratories in the world. It’s a marvel of design for its purpose, and National Gypsum is proud that Gold Bond Acoustical materials were chosen to sound condition offices, workrooms and corridors.

Gold Bond Econacoustic, which was used on this job, is available now for all types of military and essential civilian buildings where noise reduction is desirable.

Another war use of Gold Bond Acoustical Materials. The roar of airplane engines being tested would disturb work and rest of people for miles around if test stacks were not sound conditioned. Many of these interesting new engine test buildings are sound-insulated with Gold Bond Acoustimetal-B.

Build better with Gold Bond
Everything—for walls & ceilins.

More than 150 different products for modern construction and war production.
Wallboard... Lath... Plaster... Lime metal products... Wall paint... Insulation... Sound control.

Write today for complete data and technical information.

National Gypsum Company... Executive Offices, Buffalo, N. Y.
21 Plants from Canada to the Gulf... Sales offices in principal cities.
THE MONTH IN BUILDING... NEWS

Building retreats (this page) . . . Wagner Urban Redevelopment Bill (this page) . . . Congress cuts Lanham funds to $300 millions (page 39) . . . Architectural League debates 194X (page 39) . . . Rent controllers hold the line (page 40) . . . Moses wins Stuyvesant Town’s steeplechase (page 41) . . . U. S. Chamber for Building unity (page 42) . . . A.I.A.—Producers' Council meet (page 98).

STRICTLY FROM WASHINGTON

Last month, as in every recent month, Building fought back and forth across its now familiar, bomb-pocked battleground—Washington, D. C. Only the shadow of the victorious war battalion remained to fight a rearguard action. Building was getting mighty close to quitting the scene for the duration.

Last month Senator Wagner introduced, with reserved comment, a land use act squired by the Urban Land Institute (this page). Last month the Lanham Committee held hearings on the need for more war housing, seemed likely to lop one quarter off NH Administrator Blandford’s request for $400 millions. Last month, too, the House, in a splurge of fund- and face-saving, killed the National Resources Planning Board, left it only the rope to hang itself (see page 42). Last month, finally, the WPB went on a reorganization spree, abolished its Construction Bureau, created new Committees in its stead (page 42). In other words, it was a Washington month.

Within the industry, Eric Johnston’s announcement of the Chamber of Commerce’s interest in unification of the construction industry made important news (page 42). Albert Greenfield, Philadelphia real estate tycoon, talked turkey to residents of his city in terms of blight and decay within its walls (pages 43-44), while real estate and hotel men throughout the country watched with a disconsolate eye a ruthless War Department canceling recently made hotel leases right and left. Rumor meanwhile reported that the Army expects to cancel leases on 206 of its 434 hotels. Reason: trainees are swapping hotel rooms for fox holes.

In the summer of its discontent, it was clear to everyone in the construction industry generally that a hard, hard winter was in store. By October 1 whatever construction is still proceeding on the industrial front will be little and far between, and the chances of any fresh starts highly unlikely.

Straight across the U. S., in speeches, articles, advertisements and fancy talk, postwar planning crowded the war for attention. But to only a few of the most astute did it seem clear that the end of war and the start of peace would not be a black and white situation. Only occasionally could be heard a cautious note that the transition period would bring momentous problems all its own, problems to be shared by Building and every other kind of work and worker.

SENATOR WAGNER ON LAND

A BILL

To encourage the development of good neighborhood conditions in towns and cities by private enterprise with the collaboration of public enterprise; to provide credit for the assembly of land in deteriorated urban areas for subsequent reconveyance by sale or by lease for development and redevelopment by private enterprise and by public improvement; to encourage the widest possible extent of home ownership; to provide financial assistance to towns and cities or appropriate instrumentalities thereof, for the purchase, assembly, and clearance of land in the interest of public safety, health, comfort, and the development of good neighborhood conditions; to stimulate a great and continuing volume of economic activity and employment in the postwar period; to provide grants for the metropolitan development plans.

To the Senate last month Senator Robert F. Wagner (Dem. N. Y.) introduced the first comprehensive “neighborhood development act,” at the same time introduced to the field of national politics the six-year-old Urban Land Institute. Instigator of the bill, and one of the most vocal leaders in the U. S. of the movement for reclamation (Continued on next page)
of blighted urban areas, the Urban Land Institute (its President: Charles Stewart) is an offshoot of the National Association of Real Estate Boards headed by Herbert U. Nelson. Nelson (see cut), foresighted, informed protagonist of private enterprise's cause, had long been troubled by the problem of the decay of cities. For years a student of patterns of city growth both in America and abroad, he prodded the ULI (composed of both real-estate and nonreal-estate professionals) to think and write on the subject. Result of these deliberations was a resolve to devise some way whereby public processes of acquiring land through acquisition can be combined with redevelopment by private initiative.

It was clear to these early planners that two things were essential to the plan's success: public condemnation of the land, use of Federal funds for financing the land buying. The new bill, which the Institute through Senator Wagner has offered to the Senate's Committee on Banking and Currency, contains these essentials, together with details about the procedures, who is to be in charge, what national agencies will be involved.

Always a New Dealer, and always considered more interested in public than private enterprises, Senator Wagner's sponsorship of this bill puts him in the front ranks of those who would solve postwar problems with a primary reliance on private capital and initiative, only incidental aid from Government agencies.

Under the terms of the bill, the Administrator of the NHA would be authorized to make loans to cities or other appropriate local agencies for the purchase of land in deteriorated areas for redevelopment. Having purchased and cleared the land, the cities would sell it or lease it to private builders for modern neighborhood development or appropriate municipal agencies would use it for public improvements. Loans would be repaid to the Federal Government over a long period of time—not exceeding ninety-nine years.

To be eligible for such a loan, the city "must have a city plan sufficiently complete to indicate definite local improvements in traffic, public transportation and other public facilities, improved patterns of land use and building requirements, etc." The bill further authorizes the NHA Administrator to make direct grants to municipalities for the preparation of these development plans.

Total of loans authorized by the bill in the first year: $1 billion dollars. But action is not entirely limited to postwar. ULI leaders point out that many of the steps could be taken now, especially land purchasing and general planning. The program should draw, they anticipate, about five dollars of private money and credit into rebuilding for every dollar of Federal credit extended. Thus, on the basis of a ten-year program, this would mean construction totalling $50 billions in private funds for the $10 billion extension of Federal credit.

For the moment buried under the debris of the multitudinous tax measures being mulled over by the Committee, it is expected that the Bill will get serious consideration in the fall, may well lead to an urban redevelopment measure sound enough to win Congressional action.


Senator Robert Wagner: godfather . . .

NHA: A TIGHT SQUEEZE

Hopefully went NHA Administrator Blandford to Congress last month, asked for a modest $400 million to clean up most of the remaining war housing job. Blandford backed his request with the careful charts and flawless figures which have endeared him to the venerable Lanham Committee as a man who gives housing facts more weight than housing theories. This year he found the Committee in a less genial mood, found that the House as a whole thought he could get along with $300,000,000. A threatening minority thought even that diminished figure too high; by only three votes the House refrained from paring the authorization down to a slender $2,000,000. While the Senate had earlier authorized the full appropriation, fear of holding the legislation over the summer recess brought hasty concurrence from the Senate, a signature from the President.

Many a forward looking person cheered to find that an amendment providing for demolition of all temporary public war housing within two years of war's end was safely written in the Act.

It was a tight squeeze from the first. Nine days of carping criticism and questioning did not help the Blandford cause any, for the Lanham Committee. (Fritz Lanham, Calvin Johnson, Carter Manasco, Earl Wilson, Thomas Abernathy, W. E. Arnold, Pehr G. Holmes, George Outland—four Democrats, four Republicans) this time seemed more determined that private builders be used whenever possible, and that public building only fill in the remaining gaps.

Over the summer Mr. Blandford will have more to think about than how to regear to a whittled-down budget. Pulling the reins in tight, Congress decided to give NHA its authorization on the installment plan, shoved through an amendment to the current deficiency appropriation bill calling for a one-third down payment on the year's public housing program. With the omnibus appropriation bill to be speeded on its way by vacation-minded Congress, Mr. Blandford faced the none too pleasant prospect of a fall trip to Capitol Hill to ask for his next installment.

FHA: A LEAN SUMMER

Not eager to try his luck at getting any more money from a restive Congress, Mr. Blandford took another look at his FHA pocketbook, decided Title VI money would last until mid-October. While Blandford made it clear in his testimony before the Lanham Committee that Title VI insuring facilities will have to be expanded to take care of the portion of the war housing program assigned to private building, FHA thought it could stretch funds over the summer, ready machinery for maneuvering twin authorization bills through Congress when it reconvenes in mid-September.
AUGUST FREEZE?

New York City landlords, whose past virtuous deference to Federal rent stabilization policies has won for them exemption from an actual OPA rent freeze, early this month felt an icy wind out of Washington. With an ear tuned to the mounting volume of complaints from renters now negotiating for fall leases, OPA said sharply that Manhattan’s “informal” rent ceiling might become suddenly formal. As real estate agents moved briskly to fill apartment buildings for the coming year, tenants swelled OPA’s mailbag with news of fall rent increases over a wide price range. There were also plenty of complaints from tenants renting small furnished apartments or hotel suites on a monthly basis who felt a gradual stiffening of rates. OPA let it be known that the mechanics were ready for prompt action to bring New York rents under rigid Federal control at March 1, 1942 levels. While some wondered if OPA’s lean purse and personnel could extend to the Manhattan-sized job of policing 650,000 rents, most landlords shivered presciently, felt their city’s enviable position as the only metropolitan area free from Federal control in real jeopardy.

NAREB—OPA SLUGFEST

Ever since OPA instituted rent control in critical war areas throughout the country, the National Association of Real Estate Boards has been itching to get into the ring and battle it out. OPA laid down the rules, NAREB fought each one successively and vigorously but with no effect on legislation. Last month Congress took a hand in the dispute, appointed a special House committee to investigate the rising tide of landlord-real estate board protests that administration of the law has been too rigid, that OPA has exceeded its powers. To head the committee Rep. Howard W. Smith (Dem., Va.) was appointed.

NAREB has two major complaints: 1) A down payment of one-third the purchase price is required before a rented house in a rent-controlled area can be sold. 2) OPA rules do not provide relief for individual landlords who are operating under losses because of rent control.

The first, designed to protect tenants from eviction through phony sales, has the effect, NAREB claims, of seriously restricting legitimate sales. As to the second, it stated bitterly last month that OPA’s report of a general rise in net income from rental properties was “attempted deception,” claiming that “if conditions in the real estate industry are any better off anywhere than before the war, they have improved in spite of OPA, not because of it.”

On the eve of the first meeting of Smith’s committee (he is one of the authors of the Smith-Connally bill), the House Naval Affairs Subcommittee headed by Rep. Ed. V. Izac (Dem., Calif.) blasted OPA rent control mismanagement, thus steering the Smith

(Continued on next page)
NEWS

Committee in a definite direction. Declared the subcommittee: "The program has kept off the market many properties which otherwise would have been rented and which could thus have helped to hold down the need for more public housing construction."

STUYVESANT SAGA

The trials and tribulations of Stuyvesant Town, Metropolitan Life’s first postwar housing colossus to shelter 25,000 New Yorkers, continued last month but seemingly ended with a Supreme Court decision against property owners and other protesters.

For ninety hot and vocal days since the project was announced in April, the Met and its official backers, Mayor La Guardia and Commissioner Robert Moses, have taken on a procession of objectors, singly and in groups knocked down. First came the hearings before the City Planning Commission on which the Commissioner sits. To complaints that Stuyvesant Town density (about 391 people to the acre) was outrageous, that no school was provided, that it was a "walled city" and so designed against intrusion of the public, that no provision was made to rehouse 11,000 displaced slum dwellers,

PAUL A. PORTER: ruled the rents

Despite this strong barrage of criticism, OPA seems set on its customary paths, with only the possibility of slight easing on some points.

It looked as if the rent division would yield on the down payment, reduce amount required to 20%, increase relief for individual hardship cases.

With Paul A. Porter stepping out as rent administrator to become Associate War Food Administrator, real estate interests looked anxiously to see which way policy would veer under Ivan Carson, upped from director of operations to the rent division’s top job and a one-time Chicago real estate man himself.

SEN. HOWARD SMITH: checked the rules

NAVY BARRACKS TABLE

When Coast Guardsmen, sailors, soldiers mill into a 3,000-capacity mess hall for chow and then give way to the 2nd shift, the subway at rush hour is a comparative pink tea. To solve this problem, Architects Mario Corbett and J. Albert Paquette designed a table (see above) which meets the needs for rapidity of movement (seating and spacing become automatic), ease for cleaning (table has but four points of contact with the floor), complete stability and rigidity even if number seated is uneven. Further advantage of the table is that it can be stacked easily, demounted with little effort.

As the section and elevation show, the seats are literally supported from the apron pieces forming part of the table top, which in turn is carried on the legs. The table is 12 feet long, 30" high, seats 12, uses split rings (borrowed from wooden truss design), economic sizes of members of Oregon pine, and light hardware.

Forty hundred and fifty of these tables, after rigid tests, have been ordered by the Navy.
the Commission turned a deaf ear, with but one dissenting vote (Orten). Moses smiled, but grimly. Ten days later, the debate moved across the street to the Board of Estimate for its needed approval of the contract between the city and the company. Here again, and exposed to ROBERT MOSES: Stuyvesant saga hero 

critical owners from the project area. "capriciously, unconstitutionally." Fif­

This time the Moses smile was broad. But still another hurdle remained. Week later came the suit of the prop­

"The summary of the evidence shows that the project is not a public project but a private enterprise, and the features which many public-spirited and qualified people believe could be improved. Still unresolved is the prime question: is it more important to en­
courade large private-capital housing including slum clearance or more im­
portant to demand perfection in the legislation that would bring life insurance millions out of hiding and into the slums, that question has been answered.

OBITUARY
The date of execution was never set but the prisoner, the National Re­
sources Planning Board, had an inkling it was not far off. Last month, the date was formally announced by the House Appropriations Committee, NRPB, for all practical purposes will no longer exist after this summer. Short reprieve for the New Deal's most active and forward-looking planning agency came late in May, when the Senate restored $200,000 of its re­quested $1,400,000 to it, directed that it pare itself down to a skeleton staff with functions limited to assisting State and local agencies in their war and postwar planning. The House refused to compromise, vetoed the suggestion, said flatly that only $50,000 would be allowed NRPB, that sum to be used only for self­liquidation before August 31, 1943.

Weary of lopping off hydra-like federal agencies only to see their heads poke out of some other Washington door, Congress made this killing as final as it could, decreed that NRPB's job may not be transferred to any other agency, and that none of its functions may be performed after Aug. 31 without Congress' permission. Thus ended NRPB's four years of stormy existence, a strange melange of sense and science with always a suffi­cient admixture of starry-eyed plans to invite political scuttling. The worst that can be said against it was that it went too far. A disillusioned postwar public may accuse Congress of the same sin.

UNITED FRONT FOR CONSTRUCTION
To the growing mountain of postwar plans last month Eric A. Johnston, forthright youthful president of the Chamber of Commerce added his plan for integration of the construction in­dustry, announced that the C. of C., Committee on Construction and Civic Development, was planning "prompt
maintenance of maximum levels of production and consumption.

"Postwar studies by over all business and industry organizations provide necessary background for industry planning. But industry planning is an indispensable supplement to general planning. Both must be properly and efficiently coordinated so that the information which is provided the individual business man, the only one who 'plans' in the sense of making commitments—will be well considered and in effective form for his use."

A ROSE BY ANY OTHER NAME

The War Production Board, like any other Washington agency you could name, gets a sense of progress from shuffling its personnel around, creating new bureaus, destroying old ones. Such progress was made last month when three new moves were announced:

- The Construction Division of WPB is being moved to Washington from New York (its last move: from Washington to New York, last fall), will then be abolished. Its functions will be taken over by a Projects Division, which will be one of three units under the new Facilities Bureau. This bureau, in turn will be the mechanism through which a tough, new Industrial Facilities Committee will function in trimming down construction to essentials.

- Another brand new committee has been formed: the Non-Industrial Facilities Committee. Its first official act came last month when it announced that it had halted miscellaneous construction projects having a total estimated cost of $4,150,085 during the last weeks in May. During the same period the resumption of work on projects costing $983,638 was authorized, these being highway jobs.

- Facilities Bureau head will be Charles E. Volkhardt, vice-chairman, Ralph J. Cordiner. Directors of the other divisions include F. J. C. Dresser (Projects Division), J. B. Campbell (Production Resources Division) and W. E. Mullenstein (Process and Scheduling Division). These are not new faces, but old ones carried over from the soon defunct Bureau.

Cardinal point of policy for the new Facilities Bureau will be to stop the construction of all plants producing war goods unless the projects are so far along that they can be finished by the strict deadline date, October 1. This includes all heavy construction as well—dams, bridges, highways. All will be frozen in their tracks unless they can meet the deadline.

LYNCH LEGISLATION

To the Vice President and the Speaker of the House last month the President sent a message stressing the need for advance planning of public works, suggesting specified legislation, mentioned the Lynch Bill (H.R. 2785) which provides funds for postwar planning.

Objected—the President: Title I of the Lynch Bill (introduced by Rep. Walter A. Lynch, Dem., Indiana) which provides for "advanced planning of Federal public works" is unnecessary as he (the President) has already asked all Federal departments to submit estimates of the amounts it will take to bring their plans up to date.

A revised Lynch bill, called the Federal Aid Planning Act of 1943, therefore was introduced to the House late last month, has been referred to the Committee on Ways and Means, stands a good chance of running the Congressional gamut sometime before the session is over.

Its provisions (with the offending Title I removed):

- To encourage the States to prepare comprehensive plans for their development, Congress shall authorize for the fiscal year ending June, 1944 a sum of

$10 millions to be paid to the States in proportion to their areas and population.

- To be eligible for such aid the State must establish a planning agency, enact legislation to allow cities, townships, etc., to establish such agencies.

- Apportionment of the money is defined so that only 5 per cent can be used for publication purposes, 10 per cent for rent or office equipment, etc. It will be noted that this sum is entirely for administrative purposes, not at all for the actual works.

Another $75 million is authorized to be advanced through existing Federal agencies to State or local planning agencies, to make investigations, surveys, architectural and engineering plans for needed public works. This sum will need to be repaid to the U. S. "if and when funds become available by reason of appropriation, grant, gift or loan."

Representative Lynch's bill reads suspiciously like a good many others that have reached printing stages in the last month. Now that Congress has slapped down independent planning agencies like the National Resources Planning Board (see p. 41), it is clear that it intends to do a great deal of the planning and direction of planning itself. The Lynch bill, typical of a few others like it, is one step in the direction of Congress-led planning, may well prove to be an important one.

POOR RICHARD AND BLIGHT

In 1723 one bright October morning Benjamin Franklin was walking along Walnut Street, Philadelphia, observing the numerous "To Let" signs that were tacked to houses. Disturbed, he later wrote, "These signs made me think that the inhabitants of the city were one after the other deserting it."

Albert M. Greenfield, a modern observer of the same phenomenon in the same city, addressed the Poor Richard Club last month, voiced his uneasiness at the moribund state of American cities, especially his native Philadelphia. Greenfield, chairman of the Executive Committee of the Urban Land Institute and Philadelphia banker and realtor, (see cut), made his case so well that he stirred the Philadelphia Record to a lead editorial on the subject, awakened lunching business men, realtors and civic leaders to the dangers of civic decay.

Said realtor Greenfield:

"I believe it is within our power to act intelligently and keep modern Philadelphia intact as a cohesive, livable, urban society. Let us, as loyal citizens of Philadelphia, be realists. Blight and civic decay have been creeping through our city. Its disintegration is no remote threat. You know as I know that it is a reality. Let me review briefly the dominant trends in development which have presented us with problems of the deepest possible concern...

"The problem of clearing away the dinginess of old city areas and substituting good neighborhood environment in its stead is our civic problem. It is staggering, but not insurmountable.

REP. WALTER LYNCH: Roosevelt said no
TOTAL HOUSING PROGRAM consisting of:

- USE OF EXISTING STRUCTURES
- PRIVATE CONVERSIONS
- PRIVATE CONSTRUCTION
- PUBLIC CONVERSIONS
- PUBLIC CONSTRUCTION

NEW CONSTRUCTION of 250,000 units of war housing over the next year is what NH Administrator Blandford last month told the Lanham Committee would be needed, using an NHA chart similar to the one above. Temporary and demountable construction would account for 64% of the proposed new building, only 36% would be permanent. Already provided for the nation’s war workers are some 3 million housing units. NHA’s proposal would up the total war housing figure to almost 4 million units, with new construction accounting for 1½ million, use of existing structures for more than 2 million.

“It is the kind of challenge that Ben Franklin’s City can meet. Good neighborhood environment is not created by accident in this age. When it is present, it is the result of planning. All of the excellence in construction, in architecture, and in landscaping that we can lavish on a single city lot, or even on a single city block, can not create the livability that is now competing with the districts we must save. This illusive quality of livability is a neighborhood product. If we want to produce it in the old areas, we must rebuild them completely by neighborhoods. The neighborhood has become the real unit in city planning.

Consider the vastness of the task of rebuilding the deteriorated parts of our cities. It is not a task for government. It is the monumental kind of undertaking that the imagination, inventiveness, and daring of American business is especially equipped to do and can do with certain specific cooperation on the part of government. And by “government,” I do not mean just the Federal Government...

“But at last a program for city planning has come before us that is a practical, self-supporting, tangible program. It does not attempt to convert our cities into Gardens of Eden, with every imperfection erased. It concentrates on one obvious and grievous ailment that has attacked every big city in America and proposes a remedy that is practical, specific and attainable. Enough Government.

That remedy is not mere Government expenditures. It is the investment of private capital under conditions that will earn a profit and a return. It is the highest demonstration of the virtue of our capitalistic system that money can be shown how to render an urgent and necessary public service and at the same time earn for itself the reward of profit...

“The rebuilding of cities is not being thought of by our businessmen nor by our municipal authorities as a patchwork undertaking. It is looked to as a vital means of making major worthwhile transformations in urban structure. The rebuilding of an old neighborhood must of necessity change the character of urban land use, and in doing so it must change the value of urban land in conformity. Our normal channels of private credit are well adapted to the financing of the actual construction in rebuilding cities. They cannot, however, be expected to finance the acquisition of land for rebuilding. The Institute proposes that the Federal Government extend its credit to the cities for this type of land acquisition. It suggests the use of Federal credit over a long period of time with low interest rates so that this combination of factors—long time use of credit and low rate of interest—may be employed to absorb any discrepancy between the actual acquisition cost of land and the new value put upon it to encourage the type of rebuilding that is actually needed by the community.”

BRAZILIAN ARCHITECT TO DETROIT
Awarded a two-year Inter-American Trade Scholarship in the office of Smith, Hinchman & Grylls last month was Ibsen Pivatelli, Brazilian architect, one of 85 Latin-American technical (Continued on next page)
specialists being trained in this country through the agency of the Nelson Rockefeller Inter-American Affairs Committee.

First to win a scholarship in engineering-architectural studies, Mr. Piratelli intends to specialize in industrial architecture and postwar housing, was sent to Detroit, and to Smith, Hinchman & Grylls, because of the city's standing in the engineering field, the firm's position in industrial building in the U. S. (Forum, Dec. 42, p. 61).

PARENTS MAG SURVEY

Most surprising to hardened magazine experts is the success Parents' Magazine has had in recent years. Appealing to 2/3 of a million readers purely on the basis of their parenthood, its value as a monthly magazine lies partly in its ability to transform technically accurate information on the vagaries of children and parents into readable, enlightening prose.

Most interesting of its experiments was its foray last month into the highly conjunctural field of postwar housing. To 5,000 selected architects, builders, contractors and building material dealers its Family Home editor, sprightly, enthusiastic Maxine Livingston, sent a carefully worded questionnaire to determine what the experts expected the shape of the postwar house to be.

Sample questions and answers (a 6% return):

**Will there be more individual architect-designed houses after the war?** Or will the prospective home owner select his plans from a group of stock designs? Or make his selection after looking at model houses?

53.6% stated the prospective home owner would make his selection after looking at model houses. 45.6% indicated that plans will be selected from a group of stock designs. 33.6% said there would be more individual architect designed houses. 2.4% did not state.

**Will the operative builder become more important after the war?** Will there be fewer speculatively built houses?

59.2% stated operative builder will become more important. 24.8% stated fewer speculatively built houses. 0.4% stated it will remain the same. 12.0% did not state.

**Will prefabrication, as a result of the large number of prefabricated houses presently being built by the government, be generally accepted by prospective home builders?**

68.8% indicated prefabrication will not be accepted by prospective home owners. 25.6% indicated prefabrication will be accepted by prospective home owners. 5.6% did not state.

**Not Permanent**

The two predominating replies given as the reasons why prefabricated houses will not be generally accepted are:

- Lack of individuality
- Not permanent

Do you believe that the bulk of prefabricated houses of the future will be built primarily of standardized units assembled to suit the individual's need? Why?

53.6% indicated prefabricated houses will be built of standardized units assembled to suit the individual's needs. 28.8% indicated they did not believe this would be the case. 2.4% indicated a possibility. 15.2% did not state.

The replies to this question indicate that builders, architects and contractors feel that houses will be an assembly of often repeated parts. Reasons were:

- Will satisfy individual taste
- Lower cost

Or do you believe that prefabrication will succeed only in mass housing efforts? Why?

52.9% indicated that prefabrication will succeed only in mass housing efforts. 28.0% do not believe that prefabrication will succeed only in mass housing efforts. 3.8% indicated there is a possibility that prefabrication will succeed only in mass housing efforts. 18.4% did not state. The two predominating reasons stated for the success of prefabricated mass housing efforts were:

- Economy
- Speed in construction

The magazine's purpose in the survey was partially for the use of its advertising department but primarily as an editorial guide. Its June issue begins with a story, "Will there be a dining room in the postwar house?" which utilizes answers to the questionnaire. Typical, to a certain extent, of other purely consumer publications, Parents' Magazine early saw the necessity of expert advice and opinion for any postwar thinking or planning, is quickly and effectively translating such opinion into digestible ideas for its readers.

NEWS NOTES

Relief to Little Man. The RFC Mortgage Company acted last month to make loans available at 4 per cent on real estate holdings whose earning power have been cut off by war restrictions. Object: to take care of fixed charges, including interest, taxes, special assessments, insurance and necessary maintenance. Repayment is to begin one year after the cessation of the war.

Three types of mortgage are available: RFC will aid the owner in keeping up his mortgage payments, will buy out the mortgage holders and thus become mortgagee, will issue care and preservation loans.

Beneficiaries: filling stations, resort hotels, wayside inns, etc.

Hotels Back. Back into the reluctant laps of owners last month the Army dumped recently-acquired, 3,000-room Congress Hotel (Chicago). On its own lap, it found now empty 3,000-room Stevens Hotel, recently purchased. Because the Air Force Command found that the need for the type of technician housed in these hotels has decreased, the hotels have been abandoned. The Army offered the Stevens for sale to the Statler people (it had been purchased for $6 millions), was coldly rebuffed.

Major tragedy of the situation lies in the fact that the Army disposed of all furnishings, kitchen utensils, etc., at public auction three months ago. Cost of restitution would be $2 millions, probability of replacement almost zero.

Furniture Mart Okay. The Office of Civilian Requirements of the WPB gave its approval to the Chicago Furniture Mart "because of its important place in furniture distribution." Nonessential attendance, it added, must be kept to a minimum, only actual buyers and sellers will be admitted.

NAM Against Installment Selling Postwar. For four directly patriotic and commercial reasons—it is in direct competition with the sale of war bonds, it will not result in postwar sales, it will stifle development and sales of new products after the war, it would require double selling and double expense—The National Association of Manufacturers last month "revealed" its opposition to various proposals of...
William Wilson Wurster was first introduced to Forum readers with a portfolio which appeared in the May, 1936 issue. By that time he had already built up a successful practice consisting mainly of residences. Since then his crisp, bold, but always unaffected buildings have become internationally known, and Wurster himself has been generally recognized as the founder of a school of regional architecture which is easily the best the contemporary movement in this country has produced to date.

The background of Wurster's career is plain, solid, unglamorous. After his technical studies at the University of California, he worked in offices in San Francisco and New York, traveled in Europe and the Philippines and finally, in 1926, hung out his shingle in San Francisco. There was no big commission to encourage this step, and for years he turned out small houses—a few at first and then floods of 50 to 80 in a single year. From the beginning these houses bore that unmistakable and peculiarly personal look which has persisted even through such mass-production jobs as the big war housing project at Vallejo.

Last year Wurster made a move which was as unconventional as it was characteristic: he went back to school. He had had his share of the big war projects; he had completed over 200 houses and other types of buildings in 16 years of practice. It was time, he felt, to take time out and a look around. The office was turned
1. RANCH HOUSE

A "natural" house of wood, set casually into a valley, surrounded by green oaks and the sparse California hills.

WURSTER OFFICE STAFF SINCE 1938

LOUIS BALDIMI
FRED B. BARR
THEODORE C. BERNARDI
IRVING F. BERNSTEIN
FLOYD B. COMSTOCK
JOHN C. CUTLER
*ALFRED W. DAY
ROBERT A. DESHON
*DONN EMMONS
*FREDERICK E. EMMONS
JOHN C. FUNK
H. HAWES
E. M. HICKS
ARTHUR V. JORY
*JOSEPH L. JORNSON
ROBERT KAESNER
ARNE KARTWOLD
JOHN G. KELLEY
FREDERICK L. LANGHORST
*GEORGE LIVERMORE
FRANCIS JOSEPH McCARTHY
ADRIAN MALONE
FRANK O. MERWIN
DAVID B. MYERS
VLADIMIR OGLOU
J. PAUL OPPENHEIM
HAROLD ONSTAD
*GUYFORD PARTRIDGE
E. D. M. REMINGTON
JAN REINER
WILLIAM M. RICE
*ARTHUR L. SCHMIDT
CARLTON A. STEINER
HAROLD STUMP
*FRANK TRESEDER
*JOHN E. WAGSTAFF
*JAMES M. WEBB
JAMES D. WICKENDEN
ROBERT C. WILLIAMS
HACHITO YUASA
*—In the service.

over to his oldest associates and Wurster enrolled in Harvard to study city planning and to catch up on his reading. This modest program was soon disturbed, however, for he found some summer courses at M.I.T. to fill in the lull at Harvard, and shortly afterwards accepted a position as design critic at Yale. The habit of keeping busy is apparently hard to shake off.

It is curious that the kind of office Wurster ran—and believed in—should have produced work so consistently and intensely personal in its expression. For the office was anything but a one-man design show. The list of names at the left was put in at Wurster's request, not as a patronizing gesture to former employes, but in response to a very genuine conviction that all of these men had contributed freely and substantially to the body of work with which he is credited. The Wurster office ran as a group of teams: "For a time," he remarks, "the office was like a series of small offices, each composed of a junior and senior draftsman. Each team had several jobs. On one job the senior would do the drafting and the junior would write the specifications—then they would reverse. The same was true of supervision. Except for the very first meeting I have always tried to have one of this team, or both, present at every conference with the client. This, I found, saved time and gave a sense of reality to the team. As I have always thought of the office as a training ground, it gave a fine experience to the men when the time came for them to go on their own."

From another statement by Wurster comes further light on the development of his architecture—and, incidentally, that of the California school as a whole: "I have always realized how fortunate we were in having the push of many jobs so that no single job had to carry the burden of experimental ideas. It meant that there could be an interlacing on progressive jobs of experimental and previously tested ideas. . . . Two strong forces account for much. The first is the great group of American and European architects who opened up the field and showed the unreality of the so-called "period" work. The other is the liberal attitude towards architecture which is so strong in the San Francisco region."
“This house,” says the architect, “is located on an old road over the mountain from Salinas to the Carmel Valley. At the foot of the valley is the Carmel mission and the town. It is magnificent and rugged country and we felt that a flowing and easy house should settle against the oak trees. The owner wanted it to seem like part of the land, so the pine boards are bleached so that they are now about the color of the soil—say a warm gray. We wished to give the owner a rough room where there was a feeling of the out of doors on the first floor, since a wind sweeps up the valley in the afternoon. We didn’t want this room (the Lanai) to face west, for the low sun is too glaring. The living room is on the second floor so that it won’t serve as a passageway and, too, the owner had some formal furniture brought from the East, and this seemed too refined to have its feet touch the dirt. The house is entirely of wood—inside and out—not a raw, varnished yellow, however. Ceilings are painted a very light green. The bathroom, too, is of wood, and is certainly what I should like to do in my own house. The great trick on these hillside houses is to get them low enough so they seem at ease and not just toppling.”
2. DORMITORY

An effective, economical design vocabulary developed in residential practice proves its worth in a larger structure.

During the boom following the last war, eclecticism reached its lowest point in the design of university buildings. In the name of the Gothic Style—which somehow acquired an almost mystic connection with higher education—lecture halls, libraries, auditoriums, swimming pools and even indoor tennis courts were poured into a stereotyped mold intended to resemble as closely as possible a medieval church. Because of some slight misgivings regarding the suitability of narrow slit windows for bedrooms in a new dormitory, Yale University asked a learned medical authority to submit a report proving that the health of the students living in the building would not be adversely affected. At the same institution, when it was decided to switch from the Gothic to the Colonial style, one building was even divided down the middle, into “Gothic” and “Colonial” sections, in order to effect the transition.

Fortunately for all concerned, this type of college building came to a standstill with the collapse of the stock market in 1929. Recently, while much of the dribble of university work which has been done has remained bound by the grandiose campus schemes of the Twenties, a substantial proportion has evidenced a clean break with the past.

A particularly commendable example of the latter trend, this girls’ dormitory for the University of California eschews all stylistic approaches, including the International. Instead, it is predicated on a frank recognition of its residential function, and looks most of all like what it is: a residence and social hall for 90 university students, built in reinforced concrete in a grove of eucalyptus trees. Aside from the cantilevered balconies at the ends of the projecting wings, its principal design feature is the open-sided stair tower shown in drawings and photographs at the top of the page, a detail which Wurster has used on a smaller scale in many of his houses.

Miss Isabella Worn and John Gregg, Landscape Architects, Frances Elkins, Interior Decorator, A. V. Saph, Jr., Structural Engineer, G. M. Simonson, Heating Engineer, K. E. Parker Co., General Contractors.
THE U-SHAPED BEDROOM SECTION. THEY ARE ACCESSIBLE TO ROOMS THROUGH CENTRAL CORRIDORS ON EACH FLOOR.
2. DORMITORY

Divided into distinct public and private sections by a stair-hall link, the plan benefits functionally and structurally.

With an abundance of land available, the designer chose to develop the plan in two virtually separate buildings: a social hall and bedroom unit. This not only results in increased privacy, it has the further advantage that column spacing and building depth have been adapted to the requirements of both functions. The social hall section contains living and dining rooms, extensive kitchen facilities, a game room and administrative offices. Built against a steep slope, it is entered on the second floor from the uphill side. Main rooms are on this level and the floor below, and are connected by a curving stairway. The bedroom section, which is U-shaped, is comprised almost entirely of single and double bed-sitting rooms, the usual baths, toilets and a laundry.

The building was a gift to the University from Mrs. Sigmund Stern of San Francisco.


INSULATION — 1 in. rockwool, Plant Rubber & Asbestos Co. FLASHING—soft copper and lead. GUTTERS—hard copper. WINDOWS—double strength, quality B, crystal, wire and plate glass, obscure Factrolite, Mississippi Glass Co. FLOOR COVERINGS—linoleum, tile and carpets. WALL COVERINGS (bedrooms, halls, etc.) — stucco, California Stucco Co. Remainsder plaster, concrete and Douglas fir plywood.

THREE FLOORS ABOVE LEVEL AT FRONT OF WINGS

TYPICAL BEDROOMS FEATURE LARGE, LOW-SILLED WINDOWS

LIVING ROOM OPENS ON GRADE AT BACK, ON BALCONY AT FRONT

DINING ROOM, BELOW LIVING ROOM, FACES PORCH TO THE SOUTH
3. TOWN HOUSE

On a small San Francisco lot Wurster combines the freedom of country life with advantages of city convenience.

Based on a principle similar to that of the Fairchild House (ARCH. FORUM, April '43) this town dwelling was cut in two to expose a greater window area and to create a private, country-like outdoor space in the middle. The arrangement of the indoor space resulted from needs peculiar to the San Francisco area. Cross ventilation is never desirable—in fact it would be a defect in a San Francisco house. Even the garden is sheltered from the prevailing west wind.

The best view is toward the north over a permanent easement upon which nothing can be built. Thus, while the living room overlooks the view, a solarium and open deck to the south take advantage of the sun.

Control is obviously an important problem in a plan of this type. There is a telephone at the street entrance which can be answered on any of the three floors of the house, and the front door, in turn, can be released at any one of those points. Once admitted, guests can circulate freely, and reach the living floor without encountering further obstacles.

The space over the garage is used, at present, as a playroom by the owners' children. It will finally be converted into a guest apartment.

Thomas D. Church, Landscape Archt., A. V. Saph, Jr., Structural Engineer, F. S. Marshall, Contractor.

OP FLOOR LIVING AREA LOOKS OVER HILL TO BEST VIEW DINING ROOM AS SEEN FROM BOTTOM OF MAIN STAIR

PEN DECK EXTENDS LIVING AREA

OUTH: A BLAND FUNCTIONAL FRONT

VIEW OF GARDEN WITH DINING ROOM BEYOND, OPEN DECK ON TOP FLOOR

JULY 1943
4. WAR HOUSING

The application of simple domestic building technique has produced some of the best U. S. war housing to date.

When, in 1941, the FWA assigned Wurster a project of 1,692 dwellings at Vallejo, Calif., he was permitted to construct 25 experimental units as part of the whole group. Sole restrictions: unit cost not to exceed $2,845 and adherence to Government "Standards for Defense Housing."

The problem was made more difficult by the fact that the economy resulting from mass production would not make itself felt in a group of 25 units, particularly since the architect decided to design three distinct types. They were called (1) "Skeleton Frame" units, (2) "Masonry Wall" units, and (3) "Frame Bent" units.

Architect Wurster intended to prove that, at similar cost, a type of dwelling unit highly superior to the run-of-the-mill design could be created. This contention was completely vindicated. The experimental units averaged $2,845, included underpinning, stops, railings, more glass, curtains throughout, and fenced-in drying yards; so that, actually, they proved to be considerably cheaper than the standard houses. This although they were constructed six months later and lacked advantages of mass production.

Roofs can be put up in prefabricated sections before walls have been erected, since they are supported in each case by structural posts and beams, rather than weight-bearing wall sections. This means protection for the interior against weather, which has frequently played havoc with prefabricated structures during erection. The peculiarities of each dwelling type are explained in the diagrams.

Thomas D. Church, Landscape Archt., A. V. Saph, Jr., Engineer, Charles Stockholm & Sons, Leibert & Trobock, Robertson & Mullen, Contractors.

2. A SIMPLE SHELL WITH FLEXIBLE PLAN. 3. A NEW RIGID FRAME, WITH COLUMNS AND ROOF TRUSSES INTEGRAL

AT EQUAL COST WURSTER USED MORE GLASS, CURTAINS THROUGHOUT. NOTE MASONRY UNITS IN THE DISTANCE

LIVING ROOMS IN 2-STORY DWELLINGS INCLUDE KITCHENS. WALLS OF PLYWOOD. DOORS FROM FLOOR TO CEILING.
5. SUBURBAN HOUSE

A two-level scheme illustrating one of Wurster's strongest points: his ability to make modern acceptable to laymen.

A notable feature of the first Wurster portfolio, published in May, 1936, was the way this designer manages to apply a contemporary approach to seemingly conventional houses. As he said at that time, "I have never believed in proselytizing, so feel that I have no mission to put over any given expression on any client. I like to work on direct, honest solutions, avoiding exotic materials, using indigenous things so that there is no affectation and the best is obtained for the money..."

In the seven years since this statement was made, more and more clients have come to accept radical design, a fact which is accurately mirrored in Wurster's work, and therefore in this portfolio. A goodly number, however, still prefer houses whose modernity is played down, rather than up. And, as this house demonstrates, the Wurster office is still able to satisfy both types, and do so without sacrificing good design. The plan is open, and exceedingly well lit. Both sides of the living area are almost all glass. The building is boldly adapted to its site. Materials and construction are straightforward and adroitly handled. And yet, despite all these things, the total effect is one of quiet, almost "conventional" restraint.

Designed for a family with two grown daughters, the plan provides future bedrooms for their use when home on visits. An unusual feature is the use of panel heating coils in the outside terrace, to warm this space in the late afternoon when the house shades it from the sun.


AND DINING ROOMS, ON SECOND FLOOR OVERLOOK THE HIGH-LEVEL FLOWER GARDEN AT THE REAR OF THE PLOT

BALCONY, AT OPPOSITE SIDE OF LIVING ROOM, FACES STREET. TERRACE SERVES PLAY ROOM
6. SKI LODGE

Designed for serious sportsmen rather than the tourist trade: Wurster calls it a "frame for the life of skiing."

The finest thing about this ski lodge is its site, the way the building has been fitted to it, and the kind of life expressed in the plan. Located at the bottom of the slope, this lodge was conditioned almost entirely by very practical requirements. Snowfall at times reaches 30 ft. in depth, so that the structure was bound to be heavy and sturdy. By the same token the first floor is well above the grade, and the sloping roof is steep enough to allow snow loads to slide off—past balconies, which are protected by a deep roof overhang. On the other side the roof opens up the building toward the view and the sun, and all the private rooms are located along that side. The terrace on the front has been dropped below the lounge level to allow people inside to look out over the heads of those outside.

Additions in a lateral direction were provided for (not shown in the plans) and executed later (see cut above). The dormitories in the rear of the building (see section) take up a greater height to comply with the State housing laws. Despite the rugged appearance of the building, extensive service facilities, bathrooms, etc., tone down the somewhat Spartan concept implied in the exterior. The latter is left in natural wood bleached by the sun and snow.

IN ITS ORIGINAL FORM THE MAIN BLOCK OF THE SKI LODGE WAS SYMMETRICAL ABOUT THE BRICK CHIMNEY STACK

STRUCTURE WAS MADE RUGGED ENOUGH TO WITHSTAND SEVERE WEATHER

SNOW PILES UP TO TERRACE LEVEL

ALL INTERIORS ARE UNPRETENTIOUS

Photos: Rondal Partridge
This country office building contains implications of planning, amenities and of scale that are truly contemporary.

The Schuckl Canning Company of San Francisco had had their plant at Sunnyvale in the Santa Clara Valley for some time, when they decided to build an office building close to the cannery. It was in the early days of priorities when wood was not a strategic material, and Wurster decided to use it for the new structure. Since, however, low insurance rates for fire damage demanded a degree of safety comparable to that which concrete affords, all floors were built of a type of mill construction with solid joists. The building expresses this beautifully: Wall sections or glazed units are hung on the structural frame of floors and columns to form little more than a screen. The floors are furred below for heating ducts and above for electric conduits. This has resulted in a building as soundproof as any concrete structure.

The space was organized in close collaboration with the company’s executives. This assured a truly functional plan. All of the local operation was placed on the first floor, and all the executive work, shifted from San Francisco, was placed on the second floor. On the third floor is the cafeteria, kitchen and women’s rest room. There is also an outdoor deck for the use of the employees. The eating facilities were needed since the building is out of reach of a normal community. In the future it is hoped to design a cafeteria for the cannery workers and a nursery school for their children just across the street. Problems of this nature are often overlooked in such a move, and in providing an answer the architect proved to be equal to the planning and decentralization implied even in the relocation of this relatively small unit.

These same implications became apparent in the organization of the street level. Half the building is completely open at that level, thus furnishing parking space for the executives under the building proper. This way they go dry-shod directly to their offices on the second floor.

The exterior of the building was stained a dark brown, and the wood awnings, which protect the...
THE GENERAL OFFICE IS AN ORDERLY, WELL-LIT AREA

SET-UP FOR TESTING PRODUCTS

SOUTHERN END CONTAINS STAIR AND INDIVIDUAL OFFICES
7. OFFICE BUILDING

The design displays a great measure of unity obtained only through close integration of plan and structure.

Working space from the sun in summer, were painted a coral color. The interior boarding is all of redwood treated with a lacquer finish so that the wood will retain its natural color. The ceilings are covered with acoustic tile, which provides insulation against noise, and maintains the generally restful atmosphere created by the building's rural location. The main stairway, shown in the photograph to the right, has oak treads and Douglas fir stringers. It constitutes the only decorative feature of the interior. Outside, it is the vigorous projecting sunshades of wood which provide richness of texture and give the structure its characteristic appearance.

One of the most interesting points in the design of this building was the relationship between architect and client. The entire operation was conducted on a basis of architect's costs plus a profit, rather than a percentage. This was particularly appropriate since the company did their own contracting for the job, and so the fee, very properly, had no relationship to what it cost them to put up the building. Wurster calls this one of his happiest experiences in cooperating with an industrial concern.

Thomas D. Church, Landscape Architect, A. V. Saph, Jr., Structural Engineer, Aladdin Heating Corp., Heating Engineers.

ALMOST 250 FT. OF HORIZONTALITY PRODUCED DRAMATIC DESIGN

AND EMPLOYEES' ENTRANCE IN FOREGROUND

THE MAIN STAIR: A FINE DETAILING JOB USING STOCK MATERIALS

JULY 1943
8. BEACH HOUSE

A frame structure designed to fit a dramatic location, satisfies unusual climatic conditions and special needs.

The climate in Carmel, where this beach house was built, is conditioned by a prevailing cool wind off the ocean, which tends to make outdoor living and eating impracticable. The entire concept of this structure was based on that fact. Mr. Wurster planned the house to serve as a windshield for the "sun-trap" courtyard on the land side. Other considerations were the special needs of the owner, which are reflected in the plan. This is essentially a house designed for hospitality.

The living area was placed on the second floor to give it privacy from the road along the beach to the west. Existing grade conditions were skillfully used to achieve these ends.

The color scheme of the building was carefully considered. The vertical wood siding of the second floor, reminiscent of Pennsylvania buildings, was stained a rich red. The first floor walls are the green of ice plant, which grows around the house.

A noteworthy feature is the incorporation of a two-car garage, elongated rather than square in shape. This cut down unnecessary frontage and eliminated a second door, which usually produces an element out of scale with a small structure. The cars can not be left out of doors in this climate, since the salt spray from the water would affect the metal. By this token all the flashing on the house is of copper.

Miles Bain, Contractor.

CONSTRUCTION OUTLINE:

The living room overlooks the ocean without loss of privacy.

Simple detailing produced fine interior spaces.

Eye-level windows below give view of ocean.

The "Sun-Trap" courtyard can be used for outdoor eating, sheltered from public road and wind.
BUILT-UP ROOFING OVER WOOD SHEATHING TAR AND GRAVEL SURFACE

METAL GRAVEL STOP

LINE OF BATTENS WHERE WOOD EXTERIOR OCCURS METAL FLASHING

FIXED SASH Drip

TOP OF BOOKSHELVES FLUSH WITH SILL

BOOKSHELVES VERTICAL REDWOOD BOARDS WITH BATTENS OVER SHEATHING

METAL FLASH DRIP SLIDING SCREEN \( \frac{3}{8} \) HALF ROUND

FURNITURE GLIDE HARDWOOD TRACK BORE HOLES FOR DRAINAGE

BRASS TRACK TYPICAL TRIM

HEAD

SILL

SLIDING WINDOW & SCREEN

OAK FLOOR SUB-FLOOR

2'10" JOISTS 4'-25" CANTILEVER

ROUGH REDWOOD BOARDS STUCCO OVER WOOD SHEATH PLASTER

SECTION THROUGH WEST WALL

SCALE IN INCHES 0 3 6 9 12

INTERIOR DOOR DOUBLE HUNG WINDOW CASEMENT WINDOW
SPOTLIGHT ON FHA

Only 22 out of 600 leaders polled by The Architectural Forum seek elimination of FHA. But many want it revitalized, ridded of politics, staffed with more efficient and better paid personnel, and streamlined to speed up sluggish service.

Under the impact of war and the shifting economic tides, prized institutions get knocked about, come through the wringer of time, if at all, somewhat changed in form. Periodically The Architectural Forum has paused to take soundings, reappraise the institutions that have vitally affected Building.

In line with this policy, its editors turned the spotlight on FHA in a survey of Building leaders. By no stretch of the imagination can the bankers, dealers, manufacturers, life insurance executives and building and loan officials who were surveyed be considered pro-Administration. Nevertheless, only a handful of the 600 wanted to see FHA, "the brightest jewel in F.D.R.'s crown," disbanded. The general feeling was that it had done a good job in stimulating home construction. The vast majority endorsed its continuance. However, FHA did not come through unscathed.

FHA's record

FHA was nine years old on June 27. To gain a better understanding of what its future is likely to be, examine the times in which it was born and its record to date.

The building industry looks back at 1933 without nostalgia. It was a year of unending hangovers following the inflationary binge of the '20s. Home building was at a standstill. Capital, in panic, had withdrawn from the mortgage market. Then in 1934 the Government bolstered a collapsing economy with a series of acts providing for the sharing of the risks of credit with private capital through loans, guarantees and insurance but with regulations to protect the public interest.

One of these acts created the Federal Housing Administration which proved of great aid in restoring the confidence of private capital in the housing market. Since its formation, more than five million four hundred thousand Americans built, bought or improved their homes through FHA.

To carry out this program, over $6,800,000,000 was advanced by private lending institutions. Here is the best proof of the benefits of this legislation to home buyers, home builders and home financiers.

Through it, persons of small means were able to acquire reasonable, fairly well-built homes, many in planned subdivisions, without the expense and risk of a second mortgage. By making available a steady flow of building funds, it revitalized a badly crippled industry. Higher minimum building standards were established which afforded a measure of protection to the honest builder against the unfair practices of the jerry-builder. Its contributions to mortgage banking were scientific appraisals, the invaluable long-term amortized loans and improved construction and inspection standards.

Through the war housing insurance amendments of the National Housing Act which permitted 90% loans direct to builders and relaxed the 10% owner-equity requirement, FHA has greatly aided the war effort and at the same time permitted some private builders to keep going. In the three years since the start of the European war to the end of 1942, FHA has signed commitments to private builders to insure over two billion dollars' worth of mortgages on new homes in war areas and over $650,000,000 worth of repairs.

Its insurance record is impressive. As of April 30, over a million loans insured under Title 203, designed for peacetime operations, were on FHA's books. Three thousand seven hundred and seventy-six properties taken over have been sold. Only 167 properties (Title 203) transferred to FHA are still owned by it.

Its Title 6 insurance record is still untested. Commissioner Ferguson recently declared that the deposits in the war housing insurance funds (almost 5 million at the year's end) plus the anticipated renewal premiums and interest on investments will be sufficient to cover all future expenses and losses should 17.2% of the insured cases be foreclosed. How well these insurance funds will hold up under a severe depression is anybody's guess.

FHA in partial eclipse

Naturally, during wartime, as more of the war housing turned from private channels to temporary, publicly financed structures, FHA has fallen into partial eclipse. In the WPB-NHA-FHA priority battle, FHA caught most of the inventive thrust by builders, got through to the last round somewhat battered, but on its feet. A result, some of the goodwill built up over the last nine years has been dissipated. It has got into a hopeless muddle innumerable times trying to enforce rules that changed daily. Key officials have been removed from its ranks. Rumor persists that disunity exists within its own organization, with rival factions jockeying for control.

The fate of FHA is a matter of concern to the building industry. All the predictions of a million houses a year following victory, all the estimates of vast impounded demand and accumulated savings, and all the prophesies of the important role of the industry in sustaining full employment will be just tall talk if a steady flow of mortgage funds is not kept up in the postwar period.

The survey

The questionnaire sought the views of a cross-section of Building on possible changes in the working policies that would make FHA a more effective instrument. A by-product of the poll, the many thoughtful reforms suggested, proved of greater interest than the yes-and-no responses.

The questionnaire was sent to members of the National Association of Home Builders, members of The Mortgage Bankers Association of America, presidents and mortgage loan managers of leading life insurance companies and to selected lists of bankers, realtors, saving and loan executives, lumber dealers and building material and equipment manufacturers.

While the poll revealed that FHA is widely regarded as the best of the New Deal agencies, the expressions of praise were tempered with sharp and widespread criticism. Many were careful to state that their critical comments applied to the prewar period as well as to the period after NHA came into power. The most often repeated charges: too much politics, too much red tape, and too little authority in the local offices. A major gripe was the delay in processing applications even before WPB and NHA helped to jam the works. Thirty to sixty days processing time, especially in areas without local FHA offices, has not been unusual. The classic case is that of a hapless eastern builder who applied for loans in March 1942 and was finally permitted to start construction a year and three months later.

Other criticisms: evaluations always
lag behind building costs; quality con-
struction is not sufficiently encouraged;
new subdivision development has been
discouraged because the elaborate re-
quirements of the land-planning divi-
sion have not been taken into account
in final land valuations; local officials
adhere too rigidly to regulations is-
sued by national officers unfamiliar
with local conditions. Repeated many
times: the charge that FHA officials
have been permitted to maintain out-
side business connections. Equally
common was the complaint that many
of the inspectors are inexperienced
amateurs intoxicated with their sense
of power over builders.

The responses to specific questions
on policy naturally reflected economic
interests and political philosophies.
The builders, realtors, dealers and
manufacturers are in favor of measures
that would stimulate new home con-
struction, such as a continuance of an
accumulative 10 per cent down pay-
ment, low interest rates, 25-year mort-
gages, insurance of commercial build-
ings and farms. The lending institu-
tions are concerned chiefly with setting
up brakes that would prevent repeti-
tion of the depression that followed
the unbridled building in the '20s. They favor 15-
to 20-year loans, larger
down payments, higher interest rates
and reserves for maintenance. They op-
pose the insurance of community and
commercial structures and farms on the
ground that these building types are
adequately taken care of with private
funds.

Views on government control
A cross-cutting factor in the re-
sponses of each group was the individ-
al's attitude toward the control Gov-
ernment should exercise over the in-
dustry. One group, small in number,
sees in FHA "another instrument of
an Administration intent on forcing the
people into a static collectivism." It
views FHA along with other Govern-
ment agencies as dispensers of harm-
ful pap: "Like Faust, once you partake
of FHA insurance, you are no longer in
control of your own business. Govern-
ment becomes a crutch you will be un-
able to throw away. You will not bank
on your own judgment to take loan
risks. The Government saps your in-
dependence. You will be no better than
one of Hitler's Herrenvolk." Another
group, also small in number, is con-
vinced that strong police methods are
necessary. Its viewpoint is expressed
by a builder who, back in the Coolidge
era, sold lots at free barbecues. He is
convincing that FHA should employ a
"straitjacket set of rules to keep the
rugged individuals from subdividing all
the farms in the country, fouling the
landscape with 'hests in the West' and
safeguarding the public from exploi-
tation . . . .

The largest group is of the opinion
that "FHA has made Christians out of
many builders." Its members want
FHA retained postwar as a standard-
maker and as a carefully restricted
police force in the home financing and
home building fields, its use however,
always to be voluntary. They feel that
"as long as FHA is in existence, private
lending interests will not depart from
the standards established." However,
they are anxious to see private lending
institutions strong and active, so that
FHA will not get too powerful and
dictatorial.

While this group realizes that "the
best governed is the least governed"
it feels that the building industry has
become endowed with a social trust
and must be regulated in the interests
of society. However, very few are con-
vincing that the alternative to an all-
powerful State, policing and underwrit-
ing the industry, is necessarily anarchy.
They feel that they can regulate their
own show with a minimum of Govern-
mental control, give the public a break
and still maintain a large and con-
tinuous construction market.

Many felt that Government competi-
tion through subsidized housing has to
stop.

Mortgage raiding
The survey revealed widespread
raiding of FHA mortgage portfolios by
rival lending institutions. In many in-
stances the originating mortgagee had
gone to considerable expense and time
developing loans. Often loans had
been purchased from originating mort-
gagees at substantial premiums. The
protesting lending institutions feel that
they are helpless to stop this parasitic
practice. They are of the opinion that
FHA could stop the raiding by a
strict interpretation of the refinanc-
ing certificate.

The unofficial FHA view is that there
is nothing they can do to stop this
practice. They do not feel it would be
proper for them to insist on the pre-
vious lender's consent. They contend
that it would be unfair to the bor-
rower who has an opportunity to im-
prove his position and would also come
close to being an agreement in re-
straint of trade, an evasion of the
Sherman Act. FHA is of the opinion
that it is up to the mortgage bankers
to do a job of self-policing. The lend-
ing institutions on the other hand are
afraid of joint action for the same rea-
son; fear of violating the Sherman
Act. Unless raiding is stopped, the
building money group insists that the
effect will be to drive lending institu-
tions out of the home mortgage mar-
ket. If rates are forced any lower,
they contend they would be better off
buying U. S. Government bonds.

Lending institutions also protest the
prevailing practice of paying pre-
miums and rebates to contractors, sub-
dividers and material dealers. In their
opinion FHA should limit by regula-
tion or legislation payment of premi-
ums for new mortgage business to
approved mortgagees actually negoti-
atng mortgages for sale to permanent
investors. Semi official FHA view is
about the same in respect to premiums
and rebates. It feels that such prac-
tices are unsound but takes the posi-
tion that it is a matter for the lenders
to settle.

Many builders and lenders are wor-
ried about FHA's recent attempts to
control inflation by reducing valuations
in the face of rising material and labor
costs. Builders contend that, unless
these costs are also pared, they will
have to fold up. Mortgage bankers say
that because of these arbitrary valua-
tion cuts, local savings and loan asso-
ciations have been able to make higher
loans than FHA will insure.

Private mutual insurance?
 Mentioned repeatedly in the survey
is the hope that lending institutions
will form a federation to administer
privately a mutual mortgage fund.
Concern is expressed that unless a com-
petitive system is established, FHA,
subject as it is to political influence,
may prove a tyrannical force in the
future. According to one builder, "some underwriter may decide he does
not like the color of a builder's hair or
his political philosophy. By cutting
down loan commitments, he can force
the builder out of business. Theoretic-
ally the builder can get funds from
savings and loan associations or insur-
ce companies, but unfortunately FHA
has oversold the public on the ten per
cent downpayment and on building and
loan standards that are high only in
print. It is actually the price arbiter." Some of the lenders feel that FHA is
also in a position to arbitrarily force
interest rates down. Its chief concern,
they believe, is to be politically suc-
cessful and to demonstrate its concern
for the "masses."

Many of those in favor of a private
insurance fund express doubt that such
a plan can be successfully worked out.
Two problems present themselves.

With mortgage competition keen as it
is, the task of enlisting the support not
only of rival insurance companies, but
of banks, saving and loan associations
and other important mortgage loan fac-
tors would be very difficult. The other
is that such an association might be ac-
cused of being a monopoly in restraint of
trade by an unfriendly Administra-
tion intent on conducting a witch hunt.
1. Do you feel that the present accumulative 10 per cent down payment provision should be continued after the war?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builders and realtors</td>
<td>135</td>
<td>22</td>
</tr>
<tr>
<td>Building money groups</td>
<td>146</td>
<td>73</td>
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<tr>
<td>Dealers and manufacturers</td>
<td>132</td>
<td>95</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>413</td>
<td>191</td>
</tr>
</tbody>
</table>

**COMMENTS:**

**Builders and Realtors**

"Low down payments have never been an important contributory factor of default in any price class. There is a tremendous volume of unclassified data on homes purchased by contract of deed with reasonable success. Usually down payments were nominal. The practice has been widespread in the country long before FHA came into existence."

"I am in favor of a schedule of down payments graduated according to valuation and income."

"Only for World War II veterans."

**Building Money Groups**

"On a rising market 10 per cent or even 5 per cent is adequate and as long as the market rises the purchase contract will always be safe. However, on a falling market, it is conceivable that a 50 per cent down payment may not be a sufficient margin of security."

"In defense areas the short down payment places a tremendous burden on local financial institutions. Some houses have changed hands as much as three times in six months."

"The smaller the down payment the more foreclosures occur, the worse the market becomes. Why should the U.S. Government, which is of course you and I and all the rest of us, bolster up the lazy and incompetent. There are very few men who, if they are determined enough to own their own homes, can’t accumulate enough for a safe and reasonable down payment."

**Dealers and Manufacturers**

"In the TNEC report on housing Mr. Peter Stone had this to say: ‘A 90 per cent loan may be just as safe from an insurance point of view as a 75 per cent loan carrying a higher interest rate.’"
4. Should the maximum period of insurance remain at 25 years—20 years—15 years?

<table>
<thead>
<tr>
<th></th>
<th>Building money groups</th>
<th>Dealers and manufacturers</th>
<th>Builders and Realtors</th>
</tr>
</thead>
<tbody>
<tr>
<td>yrs. yrs. yrs. yrs.</td>
<td>128 25 6</td>
<td>96 107 32</td>
<td>277 179 78</td>
</tr>
</tbody>
</table>

5. Should an additional reserve be required for exterior maintenance of homes and for subdivision upkeep?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builders and Realtors</td>
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<tr>
<td>Building money groups</td>
<td>160</td>
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</tr>
<tr>
<td>Dealers and manufacturers</td>
<td>82</td>
<td>44</td>
</tr>
</tbody>
</table>

**Building Money Groups**

"It will probably not matter whether a loan provides for maturity in 20 to 25 years because it will most likely be refinanced before that time anyway. However it is to be considered whether the preference given to new construction by insuring 90 per cent loans running for 25 years as against 80 per cent loans running for twenty years on existing construction, does not tend to accelerate the blight of our cities. Whatever the length of time decided on, there ought not to be any discrimination against existing construction."

6. Should there be included under government mutual mortgage insurance a setup to apply to farm mortgages, and should this be included under FHA?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builders and Realtors</td>
<td>92</td>
<td>46</td>
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<tr>
<td>Building money groups</td>
<td>121</td>
<td>188</td>
</tr>
<tr>
<td>Dealers and manufacturers</td>
<td>65</td>
<td>62</td>
</tr>
</tbody>
</table>

**Building Money Groups**

"I believe the idea originated in the Farm Loan committee of the Mortgage Bankers Association of America. It is the opinion of our committee that the plan is workable under certain restrictions. "There are certain elements of risk in a farm mortgage, which are not present in a residence or home mortgage, because a farm is a business enterprise and there is a certain risk inherent in its ownership. Therefore, the amount of insurance premium is difficult to determine and may have to be gaged by other factors than those which entered into the setting-up of FHA."

"It is evident, however, that the extent to which appraisals can be standardized under a mutual mortgage insurance program, supervised by a Government agency, will have a substantial effect on the reentry of private capital on a large scale and will open up lending areas not now available because of high loan acquisition cost. The farmer is entitled to a supplemental system of low farm mortgage credit which is generally applicable, flexible in its provisions and administered through responsible originating mortgagees."

"Very quickly we must develop a plan dependent upon monthly FHA payments. Farmers would be unable to comply."

(Continued on page 112)
MODULAR SHELTER — a proposed new system of prefabrication which permits a wide variety of expansible plans. Designed by Bernd Wagner

A big objection to prefabrication, voiced by professionals and laymen alike, is that it results in stereotyped houses, which cannot be varied to suit individual tastes and needs, and are likely to look monotonous if grouped together on regular suburban lots. One answer to this argument is that construction systems based on 4 by 8 ft. panel units are capable of producing an almost infinite variety of plans, and furthermore, houses which can be easily enlarged to meet changing family needs. Despite the seeming soundness of this contention, the fact is that few, if any, prefabricated houses have ever been built on such a basis. There are various reasons for this, some technical, some matters of merchandising, but one of the principal reasons is that few systems have been fully worked out to provide the needed flexibility. To this rule, the construction method shown above is one of the few, and better exceptions.

Distinguished by the unusual 12 by 12 ft. framing unit which is the basis of the structure, it is also unique in that a wide variety of excellent expansible plans, based on the structural unit, have actually been developed to show its potentialities.
FOUR ROOMS—5 UNITS & PORCH

Plans at left show how one of the four possible arrangements of a two-room minimal living unit (A. 1) can be expanded to provide an additional bedroom (A. 2), a larger living room (A. 3), and two additional bedrooms, a larger living room and a porch (A. 4). Since wall units can be removed from the frame intact, complete with windows and doors, they can be interchanged and moved about at will. Prefabricated closets are also easily shifted to meet new plan requirements.

SECOND PLAN SERIES

Second plan series (left) shows a somewhat different arrangement (B. 1) of the basic minimal unit in which the kitchen faces the living room. With appropriate additions, this becomes a minimal two-bedroom plan, either T-shaped, as in B. 2, or in the shape of a bar, B. 3. With four room-units and three porches added, a luxurious three-bedroom house is produced, B. 4. In all cases, as indicated by the trees, position of the section containing the utility unit is unchanged.

Third series of plans (left) is based on a minimal 2-unit scheme (C. 1) exactly similar to A. 1, but reversed. With the addition of three room-units and a porch, which might be added in several stages, this becomes a compact, rectangular, two-bedroom house (C. 2), with the living room enlarged to take care of the needs of a growing family. The third scheme (B. 3) shows the same number of units arranged so that the porch opens off the living room rather than the side of the kitchen.

Photos of model (left and right) show still another plan variant: a three-room, 4-unit arrangement with an extra large living room. Permanent awnings over windows are standardized, prefabricated panels. Only six types are required to fit any plan condition. The house shown could be converted into any of the plan arrangements above, and a number of others, with virtually 100 per cent salvage of materials. It can be built from standard dimension lumber in a small woodworking shop, using any of the exterior and interior materials available for frame construction.

A study of the plans at the left will show that the basic 12 by 12 ft. structural unit used in the Shelter system results in considerably more freedom of design than is possible in ordinary frame construction. Loads are carried vertically on uniformly-spaced, 4 by 4 in. columns, permitting great latitude in fenestration and rooms of almost any shape. This construction, similar in principle to steel skyscraper framing, permits one or more sides of each structural unit to be left completely open, so that two or more units can be used to form large rooms. (Not shown in any of the plans, but perfectly possible, are 24 by 24 ft. rooms with a single column at the center.) Wall panel assemblies fit between the structural posts, filling the entire opening. This is accomplished with identical framing units throughout, a single, uniform floor panel always spanning the same distance, and complete interchangeability of all finish and structural parts. Porches are formed from a combination of special storage units supporting regular roof girders and panels. Standardized, factory-fabricated kitchen and bathroom units, together with uniform, factory-fitted closets are used in all of the plans, shown on the following page.
The idea of a prefabricated mechanical core and prefabricated closets is not new, but in the Shelter system it has been developed unusually well. The plumbing unit, designed by W. Brooks Cavin, Jr., comprises all of the usual kitchen and bathroom equipment, and in addition includes the house heater, hot water storage tank and an automatic laundry machine. Installed at right angles to one of the sides of the typical 12 by 12 ft. framing units, it divides about two-thirds of the space into an ordinary sized bathroom and a fairly generous strip kitchen. By facing the kitchen side of the unit towards the living room, as in some of the plans on the preceding page, the five foot space in front of the fixtures becomes a part of the living room area. Closet units, which are fitted with shelves and cabinets, are used in the plans in the manner of free-standing wardrobes, and thus may be moved at any time without affecting the structure or necessitating rehanging of doors.

Mechanical core (right) is designed to be manufactured as a unit including all of the equipment for the house. For shipment, the bathtub folds up into a recess in the wall, reducing the size of the assembly to a compact rectangular prism 3 ft. 10 in. by 8 by 8 ft. Closet units (below) could be manufactured in quantity and shipped to the job completely setup and fitted with hardware. Four types are included for use in bedrooms, living rooms and bed-living rooms.
A PROGRAM FOR CITY RECONSTRUCTION

by WALTER GROPIUS AND MARTIN WAGNER

Suggestions for an approach towards city rehabilitation, illustrated with an example of how city reconstruction may be started from housing. The work shown was produced by advanced students in the Harvard University Departments of Architecture and Landscape Architecture.

The Graduate School of Design, Harvard University, under its dean, Joseph Hudnut, has encouraged advanced students during the last two years to cooperate in groups on actual town planning schemes combined with housing problems.* The authors of this article—one an architect, the other a city planner—wrote the program, the substance of which is here submitted to the reader. The practical planning example illustrated on the following pages was designed in all its parts by the students guided by that program. In order to give such a program the weight of reality the approach was made in a way similar to that which might have been obtained in practice.

The present plight of our cities concerns every citizen, and remedies should be discussed more and more in public. For planning is a collective task; the degree of improvement of our future cities will depend as much on the understanding of these problems by the average man who votes and participates in the activities of his community as on the experts.

THE SCOPE OF CITY RECONSTRUCTION

The rapid increase in our means of locomotion and the readjustment of the old coefficient of time as the factor of distance has begun to break down the frontiers between town and country. Modern men and women require contrast both as recreation and stimulus. The nostalgia of the town dweller for the country and of the country man for the town is the expression of a deep-rooted and growing desire that clamors for satisfaction. Technical developments are transplanting urban civilization into the countryside and reacclimatizing nature in the heart of the city. For more than a generation people have vigorously remonstrated against congestion, demanding more spacious and greener cities. Its corollary is the loosening of the city's tightly woven tissue of streets by properly coordinated transport services. We expect the city of tomorrow to stretch its borders much farther than it does today, dissolving at the same time its chaotic conglomerations of incoherent functions and piled-up building masses into smaller units. These we hope to see loosely scattered over the whole region, more in keeping with the human scale. Such spreading, spacious cities—we might call them country cities in city countries—would accomplish an historic end long due: the reconciling of town and country. These planned communities and regions presuppose, of course, the modern and ever improving transportation facilities which have already caused the "flight from the city." They will continue to relieve the old city of its dead weight until its reopened areas may be devoted to their rightful function as the organic, commercial and cultural center of the whole region.

* Housing as a Townbuilding Problem. A Post-war Housing Problem for the students of the Graduate School of Design, Harvard University, January, 1942.
SUGGESTIONS FOR A PRACTICABLE RECONSTRUCTION PROCEDURE

1. Lot and block rehabilitation has not been successful. Sweeping “square mile” rehabilitation has become a necessity since we have recognized the interrelationship of the town with its region.

The centers of our cities have already been rebuilt twice or even thrice in one century: but it was a spot- or lot-rehabilitation only, a piecemeal procedure without a master plan. As long as the population of our cities kept growing, it was relatively easy to concentrate the purchasing power of the citizens in their business center; while we could increase the coverage of the lots and the height of the buildings, repeatedly tackled lot-rehabilitations were even a lucrative business. But these favorable conditions have long since passed away. Our cities are no longer growing as fast as they did, and decentralization of our purchasing power has set in. The old recipes no longer work. Even block-rehabilitation, recently started by our public housing authorities, has failed to bring sufficient remedy. We know now that the cuts must go deeper, down to the very arteries of the city body, that is, to its transportation system, its terminals, streets and highways, and to all other feeders which have grown obsolete technologically and financially during the past three decades. We know that a sweeping “square mile” rehabilitation of our towns is due, as recently suggested by the National Resources Planning Board in its report for 1942.

2. Former suggestions such as “The City Beautiful” and other pictorial schemes have proved to be incomplete. First, action should be started by preparing legal, financial and administrative instruments to enable the planners to conceive and work out reliable master plans.

In the past we have seen many a town pattern either emphasizing the “city beautiful” or proclaiming special systems of transportation, habitation or recreation; but almost all of these “master plans” were due to remain more or less pictorial suggestions, being “out of scale” socially, technically or aesthetically. They were conceived either by visionary Utopians or by realists, but for the future we have to hope for an integration of both vision and sober practicality.

One of the first realistic steps suggested would be the enactment of a town building law applicable to all three main levels of administration: the federal, the state and the local, which would ensure the town builder the appropriate legal instruments for a sweeping rehabilitation work. One section of this new law would have to set up a “Metropolitan Reconstruction Finance Corporation,” which would act on a state and nationwide level of rehabilitation. This MRFC and its parent corporations should be the public planning and building authority empowered with those specific rights and powers now in the hands of countless single committees which often hamper or even sabotage judicious rehabilitation. MRFC must have special “development rights” over all undeveloped land outside and inside the city’s boundaries. These “development rights” would not mean that all private property would have to be turned over to the MRFC, but it would entail the restriction of developments without its consent. It would also mean that this public authority would have the right of preemption over all property starting from the moment when plans for its development or redevelopment are set up and sanctioned by the competent authorities.

The MRFC would have its own financial resources for carrying through its gigantic task. The main financial source from which this capital would be derived is the amortization quota of all taxable and nontaxable city structures. In the past no one took care of the proper amortization of privately or publicly owned property, although man-made capital goods enter upon the first phase of obsolescence on the day they are completed. In order to protect the stock- and bondholders of corporations by preserving invested capital, our commercial code provides minute regulations for the setting aside of amortization and depreciation quotas; but nothing has been done in this respect for the public corporations; for town, city and nation. Their shareholders, the citizens at large, were in the hands of private property holders who could—as they pleased—preserve or consume their real estate property, though it was not built for self-consumption but for the needs of the tenants and the whole community. A nationwide building law should therefore be enacted prescribing compulsory amortization and depreciation for all building structures, their quotas to be administered by the MRFC. Such a regulation would not mean compulsory expropriation of private property; on the contrary it would mean its conservation. The owners would be duly credited with the annual quotas, but would only be entitled to spend them for the renewal and rebuilding of city structures.

With this money the MRFC could tackle and guide the rehabilitation of our own cities along the sound way of perennial renewal according to the specific needs of the city and ever-changing technological developments. As a controlling agency a State Reconstruction Finance Corporation and its superimposed Federal corporation would have to be equipped with an adequate percentage of the incoming amortization and depreciation quotas of the local corporations for the purpose of balancing the richer against the poorer, and the flourishing against the dying communities.
Such a *revolving fund in the hands of a disinterested public authority* would be a great stimulus to the renewal of our cities.

But before the Government has actually endowed suitable planning agencies with the necessary legal, financial and administrative tools the design of the first model master plans can be started. Public funds should be allocated for competitions among the best planners and designers for the creation of examples of community planning—examples of rehabilitation of old existing towns as well as of the design of new ones. Public reaction to the results of such competitions would enable the Government to provide the legal tools so urgently needed for the creation of the actual master plans.

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**KEY MAP** showing the district chosen for this study. It is located on the western fringe of metropolitan Boston.

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3. Places of work and their relation to places of living should form the pivot of all reconstruction work. The fundamental principle that it is the place of work which produces the rent people can afford to pay for their homes was self-evident even for the townsman as long as his working and dwelling places were combined under the same roof. This changed, however, when the factory came of age.

As long as capitalistic organization opened an ever-increasing number of new working places in and around densely built areas, the problem of housing the people was mainly a problem of quantity and quality, less a matter of the right location. This determinant grew to its full significance when, during the crisis of 1921, millions of wage earners were put on the street, and when, at the same time, automobiles and trucks began to mold the new suburban town pattern which today is generally called "the decentralization disease" of our cities. The extended economic crisis depriving millions of workers of decent wages had a detrimental effect on capital values invested in the homes of the working class; the decentralization process in our town development aggravated this effect to the breaking point, turning whole districts into blighted areas and slums.

Thus masses of unemployed have constantly threatened the sound budgeting of our municipalities with unproductive relief costs. Industrial, commercial and residential slums all have an effect on the structure of our bigger cities like dry rot on wooden buildings. The cause for their obsolescence may often be quite "natural." For instance, when immigration decreased, the garment industry of New York, which had always employed cheap labor, could not be prevented from moving into new areas where there was plenty of cheap labor available. Consequently the remaining population in the lower East Side lost its jobs. The attempt to counteract the resulting slum development, however, by building brand new dwelling quarters on the same spot and for the same stranded workers, is futile and wasteful.

In the past we have given little thought to the fact that the working places generate the income of the people and with it the rent people can afford to pay for their homes. Privately controlled housing policy has never borne any direct relation to the opening up or closing down of the income-generating working places. Even public housing authorities have disregarded the interdependence of working place and home when they build new housing schemes in slum areas from which the factories have long since moved away. It would be fatal to repeat such a housing policy in the postwar period. Instead, housing and industrial programs must be combined. Our whole housing policy ought to pivot on the working places industry and commerce will be able to open up to the people.
4. First of all the existing cities should be relieved of congestion and high blood pressure by removing those who cannot be permanently employed. Resettled around small industries in new "townships" these people would regain their productive capacity and purchasing power.

Such a policy calls for transferring endangered production as well as purchasing power from a sore spot in the old city area to a sound new city, resettling those inhabitants of the old city who cannot be gainfully employed and have hence become a serious cause of blight and congestion. This transfer of idle labor would relieve the sick body of the old city of its high blood pressure, would improve its circulation, and open new living space for its rejuvenation. Simultaneously the stranded workers could be reclaimed for production—at a much lower cost per capita than the old town had to pay for slum clearance on expensive land and for unproductive relief.

The cost of land, buildings, streets, public utilities and traffic facilities and so forth, constitutes an expenditure factor in the budget of workers and enterprises that, growing steadily during the past hundred years, is probably today not very far from fifty per cent of the total income of the population. It is now up to the planner to conceive bold solutions which will serve to decrease that dangerous rise in per capita expenditures without decreasing the efficiency factor of the city. The capitalized value of buildings, traffic facilities, public utilities, and so forth, of New York, for instance, would add up today to a share of about sixteen thousand dollars per family, while a well-planned new town built on virgin ground and with better amenities than New York can offer, would probably cost less than half that amount. Would not such a reduction of public expenditures greatly influence the budget of single families, municipalities and commercial enterprise, and stabilize industries, and thus the community as a whole?

LOCATION OF PROPOSED "TOWNSHIP" IN WESTON-WAYLAND REGION ALONG NORTH-SOUTH SUPER-HIGHWAY

(After detailed comparison of the five sites which were available, the one to the bottom left was found most suitable for this study)
Such carefully planned small new towns would provide us with the necessary experience to prepare the blueprints for the second and more complicated step in planning the reconstruction of the larger old cities. With a population of five to eight thousand people and with an industrial capacity for the employment of two to three thousand workers, such new towns would form the basic unit of a regional town pattern built up organically in such a way that conditions will be kept fluid and flexible in accordance with our increasing mobility. The old "town" may cease to be the local autonomous administration unit and become related to a new administration system covering the whole region in which a "township"—as we may call this new unit—would be the lowest subsection. These townships should not be put in an inimical contrast to our present-day cities. They should bridge the gap which the nineteenth century created between towns and towns on the one hand, and between towns and the open country on the other. By transplanting idle labor from cities as well as rural regions, both the townsman and the farmer would be helping to build new settlements. These "reception basins" for uprooted people could take over functions which neither our big cities nor the open country can fulfill. Thus this new type of settlement may contribute indirectly to the rebuilding and refining of the old cities as centers of commerce, culture and administration, and of the open country as promoter of agriculture, forestry and recreation. The productive element of the new townships would be small industries attracted by favorable conditions such as cheap land, low taxes and first-rate transportation facilities. These industries could gainfully reemploy those thrown out of employment in the run-down city districts. As people prefer to live within reach of varied jobs, a mixture of different types of industry and of employment is necessary for a balanced community life. One-industry towns, being socially dangerous in periods of emergency, must be avoided.

5. The new townships should settle along super-highways and be connected by fast feeder roads with the old city center.

As modern industry is highly dependent on first-class transportation facilities, the welfare of the new township will be determined by the proper choice of its location. History records no single town that does not owe its existence to some kind of through road or highway. Trade roads going over whole countries and continents made and unmade towns in the past, as did the railroads and steamships in the middle of the nineteenth century. Under its far-reaching railroad policy, our Government gave almost ten per cent of its continental area during the last century to create new settlements. No one can deny that the present time may call for a similar far-reaching policy in connection with the construction of the new carrier system of the twentieth century, the super-highways, as proposed by President Roosevelt in his message to Congress in April, 1939.

As was the case in the forties of the nineteenth century our Government considered the building of a new carrier system throughout the country an unprofitable undertaking. The computation was made on the basis that the project would be operated as an independent enterprise deriving its only revenues from the use of the roads by passenger cars, trucks and busses. The fact, however, that such a new feeder system must by its nature raise the land value of its surrounding zone of influence—just as the railway terminals caused a rise in ground rent when they were built a hundred years ago—was not taken into account by the Bureau of Public Roads. But why should our public authorities not tax rising land values and utilize them for the financing of toll roads as the railway kings did in the past?

As today's railroads lag behind trucking service with regard to speed, synchronization of their schedules with their clients' needs, and equipment, we may assume that our new super-highways would increase the lead of the truck service from three to five times in traffic speed from door to door, provided automotive traffic also gets its own right of way. If that becomes a reality—and who dares to doubt it—we may experience an increasing movement of industry and of population away from the old cities to new places along these super-highways. It seems preposterous that the railway system, with less than one tenth of the energy potential of the automotive traffic, has its own right of way, whereas the automobile is made to share the road confusedly with pedestrians and horses and must be briddled and policed on an obsolete net of streets by stop lights and speed regulations which contradict the very purpose of its invention.

As super-highways are meant for high-speed traffic and consequently have to avoid towns, suitable feeder roads must connect the townships with the old towns which are supposed to remain the cultural and commercial centers of their region. Thus the old town will gain new purchasing power from the region and people going to town from the townships will find entertainment and opportunity for shopping which their smaller home town cannot offer.
In the Graduate School of Design, Harvard University, during the first half of 1942, a group of advanced students of architecture and landscape architecture undertook to design the elementary features of a "township."

PROGRAM: Entitled "Housing as a Town Planning Problem, by Walter Gropius and Martin Wagner," the program tended to call the attention of the students to the mutual inter-relationship between dwelling, working, recreation, transportation and to the resulting dependence of any housing scheme on these relationships in a community. A new "township" along the proposed super-highway near Weston-Wayland, Mass., was to be laid out for about 5,000 people, with farms and truck gardens around it as their "source of nourishment." Uncontrolled land speculation was to be excluded; the land for the dwellings could be rented only, whereas the houses might be owned. The size of the township was to be clearly defined—allowing for a certain flexibility to accommodate future changes—and would be kept within pedestrian range—one half to one mile in diameter. A gross density of six families per acre was therefore suggested. A certain number of small industries were to be settled on suitable land and within walking distance from the dwellings. A community center was to be provided which would serve to increase community spirit and "group vision."

The second part of the program called for the design of various individual types for dwellings and their technical details; the third for a financial setup showing the initial as well as the operating cost of the enterprise when built in one stroke.

TEAMS: The first part of the program (see plans A, B and C) and the financial computation were tackled by different teams of 5 or 6 students each, whereas the second—the design of the houses—was solved by each student individually. Apart from the authors of the program, the following members of the faculty participated in the criticisms: Professor Pond, Assistant Prof. Newton, Messrs. Stubbins and Tunnard.

PRELIMINARY RESEARCH: The students organized the research by themselves, assigning different tasks to each group. First the proposed area was examined repeatedly by the teams, who finally suggested five sites as suitable for "townships." Figures and facts were collected from authorities in Boston, Weston and Wayland. After the first tentative layouts of a neighborhood had been sketched out, another checkup on the sites was undertaken. The next step was the evaluation of the different sites by means of an elaborate questionnaire, which led to the unanimous selection of site No. 1 (see page 78) as superior to the others. A more detailed layout for this site was then prepared by each group (plans A, B, C and others). At the same time the following research studies were worked out in graphic form:

- The existing New England airways, railroads and roads.
- Types of vegetation in the selected region.
- Assignment of land for farming, recreation, building.
- Inventory of existing public utilities, public buildings and recreation facilities.

FINAL PLAN: After the team-designed layouts were finished and the results had been judged, a group of seven students was selected to start all over again. Student research contributed to this teamwork:

- A comparison of road systems, their lengths and shapes.
- A traffic distribution chart of the selected road systems.
- A study of the best location and distribution of industry, and
- A study of the functions of community centers. 
6. The size of the townships should be limited by the pedestrian range to keep them within a human scale.

The new means of transportation—the improved railways, automobiles and planes (even “sky trucks” may soon be a reality)—are only one determinant of the shape of the future town. The human being himself, so much neglected during the hasty development of the early machine age, must become the focus of all reconstruction to come. Our stride determines and measures our space- and time-conception and pegs out our local living space. Organic planning has to reckon with the human scale, the “foot,” when shaping any physical structure. Violation of the human scale will cause further degeneration of life in cities.

Our new townships should therefore be self-contained units, of say, five thousand people living within walking distance of their working places, shops, schools, churches and community buildings. That would mean that the radius of these townships should be about half a mile or even less, keeping their boundaries in reach of the pedestrian. Any public building would be easily reached from each dwelling either by foot or by car, but in such a way that the footpaths could not be endangered by automobile. Pedestrians must get their own right of way in the form of a well-laid-out net of footpaths which never cross a traffic lane.

MODEL OF FINAL PLAN

JULY 1943
Level crossings have been entirely avoided within the area of the "township" proper. The drives to the individual houses branch off from the peripheral feeder road. The footpaths form a net radiating from the Community Center and altogether independent from the road system. Thus children and adults can walk on footpaths to the school or Community Center—less than half a mile distant—without encountering traffic, and yet each building can be reached by car as well as by foot.

The radial walks between dead ends of drives run into park strips leading to the farm and recreation areas.

The nurseries are located at the periphery of the center area where housewives cross on their way to do their shopping.

The size of the average family lot is 5,600 sq. ft. net. A number of larger lots are laid out along the northern slope of the existing pond; opposite are two-story apartment blocks.

Industry is located off the prevailing wind at the southeastern fringe of the township, and is serviced by a railroad. Its own traffic, as well as any through traffic, is tangential and can not, therefore, interfere with the traffic of the community.

As the Community Center is to be the focus of the community life, the most attractive piece of land, close to the pond, has been assigned to it. It includes a school (eight grades) with a wing for adult activities; a gymnasium and a playfield; an auditorium for meetings, performances, concerts, etc., a town hall, a shopping center, a small hotel with restaurant, bathing and parking facilities.
TWO-STORY ROW HOUSE with two-bedroom units designed by K. H. Cheang. The model shows the entrance side of the units. The accommodations consist of living, dining, kitchen and utilities on the first floor; two bedrooms and bathroom on the second floor. Projecting storage units and trellis give privacy from the neighbors.

ONE-STORY ROW HOUSE designed by H. McK. Jones. The model shows the garden side, with the additional, transportable bedrooms projecting from two of the dwelling units. Accommodations consist of living, dining, kitchen, bathroom and utility space plus a permanent bedroom unit, apart from the transportable one.

ONE-STORY SEMIDETACHED HOUSE designed by W. H. Radford. The view of the model is taken from the garden side. The maximum accommodation comprises living and dining room, kitchen, utility room and three bedrooms (alternative: one or two bedrooms only). The link between two units consists of carports on the street side, porches and a storage bin division on the garden side.
TWO-STORY DETACHED HOUSE designed by R. M. Kuhlman. The accommodations include living, dining and kitchen on the first floor, with two bedrooms and a bathroom on the second floor. Open space under second floor overhang is used for the carport.

ONE-STORY DETACHED HOUSE designed by F. A. Macomber. Model shows the street entrance side of the dwelling unit. Accommodations consist of living, dining, kitchen and utility areas, plus two permanent bedrooms. One or two demountable bedroom units can be added, together with their toilet facilities.
7. The "townships" must be surrounded by their own farm belts.

Each township should be surrounded by a farm belt, a "space of nourishment," which could absorb at least a small part of unemployed labor in times of industrial crises; vice versa, during an industrial boom, some unemployed agricultural workers could be employed in the factories. Besides this cushioning effect, the well-zoned and permanently assured space of nourishment with farms and truck gardens has the primary purpose of speeding up and cheapening the exchange of food between farmer and townsman. The return to the farmer is often less than one-third of the consumer price. His return could be substantially increased if the distribution cost of food were reduced. The farmers make no profit from big cities, but in the new townships they could not only get their well-deserved prices but be supplied also with all facilities which modern towns need to raise the level of civilization. Close collaboration between farmer and townsman would also cause a favorable economic utilization of the waste a town produces. The townships would bring waste water and garbage back to the adjacent fields of their surrounding farm belts and truck gardens.

8. Speculation often promotes blight and obsolescence. Therefore the community should own the land. The dwelling lots should be rented, though the houses may be owned.

A farm belt with a permanently assigned area would keep the size of the township stable by definitely blocking any uncontrolled expansion beyond its carefully confined boundaries. The town area itself when owned by the community's "Resettlement Corporation" would be kept out of reach of speculation—so often the beginning of blight and obsolescence. Lack of community interest in the control of urban land is one of the major causes which delay a sweeping rehabilitation. The land has been traded like a commodity. But land is not a commodity; it cannot be produced nor moved nor replaced. Land is of such a peculiar nature that it should best be owned by the communities which will become an increasingly constant element of our society with its more or less fluctuating population. If the communities of the existing towns would gradually redeem land and thus avoid a speculative rise in price, they could control the entire area necessary for their development. Of course the process of land redemption will be slow when lawful rights of individuals are respected. In the townships the land should be owned by the community's Resettlement Corporation. The lots should be rented on long terms, which would allow the lessee to own the house on a rented lot.
9. The administrative setup of a township should take the form of a self-contained unit with its independent local government. This will strengthen community spirit.

The townships should be self-contained units, each with its own legal charter and its own municipal administration, rather than suburban satellites dependent upon a larger mother town, for independence creates individual initiative. The most precious imponderables of town life—the community interest and spirit lost in the chaos of the fast-growing large cities—can redevelop from such initiative. And it is particularly the small size of the township with its human scale which would favorably influence the growth of distinct characteristics of the community. Relations between families, friends and cooperative teams would have a better chance to become a creative factor than in the old disrupted towns which isolated the citizens. Public officers would be within immediate reach of the initiative of the voters, thus securing a more direct exchange between the will of the people and their administration.

10. From five to ten—or more—neighborhood townships may be combined into a "countyship" with an administration governing activities beyond the reach of a single unit. Its size and administrative setup should also serve as a model for the basic neighborhood units of the old towns to be reconstructed.

Any combination of several of these townships—clearly defined as such by separating green belts—into larger-sized community bodies fitted for varying social, economic and technological demands would have the guarantee of being composed of basically sound group elements. The size and administrative setup of a township should also serve as model for the neighborhood unit, the corresponding element of the old existing towns to be reconstructed. Such a combination might then be either a metropolis of millions of people built up as a vast country town or a medium-sized city of one hundred thousand people, or a "countyship" comprising five, ten or more townships. These "countyships" may be formed to take over those special community functions of an educational, hygienic or technical character—as high schools and hospitals—which belong to another level of administration beyond the competence and the economic power of a single township. As conditions have to be kept fluid and flexible, the higher levels of administration may vary ever so much if only the "biological" group element, the township, is kept as the unit of any city organization.

11. It is suggested that the size of a township remain stable. Flexibility within its boundaries must therefore be achieved by making the housing facilities elastic.

When we suggested that a township should permanently keep its original size one might have asked, would that impair the organic growth of the population? In case such a community grows fast and no longer employs the rising generation a new township should be promoted.

We should certainly provide for some inner flexibility of the township for what may be called its productive capacity. We should introduce the two-shift system to our factories—even in peacetime—a measure which would also reduce the investment cost per worker. A third shift may be held in reserve for limited expansion and for repair work.

As it may be assumed that in a township of five thousand people no more than, say five hundred additional workers would be needed, these could probably be drawn from the farm belts and neighboring townships and only partly from more distant places.

12. Parallel to the resettlement of idle labor in new townships, a second process must take place; acquisition of land by the community of the old city. For not until that process of pooling land has been completed can the next step—the redistribution of land—be taken, for the final reconstruction of the city.

Simultaneously with the resettlement and reemployment of idle labor in the new townships the systematic assembly of land should be started by the community of the old city in accordance with a new master plan. Areas of strategic importance for the reconstruction procedure should be redeemed. Within our conception of property, to achieve such a vast assemblage of land under public ownership will be a long and thorny task. But in spite of the difficulties ahead all the existing towns must tackle it if they wish to create space for living and better facilities for trade.

The next steps in reconstruction—the redistribution of the assembled land—will certainly also be handicapped by prejudice and lack of vision before it can finally be carried through in a broad community spirit. Only when this community spirit, brought about by better enlightenment, has developed into an influential power can the human weakness for egocentric piecemeal improvements gradually be overcome in favor of conceptions on a large scale.

When idle labor has been resettled, when ample land has been assembled by the community and when the redistribution of the land has been completed—assigning suitable areas for institutions of public welfare, for commerce and for housing—the physical rebuilding will be the last act of the long process of city reconstruction for the people and by the people. These later steps of rehabilitation represent a task we want to tackle in the near future with our students.
GLASS WORKS

designed around intricate production process, are architecture's latest contribution to the war effort.

One of the last industrial buildings completed before the use of structural steel was generally curtailed houses the optical glass manufacture of the Corning Glass Works. Like most industrial buildings, the structure was designed around its process. This includes the melting down of the glass ingredients, which is cared for in huge furnaces that jut up through two stories. To cope with the great heat generated by these furnaces, large heat valves were placed on the main structure for additional ventilation.

JULY 1943
One of the melting furnaces. They are almost two stories high, mounted on the floor below. Pots are placed in mechanically controlled door with specially devised trucks which eliminate the need for a costly conveyor.

Into these kilns the pots of molten glass are set for cooling after the melting operation. Because the glass will finally be used for very precise optical lenses, great care must be taken in controlling every step in the manufacture. Temperatures must be very rigidly checked.

The process of preparing optical glass consists of six major operations. Raw materials are preheated in temperatures up to 600° F with pot ashes. The ingredients are then melted down in the melting furnaces, and, after that, pass through kilns to control cooling after the first melting. After this cooling, the glass is chipped and placed in small rectangular containers to be melted down again. After passing through a second set of annealing kilns, the glass is finally ground and "roughly polished." This completes the manu-
facturing process, and the product is ready for shipment.

The building contains 200,000 square feet of floor space. Built on a sloping site, it includes a single-story main section, and a two-story section in the rear. Mammoth ventilators were used in the monitors over the furnaces. To protect the workmen, a duct was installed in the floor at a suitable point between them and the furnace. When they must approach the furnace, a screen of air emerges from the duct and serves as a protection from the heat. In addition to this protective measure, there is a dust-control system, important in maintaining health standards in a glass plant.

The forepart of the building is devoted to office space requirements. A miniature hospital has been set up, especially equipped to handle cuts from glass and other industrial accidents. The offices are separated from the plant proper by ceiling-high metal partitions, which run the entire width of the building. They are heated by unit heaters and lit by fluorescent lamps.
THE MINIATURE "HOSPITAL" is equipped to take care of almost any industrial accident. It includes a bedroom where patients who have been seriously injured may rest until permanent assignments have been made. The walls are tile, floors are asphalt tile.

THE LONG CORRIDOR separates the executive offices from the plant. Partitions are metal and glass, with obscure glass used as a visual barrier on the plant side. Sprinkler heads were installed throughout to guard against fire from prevailing high temperatures.

PANEL BOARDS with recording instruments make it possible to control accurately all the various furnaces and kilns used in processing optical glass. Variations in temperatures are shown on the white control sheets.

ONE OF THE GRINDING ROOMS. Because of the specialized nature of this operation, the department is partitioned off from the remainder of the plant. The ceiling is plastered over, rather than left open with exposed trusses, to prevent the collection of dust.

CONSTRUCTION OUTLINE

FOUNDATION: Concrete.
ROOF: Built-up roofing, Johns-Manville.
INSULATION: Roofs—Fiber-Glas, Owens-Corning Fiber-Glas Corp.
FURNISHINGS: Laboratory Furniture Co.
DOORS: Overly Mfg. Co. and Overhead Door Co.

PAINTS: Pittsburgh Plate Glass Co.
ELECTRICAL INSTALLATION: Transformers, panels, etc.—Westinghouse Electric & Mfg. Co.
PLUMBING: American Radiator-Standard Sanitary Corp.
Improved "FRICION-REDUCING" Track

Another Reason We Can Say

"Day In, Day Out
Drive In, Drive Out
with Trouble-Free
Satisfaction!"

—when You Install

Rō-Way

OVERHEAD TYPE
GARAGE DOORS

Whether you install the Ro-Way Electric-operated or the hand-operated type of Doors, you notice immediately the absence of "friction-drag" in opening and closing them. As time goes on you will also notice the extra service Ro-Way Doors give, because friction means wear — and extra wear means earlier repair.

These Ro-Way Improved "Friction-Reducing" Tracks are made in our own plant and are exclusively used on Ro-Way Overhead Type Doors. They make Ro-Way Doors operate more easily, more quietly and with noticeably greater speed and smoothness. You will value this exclusive Ro-Way feature more and more when you note how they give added years of service. You will see why we say..."Day in—Day out, Drive in—Drive out with trouble-free satisfaction." Get all the extra values that only Ro-Way gives.

Write for Ro-Way's 72-page "Time-saving Specification Book" for Architects. Please attach professional card or letterhead.

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are Serving America
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Naval Depots
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Munition
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Coast Guard
Bases
Armories
U.S.O. Buildings
Ordnance Plants
Cantonment
Camps
Navy Yards
Bomber Plants
Submarine Bases
Marine Bases
Army Proving
Grounds

Eight Ro-Way Overhead Type Doors, Industrial Model G-1, serve this American Car & Foundry Plant at St. Louis, Mo.

There's a Ro-Way for every Door way!
This is Our Job
For the Duration
Since Pearl Harbor, A. Ward Hendrickson & Co., Inc., has been 100% on War Work, including lighting fixtures and naviga­
tional equipment for the Navy and Maritime Commission.
We look forward to the day when our expanded facilities, tech­
nical improvements and greatly enlarged experience in
the applications of lighting will be unleashed for the benefit
of everyday life, everywhere.
And When it's Over —
This big job is being done by the same staff of design, produc­
tion and application engineers that served architects and
lighting engineers for all types of buildings before the war.
Barring accidents, they will be waiting to serve you when it's
over — with the same management and policies but with a
greatly enhanced ability to serve.
A. Ward Hendrickson & Co., Inc.
Lighting Fixtures Incorporated Illuminating Engineers
337 ADAMS STREET, BROOKLYN, NEW YORK

LETTERS
(Continued from page 34)

FORUM:
Architecture is a serious matter, and
the sooner you and Mr. Roger Allen
discover it, the better you'll enjoy
the postwar world. The reason for Mr.
Allen's ostracism from THE FORUM's
columns was, if memory serves me,
that he generally insulted the Art
and Profession, neither of which can
take it. Self-esteem is one of the orna­
mants of every architect, and woe be
unto the silly ass that brays heresy,
hoax or humor before the steps of the
Temple.
My first lesson, Messrs. FORUM
and Allen, deals with my own expulsion
from a prominent school (name on
request) for just this sort of braying.
There was an Esquisse-Esquisse,
the program for which started off like all
others ("A wealthy patron of the Arts
wishes to commemorate the Repeal of
the Eighteenth Amendment . . . etc.")
but this time the patron wished to
restore a Baroque fountain, and the
devil take anyone who obstructed him.
An hour of playing with a lump of
charcoal revealed the possibilities of
utilizing snakes to fine advantage in
a Baroque composition. Overcome
by my obvious superiority to Borromini,
I piled snake on snake until my
20x30 page was brimming. After
the jury's meeting the next day,
I went to the exhibition room to look
for my medal-bearing work. At the end
of the dreary trip to the end of the
line, down in the valley of X's and
H.C.'s, I came across a juror's notation.
In
the one snake-less inch of my chef
d'oeuvre: "If you aren't serious, we
are!" followed by an unnecessarily
large X. There was some very serious
talk at the faculty meeting that
ushered me out into a serious world.
Since that time, I have created sev­
eral works that are considered funny
by my neighbors ("is that funny
brooder-house with the flat roof
Your
house, Mr. Lincoln? Ha, ha!") but
I have never openly twitted anybody
about anything faintly resembling an
esthetic belief. When asked about my
opinion of the Jefferson Memorial, I
look very serious. Architecture is my
bread and butter, or just bread, and
damn any layman presumptuous enough
to discuss my Art with me. I like
serious architectural journals, full of
serious drawings and beautiful frozen
music. Other people can go right ahead
thinking Architecture is the funniest
profession in the world. Not me.

JOHN W. LINCOLN
Hillside Home (for Schizophrenics)
Stonington, Conn
Carrier Conduit Weathermaster System

REDUCES COST OF AIR CONDITIONING FOR MULTI-ROOM BUILDINGS

11-story Bankers’ Health & Insurance Co. Building, Macon, Ga., is air conditioned year round by the Carrier Conduit Weathermaster System. Two miles of conduits bring the conditioned air to 225 offices for the better comfort, better health and better working capacity of their occupants.

WEATHERMASTER units concealed in attractive cabinets below windows. Dial attachment switches on coolness or warmth at the occupant’s wish.

REPLACEMENT of the square ducts of conventional air-conditioning installations with the more compact conduits of the Carrier Conduit Weathermaster System in tall buildings conserves materials and rentable space. Effects economies in construction. And complete standardization of parts pares engineering and installation costs.

EFFICIENT, too. Conditioned air is sent from central plant in basement through small conduits to the conditioning units in the various offices or rooms. The turn of a dial supplies the desired room temperature. The humidity is also automatically controlled.

THE STARTLING ECONOMIES and flexibility of the Carrier Conduit Weathermaster System will merit first consideration for office buildings, hotels, apartment houses, hospitals and other multi-room structures... when peace-time building... new or modernization... can be met.

CARRIER CORPORATION, SYRACUSE, NEW YORK

Carrier
AIR CONDITIONING • REFRIGERATION
THE FLOOR THAT SAVES LABOR is the floor to specify today

ARMSTRONG'S Linoleum is the simplest of floors to keep clean. Anyone can keep it bright and new looking. And that's a mighty important thing to remember right now. For when you specify a floor that cuts maintenance, you're helping your client solve one of the biggest problems he faces today—the shortage of cleaning help.

Dust, dirt, grime, and ordinary stains wipe right off the smooth surface of an Armstrong Floor. The only attention needed is daily sweeping plus occasional washing and waxing. In return for this labor-saving care, Armstrong's Linoleum gives years of service.

IMMEDIATELY AVAILABLE

Here's another thing to remember: Armstrong Floorings are still available today both in Armstrong's Linoleum—and in Armstrong's Linolflor (with fresh-fibre felt back). This latter flooring is made to the same high standards as Armstrong's Linoleum and differs only in that an extra-strong felt is used in place of a woven fabric backing. Fresh-fibre felt takes its name from the fact that it is made with fibres from high-quality cloth cuttings instead of old rags.

For more information on Armstrong's Linoleum and Armstrong's Linolflor, see Steed's or write directly to Armstrong Cork Company, Floor Division, 2307 State Street, Lancaster, Pennsylvania.

Pentagon Protagonists. The Founding Fathers of the Pentagon Building (FORUM, Jan., p. 39) have organized themselves into a club, "The Society of the Pentagon," which includes 129 men: officials of State, builders, George Edwin Bergstrom, architect, and seven assisting architects. According to its own booklet, the membership is limited to this group, whose "foresightedness . . . and boundless energy" were responsible for the Army's mammoth building.

More Pentagon. Starting in the huge Pentagon building is a movement to get "portal-to-portal overtime" for its workers. To some this would mean ½ hour of overtime a day. "After all," said one employee truculently, "It's no different from a mine."

Preference Ratings No Longer Preferred. Builders of war housing projects who by July 1 will not have obtained all controlled materials necessary for completion of construction should secure an allotment immediately under the new CMP, the NHA announced last month. Preference rating orders are no longer valid after that date. Controlled materials include: concrete reinforcing bars, steel pipe, steel wire and wire products including nails, copper wire, cable.

NEW YORK POSTWAR HOUSING

New York City's perambulating Mayor La Guardia is a man with a talent for trouble. Last month he developed it to high degree when he prematurely announced in the weekly Sunday noon radio talk detailed plans for three state-financed postwar housing projects, thus, according to Acting State Housing Commissioner Ira Robbins, causing the city huge additional land costs.

Preference rating orders are no longer valid after that date. Controlled materials include: concrete reinforcing bars, steel pipe, steel wire and wire products including nails, copper wire, cable.

THE ARCHITECTURAL FORUM

(Continued from page 96)
NEWS ABOUT GLASS from "Pittsburgh"

TRANSPARENT HERCULITE STAIR PANELS.
These smart panels of tempered plate glass in the Statler Hotel, Washington, D.C., indicate the new architectural possibilities of glass. Herculfled glass is four times as strong, six times as resistant to mechanical shock as regular glass of equal thickness. Architects: Holabird and Root.

FOR YOUR STORE FRONT FILE. There is practically no limit to the design possibilities of Pittco Store Front Products in creating eye-catching, sales-winning store fronts. This example of the use of PC Glass Blocks with Carrara Structural Glass is worth saving for reference when building restrictions are lifted. Architect: George W. Neff.

WINDOW GLASS is an important contribution to the appearance and utility of any building with large window areas. That's why many architects are making sure of quality window glass by specifying Pennvernon for important jobs. This is the Pennvernon-glanized Rome and Murphy Hospital at Rome, N. Y. Architects: Bagg and Newkirk, Harold G. Rice, Associate.

PITTSBURGH PLATE GLASS COMPANY • PITTSBURGH, PA.
"PITTSBURGH" stands for Quality Glass and Paint
KINNEAR WOOD ROLLING DOORS

INNEAR WOOD ROLLING DOORS

AVAILABLE FOR WARTIME NEEDS

MOTOR OPERATION!

When equipped for motor operation, Kinnear Wood Rolling Doors can be opened or closed quickly at the touch of a button, from any convenient location! The rugged, heavy-duty motor does the work, saves time and labor.

You can specify the efficient, space-saving coiling upward action of Kinnear Rolling Doors in spite of wartime limitations. Kinnear Wood-Rolling Doors provide these functional advantages — and they are a thoroughly proved, time-tested product that cut the use of war-vital metals to a minimum!

In the Kinnear Wood Rolling Door, strong, inter-lapped wood slats are jointed with metal cables or tapes. They coil above the opening, remain out of the way and safe from damage, and require no usable space for either storage or operation. The rugged curtain assembly offers a high degree of protection, and blocks out wind and weather. Available in any size, with motor, manual or mechanical operation. Make sure of full door efficiency by specifying Kinnear Wood Rolling Doors for today's needs. Write for complete details.

THE KINNEAR MFG. CO., 1640-60 Fields Ave., Columbus, Ohio.

MONTH IN BUILDING

(Continued from page 94)

project is in Queens, the third in the Bronx.
Complained the Acting Housing Commissioner:
The fact that proposed sites have been divulged will prevent the Housing Authority from obtaining options on the land before the prices are raised. Historical example: The Fort Greene project in Brooklyn, for which the little Mayor jumped the gun in his announcement, reputedly released the land cost by approximately $1 million before the city could acquire title to it.

To the public attack in the press the Mayor had nothing to say. To date the Legislature has not approved the sites, and some chance exists that they may be turned down as "undesirable."

A.I.A.—PRODUCERS CONVENE

Cincinnati was host to two conventions last month, The American Institute of Architects (their 79th annual meeting), the Producer's Council (their 20th) . . .

The architects elected Raymond J. Ashton (Salt Lake City, F.A.I.A.) president for '43, heard the Army tell them the future for architects was not very bright, listened to much talk on postwar planning.

Douglas Whitlock (left), Producer's new president congratulates Raymond Ashton, A.I.A.'s new head.

In the two-day session, close heed was paid to Dean MacCormack's committee's report on Postwar Reconstruction which made multitudinous suggestions for building code, building costs, urban redevelopment reforms. Talk of unification was rife: a resolution was adopted "to bring all groups and members of the profession into one national organization."

The Producer's Council heard Russell Creviston of Postwar Committee keynote their aims with advice about the responsibility of building materials manufacturers for employment post-war, Frederick Babcock outline a

(Continued on page 99)
A few short years ago, the use of trees was confined mainly to the manufacture of a few products—lumber, pulp and paper. Today, from the natural wood fibres of trees, modern science has developed products of wider usefulness than wood as nature made it.

One of these products is INSULITE. In the vast Insulite mills at International Falls, Minnesota, in the center of the northwoods, logs are placed into giant machines that grind them to pieces—reducing them to sturdy natural wood fibres.

These fibres, the live, sturdy sinews of the tree, are processed into panels or boards called Insulite. It has a bracing strength four times that of ordinary wood shiplap, horizontally applied. Insulite is also effective insulation—it insulates as it builds.

Insulite has many uses. For example, the lightness and rigidity of Insulite make it a very important material in the construction of certain types of oxygen tent equipment.

Insulite has many structural advantages. Speed in building is important today. It has been used in the construction of many of the nation's war buildings. The large panels of Insulite are rapidly applied. The saving in time is apparent when you consider the many square feet of surface one panel of Insulite covers in one operation.

On farms, Insulite has many uses. Hog houses, brooder houses, laying houses, are quickly built with Insulite, which provides insulation and weather tight construction...cattle and poultry are healthier...require less feed...produce more.
PLUSWOOD
A Wood Alloy
is a New Engineering Material that can be made to your order

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 an 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.

PLUSWOOD Inc., Oshkosh, Wis.

W O O D  Select northern birch or maple — cut from vast tracts of timber reserves in northern Wisconsin and Canada.

R E S I N  Impregnated into veneers by methods and techniques developed by Pluswood research.

H E A T  300 K. V. A. high frequency electrostatic generating unit—largest in the country for this purpose—delivering 340,000 B.T.U.'s per hour.

P R E S S U R E  Largest and most powerful press in the plywood industry—with total pressing capacity up to 5,000,000 pounds.

PLUSWOOD
March 1945

THE ARCHITECTURAL FORUM

(Continued from page 96)

rational postwar housing industry.

Said Babcock: "It is the responsibility of the construction industry to see that the consumer's interest is protected through quality construction."

Perhaps the most important of all the business was the final summary report prepared by Russell G. Creviston, chairman of the Postwar Committee. Said the Committee:

"We can derive satisfaction from the fact that we have convincingly shown general industry the essential need for postwar planning by all separate industries.

"That we have integrated our program with the overall postwar programs of general business and industry."

Said the Council, in deciding its program from 1943-4:

"The Council should devote time and attention to encourage the construction industry to accept the basis for coordination of dimensions of building materials and equipment, offered under the proposed American Standard. Following this acceptance, The Council should urge each branch of manufacturing to develop application standards which will fix the sizes and dimensions of various lines of building products in order that plants may retool for postwar production on the coordinated basis.

"Accelerate postwar studies, broaden the participation in the postwar program and so direct it that it will be prepared, whether the war ends quickly or is prolonged, to activate industry programs which will stimulate an expanding program of construction and employment so essential to the postwar economy.

Then, meeting and eating jointly at lush Hotel Netherland Plaza, both groups heard young, pugnacious William Benton, (Comm. for Economic Development) warn builders and architects that "the conspiracy against every boy and girl who falls in love and wants to build a home" by the building trades is notorious, must cease if building is to remain in private hands.

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MONTH IN BUILDING


Thus inio the month of March, the postwar construction industry readies itself for the postwar building boom.
When peacetime residential building is resumed, this is the window that will be ready to help you design and build homes that are more beautiful, more durable.

It is the Truscon Residential Double-Hung Steel Window. Thousands of them have been specified and built into residential construction across the entire nation. They are the favorites of architect, builder and owner alike, because their fine design and steel construction offer features that assure long protection of building investment. Economical installation costs . . . and freedom from rot, rattle and warp . . . are advantages of major importance to everyone.

Truscon Residential Double-Hung Steel Windows will be ready for your use after the war ends. Plan to use these beautiful windows in your post-war designing. Details are available from Truscon sales offices or headquarters.

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Subsidiary of Republic Steel Corporation
New demountable furniture saves shipping space, eliminates metal

The first complete line of demountable furniture to have been manufactured in large quantities in the U.S. was created by Architect Ferdinand Kramer and Designer F. V. Gerstel. Although not as smart as its predecessor "Pakto" (ARCH. FORUM, July '42), Kramer-Gerstel's furniture looks more solid, includes demountable closets and cabinets and does away with all metal.

**STATE SANITARIUM**
(Norwich, Connecticut)

**INSTALLS FIXTURES**

BY ELJER

Shown above is Campbell Hall of the Connecticut State Sanitarium, Uncas on Thames, Norwich, in which Eljer fixtures are installed. The large number of Eljer-equipped hospitals indicates the ability of these fixtures to meet specialized requirements and give long, satisfactory service.

ELJER CO. • FORD CITY, PA.
Write for our Condensed Catalog

There are over 5 million Eljer fixtures in use
SAVES...5½ lbs. of copper per valve!

Conserves more than 5½ pounds of copper.
- Saves water.
- Amazing endurance to both use and abuse.
- Fewer parts.
- Shipping weight reduced by 2½ 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, wear-resistant 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 all-plastic; its transparent outer-shell affording visual inspection. Instantaneous in action, it prevents back-syphonage and so protects health.

SLOAN VALVE COMPANY... 4300 West Lake St., Chicago

SLOAN VICTORY TYPE FLUSH VALVES
Demountable furniture

A series of storage units makes up an important part of the group. Closets, bookcases, drawer cabinets, etc., can be combined in any number of ways, both horizontally and vertically. The bases are separate units, held in place by wood dowels. Note in the assembly drawing to the right how doors are hinged, sides put together to stiffen each other. The first cutting of the group of furniture amounted to 15,000 units, all of which were sold out rapidly. 10,000 units for war workers will be cut soon. Distributed by the Allied Purchasing Corp., the line is sold by Joske Bros., San Antonio, Pomeroy's, The Fair, Chicago, Macy's, and others.

WHAT ARE you DOING ABOUT POST-WAR PLANNING?

Practical, well-laid post-war plans are the immediate need of all industry. Many important new developments, applied through intelligent planning, will bring new efficiency and comfort to a world at peace.

If dependable temperature or pressure control is a factor in the successful application of your product or service, it will pay you to investigate the White-Rodgers Hydraulic-Action principle and other new developments in temperature and pressure control.

Because of the importance of post-war plans to American industry we have prepared a "Post-War Planning Checklist" which may be of assistance in setting up your own post-war program. We shall be glad to send you a copy upon request.

WHITE-RODGERS ELECTRIC CO.
1292G CASS AVENUE • SAINT LOUIS, MISSOURI

Controls for Heating • Refrigeration • Air-Conditioning

APPPOINTMENTS

ANTHONY CHITTY, F.R.I.B.A., A.A.-DIPL., M.A., and also one of the most progressive young architects in England, has been appointed Senior Architect, Post War Building, Ministry of Works, London.

H. F. WARDWELL, executive vice-president of Detroit Steel Products Co., has been elected president of the company. Mr. Wardwell was graduated from Cornell University School of Architecture, was associated with Albert Kahn for a number of years and joined the estimating department of Detroit Steel Products Co. in 1910. The company, which in peacetime manufactures steel windows and automobile springs, is now wholly engaged in war production.

AWARD

The Pulitzer Scholarship in Art, valued at $1,500, has been awarded for 1943 to Isidor Toberoff, a student at the National Academy of Design. This
THE spirit in which you have met the past season's fuel shortage problems has set another example of true patriotism for the Nation. We salute you. You have carried on with available fuel allotments to aid America's war effort. You have restricted your living quarters. You have installed storm windows and doors. You have insulated your homes. You have maintained lower temperatures. Yes—where necessary, you have reverted to hand-fired heating. Many of you have suffered from this experience; all of you have been inconvenienced.

Through it all, you have displayed a fortitude worthy of our forefathers—you have revealed a capacity for endurance our enemies had thought lost to us.

Again you have proved that Americans can take it!

Your sacrifices in comfort and convenience have been well worth while. Transportation facilities that would have delivered your normal supply of fuel were freed. Freed to carry fuel for planes, ships and tanks, to far-flung battle areas. Where our fighting sons have struck heavy telling blows against our enemies. Their glorious achievements are stirring pages in the history of this global war to preserve the American way of life.

Total Victory is yet to be won! Further sacrifices may be necessary. Facilities for the movement of oil have been and are being increased but Military requirements may absorb this increase and more. Because oil is the fighting fuel in this day of mechanized war. Any and all temporary sacrifices are part of the price of Victory!

Your sacrifices—all of them—do hasten that day of Total Victory. When Peace will settle over an eagerly awaiting world. When oil again resumes its familiar peacetime role. When the family car will again be packed for a week-end at your favorite recreation spot. When filling station lights will again shine on through the nite and you once more will say, "Fill 'er up!" When your home heating will again be measured by comfort instead of coupons:

On that bright tomorrow your tenacious loyalty will be rewarded. Innumerable aids to better living will come out of new war-born skills and ingenuity. Among them will be even finer, even more efficient automatic oil heating equipment. All of these achievements will be a well-earned tribute to you who are doing so much to inspire them.

All of these achievements will be available to you who buy War Bonds now. Because your fighting dollars of today will be your better living dollars of Tomorrow.

THE WAR BONDS YOU BUY TODAY ARE YOUR GUARANTEE OF A Better Tomorrow!

WILLIAMS OIL-O-MATIC HEATING CORPORATION
BLOOMINGTON, ILLINOIS

Again Oil-O-Matic takes the Lead! On Sunday, May 16—43,000,000 newspaper readers from coast to coast were given the above message of confidence in the future of Oil Heat—the first such message from an industry leader.
Window

with ANDERSEN

COMPLETE WOOD WINDOW UNITS

"Window Pictures"...living pictures framed forever with Andersen Complete Wood Window Units. Yes, the beauty of the outdoors will be brought to the comfort of the indoors in the 194X home. Window units will be wider in 194X and wider use will be made of them. And, with this increased use of Andersen Complete Wood Window Units will come increased recognition of their importance. For here are complete wood window units that are designed as a functional part of the entire structure, and adaptable to all types of residential design. And, though designs may change and innovations develop—of this you may be sure: the quality and precision-built excellence of Andersen Complete Wood Window Units will remain unchanged in order to meet the exacting requirements of the building profession.

Sold, as always, through regular millwork channels. See Sweet's Architectural file for complete details or write to...

Andersen Corporation
BAYPORT • MINNESOTA
Pictures
For the 194X HOME

ONLY THE RICH CAN AFFORD POOR WINDOWS
Suiting your needs on all types of construction, you find appropriate ventilator equipment in the Swartwout Line of Quality ROOF VENTILATORS.

Swartwout MULTIPLE HEAT VALVE
Only 32 inches high

Swartwout -Dexter HEAT VALVE
The original ridge-type ventilator

Swartwout AIR VALVE
Low cost stationary—unusual features

Swartwout ROTARY
Industry's favorite gravity-type

Swartwout AIRJECTOR
Powered Rotary

A selective line—that meets all requirements for modern roof ventilation, Swartwout Ventilators have won unusual prominence in this field, on all types of industrial, army and navy buildings. A full line of steel ventilators, and the "NCM" Line, made of non-critical materials to save steel where its use is not vital... Write for catalogs. Describe your needs.

FORUM OF EVENTS
(Continued from page 102)

scholarship goes annually "to an art student in America who shall be certified as the most promising and deserving by the National Academy of Design, with which the Society of American Artists has been merged."

ANNOUNCEMENTS

The Massachusetts Institute of Technology will hold a conference on City and Regional Planning from September 7 to 18, 1943. This conference will be sponsored jointly by the Institute and the American Society of Planning Officials. It will be open to men and women who have had practical experience in planning or in a related professional field.

The fee for the two weeks' conference is $50. Applications should be sent to Professor Frederick J. Adams, Division of City Planning, Massachusetts Institute of Technology, Cambridge, Mass., not later than August 31, 1943.

A Washington Chapter of the American Society of Architectural Historians has recently been formed with the intention of bringing together architectural students throughout the region. A series of dinners with lectures will be held during the year.

All architects and architectural historians interested should communicate with Mr. Alan Burnham, 1117 East Capitol Street, Washington 3, D. C.

DIED

John H. Coxhead, 80, in Brewster, N.Y. Mr. Coxhead was the oldest member of the American Institute of Architects, which he joined in 1889. He was graduated from Cooper Union and studied architecture under Van Brunt in Boston.

Mr. Coxhead's best known work was in the field of church architecture. His Delaware Avenue Baptist Church in Buffalo contains a marble mosaic and colonnaded baptismal and pulpit, which aroused a great deal of interest among students. More important, perhaps, was his work as architect for the U.S. Army Air Corps, for which he designed airfields and hangars all over the country. Models were shown at the Chicago World's Fair in 1933-34.

CORRECTION

To Photographers Torkel Korling, Hedrich-Blessing and F. S. Lincoln

The Forum’s apologies for omission of credits for their work in the June issue. Mr. Korling took the picture shown on page 124; Messrs. Hedrich and Lincoln produced the handsome photographs of the Washington Statler.

When CONCRETE goes CRAZED

WHEN tiny cracks (known as "crazing") begin to appear on any concrete surface, it's time for DUM DUM MASONOC. For those cracks provide a toe-hold for destructive erosion. DUM DUM MASONOC, a protective, decorative coating for concrete, stucco and masonry, bridges and fills these cracks, effectively sealing out wind, frost and weather.

DUM DUM MASONOC is another of Arco's varied line of maintenance specialties, which includes wall paints, floor treatments, mill whites...a long list of products renowned for the conservation role they've played in three generations of American industry. Write for full details.

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

Paints for Industry
Progress That Is As Practical As Steel Itself

No rapturous flight of fancy is essential to the concept of tomorrow's building designs. Progress will involve the application of improved methods, materials and practices to time-honored forms, while "inspired architecture" may well be a matter of dollars-and-cents value. The prospect is no less exciting for this.

Stran-Steel engineered systems are practical, flexible, adaptable to varied requirements. They were applied successfully to housing projects of many types before the war, and are now meeting military building requirements for the armed forces. Stran-Steel is well qualified to serve the post-war building industry.
You wouldn't spot it as a WAR BABY

Even war babies inherit the good qualities of the line from which they spring. The Benning, appropriately named for one of America's largest war projects, is Case quality in every possible respect. One of numerous Case fixtures developed to meet the wartime need for efficient, mass-produced plumbing fixtures at minimum cost, the Benning has features that have won wide approval.

For the DURATION consider:

1. VITREOUS CHINA tank and bowl—the finest material known.
2. NON-CRITICAL material in fittings and accessories—saving brass, copper and rubber.
3. DEPENDABLE action—built for long-term trouble-free efficiency.

4. SPACE-SAVING design—compact and low in height. Easy to install.
5. NOW AVAILABLE for Government approved projects, or for replacements.

For your Case distributor's name, see "Plumbing Supplies" in the Classified Telephone Directories of major cities, or write to W. A. Case & Son Mfg. Co., Buffalo.

Douglas Fir Plywood

HUTMENTS

provide warmer, wind-tight homes for our soldiers!

- The chances are that your soldier sleeps in a cantonment or hutment built of Douglas Fir Plywood. Millions of feet of this engineered lumber have been and are still being used to house our troops — both here and abroad. For just as plywood saves time and labor and produced superior pre-war structures for you ... so now are its many advantages contributing to the war effort. But after Victory, this Miracle Wood will be in position to help you more than ever before.

TO HELP SPEED VICTORY

the Douglas Fir Plywood Industry

is devoting its entire capacity to war production. We know this program has your approval.

DOUGLAS FIR PLYWOOD

Real Lumber

MADE LARGER, LIGHTER

SPLIT-PROOF STRONGER

SEND FOR FREE WAR USE FOLDER

Scores of actual photographs show how Douglas Fir Plywood is serving on every battle front and on the home front. Write for your copy today, Douglas Fir Plywood Association, Tacoma, Washington.
DAYLIGHT ENGINEERING in the Kitchen of Tomorrow

Many remarkable new conveniences will take their place in the kitchens of tomorrow's homes. While homeowners may have to wait for several years after the war to obtain most of these conveniences, there is one that they can enjoy just as soon as postwar building begins. That is the convenience of Daylight Engineering.

Through use of large window areas and translucent decorative glass walls, even the most compact kitchen can be given an atmosphere of spaciousness ... a light, cheerful place in which to work.

The transparent and translucent qualities of glass will also play an important part in the design of other kitchen appointments; its range, refrigerator, cabinets, etc. The sanitary, acid-resisting surfaces of glass will 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 L·O·F Glass are complete.

Libbey·Owens·Ford Glass Company, 22-73 Nicholas Building, Toledo 3, Ohio.
incidents, the class-struggle boys bellyaching that nothing is good enough, the Nationalists insisting that it was good enough for Pop and it is good enough for them. . . . Slice it any way you want, and it still comes out a literary tract.” And: “The inability of the Nationalist school, for instance, to attain a greater stature may be attributed directly to their failure to arrive at an international attitude. Their mental and emotional points of view are so hidebound by local and specific incidents that they can never rise to the majestic heights where a statement acquires universal significance. . . .” The spiritual poverty of these peddlers of isolationism becomes evident when one realizes that, as philosopher Sidney Hook has said, they are making a matter of fundamental principle depend upon the cruising radius of a modern bomber in an age of rapid technological development.

Although Mr. Kootz rejects the existence of traditional American ancestry for present-day painting—though the Nationalists may have come from a long line of American maiden aunts—Mr. Kelemen’s book demonstrates that there exists such a tradition. Its influence was probably not very strong on contemporary artists, but in architecture, sculpture, weaving, painting, pottery and all kinds of utensils the early Americans developed a decorative and an organic structural sense, which is very closely akin to contemporary art forms. It may, therefore, be advisable for some of our painters to take a look at these pre-Columbian inventions: They have as much to teach us as Picasso and Rouault, and might well serve to accelerate public acceptance of contemporary work. It is quite likely that Mr. Kootz would have said something on this subject had Mr. Kelemen’s original work been published before this.

Though rejecting the fashions of the moment: “Class struggle,” Nationalism, Surrealism, Mr. Kootz does not retreat one inch in his support of the greatest artist of our time: Picasso. Of him he says: “It so happens that today the art of Picasso is the painting equivalent of our social thinking. He has kept pace with the advances of the new world, and our own men who share his morality and spiritual sensations are America’s pioneers in participation in the conscience and consciousness of their time.” And he quotes Abraham Rattner, foremost of these pioneers: “The artist seeks to feel the wave length, so to speak, of life’s living forces, aspirations—the amplitude of its promise, meaning the throeb of its particular joys and sorrows—its vitality, its weakness, its power, its sensitiveness, its transcendent qualities, its damn ing handicaps—the principle of its cohesion, its form, . . . The pulse of now, today, our time has its very own quality as well as its own tempo. It demands its own form, its own means of plastic expression.”

The book is full of fine illustrations, though the color reproduction process seems to have failed badly in one or two instances. The writing is punctuated with categorical pronouncements on the author’s preferences and pet phobias—all of them well documented in only too short a text—a rare complaint about a book on art. Any criticism one might want to make of this book would concern the selection of representative American artists: there can not be any objection to including Rattner, Quirt, Morris and Davis. It does seem unpardonable, however, that Mr. Kootz in a work of such high standard included the sterile abstractions by Balcomb Greene, and omitted the exciting and imaginative painting of Helion and Gorky. The latter, in particular, has been readier

(Continued on page 116)
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.

GENERAL ELECTRIC
HOME BUREAU • BRIDGEPORT, CONN.
SPOTLIGHT ON FHA (Continued from page 70)

7. What methods can be adopted to shorten the processing time?

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<td>Unsatisfactory factory</td>
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<td>Builders and realtors</td>
<td>85</td>
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<td>Building money groups</td>
<td>128</td>
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<td>Dealers and manufacturers</td>
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Builders and Realtors

"Have a credit agency approved by FHA in each city. The builder could apply there for credit information at the time the prospective purchaser made his original deposit and be in a position to file an approved report with his mortgage application."

"Give local offices more authority. They now follow too rigidly the rules made in Washington that are not applicable to local conditions."

"With relief from the present critical material shortages, procedures can be greatly simplified."

"Establish a new position in FHA—a sort of public relations man as a go-between for the contractor and underwriter."

"I have worked as a valuator, mortgage risk and preliminary examiner in FHA. There are a number of experimental items in their reports that could be eliminated."

"Land-planning division should work more closely with local authorities."

"WLB is the cause of most delays."

"The architectural department, especially, is full of red tape."

"Continue the method of telephoning applicants instead of communicating with mortgagee by mail."

"Qualify builders and subdivisions. Then process on the basis of the builder's credit and his compliance with the subdivision restrictions."

Building Money Groups

"Have numerous one-man offices to facilitate processing."

"FHA should once and for all establish a clearcut set of rules and regulations and print them in intelligible language."

"Processing time can be greatly reduced by relaxing the underwriting section of responsibility for verification of employment status, bank balances and terms of purchase. Forms should be furnished to mortgagees and responsibility should be given the mortgagee for closing the loans in accordance with FHA regulations."

"In periods of peak production, district offices are too undermanned to accomplish a prompt insurance of the bond and a transmission of the necessary papers back to the mortgagee."

"Valuations and architectural inspections should be handled by part-time, local, fully qualified district appraisers; not by salaried employees travelling hundreds of miles to make a few inspections."

"A planning committee should be set up representing FHA, mortgagees and servicing agencies."

Dealers and Manufacturers

"Pre-appraisal is possible, particularly in the case of lower-cost homes. Pre-appraisals would be shaded up and down depending on the value of the lot and the credit rating of the owner."

"More field offices needed. We have to go two hundred and forty miles for every contact with FHA."

8. Should FHA include the insurance of commercial buildings and community structures necessary to a planned community?

<table>
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<th>Yes</th>
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<td>Builders and realtors</td>
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Builders and Realtors

"Yes, but only for essential stores."

"Would assure residents a wholesome environment."

Building Money Groups

"No, a planned community should not need FHA underwriting on every flagstone, shrub and stray dog to be successful."

"Danger would be overexpansion of store buildings to create higher value for land."

"Possibly a higher premium rate than on residential property would be justified."

"I don't believe the Government should be invited into this field. After all, that is a business venture. There has always been sufficient money to finance sound business and there always will be. Too many businesses have been started on a shoestring without making it possible to start many more with 80 or 90 per cent financing of the physical structure."

"A recent survey of seven miles of a second-rate business street in our city (Chicago) showed 189 vacant stores. It seems hardly necessary to provide Government insured loans to stimulate the erection of more stores. Your attitude toward a long-range program of FHA insurance depends on your political philosophy."

"Yes, when necessary to maintain values and community stability."

"No, we would have too many Arthur Dales."

Dealers and Manufacturers

"It would prevent the erection of shoddy stores out of harmony with the rest of the community."

"With safeguards this would probably open up a great potential postwar business. Practically every commercial area could stand improvement."

"It would certainly help the small business man. There is plenty of money available for financing structures leased to national chains but the small business man is not able to get decent quarters. It is about time this group had a break."

9. Has your treatment by FHA officials been equitable?

<table>
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<td>Dealers and manufacturers</td>
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Builders and Realtors

"Often find the local offices more critical than Washington. They hesitate to be frank and lay the cards on the table."

"Local offices okay. Too much red tape in Washington."

"Fine, always willing to open a case with proper foundation."

"Friendly, but they are not making 90 per cent loans. That accounts for the lack of building in Portland, Ore., as against Seattle, where they really make 90 per cent loans."

Building Money Groups

"I am surprised that it has been able to attract the caliber of men it has with the meager salaries paid."

"Nothing but praise for the way FHA operates."

"Oh, my Aunt Harriet! Have you ever tried to make a business out of a hamburger stand?"

"An irritating practice is the frequent renewing of the FHA on the findings of their inspectors. The Washington Administration should absolutely prohibit any part-time employment of either FHA officials or personnel. They should particularly not permit them to be employed in real estate offices, architectural offices, savings and loan associations. The reason is obvious."

"Any broker's office or fly-by-night builder has been able to get more cooperation than the average institutional lender."

(Continued on page 118)
Question—Why plan when you can’t build?
Answer—We Americans have made a promise to supply jobs to our men in the armed forces when they come home. Only with definite plans started now and completed before the war ends, can the promise be fulfilled quickly. Planning takes time.

Question—Who’s available to draw such plans now?
Answer—Numerous talented architects and engineers, most of them outside the area of military service.

Question—Why is full postwar employment in the Building Construction Industry of special importance to me, a business man?
Answer—The Building Industry, made up chiefly of hundreds of small firms, is America’s No. 1 Industry. It must employ a large part of the postwar millions.

Question—How can we have full employment in this big industry quickly after the war ends?
Answer—By starting plans for postwar buildings, urban rehabilitation, new town sites, etc., now, so they’ll be completed and ready on V-day.

Question—What can I do to get the drawing of plans under way?
Answer—Call the need for planning now, to your school and hospital boards, for example, and to your local and state planning and governing bodies. Urge them to use available facilities of architects, engineers, contractors, builders, realtors, etc., for forward planning now.

Fenestra SUGGESTS

TEST STEEL

Fenestra

START AN ARCHITECT ON A PLAN NOW

Fenestra SUGGESTS

WINDOWS • DOORS • ROOF DECK • FLOOR DECK • METAL SIDING • AND OTHER BUILDING PRODUCTS
to experiment than any other young American painter who comes to one's mind.

Taken together, the New Frontiers and Medieval American Art represent not only an invaluable survey of the artistic achievements on this continent; they are an indication of the end of a period of slavish imitation or reactionary self-sufficiency, and point to a future in which this hemisphere will at last make its legitimate contribution.


The Twentieth Century Fund is producing a series of booklets under the general topic of "When the War Ends." The writing has been entrusted to Stuart Chase who is well qualified for the job as one of the most successful popularizers of economics. His budget of our needs and resources—which will be followed by booklets on the problems of peace, etc.—falls into three groups: general principles, living and work. It is the second one of these, and particularly the chapter entitled "Shelter" which will be of greatest interest to the readers of The Forum.

Mr. Chase is exceptionally well informed on matters pertaining to the present situation as well as the future potentialities of shelter in the U. S. Intricate problems are frequently presented in a vivid narrative of personal experiences. In addition there are several statements well worth quoting:

- A recent survey by the Department of Agriculture disclosed that at least 2 million farmhouses are being inhabited at present in the U. S., which are unfit for human habitation.
- Houses in a typical New England town (Newburyport) fell into three categories:
  - Only 19% were in good repair.
  - 40% were in medium repair.
  - 41% were in bad repair.
- 49.2% of all American houses are in need of major repairs, or have no bath, or both.
- Quoting Miss Catherine Bauer: Between 1937 and 1950, sixteen million dwelling units should be built in this country, to care for population increases and to replace the worst of the substandard structures.
- Quoting Charles Palmer, one-time Federal Housing Coordinator, speaking at a FORTUNE round-table conference: 1,600,000 nonfarm dwellings must be constructed annually for the next ten years. Of these private enterprise might build 1 million, Government 600,000 each year.

Mr. Chase, in commenting on the state of our vaunted standard of living touches on the crux of the matter: "One reason why the construction industry is in such a deplorable state may be because it has been tied all along to the cart of land speculation. The men who have put up the money, by and large, have not been interested in houses for people to live in. They have been interested in developing property as an investment, or as it has been described, in 'buying by the acre and selling by the front foot.'" This is obviously very much to the point.

The booklet contains an amount of factual reporting that testifies to a great deal of objective research. It should be read by all those connected with building, not merely for its pertinent remarks on housing, but primarily because it relates this problem to all the other questions of reconstruction that will face us after this war. Everyone who has ever had anything to do with housing knows that it is intimately connected with other social problems: health, employment, social security, industry, farming, etc. Mr. Chase has related all these matters within a broad, coherent program.

Getting ammunition to the gun crew on an upper deck, raising and lowering large airplanes between decks on aircraft carriers, moving supplies and heavy equipment in buildings in military establishments and shipyards — Sedgwick equipment is doing all these things quickly, safely and dependably. For War's changing problems as related to load transfer between different levels are being capably met by a Sedgwick engineering staff which has a half century of specialized experience to draw upon. And Sedgwick plants, modernly tooled, are standing by to convert blue prints into finished equipment which has a performance record second to none.

When it's a lifting problem — think of Sedgwick

SEDGWICK MACHINE WORKS
ESTABLISHED 1893
164 West 15th Street New York, N. Y.
MEMBER OF PRODUCERS COUNCIL, INC.

ELEVATORS • HOISTS • DUMB WAITERS
In this co-ordinated action by U. S. forces, tanks advance, followed by infantry, covered by artillery and an air umbrella. Fletcher Pratt, noted military authority, helped us prepare the picture.

Large quantities of our weapons and equipment on every battle front are made by Westinghouse. 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 the war, a thousand new-day needs will be met with Westinghouse "Conditioning". Better products at lower cost, greater year-round comfort, better living for all.

Westinghouse success with widely varied "Conditioning" problems is based on years of experience. The exclusive hermetically-sealed compressor assures economy, dependability, long life. Inquiries are invited from producers of war equipment and from postwar planners. Westinghouse Electric & Manufacturing Co., 685 Page Boulevard, Springfield, Mass.

ONE CORNER OF THE SECOND FRONT

PRAISE THE AMMUNITION— that does its job because the shot has been tested by plunging alternately in boiling and refrigerated liquid baths. If defects exist, this shock test makes them visible.

ACK-ACK MADE ACCURATE. For perfect fit, intricate matching parts of antiaircraft gunfire directors are gaged and assembled at constant temperature and humidity maintained by air conditioning.

VICTORY WALLOP. Garand rifle parts fit perfectly because they are inspected with precision gages, which are kept accurate by regular checking against master gages, in rooms held at specified temperature by air conditioning.

"SHIFT FIRE TO RIGHT." In the manufacture of vital radio and telephone parts, such as electronic tubes, relays and delicate instruments, air conditioning speeds production by controlling temperature, dust and humidity.

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

Westinghouse Air Conditioning
GEARED TO A THOUSAND WARTIME NEEDS
Your Colors and Designs Live Longer in Fine Terrazzo

Example: Floors of Arkansas Court House Decorated with Fine Terrazzo

Fine Terrazzo made with Atlas White portland cement gives permanent beauty and distinction to any floor. Because it is long-wearing, Fine Terrazzo is particularly suitable for floors where continued good appearance is important and foot travel is heavy. You can use it in any design and in any combination of colors. There is a minimum of upkeep. The smooth, easy-to-clean surface retains its freshness of color and sharpness of design without replacement or repair.

For colorful, economical floors, specify Fine Terrazzo made with Atlas White cement. Its original beauty will endure for the lifetime of the building. (See Sweet's Architectural File, Section 11-19.)

10. Any other suggestion for reforms?

 Builders and Realtors

With all the fine show of super-scientific appraisals by FHA, they automatically cut down any contract by ten per cent, basing their reasoning on divine inspiration or the degree of biliousness they are experiencing at the moment. Bureaucracy can breed its peanut crop of Nero's. Despite FHA's fine work, an institution with so much power can be a dangerous force in the wrong hands. Some may decide it does not like the color of a builder's skin or his political ideology and cut down his loans twenty-five per cent, which would be tantamount to ruin. While the same danger may be present in dealing with private institutions, at least there is the economic motive that acts as a great force against discrimination. I think the answer lies in an insurance system administered by a combination of large insurance companies and other lending institutions.

"FHA should insist on the adoption of a uniform mortgage law in all states that would permit the recovery of defaulted loans within a reasonable time."

"There is need in the housing field of an organized appraisal agency, "

Inspector clinics should be conducted every four months. Owners attach great weight to the opinion of the inspectors. Many of them are badly informed and inexperienced.

"Discontinue the complaint department. Some of the people who buy homes for a nickel down use this as a means of high-jacking builders into giving them a lot of extras."

"Loan companies and builders should be advised of rejections in one or two days. Also be advised if there is a reasonable chance of the loan's going through."

"Builders should be kept informed of changes in regulations."

Building Money Groups

"Elimination by FHA, either through legislation or regulation, of the payment of premiums and related to contractors, subdividers and material men by financial institutions. Continuance of this practice, which is universal in the U. S., is harmful to the whole FHA program."

"To discourage switching of loans, the holder of FHA mortgages should be permitted to collect one per cent premium on unpaid balances in addition to FHA premium."

"Use FHA to control the overproduction of any one type and price of house. It would be a stabilizing force."

"FHA locally is holding down its appraisals in order to fight inflation, but there is no pressure on the savings and loan companies to do likewise."

"Limit loans to not over $10,000 as most of the losses occur in the larger, more expensive homes."

"FHA prides itself on encouraging new subdivisions, but it does not give adequate credit in land valuations. Builders have found it more profitable to buy distressed, lots in poor sections. This is especially true in the Southwest."

"I hope they will retain the provision insuring loans directly to builders. In my opinion this was the greatest single help to us. Before that, mortgagees charged outrageous prices for temporary financing."

"We have put into effect a system of life insurance, in conjunction with our FHA loans. This is very popular, especially with our mortgagees in the service."

"I think the proposed ninety-per cent plan of the Federal Savings and Loan Associations will have a salutary effect on FHA. Competition will keep them on their toes and result in better service."

"FHA premiums should be increased on a actuarial basis to insure payment of interest and taxes during periods of unemployment, of physical disability and to provide for 1 full satisfaction of the mortgage balance in the event of the death of the principal financial support of the family."

"Adequate consideration has not been given to the fact that many FHA loans running twenty-five years will produce a"

(Continued on page 122)
Who ever heard of a TREE being WELDED?

Welding is the very latest thing in building ships and airplanes . . . but it is an age-old story to Nature. A tree’s great mechanical strength, for instance, comes from the welding together of its mass of cellulose fiber by a mysterious and elusive substance called lignin.

Almost 19 years ago the late scientist, W. H. Mason, long an associate of Thomas Edison, discovered a way to duplicate—and, in fact, improve upon—Nature’s own “welding process.”

The result was one of the world’s most remarkable materials, Masonite® Presdwood,* the ligno-cellulose hardboard which, weight for weight, has steel-like strength . . . is glass-like in smoothness . . . provides unusual workability and almost limitless versatility.

The Masonite Process starts by “exploding” wood, without either damaging the cellulose or removing the lignin. The cellulose fiber, of varying degrees of plasticity, is then welded together again under different heats and pressures, producing ligno-cellulose hardboards suitable for many special purposes.

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After Victory they will again be ready to provide the homes you design with sturdy exteriors, beautiful walls and ceilings, built-in furniture, kitchen cabinets and counter tops, and many other attractive features. Masonite Corporation, 111 West Washington Street, Chicago, Illinois.


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THE LIGNO-CELLULOSE HARDBOARDS

JULY 1943
Bathe-Rite
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Contractors’ Fast Field Assembly Methods...

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WRITE or WIRE
for Details
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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-by-month purchases of War Bonds will help supply them. Buy now and keep buying.

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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

THE ARCHITECTURAL FORUM
FACTORY IN 194X

COMPLETE RECREATION FACILITIES for the use of employees at lunchtime and after hours... a roof-top cafeteria with tables in sunlight and shade... bowling alleys, floodlighted for evening use... ample space for deck-tennis, shuffle-board, horseshoes and other outdoor amusements.

These are exciting features of this factory project designed by architect Richard Bennett, member of the faculty of Yale University and of Vassar College, and winner of the recent Wheaton College competition.

"Facilities like these," says Mr. Bennett, "make the factory a potential community and social center. They can be located on factory roofs without necessitating any increase in floor or plot areas."

"This is another in a series of architectural designs suggesting greater utilization of valuable roof space that is too often neglected.

Barrett coal-tar pitch and felt roofs have been standard for flat-roof construction since 1854. Yet they are ideally suited to accommodate the current trends in post-war planning. Whatever the design, Barrett Specification Roofs will continue to provide the maximum in dependable, long-lasting waterproofing and weather-proofing protection."
SPOTLIGHT ON FHA
(Continued from page 113)

interest yield little more than the cost of servicing them during the later years. Lenders' experience in servicing FHA loans is that the process practically doubles or even trebles clerical overhead plus supervision. The additional costs should be compensated for through one of two methods—the writer favors the second—1) Through an interest rate of not less than 5%; 2) By a flat monthly collection service charge, the amount of which should be determined after a careful investigation of a number of institutions to determine the average cost. This charge would remain constant during the term of the loan. Churchill has stated our case beautifully: "We must beware of trying to build a society in which nobody counts for anything except a politician or an official; a society where enterprise gains no reward and thrift no privileges."

11. Should the present system of valuation be revised so that the accent be on low ownership costs rather than low monthly payments? This might mean insuring high quality furnaces, refrigerators, etc.

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<tr>
<td>Builders and realtors</td>
<td>74</td>
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<tr>
<td>Building money groups</td>
<td>139</td>
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<tr>
<td>Dealers and manufacturers</td>
<td>72</td>
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<td>265</td>
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Builders and Realtors
"If we don't wake up to the fact that we have been giving small home purchasers a bad break, we are going to find ourselves pushed out of business by the prefabricators who can produce quality houses that won't fall apart in a year. Our business has not been conducted honestly. We gave the public tile-baths and Venetian blinds, but left out the insulation and waterproofing. We used the cheapest type of lumber. The amount of ill will created was terrific. I know several builders who refused to install phones in their homes in order to avoid calls from irate customers; one of my competitors had his index finger bitten off by an infuriated purchaser. If the industry is to survive it must realize it has a duty to society."

"As soon as manufacturers realize that they can do ten times as much business if they cut the costs of quality equipment, we will be able to give the public a break."

Building Money Groups
"Not unless the planners propose to have the Government insure everything that is necessary to the function of family life,—the butcher bill, cost of food, vacations. It seems that the planners are trying to plan the American people out of any initiative, self-reliance and pride of accomplishment."

Dealers and Manufacturers
"Any arbitrary rule such as cubic-foot valuations or the relating of monthly payments to borrowers' income should be tempered. They do not allow adequate consideration of efficient versus inefficient operating equipment nor high versus low operating costs. The objective should not be low amortization payments, which depend upon the appraisal based on first cost, but rather low home ownership cost, which includes operation and maintenance in addition to amortization. These are fundamentals which future FHA procedure should recognize and encourage in order to protect both the buyer and mortgage insurer. Houses are built for only one purpose—for people to live in. This means that the necessary functions of family life should be provided."

12. Should rental housing be further encouraged?

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<td>51</td>
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<td>Dealers and manufacturers</td>
<td>48</td>
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<td>146</td>
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Building Money Groups
"Rental housing should be encouraged. We all know there are a great number of marginal workers who should never own homes. The slightest depression would wipe out their meager equities."

Dealers and Manufacturers
"Home ownership the basis of a stable country and good citizenship."

"Have you seen the National survey published in September 1942, by the Bureau of Urban Research, Princeton University. It bears directly on whether rental housing should be encouraged. According to this survey 86 per cent of home owners are glad they own their own home, 60 per cent of the renters wish they owned only 8 per cent rent because they may have to move. In other words there is a latent desire for home ownership and in my opinion every effort should be made to make this materialize rather than encourage rentals."

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WITH WAR BONDS

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- Column Clamps
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- Adjustable Shores
- Concrete Reinforcing Bars

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

JULY 1943
only a GLEAM in a designer's eye

Once in a while, after a hard day of building war materials for Uncle Sam, we like to dream a bit of the Roper (CP) Gas Range of tomorrow—the Post-War Model*. So far it's only a gleam in a designer's eye. But when it arrives, it will help you plan the ideal kitchen in the post-war American home.

BE SURE—SPECIFY ROPER

For your use get this valuable Free Booklet—"Care and Operation of the Gas Range."

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GENERAL SALES OFFICES AND PAINT-SHOP FARMERS, ILLINOIS

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Professor of Architectural Construction, University of Pennsylvania

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UNITED STATES STEEL
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Features: Projecting a fence of invisible light, new photoelectric system is suitable to the protection of harbors, docks, industrial properties, airports and similar large areas. In operation, the light source is aligned with a receiver to which it focuses a modulated beam of infra-red light. Because receiver responds only to the frequency of light emitted from the light source, it is not affected by other artificial light or by daylight. This extreme sensitivity enables the equipment to function over a greater range than it has been previously possible to cover with photoelectric controls, and at the same time guarantees complete stability of operation. If invisible infra-red light is not required, the operating range of the system exceeds 2,000 feet. Once the beam of light projected to the receiver is momentarily broken, the alarm circuit goes into operation. An additional safety feature is that either power or tube failure will cause the alarm circuit to operate as though the light beam had been broken. Receiver Type A30M and Light Source Type L60M are of rugged construction, built for unlimited service-free operation, and are furnished in weatherproof housings. An auxiliary latching relay with reset button is also supplied. Equipment is designed for operation on 105 to 125 volts AC.


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Features: Because this valve never draws away from its seat, it is claimed wear on both seat and face of valve is prevented. Corliss Valve functions by rotating within a cylinder provided with inlet and discharge ports. In addition to its sensitivity to slightest change in quantity of condensate, valve is extremely rugged and not subject to choking with scale, mud or sediment. Valve and seat are necessarily of bronze or stainless steel. Guide and chamber are of steam bronze and float is of seamless copper tested under high pressures. Body and cover are close-grained cast iron.

Manufacturer: W. B. Connor Engineering Corp., 114 East 32nd St., New York, N. Y.

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Manufacturer: The Blake and Johnson Co., Waterville, Conn.

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Sewer Disposal Plant
Interior view of one of the six huge concrete tanks which, with other installations, constituted the Naval Station Sewage Disposal Plant.

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ARCHITECTURAL FACTS
about Aircraft Engine Research Laboratory

1. Cost of laboratory — $20,000,000.
2. 450,000 cubic yards of concrete and more than 8,000 tons of steel were used.
3. Water cooling tower has operating capacity of 47,500,000 gallons per day.
4. Electrical capacity has a total connected motor load of 109,160 horsepower.
5. Wind tunnel is the only high-altitude tunnel built to date. Total motor horsepower — 58,772. Wind speed — up to 500 miles per hour to simulate flight conditions at 50,000 feet.
6. Huge refrigerator plant makes possible 67-degree below zero wind tunnel tests.
7. 556 telephones and extensions are required.

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JULY 1943
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by SVEND PLUM

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Volume I deals with Definitions, Regulations, Architectural Practice, Pipe Work, Water Supply, Drainage, Sewers, Gas Piping, Water Heating, etc.


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-metal trims-

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

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

The saving and extra satisfaction realized on Grand Rapids Invizible installations has already been fully substantiated by the experience of scores of leading contractors. Deliveries of Grand Rapids Invizible Balances are governed by government priorities. Send for catalog for full information as well as delivery details.

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Ducts constructed of Sal-Mo Supply Duct are tight, quiet and insulated. Low conductivity rate assures efficient operation in both heating and cooling systems. Smooth interior surfaces give low friction loss. Air tight construction prevents heat loss.

APPROVED AND LISTED by Underwriters Laboratories, Inc.

Sal-Mo Supply Duct is tested for Fire Hazard Classification; Inflammability; Fire Retardant Classification; Fire Spread; Moisture Absorption. It has a "K" Factor of 0.294 B. T. U. Available in 26 sizes for domestic and industrial installation, and in flat sheets.

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WOULD A COMBINATION BATHROOM WITH A "YES" NO BATHROOM LAVATORIES AND CLOSETS APPEAL TO YOU?

Booklet illustrates Crane's prewar and present wartime plumbing and heating fixtures. Also included are sketches of possible postwar trends. Strikingly illustrated in color. booklet is designed to stimulate home owners' imaginations as to what type fixtures they will want in their homes. To stimulate ideas and viewpoints, an accompanying 8-page questionnaire asks specific questions on equipment and fixtures. Published by Crane Co., 586 South Michigan Ave., Chicago, Ill.

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[Options: Broken with breakfast nook, kitchen without breakfast nook]

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It is another fluorescent first for Sylvania — this all-purpose standardized fixture of the future.

The streamlined top-housing, which weighs less than three pounds, encloses the ballast and protects it from dust.

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