UNIVERSITY OF HAWAL

RPR2

HE ARCHITECTURAL TO RUNI

JANUARY 1944

12 years of research



Typical of thousands of low cost Cemesto houses now completed and thousands more under construction throughout the country – built with Cemesto wall units. produced CEMESTO

... THE REVOLUTIONARY BUILDING MATERIAL FOR LOW COST HOMES, HOUSING DEVELOPMENTS AND FACTORIES

One of the many Cemesto war housing projects—the Arlington Farms Women's Dormitories, near Washington, D. C., as it will appear from the air.

Die 1 10





CEMESTO, the revolutionary building material, combines exterior and interior finish plus insulation in a complete fire-retardant wall unit of remarkable structural strength.

Because Cemesto homes are pre-engineered, they can be built with amazing speed and economy and be sturdy, permanent and comfortable. That's why more than 50 million dollars worth of Cemesto home, dormitory and factory construction has already been completed and accepted. Other huge projects are now under construction in various parts of the country. Architects and engineers! A new booklet on Cemesto construction is now ready, illustrating its use for outside and inside walls in industrial construction. Write for your free copy.



THE CELOTEX CORPORATION . CHICAGO

JANUARY 1944 5852-2414

NEWS	43
SOUTH SEA ARCHITECTURE	49
Two military groups in thatch and bamboo, designed in the field by Army and Navy personnel.	
WASHINGTON HOUSING With examples of every type of housing, permanent and temporary, public and private, Washington is a complete laboratory for shelter. A documented survey and an evaluation.	53
PREFABRICATION A survey of manufacturer opinion on postwar merchandis- ing problems and procedures.	65
HORSE SENSE PLANNING III Underenvelopic Development: the third in a series of articles on private-enterprise urban reconstruction.	69
PLANNING THE POSTWAR HOUSE First of a series of three articles on the individual house built for sale. FORUM editors predict definite and im- portant departures from the stock Cape Cod model of the early 1940's, present actual examples which illustrate the new trends.	75
HOUSES A special portfolio of house designs of particular interest to operative builders and their architects.	81
PRIMARY SCHOOL, BASEL, SWITZERLAND A one-story design of outstanding excellence, housing a kindergarten and elementary grades.	91
FORUM OF EVENTS Target Berlin Postwar idea of the month: a phos- phorescent house Calder's exhibit at the Museum of Modern Art.	4
PRODUCTS AND PRACTICE Electronics—its important contributions to Building.	12
BUILDING REPORTER Technical news new products technical literature.	18
BOOKS Hellas and Egypt Clementine in the Kitchen.	22
LETTERS	34

NEXT MONTH: The Navy's Seabees . . . MacDill Field . . . Planning the Postwar House, II . . . A Customer Looks at Architecture . . . Laszlo Portfolio . . . Chicago Subway . . . Ski Lodge . . . Prefabrication.

Since January 1, 1943, TIME, LIFE, FORTUNE and THE ARCHITECTURAL FORUM have been cooperating with the War Production Board on conservation of paper. During the year 1943, these four Time Inc. publications will have used 14,600 fewer tons of paper than in 1942. In view of the resulting shortage of copies, please share your copy of THE FORUM with friends.

In Military Service: Robert W. Chasteney, Jr. William J. Conway Robert B. Hanford, Jr. Joseph C. Hazen, Jr. George B. Hotchkiss, Jr. S. Chapin Lawson Amnon Rubinstein A. Banks Wanamaker

Managing Editors, George Nelson, Henry Wright; Art Director, Paul Grotz: Assistants, Louise Cooper, Rosamond Draper, Ruth Feierabend, Mary Sanders, Dorothy Oahag, Richard E. Sanders, Madelaine Thatcher, Publisher, Howard Myers; General Manager, Ruth Goodhue; Advertising Manager, George P. Shut. THE ARCHITECTURAL FORUM is published by Thme, Inc., Maurice T. Moore, Chairman; Roy E. Larsen, President; Charles L. Sullman, Treasurer; David W. Brumbaugh, Secretary, Publication and Subscription Office, Orange, Conn. Subscription may also be sent to 330 East 22nd Street, Chicago 16, 11. Executive, Editorial and Advertising Offices, 19 West 44th Street, New York 18, N. Y. Yearfy subscription payable in advance U. S. and Possessions, Canada, Mexico, South America, \$4.00. Eisewhere \$6.00. Single issues, includ-ing Reference Numbers, \$1.00. All copies mailed flat. Copyright under International Copyright Convention. All rights reserved under the Para American Copyright Convention. Entered as second Class Matter at the Post Office at Orange, Conn., under the Act of March 3, 1879. Copyright, 1944, by Time Inc.

The PLANNING WITH YOU department, omitted from this issue, will be resumed next month. Meanwhile, you can still get copies of THE ARCHI-TECTURAL FORUM's postwar planning booklet by sending \$10 for the first hundred, \$5 for each additional hundred.

ROUND SLEEVE? OF COURSE

HERE'S WHY ...

MEMO Small Home Survey shows that 80% of Post War Home of Post War Home Buyers want a Buyers want a in the Home!

> In functional performance, the round sleeve conforms to the natural course of an air stream. It eliminates the off-circle corners... easy hiding places for dirt and grease, and as every one knows a round sleeve is easier to adjust to proper length as it does not bind. When you get to specifying a VENTILATOR for new postwar homes, look for improvements, yes, but be sure that you specify a VICTOR —the Ventilator with the round sleeve.

Victor is planning better living for the post-war home. If you want to hear about the latest developments at Victor in the ventilator and home appliance fields, write today.

ARCHITECTS WILL NOT FORGET . . .

Sweet's Catalog File for builder

This architect working? Of course he is. Not with pencil and paper, maybe. But he's doing a lot of reading these days, finding out what Mr. and Mrs. America want in the homes they will build in the not-toofar tomorrow. He's visualizing greater home comfort and convenience for the millions of post-war buyers.

Of one thing he may be sure. People today are ventilation conscious. A recent survey reports that they definitely want a clean, odor-free kitchen in their homes of the future. In other words, they want a kitchen ventilator.

Victor Ventilators have a reputation for quality and service. The foresighted architect will find it a large part of wisdom to indicate one or more Victor Ventilators on his blueprints for the homes of tomorrow. Check Victor's insert in Sweet's File for Builders for 1942. Better still, check with Victor. Victor Electric Products, Inc., Dep't. AF-144 No. 2950 Robertson Avenue, Cincinnati 9, Ohio.



BONDS YOU BUY TODAY WILL BUY BETTER LIVING TOMORROW

665210

You can't heat a house with an idea

Gas Heating Equipment

SURFACE COMBUSTION

Toledo, Ohio

Keep your feet on the ground, America!

PERHAPS the "Furnace of Tomorrow" will be the size of the old-fashioned ice cream freezer ... will cost less to install than the best present-day equipment . . . will cost far less to operate . . . will have specially designed exterior of glass, plastic or aluminum to harmonize with living room, bedroom or kitchen.

But . . . the new furnaces that will develop (when America's engineers are no longer working on war projects) won't come true overnight—just as television hasn't. New products have to be laboratory tested until all the bugs and difficulties have been worked out. Before they are offered to the public or

recommended to the building profession they have to be field tested — not just for weeks but for many months





Winter Air

Gravity Furnad

OF

TYPES



We'll be glad to send you descriptive catalogs on the modern JANITROL furnaces and unit heaters which were designed just before the war and installed in thousands of homes, apartments and building projects, as well as in Government wartime projects.

These are basically the furnaces we are going to be delivering just as soon as government restrictions on fuels and materials are modified. While they already embody engineering advances which some furnace manufacturers are still only promising for postwar models, they are proven, tested furnaces that you can stake your reputation on

> and can recommend as the most modern, efficient heating equipment for your postwar work.



Kathabar Humidity Control System

RESIDENTIAL, COMMERCIAL AND INDUSTRIAL BUILDING

ALL



FAMOUS TREES ON UNTER DEN LINDEN WERE REMOVED BY NAZIS IN FAVOR OF SWASTIKA STANDARDS (BELOW)

To friend and foe alike, there is an acute sense of loss in the destruction of one of the world's great capitals. As Americans, we may shout with pride over Germany's weakening defenses but Berlin's destruction is no occasion for joyous outbursts. In the heat of war it is easy to say the city contained nothing worth saving, that its atmosphere was cold and unimaginative, that most German architecture is either plagiarism or grotesque interpretation. The fact remains that the destruction of Berlin was also the destruction of certain cultural and historic monuments which will never be replaced. These are as international as great music, German or otherwise. Hitler chose the weapons and the tactics. The RAF doubled his bid. Yet in London, where the spirit of retaliation should have been strongest, there was no wild jubilation. Blitz survivors, Londoners know the price put on the head of Nazism by its leader.

UNTER DEN LINDEN; THE KROLL OPERA HOUSE, ONCE THE CHANCELLERY; ALEXANDERPLATZ IN PROTECTIVE FOG





Pictured here are a few from hundreds of wartime DOOR PROBLEMS solved by Peelle DOOR ENGINEERING. We also know the answers to many peacetime DOOR PROBLEMS. When you come to a DOOR PROBLEM—come to PEELLE—the finest name in doors—backed by over fifty years of DOOR ENGINEERING experience.

PEELLE THE FINEST NAME IN DOORS ...

47 STEWART AVENUE . BROOKLYN, N.Y.

FORUM OF EVENTS



Stabile, Spiny, 1942

ALEXANDER CALDER

A sculptor who doesn't take himself too seriously is a rare find. For some years art critics and museum press agents have been industriously spinning a web of mystery and obscurity around Calder, his work, his technique and his motives. In the role of the great artist he is not a success. Furthermore, Calder has never posed as anything but the inventor of forms, animated and still, which are amusing and fun to look at. It should be remembered that the gigantic mobiles and stabiles currently on exhibit at the Museum of Modern Art are direct descendants of

his animated circus which consisted of clever wire marionettes. That in (Continued on page 114)

Stabile, Black beast, 1940

Mobile, Horizontal spines, 1942



POSTWAR IDEA OF THE MONTH

Architect Alden Dow chose the circle as the main motif for this all plastic house to give a feeling of spaciousness which he believes cannot be achieved by straight lines. Color is another feature. Exterior walls and floor are soft pink, roofs are yellow with turquoise trim, columns along the covered walks are bright orange. Exterior surfaces and floor will be made of phosphorescent plastic to glow with beauty during the night and serve as a guide to the various units of the house. Further outdoor illumination will be provided by translucent walls and roofs in some sections. A sound tower in the central chimney will provide musical accompaniment for streamlined living.

Probably from the company that has been longest engaged in providing plastic materials for your purpose, and has a highly practical as well as theoretical outlook on the subject.

Where can I get the best information

on Plastics?

Where plastic surfaces for walls, counters, table tops, columns, doors is concerned that company is unquestionably Formica. which in 1927 led the way in suggesting these applications to architects, store fixture manufacturers, and furniture makers. Since then hundreds of leading architects and interior decorators have used the material successfully-according to methods of application developed by Formica-in countless famous installations.

It was used in famous ships such as the British steamers, Queen Mary and Queen Elizabeth, in scores of modern deluxe streamlined trains, in great hotels like the new Statler in Washington, in public buildings like the annex to the Library of Congress, or the National Airport.

So when you want information about plastics applications, turn to the people who know-who can give you practical, down-to-earth information based on real experience over many years. Ask Formical

"The Formica Story" is a new movie picturing in color the qualities of Formica, how it is made, how it is used. It is now available for meetings of architects and engineers.



INSULATION COMPANY FORMICA THE 4620 SPRING GROVE AVE., CINCINNATI 32, OHIO

How

PITTSBURGH GLASS

can help you design better homes



Bathroom Design has advanced considerably in recent years . . . and Carrara Structural Glass has contributed substantially to this progress. Carrara is so colorful, adaptable, and permanently beautiful. It is available in 9 shades. This room, with mirror "Copper Backed" to withstand moisture, is in 3 shades of Carrara. Architect: Maxwell A. Norcross.



Trend is toward larger window areas in home design ... ven in the small dwelling. It is, therefore, more important han ever to select a window glass of top quality. Pennernon Window Glass has won wide recognition as a quality roduct . . . clear, bright-surfaced and offering unusually ood visional properties for a sheet glass. Architect: Henry Vilkinson.

he Variety of colors and backings now available in Pittsurgh Mirrors has made them more useful to the architect han ever before from a design standpoint. They can be made rom blue, green, flesh-tinted or regular plate glass ... with liver, gold or gun-metal backing. This attractive mirror pplication was designed by Architect Richard A. Morse.

h High Favor with architects is the application of "picture" vindows to home design where natural outdoor beauty indiates an opportunity to "build-in" a view. Pittsburgh Polished Plate Glass in such windows assures clear, undistorted vision ogether with maximum surface beauty in the glass itself. Architect: George Fred Keck.



* Design if PITTSBURGH GLASS

THE ACCEPTED LINE FOR EVERY ARCHITECTURAL USE

"PITTSBURGH" stands for Quality Glass and Paint

9

Exposed MASONRY

CREATES A BEAUTIFUL INTERIOR!



Brick and Tile are both the structural material AND THE FINISH in this modern interior designed by Frank Lloyd Wright for S.C. Johnson & Son, Inc., of Racine, Wisconsin

The trend is toward exposed masonry for interiors.

One of the many companies which have used this architectural treatment with notable success is S. C. Johnson & Son, Inc., makers of Johnson's Wax. The interior of their headquarters office building—designed by Frank Lloyd Wright—is individual and distinctive in appearance. Walls and balconies are brick, exposed in its natural colorful state.

Tomorrow . . . many interiors in apartments, public and commercial buildings, will be built of exposed brick and tile. More, they will be built of modular-designed brick and tile.

This new type of brick and tile, based on the 4-inch module and accepted by clay products manufacturers throughout the United States, will facilitate the use of masonry interiors, providing easier bonding and eliminating unnecessary cutting.

Write for a copy of our "Facing Tile Catalog" which describes the features of brick and tile for both interiors and exteriors, and which illustrates the standard shapes and finishes which are available in facing tile. Address Structural Clay Products Institute, 1756 K Street, N. W., Washington 6, D. C.



TIL

AFTER THE WAR... IT WILL BE BUILT OF MODULAR DESIGNED

BRICK AND

ELJER PLUMBING FIXTURES







Mr. Eric Kebbon: Architect, Supt. of School Building, Design and Construction.

Chief of the Sanitary Division: Mr. O. C. Wahlstrom. Jobber: W. H. Hussey & Son, Inc.

- 1. Benjamin Franklin High School Plumbing Contractor: Jesse E. Kahn
- 2. Machine and Metal Trades H. S. Plumbing Contractor: Joseph F. Egan
- 3. J. Fenimore Cooper Jr. H. S. Plumbing Contractor: Jesse E. Kahn

in New York City Schools

These beautiful buildings are typical of the many New York City schools equipped with Eljer's fine, long-lasting plumbing fixtures. Some of these fixtures are shown below.

In selecting fixtures, remember that where quality and durability are important, Eljer fixtures measure up to the most exacting standards.

Write for our condensed catalog and free booklet on residential bathrooms entitled "Women Tell Us". Also see our catalog in Sweet's.

ELJER CO. · Ford City, Pa.



PRODUCTS AND PRACTICE

ELECTRONICS

Its applications are invading every phase of modern existence, hold exciting promise for Building.



ELECTRONS in simple diode tube flow at high speeds from surface of heated cathode to positively charged anode, forming a current-carrying path.



RECTIFYING: Electrons flow in one direction from minus to plus. Only the positive half-wave of AC voltage attached to anode produces current—pulsating DC.



AMPLIFYING: Small amount of power conrected to grid is amplified into a large amount. Positive grid increases electron flow; negative decreases it.

Electronics, so widely exploited for war purposes that it has become a boom industry, must have an expanded outlet in peace. Although the electron tube was in use long before the war, in radios, for example, its broad application in other fields has been balked by high prices, unwillingness to change from mechanical devices, and also real problems of its operating efficiency. Wartime developments will eradicate most of these former objections. Quantitative production of electronic devices for war represents almost 60 per cent of a now \$4 billion industry. This 60 per cent can be diverted to peacetime purposes, provided such a market is ready. The incentive to electronic research given by the war to perfect, improve and devise may yield still more wonders than presently imagined by an information-starved, luxury-hungry public.

What promise does electronics hold for Building? How will it change our homes, offices and factories? Will houses be windowless and yet lighted with the perfection of daylight? Will buildings and entire cities be free of dust and smoke? Will television, radiophotography and frequency modulation radically change present communication systems?

Specific possibilities envisioned for electronics in building include innumerable low cost appurtenances for the home: photoelectric devices to open kitchen and garage doors, to turn lights on and off at night as one enters or leaves a room; controls to regulate heating and cooling, to cook an entire meal without supervision; germicidal lamps for the kitchen, nursery and bathroom to kill bacteria, to prevent transmission of air-borne diseases; lighting to provide the efficiency of daylight or to alter the entire color scheme of a room. Houses will be made of lightweight, strong metals or plywoods, welded together with invisible nails. Television will become as much a part of everyday living as the radio is today.

How and why of electronics

To comprehend all that electronics can or might accomplish, it is important to understand the underlying principles the reasons why electron tubes can do such a variety of things. Electronic theory hinges on the concept of the atom: a nucleus around which the electrons whirl in an orbit. These electrons, when isolated in a vacuum or gas-enclosed tube, may be made to perform in an orderly manner. The electron tube, of which there are 750 types, is basically simple in construction, consisting of two or more electrodes. One, the cathode, is negatively charged. The anode, or anodes, are positively charged. The cathode may be of tungsten metal, heated directly or indirectly by electric current, a mercury-pool heated by an arc, or a cesium or potassium coating on a plate actuated by light. The negatively charged electrons are emitted by the cathode when activated by a suitable potential, by heat or by light, and are attracted to the positively charged anode. This flow of electrons-in one direction only-has one important function: it can rectify current, convert AC to DC, and can do so with greater economy of power than was possible with former types of equipment.

When a third electrode, or grid, is added between the cathode and anode. it can control the stream of electrons. Positively charged, it increases their attraction to the anode and, conversely, if negatively charged, will repel them. Thus an input of weak voltage when connected to the grid is amplified in the electron tube. On this discovery of Lee de Forest in 1907 rests the development of radio as we know it today. And on this discovery are also based the myriad electronic devices which are performing countless new operations. In essence there are six things the electron tube can do:

► Rectify current—AC to DC.

► Amplify current—from imperceptible signals to audible or visual.

► Control power, machines, gadgets. ► Generate high-frequency alternating current that travels with the speed of light.

Transform light into current.
 Convert current into light.

Rectifying devices

As a rectifier, the electron tube has proved invaluable in war industry—at a time when materials for the old rotary-type equipment were not to be had. High-power rectifiers are supplying the needed DC power for aluminum and magnesium extracting, and for other electrochemical processes. They furnish direct current for électric transportation systems, provide power for variable speed motors. A new low power electronic rectifier not only converts AC to DC but provides stepless regulation of speeds for individual machine tools.

A specific application of electronic rectification to the building field is the

Precipitron, a Westinghouse development that cleans the air electrostatically, removing dirt and smoke particles down to a quarter-millionth of an inch. A potential of 13,000 volts DC is applied to tungsten wires and 6,000 volts DC to collector plates. Dirt particles in the incoming air receive a positive charge as they pass through the electrostatic field and then are attracted to the negative plates where they are deposited. This efficient dirt remover will be available after the war at about the same price as an electric refrigerator. Its value in war industry and military photography is inestimable. Its contribution to health in homes, schools and public buildings cannot be overlooked.

The same rectifying tube used in the Precipitron is also used in electrostatic painting. When paint particles are negatively charged, they atomize and distribute themselves on to a positively charged metal surface —a car, refrigerator or airplane—with great speed and uniformity.

Amplifying devices

As previously mentioned, the addition of a grid or third electrode controls the number of electrons flowing from cathode to anode, making possible the amplification of weak radio waves into sound waves. Modern communications—radios, loud speaker systems, radio telephones—have developed from this fundamental principle. Minute impulses, other than radio waves, which are too small to be detected by former means can be amplified to the point where they can be measured and analyzed. Machine vibrations can be located and measured, balanced with absolute precision. Not only will this balancing increase efficiency, but it will prolong the life of machines and eliminate noisy operation.

Controls

The grid which permits amplification may also function as a fine source of control, if the vacuum is replaced by certain gases or vapor at very low pressure. A weak potential connected to the grid may control vast amounts of power. The control itself may become a function of temperature, speed, time or light, these variables affecting the circuit-opening, closing or modifying it. The simple rectifying tubes, because of their ability to cut alternating current in half, are used for splitsecond timing devices. One is the new resistance welding technique for thin metal sheets. Aircraft, automobiles, refrigerators made with this advanced machine tool are improved in quality and lowered in cost. Other controls provide smooth acceleration and deceleration of motor speeds, regulate huge air conditioning systems and electrochemical processes. In the home electronic devices can control thermostats, adjust stove heat, turning it on or off, perform a hundred other duties now tiresomely done by hand.

High-frequency generation

By connecting up a triode tube for oscillation, that is, amplifying in the usual way but feeding back part of the amplified voltage, an alternating current of very high frequencies can be produced. This generation of high frequencies has new and vastly important implications.

We are familiar with the high-frequency radio transmitter. Not so familiar is its application to induction and dielectric heating. Rapid and readily controlled rates of heating, together with the ability to generate heat within the work itself are characteristic advantages.

Dielectric heating was first used to dry tobacco leaves in casks. For a number of years it has been successfully applied to the treatment of internal ailments. More recently, its application to the curing and bonding of plywoods and plastics has cut processing time from days to minutes, has permitted fabrication of larger and thicker sections. A recent development of dielectric heating is the "radio nail": high-frequency power shot from a pistol-like tool which bonds sheets of

IMAGE

MAGNETS

6000

OBJECT





PURIFIED AIR emerges from outlet side of large precipitron installation. Tiny dirt particles are electrostatically charged, then drawn to collector plates.



MILLION-VOLT X-RAY examines giant casting for flaws to depth of 8 in. X-ray tube emits high frequency waves which penetrate internal structures.



Legol

TELEVISION CAMERA transforms scene from pattern of lights and shadows to corresponding electrical impulses in this dipper-shaped electron tube.

PRODUCTS AND PRACTICE

plywood as surely, invisibly and firmly as if they were nailed or stapled.

Induction heating (used on good conductors of electricity) flows and smooths the layer of tin on steel strips, which have been electroplated with a coating only thirty-millionths of an inch thick, thereby conserving quantities of this critical war material. It has also been found useful for certain brazing and soldering operations.

Generation of ultra-high frequencies for frequency-modulated radios and television is a subject for postwar discussion. The tremendous impetus of the war to radio communication will necessarily have important postwar applications.

Light into current

The ability of an electron tube to convert light into current depends on the nature of the cathode. If the cathode is of photosensitive material, the electrons are activated and controlled by the light source-the stronger the light, the greater the emission. These phototubes can do a variety of jobs: television projection, film sound track scanning, product and process control. Interruptions or variations in the light are counted or measured via the phototube. Pinholes in metal are spotted and marked. Workers on hazardous machines are protected by this electronic eye which stops the machine when a worker moves into a dangerous area. Burglar alarms, light switches,





FLUORESCENT LAMPS are preheated, then measured for lumen output inside large photometer. Visible light is more than twice that of incandescent lamps.

doors operate on this same principle: when the light beam is interrupted, the phototube goes into operation. A new photoelectric relay is sensitive to infra-red light only, is not affected by artificial light or daylight, which guarantees stability of operation at all times.

In the field of research, electronic eyes are measuring sunfall at various weather bureau stations in the U. S. Ultra-violet rays are converted into energy in the tube and counted as they are absorbed. These sun statistics from various climate zones will aid weather forecasting, contribute vital data for city health surveys, agricultural studies and for solar heating projects in northern as well as southern latitudes.

The spectrophotometer, another important phototube device, evaluates aging tests on materials and dyes, analyzes chemical compounds qualitatively and quantitatively, accurately measures colors in terms of percentage of light reflected or transmitted. Such a measuring instrument is valuable not only for research but for the production of perfectly matched paints, plastics, dyes, inks, and textiles.

Other applications for photoelectric devices are limited only by the human imagination. They can perform thousands of mechanical operations easily. quickly, noiselessly.

Current into light

The implications for Building in the conversion of current to light are per-

MAGNETIC	MAGNETIC	INTERMEDIATE
CONDENSER	OBJECTIVE	IMAGE PROJECTOR
9		
FLECTRON		SECOND STACE
ELECTRON		SECOND STAGE
SOURCE		MAGNIFIED IMAGE



ELECTRON MICROSCOPE permits seeing objects smaller than wavelength of light. Image is not seen directly, but by pattern of electronic density on fluorescent screen.

haps greater than any other electronic function. Fluorescent lighting, with its low operating costs, superior illumination and variety of lighting design. has caught on rapidly both for industrial and commercial lighting. As new as other electronic developments, its widespread acceptance in these fields foreruns its postwar application in the home. In comparison with incandescent lamps, the fluorescent type produces twice the number of lumens per watt at the same operating cost. New colors including a close approximation of daylight, linear designs, cool lighting are marked advantages. Disadvantages, which seem well on the way to being eliminated, are high initial costs, cumbersome accessories, and lack of ingenuity in fixture design. Great numbers of people now enjoying fluorescent lighting in war industry are not going to be satisfied with the inefficient incandescent lighting in their homes. They will want all the color and design possibilities offered by fluorescent.

The fluorescent lamp is a mercury vapor, electron discharge device, which has a cathode and anode at either end. In contrast with incandescent lamps which transform only 18 per cent of energy input into light, fluorescent lamps utilize more than 50 per cent of the energy through the medium of ultraviolet radiations which causes the phosphor coatings to fluoresce. Color of light emitted depends on type of coating used, and can be varied from a number of spectral hues to various shades of white.

Other electron tubes transforming electric current into light directly or indirectly are used for highway lighting, germicidal lamps, medical and industrial X-ray and television receiving sets. A new low cost ultra-violet tube destroys bacteria-will preserve food in the refrigerator, kill air-borne infections in homes, schools and hospitals. X-ray, ultra-violet and infrared waves are already valuable instruments of medicine. X-ray inspection of foods, chemicals, metals is quick and efficient. The electron microscope which permits up to 100,000 diameter magnification is now available in low cost, portable models. General Electrie's highly experimental electron accelerator is penetrating new fields of research, striving to produce X-rays of infinite high voltage. This and other experimental machines are attempting to transmute basic elements of matters. are leading the way into the unexplored electronic worlds, widening human horizons to include exciting vistas into the secrets of the universe.

THE NEXT ESSENTIAL

for the "Home of Tomorrow"

SERVEL'S NEW ALL-YEAR GAS AIR CONDITIONER

Wins enthusiastic praise in 300 test installations

"Couldn't do without it." "Best investment I ever made!" "We point with pride to our good fortune in having this equipment." These are typical comments received from people who helped test Servel's new *All-Year* Gas Air Conditioner.

Three hundred of these installations were made in homes and certain types of commercial buildings throughout the country. Careful records of costs and results were kept, and frank opinions of users secured. In every case the verdict was the same . . . undreamed-of comfort all year round, at a surprisingly reasonable cost!

Servel's new All-Year Gas Air Conditioner is the result of nine years' engineering and research. One compact unit performs all six basic air-conditioning functions cools and dehumidifies in summer, heats and humidifies in winter, provides air circulation and filtering the year round. It combines all the advantages of indirect-fired heating and absorption refrigeration, in one simple-tooperate complete air conditioner.

This new equipment will be available for your postwar clients just as soon as production capacity is released from war work. Write today for the full story about Servel's *All-Year* Gas Air Conditioner. Address: Servel, Inc., Evansville, Ind.

SERVEL GAS REFRIGERATORS are standard equipment in the nation's finest apartments.





SERVEL, Inc. America's Leading Makers of Modern Gas Appliances



THERE'S A HOUSE somewhere in that pile of clippings — in fact, several houses. That's the difficulty; can you sift out all those ideas, weigh their merits, and decide just which ones belong in that house you're going to build when the war's over? Better plan now to get the expert help and advice of an architect! It pays off in lasting satisfaction . . . and headaches avoided.



Sure, some mistakes can be fixed up after you've built, but then again, some can't. For example, you can re-hang a door that swings the wrong way, but what's to be done with cellar steps that menace the safety of the whole family? Haven't we all known of a house that looked charming in the plans, but which wouldn't accommodate the furniture? Then there's the house that's ideal in dry weather, but always has a big leaky spot on the living room ceiling when the rain blows from a certain direction. A trained mind could have forestalled all these troubles, and in addition assured the homeowner of good taste in design, adequate resale value, and low maintenance cost.



You wouldn't think of building a hospital or school without an Architect-Engineer. Your house is just as important—protect your investment by employing an architect. In most cases you save at least his fee in the many wise economies he'll suggest.



EDWARDS and COMPANY, NORWALK, CONN. . In Canada: Edwards and Company, Ltd.

As a service to the Architect,

Edwards and Company present the first of a series of advertisements, to appear in national magazines, designed to educate the American public to the Architect's place and function in the building of postwar homes.



• Future advertisements in this series will offer a free booklet to all interested readers, pointing out the indispensability of the architect in intelligent building. Limited quantities of this booklet are available to architects and should aid appreciably in their contact work with prospective clients. This booklet has been prepared in cooperation with the Committee on Public Information of the American Institute of Architects. To obtain copies write directly to Edwards and Company.

IN CANADA: EDWARDS AND COMPANY, LTD.

BUILDING REPORTER



"WIRELESS" FLUORESCENT GLOBE



TURBINE CONTROL maintains ducted air at a constant temperature. Radically new in design, Temp-Turb has been developed by the General Electric Co. to regulate air temperatures in airplanes for cabin warming and windshield defrosting. It can also be used with wing de-icing equipment and carburetor air intake. Temp-Turb is energized by incoming air and operates as a simple impulse turbine. Blades, being bimetal, reverse their direction of curvature as their temperature goes above or below a fixed control point. Power developed by the Temp-Turb is sufficient to operate valves, shutters, gates, flaps and other mechanical devices which can control temperatures by regulating the velocity of the flowing air through a heater, or by adjusting the fuel intake at the heater or by mixing hot and cold air. Control is designed to operate in any weather condition and in temperatures ranging from -70°F. to 250°F.

TECHNICAL NEWS

WIRELESS LAMPS are predicted for postwar lighting. At a recent Westinghouse demonstration, Samuel G. Hibben, Director of Applied Lighting in the Lamp Div., walked about the room carrying brilliant, varicolored fluorescent tubes and globes, fully lighted although unconnected to sockets or electrical wiring. This fluorescent globe lights when electronically bombarded by a beam of high-frequency radio energy, generated by an ordinary diathermy machine. Mr. Hibben explained that although practical use of electric power transmitted without wires, except for signal purposes, is probably many years away, the spectacular strides in development of electron generating tubes made during the war seem to lead in that direction. This globe-shaped lamp, something new in fluorescent lamps, shows that fluorescent lighting need not be limited to tubular

NEW PRODUCTS

GLASS TRAP is easily removable for sterilization and cleaning. *Name*: Glas Syphon Trap.

Features: Made of boro-silicate or other heat resistant glass, new model trap is completely sanitary and sterile. Unlike metals, glass is non-absorbent and is highly resistant to corrosive chemicals. It also has the advantage that contents are visible. Trap can be removed for frequent sterilization by means of two toggles which tighten with thumb nuts, providing a gasproof seal. No tools are necessary to install or remove. Inlet connection is a simple bayonet type cap with a Neoprene gasket punched for a push fit on inlet pipe. This can be of metal or plastic and is completely adequate as this joint is not subject to water pressure and does not have to be gasproof. Outlet connection also has a Neoprene gasket which is unaffected by hot water. In general.



NON-PRIORITY GLASS TRAPS AND ...

shapes. Other lighting developments demonstrated were new fluorescent tubular shapes, shatterproof incandescent bulbs for ships and shipyards, radiant lamps for home heating, ultraviolet lamps that can be screwed into ordinary sockets, and vapor lamps for high level lighting.

COTTON INSULATION is rapidly winning the approval of contractors, builders and users, according to the National Cotton Council, Memphis, Tenn. Chemically treated, cotton will not burn. does not tend to sag. In addition to home use, this type insulation promises usefulness in cold storage installations. air conditioning systems, refrigerators and railway refrigerator cars. Made of short staple, low grade cotton of which there are relatively large stocks, the new product is unaffected by priorities. A number of manufacturers are now making the insulation under Department of Agriculture specifications.

plumbing codes object to the use of gaskets at this point. This objection is based on the limitations of gasket materials at the time these codes were prepared. Because of highly improved materials for this purpose and because this type of trap will be serviced frequently, it will undoubtedly be acceptable to the National Emergency Code. Trap has been developed by George Sakier, Industrial Designer, for the Office of Production Research and Development of the WPB, and has been deemed highly acceptable because of its sanitary characteristics, use of low cost, noncritical material. It will go into production soon.

GLASS SINK replaces metal.

Features: This new streamlined sink is made of Vitrolite especially heat tempered to provide extra strength. It employs only 1¾ lbs. of critical metal exclusive of piping fixtures as compared (Continued on page 130)



... GLASS SINKS FOR WARTIME USE



George Fred Keck examines Army helmet liner molded from fabric impregnated with a Resinox resin. Mr. Keck is remembered for his "House of Tomorrow" at Chicago's Century of Progress Exposition, and is known for his many outstanding buildings in and about Chicago.

FROM THE ARMY'S HELMET LINER ... A NEW IDEA FOR VENETIAN BLINDS

Chicago Architect George Fred Keck has long been an advocate of exterior Venetian blinds as a handy, effective and decorative means of controlling solar radiation and has proved his point by using them to excellent advantage on several of his buildings in recent years.

It has occurred to him, however, that blinds made from a light-weight, weatherresistant, plastic-and-fabric laminate like the material used so successfully today for the U. S. Army's helmet liners might have important advantages over the metal blinds he has used in the past—especially since these might be produced in a variety of bright, durable colors.

The major sketch below may help to illustrate the decorative value of blinds such as Mr. Keck suggests, while the design detail shows how his blinds are adjusted from the inside with chains actuating a simple worm drive mechanism. The small sketches explain one of several ways that his order for durable, colorful Venetian blind slats might possibly be filled... with assemblyline economy... from paper or fabric laminated with a Resinox phenolic or Monsanto melamine plastic.



The Broad and Versatile Family of Monsanto Plastics

LUSTRON (polystyrene) OPALON (cast phenolic resin) NITRON (cellulose nitrate) FIBESTOS (cellulose acetate) SAFLEX (vinyl acetal) RESINOX (phenolic compounds) Sheets • Rods • Tubes • Castings Molding Compounds • Vuepak Rigid Transparent Packaging Materials



How to get FACTS on postwar plastics

The Army's tough, shock-resistant helmet liner is just one of many notable plastics wartime achievements, Mr. Keck's Venetian blinds just one of many postwar items that might be improved by similar combinations of plastics with other materials. For facts on theseand on plastics in molded and sheet form as wellsee the 24-page book "The Family of Monsanto Plastics." Because Monsanto plastics are one of the broadest, most versatile groups of plastics offered by any one manufacturer, you will find this handy, readable book a good introduction and reference to virtually the entire field of plastics. MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.

-then he said to himself

"The LIE is my political weapon"

At the start of his activity, Adolph Hitler proclaimed to the world that his weapon was the LIE

- -the all-out undiluted LIE
- —and now see what happens to a structure founded on bosh:
 - (a) the theory of the blitz blasted
 - (b) the legend of invincibility exploded
 - (c) the infallibility of his "intuitions" *fizzled*

He could have fooled a lot more people for a lot longer time, if he had only tried the trick of nursing along old truths—now turned into fallacies—but still adhered to by the unthinking majority.

For *Progress* has a way of flipping the FACTS of yesteryear into FLOPS almost overnight. The follower of an OUTDATED fact may easily find himself nursing a progress-blocking FLOP.

Here, Adolph, are samples of yesteryear FACTS now turned FLOPS

FLOPPED FACT 1: "You can't produce all-welded ships"

FLOPPED FACT 2: "You can't arc weld high-temperature, high-pressure piping"...





-Recourse to arc welding has filled the seven seas with them.
- ... The one safe way is through recourse to arc welding.

FLOPPED FACT 3: "You can't weld cracking stills" .

FLOPPED FACT 4: "You can't produce army tanks with arc welding" . .

FLOPPED FACT 5: "You can't erect buildings by arc welding"....

FLOPPED FACT 6: "Railroad cars are taboo for arc welding"....





- ...Without recourse to arc welding—our armed forces would be without high octane gas.
- ...Through recourse to arc welding—it's the only kind they're producing today.





THE LINCOLN ELECTRIC COMPANY . CLEVELAND 1, OHIO

America's greatest natural recourse



BOOKS

Antiquity viewed through the fashion photographer's lens produces startling and dramatic effects.



PAPYRUS AND LILY, SYMBOLS FOR UPPER AND LOWER EGYPT GUARDING THE VALLEY, VOTIVE LIONS ON THE ISLE OF DELOS







EGYPT. By Hoyningen-Huene and George Steindorff. J. J. Augustin, Inc., New York. Illustrated, 58 plates. 91/2 x 12. \$7.50.

HELLAS. By Hoyningen - Huene. J. J. Augustin, Inc., New York. 14 Illustrated, 64 plates. 91/2 x 12. \$10. 143 pp.

Through tedious years of forced association with school room text books, museum catalogues and the National Geographic, the average conception of antique ruins has become as static as the steel engraving of the Parthenon that hung on Grandmother's landing. Consequently, when a couple of books are published by a well known fashion photographer who applies the sophistication of magazine technique to his pictures of Greek colonnades and Egyptian temples, the effect is electrifying.

Hoyningen-Huene is well known for his work in Harper's Bazaar. It is the

(Continued on page 24)

12

GET DOWN TO FACTS when you buy FLOORS

pensively altered in separate areas.

Kentile is one of the lowest cost floorings made in America.

Kentile-smooth and slick to the eye - really affords a safe, suretread, non-slipping surface.

> Kentile is unusually comfortable and quiet underfoot (being resilient) and remains that way because it never becomes uneven or hard

Kentile offers an unlimited number of beautiful patterns and color combines. Set tile by tile (not in sheets), Kentile's 15 tile sizes and 44 plain or richly marbleized colors make possible designs to enhance every interior. The colors go through to the back - cannot rub off

Kentile is virtually wear-proof. For instance, Kentile laid in Rockefeller Center corridors ten years ago is still excellent. Kentile bears 1,000 pound rolling loads without denting or marking. Its resistance to moisture and alkali makes Kentile just as long lasting on concrete in contact with earth.

Kentile is available now, without priorities - speedily. Authorized installers are established everywhere. No other material can be laid faster or with less fuss and dust.

Kentile, because of its composition, never "holds" dirt and is hardly ever stained. Plain soapwater mopping cleans it - fast and easy. Occasional waxing improves its appearance but is not necessary. Not even greases, of any kind, will affect the special Grease-proof Kentile.

Kentile offers 14 advantages.

FACTS vs FICTION-Some architects still believe in the old-fashioned fiction about asphalt tile not wearing well over wood floors. Of course, there used to be some reason for this. Some asphalt tile, in the past, had been made too brittle and fool-proof methods of installing over wood had not yet been developed. But for several years now Kennedy has been recommending Kentile for use over reasonably firm wood floors with boards up to 3" wide and over almost any kind of wood floor when our asphalt underlayment or Plywood is used. We can now point to hundreds of installations where Kentile, laid directly on wood, is wearing perfectly. This is another Kentile advantage. Ask us for proof.

At least know about ALL of them. Without obligation write for Kennedy's free, interesting, helpful color book about floors. Write to DAVID E. KENNEDY, Im. 58 Second Avenue, Brooklyn 15, N.Y.



BOOKS

(Continued from page 22)

tricks of this trade applied to archeology that give Hellas and Egypt their unique character. The only other comparable work along this line was that done by Kidder-Smith who nevertheless approached his subjects with the eye of an architect. To him, the camera was primarily an instrument for recording. To Huene the photograph is all-important. Though in many cases he subordinated architecture to pattern, a good deal of new life has been injected into subjects that had become frayed at the edges. In spite of their opposite approaches, the two collections have much the same character.

A number of the Egyptian photographs were taken inside New York's Metropolitan Museum with a studio camera. However, these are practically indistinguishable from the rest which were taken with a Rolleiflex. A single trip to the Nile Valley produced the photographs later supplemented by the indoor work. The material for Hellas was gathered on semi-annual pilgrimages to Greece between 1936 and 1939.

Photographically, Egypt may be considered superior. Focus is sharper, contrast stronger, subject less familiar and more sympathetic to contemporary taste. Both books, however, express a deep sensitivity to ancient culture, a blend of technical skill and esthetic perception. Huene's approach to Egypt is severely modern, to Greece, nostalgically romantic, undoubtedly influenced by the country's current humiliation.

This diversity of feeling is carried into the texts. The photographs of Egypt are accompanied by archeologist George Steindorff's history of its civilization, an excellent and colorful short work. In contrast, the Hellas text is composed of brief quotations by Aristophanes, Byron, Plato, Goethe and Chateaubriand, all of great lyric beauty.

The editions themselves deserve comment. Such a standard for layout, printing and engraving is only too rare today and incidentally, all royalties from the books go to the Greek War Relief Society.

CLEMENTINE IN THE KITCHEN, By Phineas Beck. Illustrated by Samuel Chamberlain and Henry Stahlhut. Hastings House, New York. 221 pp. 61/4 x 8. \$3.00.

There is practically nothing that Sam Chamberlain hasn't tried since he left M. I. T. Now and again he has turned up as etcher, liaison man for the French vintners, exponent of greater art for the

(Continued on page 120)



Bronzed, beribboned and 29, Lt. (j.g.) John Suydam Jones made us shut-ins feel that we had been living under an old wet board when he sailed into the office with photographs and drawings of the Admiral's shore establishment (page 50) somewhere in the South Pacific. Lieutenant Jones' present assignment couldn't be much further removed from palms and mosquito netting. His functions at a naval air station



in Maine, he says, are mostly janitorial: "If a plane hits a moose on the runway, the first lieutenant's department removes the moose, not the plane."

The one personality connected with the Washington housing story who can be distinguished from the welter of government agencies, officials and architects responsible for it is Samuel Gottscho, whirlwind photographer who with his young assistant, William Schleisner, took the pictures for fifteen projects in three days. Gottscho, who also makes his business his hobby, is eternally enthusiastic. He loves to show us his kodachromes of small and architecturally irrelevant objects. Waving a tiny slide of a plant louse under our nose he says, "Imagine this projected! It's as big as a bulldog."

When we discovered Samuel Glaser had designed and lived to see 57 well planned, modern, spec houses, (page 72), we took his case to the nearest psychiatrist. Our medical



friend showed absolutely no interest in Mr. Glazer. He did, however, express a rather warm desire to make the builder's acquaintance sometime.

For a long time we believed Major Albert Mayer was the only man who could hope to match Madame President in energy and mileage. Since joining the

Army he has been hurtling around the globe selecting air bases. When we started editing his and Julian Whittlesey's Horse Sense Planning series, concluded in this issue (page 69), it developed that this terrifying activity is an occupational disease peculiar to this firm. Never out of ideas, often out of breath is the slogan.

Properly enthused over the house Malcolm young Duncan built for himself (page 82), we were alarmed to hear he had exchanged it for a remodeled gate lodge. We inquired and got a sound



reason. Duncan left New Haven to head the architectural department of the Pierce Foundation in New York. Impressed as we were, we noted he is still hatless and resists the city's softening-up process.

It may be tactless to mention weaknesses in the character of a contributor. In the case of Charles E. Tilton, architect of five small houses (page 85), we feel obliged to warn the reader that he has two failings. One is pampering clients by finding out what they want and then giving it to them. (The catch is, he selects his clients carefully). Secondly, he is known to conduct classes in freehand sketching for his three young sons on the bedroom wall.

Not satisfied with the publication of Hellas and Egypt (page 22), Baron George Hoyningen-Huene has a plan to photograph ruins from the dizzy altitude of a balloon basket. The tricky camera angles which he used in recording fashion's triumphs for Harper's Bazaar came in handy when he glamorized the Sphinx.

Contributor A. Hitler is not the author of any article. Undoubtedly he would have preferred to get into THE FORUM by means other than his usual strongarm method, but since he brought up the subject of abolishing urban liv-

ing (page 2), we are happy to review the progress of this idea. As far as we can the best see, wrecking device he has been able find is to the boomerang.



The blue print of the future

New products . . . new methods . . . new ideas . . . all will have their influence on post-war building projects. One thing, however, is certain-Soulé fabricated steel products will play their part in supplying the sinews of strength and permanence just as they have in the past. * Today building "Bridges to Victory" (invasion barges), Soulé Steel will be ready when the time comes to meet the challenge of the post-war world with better products for the building industry. * In your post-war planning for "building in the West" Soulé service engineers will gladly help with technical data and ideas.

PRODUCTS

Steel Windows and Doors **Reinforcing Steel** Welded Fabric

Steel Forms Metal Lath Products **Expanded** Metal

Stucco Netting **Fabricated Steel Merchant Steel**

Award made to

San Francisco Plant

Soule Steel Company



TILE CONDUIT SYSTEMS FOR

UNDERGROUND STEAM LINES



RIC-WIL TILE CONDUIT FOR OIL OR PROCESS LIQUIDS



In this system, conduit is insulated from the exterior, but individual lines are not insulated from one another. A steam or hot water line can thus maintain temperature to keep liquids flowing in the other lines. Insulation is a diatomaceous earth lining, moulded and keyed to inside circumference of tile. May also be used with fibre insulation for steam heat, power and superheated steam. Applicable to Super-Tile and Cast Iron.

RIC-WIL PREFABRICATED INSULATED PIPE CONDUIT

Completely factory-prefabricated units including pipe and insulation as specified are furnished in convenient 21 foot lengths for speedy installation. Conduit is helical corrugated, coated with asphalt and wrapped with asphaltsaturated asbestos felt. This system is also available for oil or process liquids, and is adaptable to overhead as well as underground installations.



Many other types of Ric-wil. conduit are available to meet individual requirements. Write for complete information.

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



This recently completed midwestern school, designed by Perkins, Wheeler & Will, noted Chicago architects, sets the pattern for educational institutions of the future. The principles of *Daylight Engineering* are a paramount feature of its design.

Eye comfort for pupils is substantially stepped up through carefully planned utilization of natural light. Daylight is evenly distributed throughout the classrooms, directed to walls and ceilings in a way that eliminates dark corners and eye-fatiguing shadows.

Supplementing the large window areas, on the opposite wall are clerestory windows scientifically designed to capture and distribute added daylight.

In homes and offices, as well as schools, *Daylight Engineering* opens up entirely new opportunities to make interiors brighter, cheerful and more spacious in appearance. Here is one modern building feature that every home, large or small, can enjoy, for it costs no more to design and build with glass.

Many kinds of high quality Libbey Owens Ford Glass for windows, and Blue Ridge Glass for partitions are available for every *Daylight Engineering* need. Libbey Owens Ford Glass Company, 914 Nicholas Building, Toledo 3, Ohio.



A NEW DESIGN FOR LIVING

BOHN engineers, engaged entirely on war work, foresee great changes in post-war homes of the future. Wider use of light alloys will make possible greater beauty, simplified architecture, and lowered costs. Girders, pillars, and innumerable beautifying effects made of light alloys produced by Bohn, will mean new designs for more attractive living. Remember the name Bohn—headquarters for light alloys and their many advanced applications.



BOHN ALUMINUM AND BRASS CORPORATION, DETROIT, MICHIGAN GENERAL OFFICES-LAFAYETTE BUILDING Designers and Fabricators-ALUMINUM • MAGNESIUM • BRASS • AIRCRAFT-TYPE BEARINGS

MEN WHO ASSAY THE FORESTS



Secrets long held deep in the trees of the forests are being disclosed today by a group of chemists down in Laurel, Mississippi. Working with prominent scientists throughout the country, they are doing undreamed-of things with wood's basic ingredients. They are developing new materials (from the heaviest to the lightest made from wood!), creating hardboards with new properties, and discovering new uses for the famous Masonite* Presdwoods.*

THESE new uses of wood's basic ingredients are triumphs of modern research and imagination. A unique gun, developed by Masonite research men, literally "explodes" wood, freeing its cellulose fiber in varying degrees of plasticity; freeing also wood's natural cement, *lignin*, which gives trees their great strength.

Next, these two materials are bound together at various controlled heats and pressures — producing, among other things, Masonite Presdwoods, the lignocellulose hardboards, with new and useful combinations of physical qualities. Masonite Presdwoods have glass-like smoothness, yet do not shatter or crack. They take all types of paint and baked-on finishes, yet do not warp when properly used. They are strong in every direction. And they can be easily worked by carpenters with ordinary tools.

Masonite products are now going into more than 500 different war jobs, saving rubber, steel, aluminum and other strategic materials. You can secure Masonite Presdwoods for war-essential construction today—and after Victory, quantities will be available for exterior and interior walls, panels, ceilings, for cabinets, counters, furniture and scores of other jobs. Masonite Corporation, 111 W. Washington St., Chicago 2, Ill.

*Trade-mark Reg. U. S. Pat. Off. "Masonite" identifies all products marketed by Masonite Corporation. COPYRIGHT 1944, MASONITE CORPORATION





with the JOHNSON Electronic DUO-STAT

As outdoor temperatures vary, the Johnson Electronic Duo-Stat is the "go-between" that literally "changes the size of the heating system" so that indoor temperatures may be maintained automatically at a constant level without wasting time or fuel.

The temperature-sensitive elements are located on the outside of the building and on the heating system. By controlling the heat at its source, the Johnson Electronic Duo-Stat maintains the required temperature of the heating system at all times.

Johnson Electronic Duo-Stats may control automatic firing devices or a valve on the "street steam" main. In larger buildings, the heating system may be divided into zones, the number depending on use, occupancy, exposure and other factors. Each zone may be controlled separately at different temperature levels.

Whatever your temperature or air conditioning control problem . . . in industrial, commercial, institutional or office buildings . . . get in touch with the nearest Johnson office. A staff of trained installation men is located in each principal city.

FOR SPECIAL APPLICATIONS REMEMBER PNEUMATRONICS

Pneumatronics, developed by Johnson, is a combination of the best in electronic circuits, coupled with pneumatic temperature control equipment. Pneumatronic principles may be applied profitably to certain types of automatic temperature control problems in the industries and for the control of steam and hot water beating.



Johnson Electronic Duo-Stat, which is connected to resistance bulbs on the heating system and to a temperature-sensitive element on the outside of the building.

MORE AND MORE IN '44 BUY WAR BONDS

JOHNSON SERVICE COMPANY MILWAUKEE 2, WISCONSIN

Temperature and Air Conditioning Control Equipment

	Ihis booklet tells you
	how to get all the fluorescent light
	you need with the new and
o avs fo	Commercial Fluorescent Fixture
o wul	It is yours for the asking. Just fill
solver	in and mail the coupon below.
DRAFTING ROOMS lighting	
OFFICES problems	
LABORATORIE P	
INSTITUT. HOSPITALS	RPOSE
SCHOOLS WITH CON	FIXTURE
FLUORESCEIV	
	- OB
CES	LES FUN
, EAS	TURES
REFER	N' ETC
WPB ENT	ROOMS, ETC.
". ESCE.	LETING NO
, IIORL	DRAI
FLO	
nFF !!	
· · · · · · · · · · · · · · · · · · ·	
-	

SYLVANI	A
ELECTRIC PRODUCTS Ipswich, Mass.	INC.

INCANDESCENT LAMPS, FLUORESCENT LAMPS, FIX-TURES AND ACCESSORIES, RADIO TUBES, CATHODE RAY TUBES, OTHER ELECTRONIC DEVICES

.

C	
	SYLVANIA ELECTRIC PRODUCTS INC.
	Dept. AF-1 Ipswich, Mass.
	Please send me your new commercial fixture booklet and tell me how my client can qualify under WPB ruling for improved fluorescent fixtures now. I am interested in
	lighting the following types of areas:

-

-

COMPANY_

NAME_

!!

SHEET METAL SPECIFICATION GUIDE AND OTHER ESSENTIAL DATA



LA PRE NO. IS

NUICAN ROLLING MILL CO.

A valuable portfolio of data for your sheet metal specifications WRITE FOR YOUR COPY

A.L.A. FILE NO.

THIS handy reference portfolio provides quick information for architects and contractors on how to specify ARMCO special-purpose sheet metals. Here are some of the subjects it covers:

• General specifications, cost comparisons and advantages of ARMCO Galvanized Ingot Iron, Galvanized PAINTGRIP and ARMCO Stainless Steels.

• The specification and use of ARMCO Stainless Steels for roof drainage and other architectural applications.

• Methods of installing both galvanized metals and stainless steel in roof drainage systems, shown by many detailed sketches.

• Convenient reference data, which includes tables on standard gage weights, thermal expansion coefficients, weights of roofing materials and many other helpful facts.

We believe you will find this 42-page Guide a valuable addition to your working files. If you are an architect or contractor, write us on your firm letterhead and we'll send you a copy without charge. The American Rolling Mill Company, 1781 Curtis St., Middletown, Ohio.



Tomorrow's World...Tomorrow's Homes

• Insulite Bildrite Sheathing forms the outer wall of the Insulite Approved Wall of Protection. The big boards provide a windproofed, waterproofed, and weathertight wall. The large Bildrite boards are easily and quickly applied.

Inner walls — Insulite Sealed Lok-Joint Lath provides a second wall of insulation. The patented "Lok-Joint" provides a atrong, rigid plastering surface. Each 18" by 48" unit has three heavy galvanized "loks" to space midway between studs.

 How moisture conden- into is eliminated in the Insulite Approved Wall of Protection: Sealed Lok- Joint Lath, with asphalt barrier against the studs, effectively retards vapor travel. Bildrite Sheath- ing, being permeable to vapor, permits what little vapor escapes the barrier to pass naturally toward the outside.







Soon you will again be designing homes.

Homes for Captain Tom, just home from the war. Homes for Bill and Mary, whose years of grind in a defense plant resulted in the handful of bonds they're planning to convert into a new home.

In tomorrow's homes, modern air-conditioning will put new demands on the *walls*.

Moisture condensation within the walls presents a grave danger unless avoided when the *house is built*.

If you build with the Insulite Approved Wall of Protection you meet every one of tomorrow's demands. With this wall you build: . . . A wall of double insulation . . . A wall of superior bracing strength . . . A wall protected against internal moisture condensation.

Let us tell you about the Insulite Approved Wall of Protection in detail. Write today for complete technical information. Insulite division, Minnesota and Ontario Paper Company, Minneapolis, Minnesota.



LETTERS

The Fountainhead and professional ethics . . . The problem of real estate taxation . . . Horse Sense Planning in the light of Brooklyn taxes.

"THE FOUNTAINHEAD" AGAIN

Forum:

Both your review of *The Fountainhead* in the August issue and the letter of Mr. Morin in the October issue ignore what I consider the most vicious part of the book.

The American Guild of Architects is evidently intended to be representative of the American Institute of Architects; and the actions of its members are a distinct libel upon the institute and its members. When the members of the A.G.A. write diatribes against the work of another architect, and even go to court as witnesses to his (from their viewpoint) incapacity as an architect, it is a libel of the Institute and the honorable architects who compose most of its membership. The author's foreword cannot refute this implication.

If there were in the Institute an architect such as Francon, who owned a granite quarry and specified his stone for his buildings without the knowledge of his clients, he would immediately be charged with unprofessional conduct and expelled. Proceedings would be taken against the architects in the Institute who wrote or testified so unfairly against a fellow architect.

I wonder if the architects whom she thanks for "technical assistance" feel happy over their aid to an author who knows nothing of the published ethics of the profession.

GOLDWIN GOLDSMITH, F.A.I.A. The University of Texas Austin, Texas

PLANNING WITH YOU

... "Planning With You," like all other discussions of planning, completely ignores one of, if not the major element in the problem. This is the problem of real estate taxation.

The real estate tax structure is largely responsible for the existing social and economic blight of urban properties. The growth of this blight cannot be halted nor can any existing blight be remedied under the existing ad valorem tax system.

As you well know there have been many sound proposals made for blight eradication by private initiative and private capital. Several states have enacted progressive legislation suggested by competent planners in the hope of opening the door for such rebuilding under the direction of private enterprise. But private enterprise has not only been reluctant but has utterly refused to enter into any such scheme.

This refusal is easily explained. Private capital knows that it cannot profitably invest in such projects.

I believe that I can cite a typical example showing how the tax forces created by the ad valorem system prevent economically sound investment:

The construction of a multi-storied office building, under our system increases the value of the land not only under the new structure itself but throughout the area of its influence. Adjacent properties, therefore, are forced either into duplicating the improvement in hope of additional revenue; or tearing down the existing improvement and erecting a "taxpayer," or into bankruptcy or tax foreclosure.

The illustration in your pamphlet headed, "Why Cities Decay," partially recognizes this....

... I heartily agree with the major thesis that our cities must rebuilt. But I am convinced that until our tax structure can be rationalized, there is no hope of interesting private capital. This means that rebuilding or reclamation of blighted areas would have to be done by public funds.

Too many political theorists among our people believe that the state should own all land and are delighted to use the forces of the ad valorem tax system to bring this about.

Until you and the others who are interested in this problem become interested in the underlying cause, I think much of your splendid and progressive work is being wasted.

LAWRENCE G. HOLMES, Secretary National Council of Real Estate Taxpayers Chicago, Ill.

Forum:

. . . As usual you have hit the nail squarely on the head in your aiming of this material directly at the individual who is to be affected by the results of good planning as he has suffered in the past from the lack of good planning. In my judgment that individual is deeply interested today in sound ideas and approach in the planning of communities for his and her benefit.

I should personally like to contribute toward getting this pamphlet into the possession of at least small groups of people who I believe would find in it material for careful thought and consideration and I should like to have at least 50 copies for which you may bill me....

GEORGE W. COPLEN National Housing Agency Seattle, Washington

A TREE WILTS IN BROOKLYN

Forum:

The admirable article "Horse Sense Planning" by Messrs. Mayer and Whittlesey omitted the most important private enterprise developments in my bailiwick, the Brooklyn Hill section. Within the past decade, I designed and erected on Lafayette Avenue and South Oxford Street a seventeen-story apartment and a ten-story concrete multiple dwelling, both with gardens at the front and rear. For the ten-story building I used much less land than zoning permitted, leaving about 50 per cent in gardens and yards.

"Horse Sense Planning" advocated the alteration of existing buildings as a partial cure for the plight of this neighborhood, but failed to mention important alterations already made. One outstanding job was done by Robert Alfred Shaw on a block front of Lafayette Avenue, with formal front and rear gardens. I altered seven old abandoned houses to accommodate 60 families. These houses occupy less than 50 per cent of the land, with gardens behind. Also, before the war, the Hill Association and Pratt Institute's Architecture Department sponsored an alteration competition that developed some good plans.

But, alas, the city tax gatherers were not as kind to us as they are to insurance companies. When the houses were altered, alert assessors pounced on us and evaluated them at over \$2,000 per room higher than for some very expensive fireproof buildings. So we stopped our development to fight for (Continued on page 36)


THAT is the opinion of experienced painters after working on the alluring pebbled surface of full-wall size Strong-Bilt Panels.

Because the surface is presized at the factory, paint goes on quickly and evenly. No fuzziness. The true beauty of every color comes out in its full glory and attractiveness—and without repeated coats. Even prominent artists praise its painting qualities. Just one coat of good washable paint usually is sufficient.

Dry-built full-wall construction has proved itself in thousands of homes from coast to coast. It has a place in your postwar plans. May we send you booklets and full information? Write The Upson Co., Lockport, N. Y.

Upson Quality Products Are Easily Identified By The Famous <u>Blue</u>-Center

Wall of the future ... ready for postwar homes!

Cuts Down Construction Time! One panel covers entire wall of average size room. Applied with Floating Fasteners which anchor panels securely from the rear and compensate for structural settling. No face nailing. No joints. No time-consuming system of filling and taping. No nails to countersink. No nail holes to fill.

No Moisture Troubles! Entirely dry-built. No waiting for plaster to dry. Eliminates the 1000 pounds of water which may be used in plastering a 6-room house.

Efficient Insulating Value! Up to 31/2 times that of plaster.

Crackproof! Positively will not crack, splinter nor chip. Does away with annoying and costly plaster repairs.

Tough and Strong! Withstands impact up to 6 times that of boards with a mineral core.



LETTERS

(Continued from page 34)

tax reductions.

All further effort at neighborhood planning will have to wait upon the effects of the revolutionary tax exemption spree under the Urban Redevelopment Law, starting with the Metropolitan-Stuyvesant housing development. Obviously the insurance companies were willing and able to go ahead with large scale housing without tax exemption subsidies-witness, the Parkchester 4,000-family project in the Bronx and Equitable Life Assurance Society's 1,200-family Brooklyn project. Twentyfive years tax exemptions are outright subsidies from the citizens of New York to the insurance companies. No private company can compete against institutions as powerful as the insurance companies, now strengthened by a 25-year tax exemption.

I admire the naivete of the "Horse Sense Planning" authors in the realm of real estate economics. One would gather from them that parks, roof gardens, swimming pools and such other adjuncts to paradise for tenants would create economic successes. However, the authors will not have to prod their memories very much to recall that some very fine developments have had all these adjuncts and were located in excellent neighborhoods, but were economic failures principally because of wrong timing. Some of the best dis-tricts of New York-the Shore Road and Prospect Park sections in Brooklyn, Riverside Drive, Central Park West. Fifth Avenue fronting the Park, and even the sacrosanct Gramercy Parkhave seen financial disaster come upon equity owners.

Many of the jobs described by the authors as being successful in part because of their gardens and open spaces undoubtedly owe their success to proper timing in construction, economical financing, and excellent site layouts. The problem is too complex, however, for the simple treatment given it by these two excellent authorities.

JACOB MARK, Consulting Engineer Brooklyn, N.Y.

Forum:

In advocating the alteration of existing buildings as one of several measures to stabilize Brooklyn Hill, we are well acquainted with the excellent work already done by Mr. Shaw and others along this line and know that the Brooklyn Hill Association is quite alive to the situation.

We very well know of the discouraging policy of city tax assessors who kill (Continued on page 110)







A LETTER FROM THE PUBLISHER

Here are eleven men and a girl who are temporarily sacrificing their morning visit to the drug store downstairs and that second cup of coffee. It is no military secret that when 10 A.M. rolls around these days they are almost ready for lunch. They make up a FORUM "Army" that already boasts one pair of oak leaves, three sets of Captain's bars, two Lieutenants, an Ensign, a Wave, a Corporal, and two potential Generals and an Admiral too recently inducted to take a salute:

Major Joseph Clark Hazen, Jr., quit news editing just two years ago for the Field Artillery. Now teaching an advanced course for officers in the Tactics Department at Fort Sill. Says the Major "I know considerably more about low cost houses than when I left-I'm living in one!'

Captain Robert W. Chasteney, Jr., was general manager until he "took" service in May, 1942. He pinned on a double bar last spring, somewhere in the South Pacific. Now in Washington with the Adjutant General's Department.

Captain George B. Hotchkiss, Jr., of our advertising promotion department, also with the Adjutant General's staff on temporary special assignment. Hotchkiss celebrates his second Army anniversary this month.

Gaptain A. Banks Wanamaker, former western advertising representative, writes from the Special Information Office at Ogden Air Service Command, Hill Field: "Although only a Lieutenant when this pix was taken, another bar on the collar hasn't changed my pretty puss-How goes the battle?'

Lieutenant Robert Hanford, did sales promotion, is now with an Army fighter squadron in England, where he is "busier than a parachutist in a London fog.

Lieutenant A. Chapin Lawson, Cleveland advertising representative, was the first (March, 1941) to go, is now with a Cavalry Division in California. His horse wears rubber (not synthetic) tires and answers to the name of "Jeep."

Ensign William J. Conway, former office manager, went into the Navy last February. Stationed now in New York studying aerology, hoping that this will lead him into the Navy Air Force.

Ensign Doris Grumbach, news editor after Joe Hazen, now is our Wave-in-training. She writes a column for the Wave paper, reports that the life of a bounding Northhampton sailorette is "pretty rugged."

Corporal Amnon Rubinstein went from our drafting room to a weather squadron in Nebraska. "Don't be too impressed." wired the corporal, "nobody is really doing anything about the weather. Hope it snows for Xmas. (It did not. Ed.)

Private Peter Blach still has THE FORUM so close to his heart that he checks its availability in post libraries. He also sends a monthly list of typographical errors. (If you must snipe, Blach, pick on Japs. Ed.)

Private First Class Arthur Cullen offers this slogan: "Join the Army Finance Department and release a WAC for active duty.'

Seaman Harry Weinstein left "office boying" and claustrophobia behind for a trick in the Submarine School at New London.

That's our Army. We hope that 1944 will see them back at the soda fountain for that extra cup of coffee. But before the coffee we'll all go down the street for a magnum at the Algonquin. That's our No. 1 postwar project. H.M.







Painted for McCall's by Jerry Farnsworth, N. A.

SHE provides for his strength

In no other country in the world are the separate roles in life of men and women so highly developed as they are in America. For in America, men and women have specialized in their separate jobs. Therein lies the strength of the family partnership. On it our country was built. On it we will endure.

That America is so physically fit is due, in no small part, to the American woman's intelligent recognition of her responsibility for the health and well-being of her family. No casual thing, this, as evidenced by the high readership which women give to the meal planning and nutrition articles in McCall's.



For, as the American woman's interests and responsibilities are different from the man's, so also her reading interests are different. That is why no other magazines published can approach women's magazines in their interest to women. That is why the pages of McCall's live so vividly in the minds of one out of every five American Women.

McCall's—three magazines in one Serving the interests of the American Woman Her Heart—Her Home—Herself

Why Giant-Size KIMSUL^{*} Covers More Area in Less Time!



KIMSUL is Different! It's light-weight...compact...comes compressed to 1/5th its bulk. Thus, it's convenient to use, easy to handle, requires only 1/5th as much storage space...1/5th as much shipping space...1/5th as much handling during shipping. This means important savings in time, labor, and costs.



No Lost Motion with KIMSUL! Giant-Size KIMSUL comes 4' wide, wider in some specifications, by 250' long. Thus, a Giant-Size KIMSUL Blanket can cover a pre-fab panel in one quick, easy operation. Simply attach KIMSUL at one end of panel, stretch it out, then nail flooring, sheathing or paneling right over insulation.



Fits In Floor! Installed, KIMSUL looks like this. Note how it *compresses* between joists and flooring. Then, see how completely it *expands* between joists. Once installed, KIMSUL can't sag, sift or pack down . . . it stays at its proper thickness and density indefinitely. This means maximum insulating efficiency.

*KIMSUL (trade-mark) means Kimberly-Clark Insulation.



Send for Free Book Today

Learn all about this different insulation now, without cost. Send for your copy of the free book, "KIMSUL, for Modern Protection Against Heat and Cold." It's packed with important insulation facts, profusely illustrated. It shows you why the application of KIMSUL is so quick and easy ... why it requires less manpower, fewer man-hours.

AF-144
book.
all.

A PRODUCT OF KIMBERLY-CLARK RESEARCH

What's Cookin

WANEE

In this modern Stress Normalizing Furnace (the only Recirculating one of its size) Kewanee Hi-Pressure Welded Boilers are "cooked" in a temperature of 1200° F., then allowed to cool gradually.

By this means the fusion welded joints are thoroughly annealed, relieving any locked up stresses . . . insuring absolute dependability and ultimate safety.

75 YEARS BOILER BUILDING EXPERI-ENCE back of each Kewanee has developed a correctness of design and proportioning that insures all usable heat being put to work...plus added sturdiness which means extra years of life.



KEWANEE, BOILER CORPORATION

Branches in 60 Cities-Eastern District Office: 40 West 40th Street, New York City 18 Division of <u>AMERICAN RADIATOR</u> & Standard Sanitary corporation

WINTER WORLD THROUGH .









ONLY THE RICH CAN AFFORD POOR WINDOWS

COMPLETE WOOD WINDOW UNITS

ndowalls

When WINDOWALLS stand between the comfort of the indoors and the frosty outlines of a winter-wrapped scene, then windows must perform the two essential functions now assigned to them by progressive architectural thinking. For, while framing the outside view, they must also act as a wall, insulating and protecting inside comfort.

WINDOWALLS that are engineered to meet these exacting requirements are made today by Andersen. An example is this use of Andersen Horizontal Gliding Window Units in a home designed by McEnary and Krafft, Architects, Karl E. Humphrey, Jr., associate. For details, see Sweet's Catalog.

Andersen Corporation BAYPORT · MINNESOTA

POST <u>CIVIL</u> WAR DREAM HOUSE

THIS was really hot stuff when grandma and grandpa went to keeping house! It seems pretty oldfashioned now. But rip off the gingerbread and a turret here and there—and structurally, it's not very much different from houses built just yesterday.

And probably the post World War II dream house will not show much basic change either. But there will be improvements for greater permanence and beauty and comfort. To this you can add another improvement that's a certainty . . . Greater fire protection through use of Gold Bond Gypsum Sheathing.

Before the war Gypsum Sheathing was available. But it has really come into its own during the war . . . millions of feet have been used for barracks, supply depots, etc. These rock-like panels have again and again demonstrated their effectiveness in providing fireproof protection for wood framing, their durability and their ability to speed up application time. Today this product is ready to make homes built after war better places to live in.

Gold Bond Gypsum Sheathing is only one of many developments of National Gypsum Research. Others include the Floating Wall System which reduces the danger of plaster cracks, one-hour drying Sunflex DeLuxe Paint for modern interiors, Gold Bond Gypsum Wallboard . . . in all, over 150 guaranteed Gold Bond Building Products. National Gypsum Company, Executive Offices, Buffalo, New York.



War construction controls may soon be let out a notch (page 44) . . . Building heads for a 50 per cent drop with no parachute (page 44) . . . Architect Walker reports on British planning (page 46) . . . Public housing fight explodes in Washington (page 47) . . . Demountables prove costly (page 48) . . . New School for Social Research to sponsor prefab research (page 106).

SECOND WAR YEAR

44

JANUARY

RUM

[_

CHITECTURAL

There were plenty of figures to describe Building's second war year. But the figures were less impressive and certainly less real than the story itself told in Vanport City, in the mosaic of war housing in and about Washington, D. C. (see page 53), in Chicago's Dodge plant, in the U. S. Steel colossus at Provo, Utah. Still not fully known was the even more fabulous story of the bases that now rim the Western Front, of the landing strips built with incredible speed under nightmare conditions to launch the U.S. drive across the Pacific. These were the giant jobs of 1943. But there were thousands of others, less glamorous, equally urgent, finished by the nameless little men of Building who had bulled their way through materials lack, labor shortage, priority tangles to do what had to be done.

Most of the excitement and drama of a year ago—when Building had packed its biggest \$13 billion punch was missing. There were only the nagging difficulties, the tense days when it seemed that commitments would expire, contracts lapse, before the irreducible minimum of copper—or lumber—or plaster board was in sight. And there was the constant, nerve-fraying drive for speed.

That about 75 per cent of the men in the prewar home building business were no longer operating surprised nobody. But those who survived were the men who had learned a lot in a hurry. Some of them, one-time developers of expensive subdivisions, had quickly found out how to build the under-\$6,000 war house on a small profit margin. Many of them, shifting their operations to where war housing was needed, had achieved a mobility rivaling that of the big industrial contractors. Almost all of them knew now as never before how to systematize each step of a construction job into a swiftly-moving production line.

In a confused time, when almost nothing about the future could be said with precision, this at least stood as certainty: Home building, backbone of the construction industry, had learned an operating efficiency and flexibility that would go far to bring its product within reach of a bigger market than it had ever tapped before. From the ranks of Seabees and Army Engineers would come a vast new supply of labor, not only well-taught in all the basic construction skills, but with the knowhow for bold use of new materials and new techniques.

Federal Year. Among the federal housers, special citations for the second war year might logically go to:

► The Federal Public Housing Authority which found out that a plan made in Washington will not work equally well for Seattle and for Houston, put real drive into its push for administrative decentralization and community participation.

► The Home Owners Loan Corp. which, although operating in the "twilight zone" of housing finance, had by the end of 1943 reduced its total investments in loans and properties by 57 per cent, sold more than 91 per cent of the properties it had been obliged to take over.

► The Federal Housing Administration which steered an even course between the pressure which material shortages brought for relaxed construction standards and its essential responsibility for maintaining mortgage security.

To Building's credit, the year brought but one major housing scandal: the \$3,400,000 project at Winfield Park, N. J., which hit the courts with a nationally-audible thump compounded of sinking foundations, buckling floors, twice-bought materials.

Plans Without Money. To the public discredit, 1943 had seen the death of the National Resources Planning Board, only federal arm for long range planning, and nothing had come to take its place. Although there was heartening evidence that both states and municipalities were alive to the need for planning now for jobs in 194X, few

NEWS



SLIDING DOWN RAPIDLY from a 1942 peak of \$13.5 billion, U. S. construction for 1943 totaled about \$7.7 billion, a decline of 43 per cent from the record high but still above the level of most prewar years. Based on federal figures, the FORUM'S chart shows the recent history of building cost and construction volume, plus a forecast of the slump to about \$4.2 billion expected this year.

had come to grips with the pivotal problem: How would needed public works and improvements be paid for? Urban rebuilding also stumbled everywhere on the fretful financial question: Where would the money come from to acquire blighted but frequently highvalued urban land? Senators Wagner and Thomas had each offered a formula for federal aid for land acquisition. but so far neither seemed to have captured Congressional fancy.

With mortgage foreclosures dropping steadily throughout the year to reach the lowest point on record, with sale of older homes moving briskly, real estate, even under the chill of rent control, was in a robust condition. Only a few keen diagnosticians warned that the present feverish activity might bring an unhealthy aftermath: dangerously inflated mortgage values.

Reconversion would be the word of the new year, but priorities would certainly not drop out of the language. For building as for many another industry. easement of war controls had already begun. Close on the news that WPB had approved 1944 production of 50,000 bathtubs came the most hopeful word that Old Man Building had heard for many a day: Already in the works at WPB was a plan for alloting expected 1944 materials surpluses to various types of construction which have until now been banned under L-41. Probable pattern: Gradual relaxation of eligibility standards under the present priority set-up. The National Housing Agency would get the job of deciding where housing's war strait-jacket most needs to be let out.

REVOLT IN CHICAGO

Fear of the strong arm of the federal government has done more than anything else to unite the rugged individualists of U.S. business into cohesive and frequently potent trade associations. Washington intermediaries for most of these groups have in recent years spent far less time on Capitol



Harris & Emina



BODFISH: unruffled by schism

Hill than in the offices-or waiting rooms-of the myriad bureaus whose executive orders, especially in wartime, can spell life or death to a business enterprise. Evidence of the new reverence for the administrative mimeograph was last month's split in the conservative ranks of the U.S. Savings & Loan League.

Under aggressive Morton Bodfish, its executive vice-president, the League has

long battled vigorously against the mounting power of government agencies concerned with housing and home finance, under a no-compromise policy apparently favored by the bulk of the membership. But by last spring a vocal if not substantial minority had begun to express dissatisfaction with League tactics. Main burden of complaint: Practically no important legislation favorable to the savings and loan cause has been passed within the last seven years; antagonism exists between the League and the government agencies with which members must work

Meeting in rump session last June in St. Louis, the insurgents had specific reform demands, drafted claimed they were backed by more than 600 member associations. When the League gathered for its annual conference last month in Chicago, the rebels tried to get their reform platform written into official policy. Outmaneuvered by agile Morton Bodfish, they retired in dudgeon to their own hotel suite, promptly gave birth to a rival association, christened the National Savings & Loan League.

Serving as president of the new group was S. H. Bever, president of the Equitable Building & Loan Association of Fort Worth, Texas. By month's end the National League had not yet found the man to run against Bodfish as executive manager. But organizational campaigns picked up speed as both sides tried to clinch wavering members. Most savings and loan men agreed that two rival associations would get exactly nowhere in Washington. Some were betting that strategy of the dissidents was to draw as much support out of the old League's back door as they could, then attack the front door with a force strong enough to write the terms of organization peace. Unperturbed, Bodfish expected few desertions from the ranks of the faithful.

NO SIMPLE ANSWERS

The press tables weren't crowded and no flash bulbs flickered in the committee rooms. Few jokes cracked across the paper-littered tables. But there was always a tight little knot of men waiting to speak about what was on their minds, and day after day the Congressmen were in their places. The questions they faced were immense and impelling, and even the most dogmatic knew that there were no simple answers.

What part should the federal government have in a public works program

big enough to cushion reconversion? A House Ways and Means subcommittee was pondering this one. Some of the members balked at any federal step to undertake advance planning of public works. Was it not simply an attempt to bring WPA back from the scrap pile? Others said that planning was the only way to avoid the glaring mistakes of the hastily rigged PWA-WPA experiments. All thought that this time local communities must do their own baking, but some believed the federal government might supply the yeast. Grants from a \$10 million fund, said Representative Walter A. Lynch whose bill (H.R. 2783) was before the subcommittee, would help states and their political subdivisions set up planning agencies; loans from an additional \$75 million authorization would enable these agencies to go to work on plans.

One of several bills to the same end, the Lynch formula is an attempt to untie an old federal public works knot. Funds for planning have not in the past been granted before funds for construction aid were authorized. One of the notable results of this policy: When Congress voted \$3 billion to set up PWA and make jobs in a hurry in 1933, it took eighteen months to put even 100,000 men to work.

What about war plants?

Watchdog of the war program, Sena-

tor Harry S. Truman's investigating committee was looking at this and other reconversion problems. Warned realist Truman: Peacetime value of the plants built by the government would likely be less than their construction cost. Any attempt to recapture high wartime construction costs will hang these plants like millstones around the federal neck.

Also interested was a House Public Buildings and Grounds subcommittee and to its hearings went Army and Navy men, RFC experts, industrialists and real estate men to talk over the Manasco bill (H.R. 3140). Most favored the bill's main purpose: to establish a central federal real estate agency to dispose of all surplus plants and war-purchased real estate.

What about federal aid for postwar housing and slum clearance?

Clearly defined as a wartime instrument, the Federal Public Housing Authority has neither authority nor funds to continue the slum clearance program initiated by the old USHA. But those who fear a resurgent public housing movement were already pouring arguments into the attentive ear of the Lanham (House) Public Buildings and Grounds committee. Said Chamber of Commerce spokesman, Eric Johnston: "The federal government should not undertake any activities in the field of housing which will compete with private builders or interfere with the community's responsibility for the enforcement of minimum housing standards and the relief of needy families."

How will disposal of federal war housing be handled?

First legislative attempt to tackle this question came from Senator Francis Maloney (Dem., Conn.), who heads the Senate Committee on Public Buildings and Grounds. Strangest thing about Senator Maloney's bill was that nobody would claim to be its father. Senator Maloney said it was based on the recommendations of Mrs. Samuel Rosenman's National Committee on Housing, but Mrs. Rosenman said she had nothing to do with writing it. From the National Housing Agency and all its branches came a convincing look of surprise. Nevertheless, the bill looked to most like a professional writing job. More significant than its major purpose-to provide for the orderly liquidation of war housing-was the bill's nomination of the National Housing, Agency as the appropriate government branch to handle the job. While NHA is a fairly obvious choice, it actually has legislative life only for the duration of the war emergency. The Maloney bill is the first Congressional token that NHA will probably be around for a long time.

(Continued on page 46)



PREFAB CHAMPION

Among the gilded ranks of the many periodicals which speak directly to the American housewife, *The Ladies' Home Journal* has for nearly 50 years carried a modest but determined banner for sound architectural home design. Persuading Frank Lloyd Wright and other first-rate architects to design houses for publication back in 1902, pioneer editor Edward Bok sold his readers copies of these expert plans for a few dollars.

Newest addition to a distinguished line, the sectional house designed for factory production by Gardner A. Dailey and lavishly illustrated in the *Journal's* December issue is evidence that the magazine is still putting its impressive weight back of progressive home design.

Hitting squarely at consumer prejudice, Architectural Editor Richard Pratt told a million readers: "Prefabrication can provide just as much variety and just as much opportunity for exercising individual taste as the complicated, many-piece, cutting-to-fit method of building with which we are now familiar."

NEWS

BRITISH VISIT

"Americans who are discouraged about the number of obstacles in the way of large scale rebuilding can find these conditions duplicated plus a few more troubles in Great Britain." So reported Ralph Walker, New York architect, on his return from a trip which covered London and other principal English cities. Walker traveled at the invitation of the British Ministry of Information, consulted with leading architects, builders and planners.

From London to Coventry, scarcely an English town is without plans for rebuilding, many of them bolder than any yet proposed in the U. S. But while plans describe desired results with appetizing detail, most of them, Walker found, omit methods. Still lacking after long delay are the national legislative decisions on land use and building design which most British planners believe are necessary to give life to paper planning.

How rebuilding will be carried out depends chiefly on the national policies emerging from the present behind-thescenes Battle for Britain—the struggle between Liberals and Conservatives for political control. Apparently permantly buried on Parliament's crowded desk is the Uthwatt report, which advocated government control of all future land development. Recently appointed Minister of Reconstruction, Lord Woolton has promised that a government-sponsored alternative will soon be offered groups that a large part of the private work done in rehousing after the last war was poorly executed and shoddy.

"Intelligent redesign is also presently hampered by war insurance restrictions, which stipulate that payments may be made only for construction of a building of the same type as the demolished one and on the same site.

"Real estate speculation is going on, and responsible groups are pressing for a law that will regulate the sale of bomb-damaged buildings."

Walker found architects and engineers already trying to make up for anticipated postwar lack of skilled labor by devising improved methods. Main obstacle is the hands-off attitude of the British worker, who looks with deep suspicion upon any attempts to rearrange his working habits.

Walker was told that the British mason restricted his daily stint to 200 bricks even when working on air raid shelters.

Damage to England's cities through Nazi bombing, Walker said, has actually been less than that suffered by French and Belgian cities under German artillery fire in World War I.

U. S. BACKYARD

Careful reporter Sir Ernest Simon last year tried earnestly to look back of America's impressively big front door, managed to glimpse many an unsightly backyard. This year he was still entertaining his colleagues with the bundle

Myron Ehrenberg



WALKER: British plans are bold

for Parliamentary consideration, Walker said.

"The widespread interest in achieving suitable public controls is augmented by the feeling among planning British Information Service



SIMON: U. S. does big things best

of paradoxes he collected. Speaking to the London Architectural Association, Sir Ernest marveled at the beautiful parkways around New York, the efficient high-speed traffic lanes that rim Chicago, but also told how America's frequently beautiful face is scarred with a "display of posters, two or three times as numerous and as big as ours."

Walking not more than 500 yards from Detroit's central square mile of skyscrapers, Sir Ernest recalled, he found "old houses and fairly new ones and old factories all lumped together, some of the factories still working and others tumbling down. There are numerous open spaces, some used for car parks and others covered in tall weeds. I have never seen such an untidy mess anywhere in England.

"This problem of 'blight' is one about which the American cities are very worried, and they do not quite know what to do. We have it here to some extent, but it is comparatively unimportant, compared with the problem of the real, old-fashioned slum areas.

"There is now in Detroit a planning commission. They do not hand these things over to the local authority; they do not hand anything much to the local authorities there, because the federal government and a good many other people do not trust them. They were at one time far and away the worst part of American democracy, but they are now improving."

Sir Ernest liked the American front vard. "almost always just a small lawn with a few flowers, and a veranda in front of the house where the occupants sit; they do not mind other people seeing them as much as we do. This means their roads are very attractive indeed. On the other hand, the American back garden is very often a complete slum, with a garden and a garbage tin and washing hanging out, and one of the untidiest places which can be imagined. My general feeling is that the American front garden combined with the English back garden (fenced in and properly looked after) is the ideal."

Looking at the "superb buildings put up for universities and schools, Sir Ernest concluded that "Americans have a passion for education and pour out money for it. . There are many things in building which we do better in this country, but the Americans are very good at these big projects."

MRS. ROOSEVELT DISSENTS

Harbinger of a bigger fight, the row between Washington, D. C. property owners and public housers erupted last month in vigorous editorials and belligerent letters-to-the-editor. The public housers seemed to have a lot of people in their corner, including the potent *Star* and *Post*, the Federation of Churches, and Mrs. Franklin D. RooseAcme Photo



FIRST LADY opposes rent subsidies

veft. Against them stood the embattled Federation of Citizens' Associations, enraged by the National Capitol Housing Authority's request for a \$100,000, 000 slice of public funds to underwrite a 20-year program. Washington betting was that the Federation would find able John Ihlder, NCHA's universally respected executive head, no weak-kneed opponent.

Descendent of the old Alley Dwelling Authority, set up in 1934 to tidy up the slum homes that front on Washington alleys, the NCHA is a particularly attractive battleground since its affairs are always glaringly in the Congressional eye. When the war began, NCHA deferred its long-term program to concentrate on low rent housing for essential workers and especially for tenants displaced when slum dwellings were torn down to make room for the war-expanded government plant. This coupled with the fact that the Authority has always been strapped for money makes one of the property owners' noisiest charges-that 20,000 slum units still remain to mar the national capitol -seem a little illogical.

The citizens' group is impressively enthusiastic about slum clearance and has no objection to a suitably funded board which would undertake this expensive operation. But all rehousing must be accomplished by private enterprise, with the aid of long-term financing and possibly public rent subsidies.

Post comment: "Prejudiced smearing of NCHA . . . building of low rent houses would be left entirely to private enterprise . . . which has demonstrated over and over again that it cannot build for the low income groups who occupy the worst of Washington's slums."

Federation retort: "Private enterprise has not had the advantages given to public housing agencies of low interest rates, long-term financing, the power of eminent domain, subsidized tenants and tax exemptions."

Controversy climaxed in headlines when Mrs. Franklin D. Roosevelt took the floor at a meeting of the Washington Housing Association to "disagree amicably" with Washington Builder Waverly Taylor, an aggressive advocate of the rent subsidy plan. Said Mrs. Roosevelt: "Housing is not just a commercial enterprise. It is something that concerns the city and the country as a whole. . . It seems to me that we should not put it on a basis of people's rent being given them through relief if it is possible to do it in any other way."

SOAPSUDS

The gentleman from Ohio was outraged. The gentleman from Michigan was mortally offended. Oratory bubbled like soapsuds as irate Congressmen dropped their consideration of subsidies, the soldier vote and musteringout pay to rise manfully in defense of the bathing habits of the rural midwest. Like a large wet bath sponge thrown in the Congressional face was the unlucky suggestion from somebody at the War Relocation Authority that workers of Japanese origin might be able to teach midwestern farmers something about personal hygiene. Almost as infuriating was the WRA hint that Jap internees were reluctant to take farm jobs where there are limited sanitary facilities.

Senator Wheeler of Montana was quick to see that the thing was "an insult to the farmers of the country." Representative Dingell of Michigan was sure that "the only dirt Michigan farmers have on them is the dirt of the soil after a good honest day's toil. At the end of the day they bathe and get rid of it."

The Representative might have mentioned that they go to some trouble to do it, since 84 per cent of all Michigan farm homes lack bathtubs, 71 per cent are without running water. He could, however, have claimed that Michigan's rating is above the national average: only 11 per cent of all U. S. farm homes have bathtubs.

MATERIALS OUTLOOK

Year's end found building material prices at record peak, supply of some still short of meeting war needs. Outlook: Copper and steel would go nearly 100 per cent of the way around in 1944. With overseas military use mounting, the year's yield of lumber would be at least one billion board feet less than demand. Only yesterday the No. 1 shortage, aluminum was now in good supply; with 1944 capacity about six and one-half times the 1939 output, cutbacks in production were ahead. Although construction would not share in aluminum in 1944, Building men could anticipate what the industry's expanded capacity would mean for them in 194X.

Dwindling steadily throughout the year as heavy construction leveled off, 1943 shipment of fabricated structural steel amounted to a million tons less than 1942 volume. The American Institute of Steel Construction reported that only about 130,000 tons would be available for fabrication in the first quarter of 1944, one-third the amount shipped in the same period last year.

Lumber Supply Dropping. The lumber problem continued more knotty than clear in spite of the vigorous efforts of an inter-agency log and lumber policy committee. Although some 47,000 U.S. mills were at work, total lumber cut for 1943 fell about ten billion feet below 1942 consumption, retail yard inventories dropped about 40 per cent below Pearl Harbor levels. Warned Lyle F. Watts, chief of the Federal Forest Service: the lumber pinch would get tighter. When military use slackens, U. S. lumber manufacturers will be called on to help meet reconstruction needs in Europe where, Watts said, the "timber deficit probably will be greater than the anticipated surplus of all the rest of the world."

Announced the Federal Public Housing Authority: Lumber use had been pared to the bone. Reducing sizes and increasing spacing from 16 to 24 ft. for roof trusses, floor joists, wall and partition studs, FPHA estimated a lumber saving amounting to 50 per cent in all temporary construction.

Although the Army was still finding

ALUMINUM: Alcoa lab's 25th



NEWS

plenty of use for Douglas Fir plywood, hard plywoods, unavailable for many months, were here and there appearing on the market. Anticipated by the industry: Little 1944 demand for hard plywoods in aircraft manufacture, but continued large shipbuilding demand.

Aluminum Future. Biggest aluminum news for building was in price cutfrom the prewar figure of 20 cents a pound, aluminum ingot had dropped to 15 cents. Celebrating the 25th anniversary of its research laboratories, Aluminum Company of America said that war-developed high strength alloys will mean many new peacetime uses for aluminum. Now making up about 75 per cent of the weight of a warplane, aluminum will be cheap and abundant in 194X, and supply will be augmented by the large amounts of war-used aluminum returning to the market as scrap. Alcoa forsees that lowered cost plus the increased numbers of workers who have fabricating knowhow will bring aluminum into wide use for insulated cable and wire, rustless windows and screen cloth, die-cast plumbing fixtures and hardware, heating and air conditioning equipment.

WRECK IN DUTCHESS COUNTY

When the old cars of New York's scrapped Sixth Avenue El were towed out to the country to become summer homes for Department of Sanitation employes, Mayor Fiorello LaGuardia nodded approval. Scattered over a hillside in exclusive Dutchess county, the discarded coaches look like the remains of a gigantic wreck. Last month embittered New York politicos hinted that Sanita Hills might amount to enough to derail provident housekeeper LaGuardia.

With a resourcefulness that the most imaginative war housing specialist might envy, New York's Sanitation Commissioner William F. Carey had sidetracked 94 El cars from the scrapheap, dressed them in red and white paint, equipped them with Philippine mahogany furniture, electric cookers. and electric refrigerators. Half of one of the converted "pullmanettes" is plenty of room for a vacationing family of four, rents for \$14 a week with row boating, dancing, movies and round trip bus fare thrown in.

Until the City Council committee investigating the LaGuardia administration stumbled across these novel bungalows, nobody except New York's white wings, who arrived in large numbers to spend their summer holidays, was much concerned with the last stop of the Sixth Avenue El. But the committee members, with a fine show of civic indignation, contended that the housing project represented improper conversion of city property.

Few New Yorkers, accustomed to the LaGuardia talent for kicking holes in administrative formalities, were either surprised or perturbed to hear the second charge: the Mayor himself had deceived the Works Projects Administration by passing off Sanita Hills as city property when he asked for some \$345,310 aid for its construction. Seven months of the most careful scrutiny of the camp's records had failed to yield any evidence of graft or corruption. Even the investigators admitted that everybody's heart seemed to be in the right place.



DUTCHESS COUNTY PEACE is "EI" for New York City's white wings.

DEMOUNTABLE DITHER

No housewife ever kept a more anxious eye on the movers than did the Federal Public Housing Authority when the first batch of demountable houses joggled along the road to a new site at Port Clinton, Ohio. A fleet of trailer trucks—two for each unit—moved the demountables out of Kingsford Heights. Ind., where dwindling munitions production was responsible for about 90 per cent vacancy in a 2,960-unit project.

With the first 100 houses unwrapped and reassembled last month, FPHA could relax. While there had been casualties, the demountables, on the whole, had earned their name. Trim. outside boards, hardwood flooring were all in good shape, but about 15 per cent of the asphalt roofing had to be replaced as well as all the felt paper underneath. Wood floor tile in one of the models buckled, will probably have to come out. Panels of another refused to close tightly and considerable caulking was necessary. But when nail holes were puttied in and a fresh paint job finished, the demountables looked none the worse for their travels.

Whether the demountables offered any important advantage over temporary but nondemountable construction was debatable. Cost of moving was estimated at about \$1,200 per unit, but expectancy was that real cost would prove to be close to \$2.000 per unit. Original unit cost was about \$3,000. Savings in material and labor time were, however, substantial.

A good deal less happy than FPHA was the contractor (Henke Construction Co., Chicago) who handled the moving job. Complained low-bidder Henke: Skilled labor was scarce, the job was hard to systematize, he was loosing about \$2,500 a week.

SAYLOR MADE MAG

Frequent and varied have been the murmurs of discontent within the ranks of the venerable American Institute of Architects over its failure to abandon rigor mortis in favor of streamlined action. One flimsy target of the complainants has been the Institute's stodgy magazine, The Octagon, a monthly pamphlet about as lively as the proud, dust-ridden Institute headquarters house in Washington, D. C., from which it takes its name. Final result of several years' stewing by successive and exploratory committees is the decision to rejuvenate the magazine into a digest size, "sparingly illus-

(Continued on page 98)



NAVY BUILDINGS ARE WOOD FRAME, COVERED WITH MUSLIN, SCREEN CLOTH AND PALM THATCH ARMY USED NATIVE MATERIALS THROUGHOUT



SOUTH SEA ARCHITECTURE

Army and Navy designers improvise attractive and much needed quarters in the Pacific, using a combination of native materials and miscellaneous military stores. Yankee ingenuity and a contemporary approach in the tropics.





PORCH of Admiral's house overlooks harbor, opens out of office. Wood plank walls are Rimu wood, foundation posts are palm tree trunks, wide overhang of rake protects high opening.



When the Navy decided to move some of its activities from ship to shore in the South Pacific area, it was up to the U. S. Naval Construction Battalions (Seabees) to provide adequate facilities for an Admiral and his staff with available materials, and in the shortest possible time. They managed to carry out this assignment, and at the same time produce an interesting and attractive group of buildings. All sorts of military materials, such as sea plane matting, camouflage cloth and canvas were employed, as well as such native materials as loose coral, coconut tree trunks and palm thatch. Structural lumber and siding (Rimu wood) were imported from New Zealand. The construction technique was a blend of native methods and modern American carpentry, with emphasis on maximum openness in all of the buildings to make the most of cooling breezes. A prime function of all of the structures was protection from insects, which conditioned the design throughout, especially the buildings used for cooking and eating. An existing coconut plantation which covered the island was left undisturbed.



OBSERVATION-POST VIEW of Admiral's galley and mess shows regularly-spaced trees of island coconut plantation virtually undisturbed by buildings.



ENTRANCE to Admiral's mess has doubledoored "fly trap." In bad weather, screened openings are closed by canvas flaps, which roll up on inside.



INTERIOR of mess was trimmed with bamboo. This picture, made before decoration was complete, shows anteroom and door to galley at opposite end.



ADMIRAL'S bath and dressing room were finished in plywood. Doors are open frames covered with muslin to permit maximum air circulation.





UTILITY BUILDING SCREENS ARE SEA PLANE MATTING MESS HALL: COCONUT LOGS CURB CORAL PARKING AREA



OUTDOOR MOVIE has bleachers for enlisted men, grandstand for officers. Benches are set on coconut logs resting on loose coral fill. Coral was used for walks and driveways throughout the station.





WALLS AS WELL AS ROOF WERE THATCHED IN GRASS, BUNDLED AND TIED IN PLACE BY NATIVES

OFFICERS' CLUB PACIFIC ARMY BASE. U. S. ARMY ENGINEERS CORPS, DESIGNER

For occasional relaxation after long hours of duty, the officers of an Army camp in the Pacific theater built this interesting club and beach pavillion from native materials and labor. Designed by an Army engineer unit, the only imported materials used in its construction were cement (for a concrete floor slab), screen cloth and electric wiring. Island vegetation was the main source of everything else from the frame to the furniture: bamboo stalks, long swamp grasses, roots, bark and wood poles. Even the stains used in finishing the woodwork were brewed from island materials. In addition to a main social hall, the building includes a roomy bath house and a broad patio overlooking the beach. On the seaward side, a tropical garden has been created from native plants.



LIGHTING FIXTURES WERE MADE FROM HOLLOW BAMBOO

SHORELINE TREES, UNDISTURBED, GROW THROUGH ROOF





WASHINGTON HOUSING

With every kind of shelter from dormitories to duplexes, the national capital is the place to see what the war housing program—public and private—has produced.

Many of the reasons for an examination of Washington's housing apply to other cities. Washington is a boom town. From an uncomfortable 621,000 in 1939, the city has swelled to an estimated 1,300,000. But there are other cities, also exhibiting this tendency to burst at the seams: Portland and Norfolk, with their shipbuilding; Hartford, with engines and machine tools; Wichita, Seattle, San Diego and a dozen other communities, with airplanes.

Washington's housing problem, obviously a tough nut to crack under favorable circumstances, is seriously complicated by a racial problem. But this is true of Detroit, Baltimore and Pittsburgh.

Washington's postwar population may be reduced by many hundreds of thousands, and its planning officials would then have the job of eliminating housing accommodations in a manner that would improve the community. But there is practically no war center that will not have the same job on its hands.

Because the Washington housing picture is so typical of many others, it is naturally of interest. Most significant, however, are not the similarities, but the differences: in many respects the national capital and its war housing are unique. For one thing, the city is a housing laboratory—or museum —that is virtually complete. In Washington one can seen examples of every kind of housing, public or private, single- or multi-family, traditional or modern, permanent or temporary—produced during the war. Moreover, these examples are not ordinary examples, for wherever an agency has been assigned a job in the metropolitan area, that job has been given a maximum of attention. Washington,



Rodney McCay Morgan

A SUMMARY OF TEMPORARY WAR HOUSING by John Inider, Executive Officer of the National Capital Housing Authority

"Fact and fancy movies have given an impression of Washington's housing situation that interferes with recruiting for essential war jobs. Of course Washington is overcrowded: the lines of people waiting before restaurants is evidence. But right up to the present moment there have been rooms available for single persons, the private supply supplemented by the government's 'duration' dormitories. The dearth was of family accommodations.

"Early in the defense era, before Pearl Harbor, the District government established a homes registry office and, for the protection of newcomers, set minimum standards for all the housing registered. A corps of volunteers organized by the Washington Housing Association inspected rooms for single persons. The National Capital Housing Authority undertook to inspect all family dwellings and apartments offered for rent at \$50 a month or less, the assumption being that those renting for more would meet requirements. Within a few weeks \$50 dwellings and apartments had practically disappeared from the market. So it was necessary to augment the supply.

"Housing is not built overnight, so estimate and prophecy, War Manpower predictions and War Production Board

restrictions added to the uncertainties normal to a housing program. There was fear that the city would be overbuilt in terms of postwar needs. All of these ingredients resulted in a program under which private enterprise was given the green light provided it could get priorities, commonly known as hunting licenses, get materials and then build under a \$6,000 sale ceiling or \$50 a month rent. Public enterprise was called upon to supplement with temporary dwellings to the extent necessary to meet the war need. Its first ceiling was a \$4,600 overall cost. Then its ceiling was lowered to \$3,000 for land. streets, utilities, fees and overhead, and house. This meant a house that would cost not to exceed \$2,000. The District of Columbia is a high price area. The assignment seemed impossible.

"Under the first ceiling it was decided to build 'demountables'. The Authority still thought in terms of a house that would be conventional in appearance, the kind people are accustomed to seeing and therefore will be more inclined to accept. Some of the results are pictured here and the Authority is proud of them. They are the first, perhaps still the only two-story demountables in the country.

"Under the second and lower ceiling

all thought of conventional appearance had to be discarded. So too all thought of demountability and postwar salvage value, for these add to initial cost even though they may reduce the ultimate net cost. The architects were instructed to enclose such an amount of the great outdoors as would provide for living room, kitchen, bath and from one to three bedrooms. These rooms must be of adequate size-war workers are not dwarfs, they are as large as the rest of us and need just as much space. The resultant structures must be comfortable, attractive and homelike. In the Authority's opinion, the architects, under these severe restrictions, have made a real contribution to housing.

"Inevitably there was vigorous opposition by neighboring home owners to temporary dwellings. The 'demountables' won popular acceptance—after they were erected—more rapidly than have the 'demolishables', because of their more conventional appearance. They are, in fact, better looking even to the man on the street than are some of their permanent neighbors. The 'demolishables' are having a harder row to hoe, but the Authority takes an even greater pride in them as a triumph over what seemed to be impossible conditions." after all, is a focal point for the nation, and it is perfectly featural for the best foot to be put forward. Also, in the case of the government agencies, it is easy to remember that investigating Congressmen can investigate more easily here than anywhere else. Whatever the main motivation, the fact remains that here, in one comparatively accessible spot, there exist in completed form examples of all the kinds of war housing that have been built.

THE LABORATORY

This housing test tube is a fairly large one. Nucleus of the exhibit, of course, is the District of Columbia, where most of the projects are. To the north and east it spills over into two counties of Maryland. Across the Potomac in Virginia it takes in Arlington and Alexandria. An inspection trip by car takes a full two days and the going is hard but worthwhile.

Figures are usually tiresome, but in this case they happen to be few and impressive. More than 45,000 family dwelling units have been programmed, with two-thirds private and one-third public. Single accommodations for 15,000 have been planned, most of these consisting of dormitories constructed by public agencies. Well over half of these 60,000 units are completed and occupied. More would have been ready had labor and materials shortages been less critical.

In the process of putting together this large number of urgently required dwellings, all of the public housing agencies were involved. NHA concerned itself largely with the program, a major operation in itself. FPHA used the National Capital Housing Authority, the Alexandria Housing Authority, and the Public Buildings Administration. FHA insured loans on thousands of single- and multiple-family dwellings. Defense Homes Corporation put up the money for at least two huge permanent projects. And this list takes no account of the more numerous private groups involved, largest of which was the Metropolitan Life Insurance Company. With many agencies, many divergent interests and objectives, and the general confusion resulting from the daily dislocations produced by the war, there were mistakes made—plenty of them, probably—and the many conflicts have not tended to become less numerous. But the houses are there and people are living in them.

That this great housing laboratory has as much variety as it does can be attributed in large part to the National Capital Housing Authority, whose John Ihlder and Berhard Loshbough fought through such projects as Calvert and Lily Ponds, and generally accomplished minor miracles in breaking through the rigid formulas of a traditional-minded bureaucracy. NCHA, once known as the Alley Dwelling Authority, has played a major role quantitatively as well in Washington's housing. According to the report of last December, its properties, occupied or in construction, totaled 6,419 dwellings.

POSTWAR PERSPECTIVES

The immediate picture for Washington, as for so many other communities the country over, is removal or demolition of thousands of housing units. All "demountables," "demolishables" and "T.D.U.s"^{*} are scheduled for disposal. It is a great pity that many of the permanent structures were not also put into one category or another of expendable buildings. The two DHC projects illustrated, for instance, with their deadly repetitions of so-called "Williamsburg" architecture, will hardly enhance the interest or beauty of the capital in years to come. Neither will the myriad clusters of FHA cottages which cover the city like a rash. The permanent public housing is mediocre at its best.

It would be difficult for anyone, whatever his architectural convictions and planning prejudices, to make the grand tour of Washington's housing without coming out sadder as well as wiser. It is depressing to see unsuitable materials and shoddy workmanship, cramped quarters and acres of design that is pretty drab. "There are three things in war housing," remarked one official, "that we have not licked yet: the laundry problem, the space heaters and refuse disposal." Washington's war housing thus reinforces the experience gained in prewar public housing. Good housing ("good" by any reasonable standard) cannot exist without a good program. NCHA retained some of the best architects in the country for some of its projects, but in no case was the result completely satisfying to anybody. This much came out of the experiments, and it is the shining hope for the period to come: (1) housing has to look and function like housing-not like a club or a collection of scaled down private homes or a Governor's Palace of the 18th century; (2) housing, properly designed for its purpose, and aided by an industry awake to the possibilities of quality production and low prices, could be liveable and perfectly good to look at; (3) until sensible standards of decent living are arrived at, no thoughtful citizen will be anything but ashamed of what is perpetrated in the name of mass shelter; (4) there will only be successful housing when the community services are properly handled by the community: no architect can solve the problems of what to do with laundry, garbage and fuel with anything more than makeshifts. *Temporary dwelling units.

WASHINGTON HOUSING





Photos: Gottscho-Schleisner





PARKFAIRFAX

ARCHITECTS: LEONARD SCHULTZE AND ASSOCIATES. SITE PLANNERS: GILMORE D. CLARKE, MICHAEL RAPUANO. BUILDERS: STARRETT BROS. & EKEN, INC. Parkfairfax, most recent of the large housing developments of the Metropolitan Life Insurance Co., is located a convenient ten-minutes from the Pentagon Building. The site contains about 200 acres, most of them hilly. The buildings, of which there are 285, cover about one-tenth of the land with an average of nine families to the acre. There are 1,684 apartments; 720 have one bedroom, 863 have two. 101 have three. Most of the two- and three-bedroom suites are duplexes, with their own entrances and private stairs. Average rentals are \$61.25, \$78.75 and \$90 for the three types of accommodation. One excellent feature is illustrated in the plans: the orientation of rooms away from the streets and towards the inside gardens.



4-ROOM UNIT



3- AND 21/2-ROOM UNITS







Calvert is a project of the NCHA, and is classed as a "demolishable," since it will be torn down after the war. Located in Maryland, about seven miles from the center of Washington, it houses both city office workers and the employes of a nearby factory. The program given the architects was to produce the required accommodations at a total development cost of about \$3,000 per dwelling unit.

Accommodations include 40 three-bedroom units (two stories), 142 one-bedroom, 254 two-bedroom and 64 no-bedroom dwellings. The construction is the system of wood framing and cemesto board developed by the Pierce Foundation.* Cost was \$2,349.61 per dwelling for structure and equipment. Unit cost including land, development, all fees, etc., was \$3,251.45.

*See Nov. 1941, p. 321.



SECOND FLOOR



5-ROOM TWO STORY UNIT

GALVERT HOUSES

ARCHITECTS:

SKIDMORE, OWINGS & MERRILL. CONTRACTORS: JOHN A. JOHNSON, CONTRACTING CORP. WASHINGTON HOUSING



CLUB ROOM FOR EACH EIGHT MINIMUM APARTMENTS



Rodney McCay Morgan

The most interesting units at Calvert are the so-called "quatrefoils"—four dwelling houses which have their plumbing concentrated in the inside corner, and the minimum apartments. The quatrefoils have central monitors which illuminate and ventilate the inside kitchens and baths; they are illustrated in two plans and a bird's-eye view above.

The minimum apartments are arranged eight to a building, and were designed for childless couples or two single persons. Each building has a large club room, shown directly above. The fabrics were designed by Dan Cooper; furniture is by H. G. Knoll Associates.



Harris & Ewina

INSIDE KITCHEN IN 21/2-ROOM UNIT





FOUR-DWELLING HOUSES



CALVERT HOUSES cont'd











JAMES CREEK was built by NCHA when still called the Alley Dwelling Authority. Standard USHA permanent type 278 units, at an average cost of \$5,819.83. Rentals \$15 to \$38.50. Albert I. Cassell, Architect. C. B. Ross Co., Builders. Project was completed late in 1942, is occupied by Negroes, many of whom work in the nearby Navy Yard.



SYPHAX HOUSES is one of the demountable war projects, and contains 146 dwelling units. Designed by the Engineering Service Co., it is of frame construction. Units cost \$4,320 (these averages are based on total development costs). Main feature of the design is the relatively large kitchen-dining room. Builders: A. Lloyd Goode Contracting Co., Kanawha Housing Corp.



GEORGE PICKETT HOMES is an experimental war project developed by the Region III office of FPHA. The site is in Arlington, within walking distance of the Pentagon Building and the Navy Annex. It has 500 dwelling units (one, two and three bedrooms), was built on leased land, and will be taken down at the end of the war. The houses have only one entrance, which accounts for the location of the pens for refuse, etc., at the front. Architects: Faulkner & Kingsbury. Consultant, Michael Rosenauer. Builder: T. Calvin Owens.

NICHOLS AVENUE is a "T.D.U."—temporary dwelling unit —project, put up by the National Housing Authority. This unprepossessing type of shelter has a WPB-approved plan, gets an automatic priority over other types of war housing, and comes under the \$3,000 cost limitation. Although it is strictly a duration type of project, quickly built and economical, NCHA preferred to try to develop others, equally suitable for short-term use, but better designed and more liveable.





McLEAN GARDENS. A permanent project of the Defense Homes Corp., located on an estate in an old neighborhood of Washington. It includes nine residence halls and a larger number of apartment buildings. A part of the program was influenced by the possibility of sale to a private group after the war, when it is also expected that a substantial portion of the million dollar site cost will be recovered through sale of some land for business purposes. Architect: Kenneth Franzheim; associate architect, Alan B. Mills.



Photos:Gottscho-Schleisner



FAIRLINGTON, located in Virginia, is by the same architects, and shows the same effort to invest a design with the qualities of a borrowed style. Unfortunately there is not an architect living—or dead, for that matter who could cover a site with 2,253 apartments in the "Williamsburg manner" and get away with it. The project covers 322 acres, includes sites for schools, playgrounds and business, and may also be sold to private investors. Average per-room rental: \$17. Builder: Thompson Starrett Co., Inc.





TYPICAL DORMITORY WING

WEST POTOMAC

AGENCY: PUBLIC BUILDINGS ADMINISTRA-TION OF THE PUBLIC WORKS SUPERVISING ARCHITECT: GEORGE HOWE CONSULTING ACHITECT: GILBERT STANLEY UNDERWOOD FURNISHINGS AND DECORATION: GLADYS MILLER BUILDER: ROSS ENGINEERING CO. Image: A state of the state

19829



The great merit of the PBA dormitories lies in the completeness of the solution they offer. The buildings are temporary, look temporary—and also look well. Accepting the dormitory scheme, the authorities provided the manifold services which make dormitory life tolerable. In actuality, each project functions like a series of hotels, and the illustrations here bear out the point. Photographs and plans show a typical lounge in a typical residence hall: services include mail, telephone, checking, sitting rooms and a small shop.





Photos: Gottscho-Schleisner





TUNLAW ROAD HOUSES is a small, prefabricated NCHA project, located about three miles from the center of Washington. It is the latest of three projects built by American Houses, and embodies several improvements over its predecessors. Accommodations include 44 one-bedroom and 48 two-bedroom units. Total cost per dwelling unit: \$4,564.55. Architects: Holden & Mc-Laughlin, American Houses, Inc. Contractor: Irons & Reynolds, Inc.





BARCROFT is a multiple-family FHA project, built under Title VI. There are 766 units ranging from three to five rooms. Apartments are in the \$50-\$70 rental bracket. The architect was William H. Harris. Builder: Thomas N. DeLashmutt.









SUNNYBROOK is a typical development of FHA Title VI homes, and it has been included as typical of the best work in this category. There are 200 houses, selling from \$4,850 to \$5,400, with monthly carrying charges of \$33 to \$36 after the 10 per cent down payment has been made. The project was sponsored by Washington Suburban Homes, Inc., with design and construction by the Graham Construction Co.















LILY PONDS

ARCHITECTS: STONOROV & KAHN CONTRACTOR: C. B. ROSS CO., INC. AGENCY: NCHA Lily Ponds is the result of an attempt to produce a "demolishable" project that would look frankly temporary, but be liveable at the same time. The interiors are very successful in this respect: the combined textures of red tile, block insulation. waxed wood and colorful fabrics are rich, rough and comfortable. Outside, the effect is rather more strident than gay, a criticism which does not apply to the community building. The "quatrefoil" plan used in Calvert Houses appears again here: a monitor lights all four of the inside baths and kitchens. There are 540 dwelling units on the 42-acre site. Total cost per unit was \$3.128.06.

PREFABRICATION

PREFABRICATION'S POSTWAR PLANS

The nation's prefabricators pose for a collective self portrait. Most of them turn out to be conservative business men whose modest ambitions fall somewhat short of the dramatic future often predicted for their budding industry, but still add up to impressive totals. Highlight: almost a third consider the operative builder their most promising postwar customer.

In the welter of predictions and counter-predictions regarding prefabrication's role in postwar homebuilding, almost every voice has been heard except that of the present manufacturers of prefabricated houses. What plans has the industry itself for postwar production? How does it intend to sell its houses, and to whom? Will it plump for modern design, or stick to traditional? Who will design its houses, the individual architect, or the product designed in a house factory? Will they be all alike, or as varied as the purchaser may desire? Will they be marketed on a national or regional basis, sold at retail to the consumer or wholesale to building professionals? Is prefabrication likely to be a real threat to conventional building methods, a wartime flash-in-the-pan, or simply an evolutionary improvement that Building can absorb and digest without noticeable outward effects?

To learn the answers to these and many other questionsas the prefabricators themselves see them-THE FORUM last month questionnaired some 144 manufacturers and would-be manufacturers of prefabricated houses. Despite the large number of questions asked, and a formidable four-page form. 42 completely filled-out answers were received, representing a clear majority of the most active manufacturers in the industry. In addition, ten firms (including three of those now most active in war housing) stated definitely that they did not intend to continue in prefabrication after the warin itself an eloquent answer to all of the questions posed. Another twenty replied that because their plans were presently indefinite, or for various other reasons, they did not feel qualified to fill out the form, while six more stated that despite the fact that they had been included on various published lists of manufacturers of prefabricated houses they were not now prefabricators, nor did they intend to enter the field in the future. Assuming that an equal number of those who did not respond to the questionnaire would fall into the same categories, the 42 forms actually filled out represent almost 60 per cent of the nation's prefabricators whose postwar plans are presently formed-certainly an adequate sample on which to base general conclusions as to their intentions.

The most striking impression which emerges from the tabulated returns is that the prefabrication industry, as the bogey of conventional builders and conservative materials manufacturers, has been vastly overrated. The overwhelming majority of prefabricators, by their own admission, have little hope of more than nibbling at the edges of the huge, million-house-a-year postwar homebuilding pie. Almost to a man, they visualize localized, or at most, regionalized operations on a scale smaller rather than larger than their present share in war housing. And their projected product, if present plans are any indication, will differ but little from the prewar house as built by conventional methods.

Thus the most conservative estimate of prefabrication's postwar potential to appear to date is that of the prefabricators themselves. And yet, this very conservatism is an index of the industry's present strength. For, the answers to THE FORUM'S questions given below add up not to the exaggerated promises and misty economics which typified the prognostigations of prefabricators in the early Thirties, but the hardheaded plans of practical business men who have the means and skill to carry them out. They cover all aspects of prefabrication for private sale: distribution, product, price, production and sales methods. As all predictions must, they necessarily venture into the imponderable future, but not without a considerable basis in fact and experience. On many points, they indicate a healthy divergence of opinion, on others, surprising unanimity. Most important, they evidence a distinct shift of attitude on a number of questions that is clearly the result of wartime experience, and a sober evaluation of the industry's future. As such, they warrant the attention of everyone in Building.

PRODUCT

With a few notable exceptions it is by now fairly well established that most of the presently active prefabricators plan, at least for the present, to base their structural systems on conventional wood construction, supplying houses in the form of one or another type of panel construction. However, it is not entirely clear how much of the complete house they expect to make themselves and what proportion of the finished structure they expect to supply their customers. One theory of prefabrication has it that the manufacturer will merely supply standard panels which can be put together in various ways to create various types of structures, rather than a series of parts intended for stock plans. The answers to the following questions bear on these problems:

a) What portion of the complete house and lot do you expect to supply?

Structural parts only:	4 (10%)
All necessary materials except foundations:	7 (17%)
Materials as above plus plumbing fixtures, etc.:	7 (17%)
Materials as above and all equipment (range,	20 (48%)

PREFABRICATION

Another 10 per cent (four manufacturers in all) plan to supply a house complete with movable furniture, although two of these specified this arrangement only where the houses were distributed by department stores or in the case of group housing. Almost all plan to prefabricate all of the structural parts of the house, in the following proportions:

b) What parts of the house do you expect to prefabricate?

Walls:	42 (100%)	Kitchen units:	28 (67%)
Ceilings:	39 (93%)	Plumbing panels:	25 (60%)
Floors:	40 (95%)	Bathroom units:	18 (43%)
Roofs:	41 (98%)	Foundations:	5 (12%)

Noteworthy here is that virtually all of the companies plan to use prefabricated floors. While this was not the case before the war, apparently wartime experience with completely demountable structures has convinced most manufacturers that this is practicable. On the moot question of standardization, the replies break down as follows:

c) Do you expect to supply parts which can be assembled in various ways to fit customers' plans only? Or packaged parts for one or more stock plans and parts to fit customers' plans where desired? Or packaged parts for stock plans only?

Customers'	plans only: 4	(10%)	Stock plans only:	13	(31%)
Both:	22	(52%)	Don't know:	1	(2%)

In terms of prewar prefabrication theory, this represents a strong trend in the direction of standardized houses. Eighty-three per cent now plan to supply pre-designed houses, and only 10 per cent plan to limit their business to prefabricated parts. Of those planning to use stock plans in one fashion or another, the average number of plans contemplated is fourteen. The next two questions show how stock plans may be used to meet the varying requirements of the market:

d) Do you intend having regular and de luxe models or a single standard of quality?

Regular and de luxe models:	18 (43%)
Single standard of quality:	14 (33%)
Den't know:	9 (21%)

e) Do you expect to have regional models to fit varying climatic conditions?

Entirely different models:	3 (7%)
Considerably different models but with some common features:	15 (36%)
Some regional variation:	7 (17%)
Identical models:	17 (40%)

Those planning to use identical models listed the following exceptions: insulation, exteriors, roof overhang, depth of foundation, number of windows, and heating equipment.

DESIGN

Since so many of the manufacturers plan to supply standardized houses, it is fortunate that the questionnaire covered the matter of house design rather thoroughly. Of particular interest was the first question relating to style: a) Do you expect your postwar houses to be modern in design, traditional, or somewhere in between?

Modern:	9	(21%)	In between:	10 (24%)
Traditional: 10	(24%)	Both:	12 (29%)	
			Don't know	1 (2%)

This answer can be interpreted in a number of ways. It is possible, on the one hand, to argue that more than threequarters of the manufacturers plan to use modern design in one form or another, but the same thing can be said of traditional. Considering that so many alternatives were given, the proportion plumping for modern alone (21 per cent) is remarkable and probably a high-water mark for the acceptance of modern in surveys of this type. Nevertheless it must be admitted that reliance on traditional design is still very strong, since an even larger percentage declared for this type of design exclusively.

b) Who will design your houses?

Salaried architects on your staff:	37 (88%)
Independent architects commissioned by you as the occasion requires:	9 (21%)
Don't know:	1 (2%)

The overlap in percentage figures here is due to the fact that a number of companies expect to follow both plans. Many of those who expect to use staff designers objected to the term "architect" and substituted the term "product designer" in its place. Answers to the question, "What would you expect to pay for the design of one house?" varied all the way from "a normal fee" to "\$10,000." One prefabricator said "\$1,000 to \$10,000, depending on the value of the ideas developed."

c) Will the houses be one, one-and-a-half or two stories high?

One story:	18	(43%)	One and two	
One-and-one-half	stories: 7	(17%)	stories:	17 (40%)

d) Will they have basements?

Basements in all cases:	2	(5%)	Both:	32	(76%)
Without basements:	7	(17%)	Don't know:	1	(2%)

e) If without basements, how will storage be handled?

In garage:	6 (14%)	In storage space:	12 (29%)
In attic:	5 (12%)	Additional closets:	3 (7%)
In utility room:	6 (14%)	Don't know:	9 (21%)

In other words, most manufacturers have in mind about the same sort of structure that was being built before the war: one story in height and conventional "Cape Cod" design. There is little evidence here of futuristic planning, or even any very serious consideration of the problem of creating a house type which can compete effectively with the best the conventional builder may offer. Something of a trend may be discerned in the fact that a majority expect to supply basements when the customer insists, since most systems of prefabrication developed before the wartime emergency were predicated on the omission of this part of the house, but it is doubtful whether, even then, the replies to such a question would have been very different. On the other hand, there is some evidence that the problem of making up for the lack of storage space in the basementless house is being thoughtfully weighed and that something may be done to solve it.

DISTRIBUTION

To determine the pattern of distribution visualized by the typical manufacturer, a number of questions were asked covering territory to be served, method of shipment, type of sales agency, and so forth:

a) How large an area do you intend to serve in the immediate postwar period?

Entire region or regions: 26	(62%)	Entire U.S.	10	(24%)	
Don'i know: 6 (14%)	One of above	plus foreign:	10	(24%)	

Thus, almost two-thirds of the companies plan to operate on a regional rather than a national basis, usually serving the area within truck or easy rail radius of one or more plants. Fifty-five per cent plan to operate from a single plant, 38 per cent from more than one plant.

b) In which regions do you expect your product will be available in the immediate postwar period?

New England:	15	South:	14	Southwest:	13
Middle Atlantic:	17	East Central:	13	Northwest:	13
South Atlantic:	13	Midwest:	23	North Pacific:	14
				South Pacific:	11

Most of the companies checked two or three, or, at the most, three or four of these areas. Despite this localization of operations, it is interesting that the consensus shows an even blanketing of the country, with more than ten companies planning to serve each of the regions listed.

c) Which of the following patterns of distribution comes closest to describing your present plan for handling postwar business?

Shipments by truck direct to building site:	21	(50%)
Shipments by rail or long distance truck to distributor or dealer for transshipment by truck to the ultimate site:	18	(43%)
Don't know:	3	(7%)

A number of other alternatives were suggested, such as rail shipment direct to the site in the case of large scale developments where this was possible, and the use of a combination of barge and truck shipment. In general, however, it was evident that most of the companies felt that their area of operation would be largely restricted to that within direct trucking radius of their plant or plants.

d) Do you contemplate manufacture of house parts only as houses are actually sold, manufacture before sale and warehousing of finished product, or some compromise between these alternatives?

Manufacture only as sold:	13 (31%
Manufacture before sale and warehousing:	15 (36%
Combination of both:	12 (29%
Don't know:	2 (5%

Five of the manufacturers who checked the third alternative stated that they would carry leading items or leading models in stock. Others specified this method of operation for "small orders" to "maintain line production", and "some stock houses—some stock parts—build special items on special order."

e) What type of dealer outlet or sales agency do you expect will handle the bulk of your house sales?

(Those questioned were asked to check one type or number several in order of importance. A weighted tabulation stated in terms of equivalent first choices worked out like this:)

Entirely new sales outlets:	9
Factory representatives:	81/2
Building materials dealers:	61/2
Development builders:	41/2
Real estate agents and realtors:	4
Contractors:	31/2
Department stores:	3
Architect or engineer:	1

While it is evident from this result that the majority have in mind building their own sales organization outside the regular channels of the building industry, it is heartening to note that building materials dealers, development builders and real estate men rate so high in the scale of preference. This was borne out by the next question, which posed the same problem in a different way, and was also tabulated in terms of equivalent first-choice votes.

f) How do you expect to sell most of your houses?

Individual sales through local outlets:	17 (40%)
Wholesale to development builders:	12 (29%)
Direct to consumer on individual basis:	8 (19%)
Direct to consumer by sponsoring community	3 (7%)

Notice that in this tabulation wholesale sales to builders placed second and account for almost a third of the total vote. Undoubtedly the development builder has acquired this new importance in the eyes of the prefabricator, at least partly as a result of wartime experience, in which the manufacturer has been called upon to supply houses in wholesale lots for war housing projects. This type of business has apparently proved so attractive that prefabricators are unwilling to forego it in the future.

The manufacturers were also asked whether or not they expected to participate in foreign as well as domestic business. Thirteen companies (31 per cent) said that they did. The entire group was also asked the following question:

g) Do you expect the foreign market, including the reconstruction of devastated areas abroad, to figure in your postwar activities?

None at all:	10 (24%)	To the exclusion of	
To some extent:	20 (48%)	domestic business:	1 (2%)
Importantly:	11 (26%)		

PRODUCTION

As to proposed production schedules, replies were surprisingly conservative. In order to establish the validity of the answers to this and other questions, those receiving the questionnaire were first asked for a report on current war housing production and then, in the same terms, what production they plan in the early postwar period. This comparison revealed the rather surprising fact that on the average prefabricators are planning on less rather than more production after the war, although they hope that it will be spread evenly over the year. The schedule of replies is given below:

	No.	Actua	ally Achi	eved	No.	Planne	d for Pos	stwar
	Quot		and the second		Quot	1.201-0	all and the	Price S
Product	ion ing	Avge.	High	Low	ing	Avge.	High	Low
Per day	26	28	75	3	13	13	60	3
Per wee	ik 19	114	480	3	12	37	100	10
Per yea	r 11	3,217	15,000	200	15	2,110	70,000	300

PRICE

a) In what price bracket do you expect the bulk of your sales will be concentrated?

Under \$2,000:	10 (24%)	\$4,600 to \$5,000:	16 (38%)
\$2,100 to \$2,500:	15 (36%)	\$5,100 to \$6,000:	12 (29%)
\$2,600 to \$3,000:	19 (45%)	\$6,000 to \$7,000:	6 (14%)
\$3,100 to \$3,500:	22 (52%)	\$7,100 to \$8,00:	5 (12%)
\$3,600 to \$4,000:	19 (45%)	\$8,100 to \$9,000:	3 (7%)
\$4,100 to \$4,500:	16 (38%)	\$9,100 or more:	1 (2%)

The answers here are very much what might have been expected, with 97% of the companies planning to supply houses selling between \$3,000 to \$4,000, the same percentage between \$2,500 and \$3,500, and 81% between \$2,000 and \$3,000. More surprising is the fact that more than onequarter expect their sales to range upward to \$6,000, and at least one hopes to sell houses costing over \$9,100.

b) What will be your average price to the consumer, exclusive of land, for houses providing the following accommodations?

	No. Quoting	Prices	Average	High	Low
1	bedroom, living room, kitchen and bath	18	\$2,366	\$4,600	\$ 900
2	b.r., l.r., k. & b.	17	\$2,865	\$4,900	\$1,200
2	b.r., l.r., dinette, k., b.	20	\$3,140	\$5,100	\$1,400
2	b.r., l.r., d.r., k. & b.	17	\$3,500	\$5,300	\$1,500
3	b.r., l.r., k. & b.	14	\$3,600	\$5,000	\$1,700
3	b.r., l.r., dinette, k., b.	16	\$3,950	\$5,500	\$1,900
3	b.r., l.r., d.r., k. & b.	14	\$4,250	\$6,000	\$2,000
3	b.r., I.r., d.r., k., 2 b.	10	\$4,900	\$7,000	\$2,400

It is interesting that even the highest prices quoted compare very favorably in most cases with typical prices for conventional houses before the war. Average prices are remarkably low, especially for the larger houses, and probably represent a certain amount of wishful thinking; although it must be remembered that they are the consensus of a substantial group of manufacturers who certainly did not treat their replies lightly. About the only significance which can be attributed to the low figures is their demonstration of the fact that exaggerated claims are still characteristic of at least certain sections of the prefabrication industry.

c) What regional price variations do you expect to make?

5	(12%)
5	(12%)
17	180 0/ 1
	5

Price variations in different regions in accordance with availability and cost of material:	17	(40%)
Higher prices for northern areas, where particularly thorough insulation, etc. is desirable:	15	(36%)
Prices f.o.b. factory:	2	(5%)
Don't know:	5	(12%)

A number of those answering objected to the idea that heating plants were unnecessary in South and West Coast regions, and some felt that particularly thorough insulation was just as badly needed in these areas as in the North.

FINANCING

A number of questions relating to long-term financing were asked, eliciting the following responses:

a) In the postwar period how do you plan to handle the long-term consumer financing of your product?

Conventional mortgage covering house and lot, arranged by dealer outlets:	27 (64%)
Conventional mortgage covering house and lot, arranged by yourself:	6 (14%)
Special finance company to finance purchase of house only:	6 (14%)
Don't know:	3 (7%)

Thus a total of more than three-quarters plan to use the conventional mortgage either arranged by themselves or by their dealers, while less than a sixth now have plans for special financing arrangements. One manufacturer, however, plans to use a "sales insurance plan for new communities."

b) Do you expect that the recovery and resale of houses made possible by demountable construction will have an important effect on postwar financing methods?

None:	5 (12%)	Fairly considerable:	9	(21%)
Very little:	25 (60%)	Completely change:	3	(7%)

c) Over how long a period do you expect payments to be spread?

6-10	years:	15	(36%)	16-20 years:	11	(26%)
11-15	years:	T	(17%)	21 or more:	5	(12%)
				Don't know:	4	(10%)

It is interesting that the replies to this question show decidedly more manufacturers thinking in terms of under-15-year mortgages than any other type. The fact that more than a third plan six- to ten-year financing is rather extraordinary in view of the trend toward 20-year-and-more mortgages for conventional houses built for sale.

The final question in this series dealt with a question currently of much interest to the builder field as a whole:

d) Do you expect long-term financing of your houses to cover ranges and refrigerators?

Neither:	17 (4)	0%) Both:	21 (50%)
		Don't know:	4 (10%)

In addition, 38 per cent expected financing to cover built-in furniture, and one manufacturer also hoped to include movable furniture.



Concluding a series of three articles on how private enterprise can profitably improve our cities, Architects Albert Mayer and Julian Whittlesey analyze the merits of building less than the law allows.

UNDERENVELOPIC DEVELOPMENT VS. LAND CONGESTION

HARACTERISTIC of a number of horse sense C planning ideas already discussed is their restraint from developing the maximum building volume permitted within the area and the height envelope of the law. The Sub-neighborhood Centers, Private Parks and Playgrounds, Better Shopping Conditions, Parking by Private Action, each in some degree involved underenvelopic development. We believe it paysthat maximum profit is not always synonymous with maximum development. We will go to the mat with detailed financial comparisons in three not unusual cases, two being on valuable central urban land, to show that the underenvelopic alternative pays better and includes tangible and intangible betterments upon which safe investments and good neighborhoods rest. These are typical cases where investment loans of 70 to 90 per cent of the cost are placedfunds which should and can control a project. However, the nature and conduct of such operations are generally controlled by the short term speculator holding 10 to 30 per cent equity. He clamors for a maximum development which

will permit him to get "out" in three to five years having realized 20 to 33 per cent annually in the meantime. A building designed for such impressive speculative returns does not of itself assure safety for the investor. Lenders should remember that they have stakes in the future of the neighborhoods while the speculator has not and that the project must withstand market viscissitudes long after the speculator is "out." The authors have proven this in building practice under rigorous competitive conditions. The success of the apartment building at 240 Central Park South in New York (THE FORUM . . . 1942) is but one example of the soundness of the underenvelopic principle on a large valuable urban site. Investment in the possible 35 per cent more rooms would have jeopardized the quality of much of this building and the safety of the entire investment without increasing the return. Case II is analogous to this executed example. Underenvelopic planning cannot achieve higher returns and greater amenities on small scale properties. It is significant however that large scale does not in itself assure better planning.

CASE 1 or the case of the omitted wing. Demonstrates the point of diminishing returns for a small property. Forerunner of the underenvelopic, for larger properties.

CASE 2 underenvelopic on large valuable property. Since it pays to build less than the maximum and get move for your money, why squeeze the last drop out of the zoning law?

CASE 3 where land is cheap, why not use it? Comparing two projects, rent differential due to more land and comparative amenities of two buildings.

THE CASE OF THE OMITTED WING:



AS REJECTED

AS BUILT

This is an existing building. The two plans show it with and without the originally planned central wing. Also shown are comparative financial set-ups made at the time by experienced rental managers. Higher rentals were placed on the scheme as built only where certain apartments (see detail plan next page) benefitted directly by the omission of the wing. The added attractiveness of the whole building due to the resulting front garden has undoubtedly helped the rentability and rent level of the whole building. Without accounting for this intangible benefit, comparative figures show an annual available return of 8.89 per cent for the underenvelopic scheme as against 8.52 per cent for the denser solution:

Gross Rental		As built	1	With wing
\$28,000 X 15 floors	\$	420,000	\$	420,000
Added rental for wing plan: different	2e			
as shown on plan X 15 floors				20,250
Stores at grade below 1st floor		20,000		19,6001
Penthouse		18,000		20,0002
Total Gross Rental	-	458,000		479,850
First Cost				and the second second
Land	s	450,000	S	450,000
Building 3 340,000 cu. ft. @ .55	1	.837.000	1	.990.000*
3 per cent taxes during construction		13,000	*	13.000
fees, carrying charges financing		200,000		213,0004
Total	52	,500,000	52	2,666,000
Expenses				
Operation of 920 or 998 rooms @				
125. on 2,500,000 or 2,666,000	5	115,000	S	124,750
Vacancies 10 per cent of gross rent		45,800		48,000
3 per cent taxes		75,000		78,800
Total Expenses	-	235,800	-	\$252,550
Available for interest, amortization,				
and dividend after expenses	-	\$222,200		\$227,300
Per Cent Return		8.89%		8.52%



¹Two non-typical apartments next to the entrance suffer when central wing is added; hence \$400 less gross rent at first floor to this condition. ²Increase due to added penthouse apartment on wing.

Increase due to wing cubage of 278,000 cu. ft.

⁴Increase due to \$153,000 extra first cost of wing. ⁵Sufficiently accurate for initial estimates.



Scheme 1.



Scheme 2.



Scheme 3.

Z. UNDERENVELOPIC ON LARGE VALUABLE CENTRAL URBAN PROPERTY

As central properties go this site is large, over an acre, with a full block frontage on Madison Avenue and 81st street in New York. It was first brought up by a prospective purchaserbuilder, who had the conventional idea of splitting it into three separate building operations. By selling off two of the parcels he hoped to get enough cash to build the third. Also he hoped by thus atomizing the deal to permit easier resale of each. Long after the original builder had decided not to proceed the authors prepared three plans for comparison purposes:

Scheme 1. Three separate buildings, A, B, and C each built to as near the full envelope as feasible (tower not permitted by law on such small properties).

Scheme 2. One building on entire plot with tower, to as near the full horizontal and vertical envelope as is feasible. Schemes 1 and 2 were both drawn as the typical envelopic owner and architect would draw them—i. e. as many rooms as possible consistent with a good rental layout. Scheme 3. The horse sense solution. One building on the entire plot with much less horizontal coverage than the law allows, much less than Scheme 2 (48 per cent versus 76 per cent) and less vertical height than law allows but also with 25-story tower. First cost, rentals, operating expenses are worked out in each case (see plan pages). But the significant summary figures are compared in the account below. These figures are a triumph for horse sense planning and the underenvelopic idea. Aside from much lower coverage and cubage and better return on the investment it has the following advantages:

Front garden almost full frontage of block.
Small park at other end 52 x 100 ft. deep breaks up building wall continuity.

3. Building has free standing character not shared by the others being 50 ft. away at the nearest point from any other building.

4. Fourteen out of twenty apartments have two direction views, a much better score than on the other plans. There are fourteen usefully located dining balconies so placed as to be isolated from other apartments.

1			Total Capital Investment	Available for Int., Amort., Dividend	Per cent Available	Coverage
	Scheme 1	Bldg. A	\$ 668,700	\$ 49,750	7.47%	
		В	2,006,100	165,650	8.26%	
T		С	1,282,000	96,100	7.49%	69%
				Contraction of the second s		
10		Total	\$3,956,800	\$311,500	7.87%	
ini i	Scheme 2		\$4,650,500	\$351,500	7.54%	76%
	Scheme 3 (Ho	rse sense)	\$3,389,700	\$281,100	8.3%	48%


BUILDING A

First Cost		\$668,700
Land. 10,200 sq. ft. at \$11 \$	112,000	
Building, 901,000 cu. ft. at .55	496,000	
Taxes on land during construc- tion, 3 per cent of \$19,000		
assessed value	5,700	
Fees, carrying charges, financ-		
ing	55,000	
Gross Rental		\$109,600
2nd to 10th floors @ \$9,000 \$	81,000	(See plan)
Ist floor (2 rooms less than typical; 6 apts. @ \$200 less than average)		
15/17 x \$900-1,200	6,800	
11th, 12th floors \$8,500 x 2	17,000	
Penthouse 8 rooms x \$600	4,800	
Expenses	1	\$ 59,850
Running expenses 222 rooms		
@ \$125	\$27,750	
Taxes \$704,700* at 3 per cent	21,100	
Vacancies 10 per cent	11,000	5
Available for interest, amort	tization,	
dividend		\$49,750
Percentage: \$49,750/\$668,700 =	=	7.47%

BUILDING B

		001 300 02
First Cost		\$2,000,100
Land. 20,400 sq. ft. at \$21 \$ 4	28,000	
Bldg. 2,529,000 cu. ft. at .55 1,3	90,500	
Taxes on land during con-		
struction, 3 per cent of		
\$720,000 assessed value	21,600	
Fees, carrying charges, etc.	66,000	
Gross rental		\$333,100
2nd to 13th floors @ \$20,165 \$2	42,000	(See plan)
1st floor (21 rooms less than		
typical; 7 apts. @ \$200 less		
than average)		
16/37 x \$20,165-1,400 =	8,600	The North
Stores	23,000	
14th, 15th floors \$16,000	32,000	
16th floor	14,500	
Penthouse, 20 rooms x \$650	13,000	
Expenses		\$167,450
Running expenses 558 rooms		
© \$125 \$	69,750	
Taxes \$2,147,100* @ 3 per cent	64,400	
Vacancies 10 per cent	33,300	
Available interest, amortization	, div.	\$165,650
Percentage: \$165,650/\$2,006,100	-100	8.26%

BUILDING C

First Cost	\$1,282,000
Land, 20,400 sq, ft, @ \$11 \$225	,000
Bldg, 1,708,000 cu, ft, @ .55 940	.000
Texas on land during construc-	A A A
taxes on tand doring consider	
tion. 3 per cent or \$300,000	100
assessed value	,400
Fees, carrying charges, etc. 105	,600
Gross Rental	\$203,700
2nd to 10th floors @ \$16,165 \$145	,500 (Senalan)
1st floor (3 rooms less than	
typical: 12 apts. @ \$200 less	
tur average) 28/31 x	
\$14.40 - 12	200
11th 12th floors (a) 0 000 32	000
Pontheuse 14	000
rennouse	,000
Expenses	\$107,600
Running expenses. 373 rooms	
@ \$125 \$46	,600
Taxes \$1,356,000* @ 3 per	
cent 40	,700
Vacancies 10 per cent 20	0,300
Augilable interest departization	div \$96 100
Available interest, amornization, i	urv. 570,100
Percentage: \$96,100/\$1,282,000 =	7.49%

*This exceeds cost of land and building, is somewhat less than cost of building plus present land assessment; assumes that some adjustment in assessment will be made as sale price is so much lower than assessment.



31 apt	5.		82	2 rn	ns.	
4 - 4	rm.	apts.	=	16	rms.	
19 - 3	rm.	apts.	=	57	rms.	
1 - 2	rm.	apts.	-	2	rms.	
7 - 1	rm.	apts.	=	7	rms.	

SCHEME 2

First Cost	\$4,650,500
Land. 51,000 cu. ft. @ 15 \$ 765,000	
Building	
Body. 5,881,400 cu. ft. @	
.55¢ 3,234,800	
Tower. 375,000 cu. ft. @	
.60¢ 225,000	
Taxes during construction	
3% of \$1,290,000 assessed	
value 38,700	
Fees, carrying charges, 387,000	Children in the
Gross Rental	\$731,500
2nd to 13th floors @ \$42,855 \$514,300	
1st floor (24 rooms less than	
typical; 25 apts. @ \$200	
under average)	
$58/82 \times $42,855 - $5,000 = 25,200$	
Stores and restaurant 18,500	
14, 15, 16th floors \$25,500 x 3 76,500	
Penthouse: 35 rooms X \$600 21,000	
Tower 18th to 25th floors @	1.00
\$9,500 76,000	(see plan)
Expenses	\$380,000
Running expenses 1,282 rooms	
@ \$125 \$160,000	
Taxes \$4,898,700* @ 3 per	
cent 147,000	
Vacancies 10 per cent 73,000	
Available for Interest, Amortizatio	n,
Dividend	\$351,500
Percentage \$351,500/\$4,650,500	7.54%

*This exceeds cost of land and building, is somewhat less than cost of building plus present land assessment, assuming that some adjustment will be made as sale price is so much lower than assessment.



MAXIMUM DEVELOPMENT, SINGLE OWNERSHIP

Scheme 2 has greater coverage than the split-up solution for Scheme 1 (76 versus 69 per cent). It has 20 per cent greater cubage. The return is slightly less (7.49 versus 7.54 per cent). In other words, large scale operations permit better planning but they also permit worse planning.

Even the 48 per cent horse sense coverage 18 too high. However, this type of owner requires a higher rate of return and the land assessment is a serious detriment. Sold for \$765,000, the assessed value is \$1,290,000. In the cost set-ups for all three cases it was assumed that some tax adjustment would be reached. Nevertheless, the excess still means a difference of \$10,000 a year in expenses. Unduly high assessments are a detriment to building. They put the city at an artificial disadvantage by causing greater densities and higher rentals. 2. continued



2-1	rm.	apts.	=	2 rms.
5-2	rm.	apts.	-	10 rms.
$4 - 2^{1}_{2}$	rm.	apts.	=	10 rms.
2 - 3	rm.	apts.		6 rms.
5-31	rm.	apts.		171 rms.
1-4	rm.	apts.	-	4 rms.
$2 - 4\frac{1}{2}$	rm.	apts.	=	9 rms.
			-	
21 apt	5.		58	33 rms.

SCHEME 3

First Cost		\$3,389,700
Land 51,000 sq. ft. @ 15. \$	765,000	
Building		
Body 3, 728.000 cu. ft. @		
55 51	2.050.400	
Tower 426 000 cu ft @ 60	255 600	
Taxes during construction		
3% of \$1 200 000 assessed		
volue	38 700	
Forst exemples thereas former	30,700	
rees, carrying charges, manc-	200 000	
ing	200,000	5544 450
Gross rental	201 (00	3004,450
2nd to 13th floors @ \$31,800 3	\$381,600	(see plan)
1st floor (15 rooms less than		
typical; \$200 less on 5 street		
front apartments)		
44/59 X \$31,800-\$1,000 =	22,850	
Stores and restaurant	16,000	
14, 15, 16th floors \$19,500		
X 3	58,500	
Tower 17th to 25th floors @		
\$9,500	85,500	(see plan)
Expenses		283,350
Running expenses 946 rooms		
@ \$125	118,250	
Taxes \$3,637,700* @ 3 per		
cent	109,100	
Vacancies 10 per cent	56,000	
Available for interest amor-		
tization dividend		\$281 100
Percentage \$281,000/\$3,380,700	0	8 30/
reneminge \$201,000/\$5,507,70	•	0.0%

*This exceeds cost of land and building, is somewhat less than cost of building plus present land assessment, assuming that some adjustment will be made as sale price is so much lower than assessment.



Scheme 3. The big advantage of the horse sense solution is that the quality of the space is better on every floor and the tower yields magnificent views. Though there has been a revolt against the skyscraper and many predictions made against their survival as a type, there is nothing wrong with high buildings as such. The campanile, the church steeple, the tower of Pisa, the Washington monument, the obelisks all express architecture's natural tendency to soar upward. The skyscraper permits living and working in wonderful surroundings. It is the skyscraper's misuse as a device for supercrowding land that is wrong. It is too many skyscrapers, one next to the other, that has created canyons instead of peaks. Legislators should content themselves with restricting density and bulk, not height which can be a splendid creative feature.

3. WHERE LAND IS CHEAP WHY MISUSE IT?

Two six story projects in Queens comprise the last example of underenvelopic planning. One is a large FHA apartment group with 37.8 per cent coverage, the other, a typical maximum coverage job—73.1 per cent. Land value in this district rarely exceeds \$1.50 per sq. ft.

To counterbalance the extra land cost per room the open plan need command only an added rental of \$.78 per room per month. This figure is arrived at as follows:

The gross building area per room on each plan is about 250 sq. ft. As there are six floors, gross room occupies 250/6, or 42 sq. ft. of actual land. Taking account of coverage and unit land cost, total land cost per room is: For FHA project

42 sq. ft. x 100/37.8 x \$1.50 For maximum coverage project \$167./rm.

42 sq. ft. x 100/73.1 x \$1.50 Land cost difference \$ 86./rm. \$ 81./rm.

On the basis of 8.5 per cent overall return plus 3 per cent for taxes, an owner would have to obtain \$81 x 11.5 percent or \$930 per year more rental to justify the open plan. This is \$.78 per room per month.

A moment's inspection of the two plans will show the superior quality of each apartment of the FHA plan in light, view, cross-ventilation, arrangement of rooms. In any market it would command a substantially higher differential.



The importance of the measures outlined in Horse Sense Planning lies primarily in the attitude of mind they represent. Though some of the examples may appear minor at first glance, these and the broader instances all go to make up this way of thinking. It is a question of discarding habitual practices of overbuilding and shortsighted exploitation. Investment standards have already changed. Postwar business conditions will differ even more radically. Consumer and commercial enterprise will be able to choose between city and outlying community and between one region and another. The equilibrium between these regions and cities will depend upon what the people in each place decide to do with what they have. This is the importance of Horse Sense Planning.



PLANNING THE POSTWAR HOUSE

A challenge to the speculative house builder, architect and banker. First in a series of three articles designed to show that the Cape Cod house-for-sale is through.

The postwar house has been taking something of a beating in recent months. Among the big (and little) wigs of Building, many have begun to view it with alarm. Why, they ask, is the public being led to expect something it can't possibly hope to get?

This is a strange situation. Just a moment ago, or so it seems, the postwar house was everybody's favorite. Shiny, pulsating with technological glamour, it was one of the things we were fighting for. What happened? What turned the public's dream home of 194X into building's five-room Frankenstein?

What happened was a sudden realization that the public was being led to expect something different. Here, and nowhere

else, was the rub. For the postwar plans of the great majority of men in Building are to give the public after the war exactly what it was getting in 1939.

This series of articles was prepared because THE FORUM's editors believe that this kind of "planning" is not going to sell a million houses a year—perhaps not half that number; that the way to handle unpleasant facts (such as a consumer demand for better products) is to face them; and that the postwar house the realistic, buildable, saleable postwar house—is neither an enigma nor a bogey.

You who build the houses for sale to America's millions have always had the lion's share of a big business. In all our cities and all the small towns, it was you who supplied the new home market. Neither the architect nor the custom builder offered any competition. The people bought from you because nowhere else could they see the house and the price before they bought it. Because they bought from you, you said you knew what the public wanted. Nobody knew



dan: efficient and unattractive.

1932... But the effects of the depression did not reveal themselves at once.

1928 Three bedrooms, breakfast nooks, a side porch – and then the deluge!

what the public wanted, because the public never got a chance to find out. There was the choice of Plan A with its front to the street, Plan A with its side to the street, Plan A in stucco or single, red roof or green. Naturally, when John Doe bought his house, he bought Plan A.

It wasn't a bad life during the busy years. An extra dormer, a new gadget or two, and the builder had his production model. Competition, in terms of the big industries' fierce, unending drive to get more product for less money, simply didn't exist. Neither did research, on any scale worth mentioning.

Building, we have heard time and again, is big business but not big industry. This is certainly true of the way its product has been improved: almost every improvement of the house as a whole has been developed by the individual architect, with the manufacturer supplying better parts, and the builder bringing up the rear.

Because these significant changes were the work of individuals, and because they appeared only in the most haphazard manner in custom-built houses, you knew that this was not competition. There was no way these developments could affect your market until you were ready to let them affect it. But the public interest in the postwar house is so intense, so deep-seated, and so clearly an expression of discontent with the frustration of the prewar years, that the backing for new ideas is spreading far beyond the individual innovator.

You may disparage the factory-made house as immediate competition, and in terms of numbers produced you may be right—for a while. But never again will you be free to just sit on Plan A. Even if not a single factory-built house is made or sold in your entire territory, the threat will be there. Your customers will see it in the advertisements, in the home magazines, in the movies—and you will have to match the results. There will be the threat within your own business, from the aggressive and uninhibited group of merchant builders in your own midst. One of these men was in our office the other day. An important, successful West Coast builder, he described his own postwar model. It didn't look like 1939, and was full of ideas that would obviously sell. When he came to the roof, he pointed out the tiles, unusual in size and in shape. "Why?" we asked. The reply was significant: "I put them on because I don't want it to look like a prewar roof."

From where we sit, it seems completely unimportant whether the roof has big tiles, little tiles, or no tiles at all. But every one of our chips is on the men who are betting that the postwar house will be different.

One of the reasons for this confidence is the strip of plans illustrated. Each was the "Plan A" of its day. Each gave way—always under pressure—to its successor. But never has there been such pressure as now.

Remember the house of 1939? Small, squarish, built on one floor, it was a true child of the depression. It never really lost its pinched, poor man's look. It was labeled "Cape Cod," but resembled its prototype only in the rarest of instances. Thousands of families who scraped together the 10 per cent down



the prosperous '20s. Note wasteful halls.

1915 A larger plot produced the expansive, popular bungalow.

1911 An "open plan" with the inevitable bay window and wide front porch.

payment found later, when money came easier, that the necessary third bedroom could be installed only as a makeshift. Darling of the FHA, pride of the builders, it converted very easily into war housing: all that was needed was the elimination of those items which gave it what little quality and convenience it had.

Things were different in the Twenties. In that giddy decade, more and more home buyers apparently found it impossible to compress their notion of the good life into anything less than two stories and six rooms. Your customers all wanted to move away from Main Street, spiritually as much as physically, and they were willing to pay for all your gingerbread, cut-up roofs and decorative chimneys, not only with good hard cash, but with endless inconvenience as well. While the Forida boom had scattered "Spanish" to the most improbable communities, and Colonial was gaining respectability, it was the English house, so-called, that typified the decade. With its chimney and tricky door treatment in front, a stairway on one side and a glassed-in sunroom on the other, there wasn't much room for living room windows. But the facade was undeniably impressive from the new Packard, which was where the family spent most of its time anyway.

Although there was a great shortage of low-cost housing, the postwar 1 house was neither small nor cheap. In the early twenties a good many workers' cottages and row houses were put up, but most of the low-income groups filled in the gaps left by those who could escape to the new developments on the outskirts.

Many of these "gaps" consisted of whole neighborhoods of bungalows, which were the great realty phenomenon of the 1914 period. These one-story, singlefamily dwellings were the first mass expression of the craving for one's own home, and they were built on land opened up by the advent of cheap transportation—at that time, the street car. The bungalow was nothing to get very excited about—side light was bad, privacy was dubious, rooms had lopped-off corners and space was generally cramped. But it was better than it should have been if you consider that between the bungalow and FHA's last prewar product, there have been almost 30 years of "progress."

It is the central theme of our an that it <i>should</i> be different. The group in your own midst are lis concerned with good design or on an estimate of the product a before be buys.	rgument that the postwar house will <i>have</i> to be different, not e reasons why we share the convictions of a forward-looking sted on the facing page. These reasons, you will note, are not bad or with the social questions behind housing; they are based and a considered guess at what the postwar buyer will demand
Bathtub 6	flocks window
work space lighting inadequate	general storage space inadequate — totally inadequate for base- mentless house
no service vestibule	
more kitchen storage needed	living room needs more windows
no dining space	no direct connection to garage
living room too small	entrance vestibule not integrated with plan
circulation	breaks up room

1. The prewar house is not good enough to compete.

Let's not forget that it began as a depression makeshift, and never got much farther. Only a market that is pretty hard up will accept a plan with no storage space to speak of, no chance for a third bedroom, an inadequate kitchen, and generally bad organization of what space there is. There have been one or two variations of this plan (see page 88) which make extremely good use of its limited possibilities. But these are rare. An enterprising builder with a good architect—or a house manufacturer with a good product designer—could shoot the standard plan full of holes, and outsell it on every point. The facing page develops this idea further.

2. The postwar market will have money for something better than the minimum house.

Surveys such as *Fortune's* recent poll indicate a huge backlog of demand for houses. A very substantial part of this demand will come from people who, in spite of taxes, have accumulated money. Forced savings through lack of consumer goods, war bonds, and tax rebates are three sources of cash for down payments. These people—the builder's normal customers—will have enough money to demand a better house.

3. People will want something new.

We are all tired of shoddy merchandise, "Victory" goods and shortages. We will be more tired of them before the war is over. And we will be more disposed to look ahead for our amenities than back. Consider, if you like, the postwar houses in the advertisements. Practically all of them are modern houses. This means that the advertising profession, long skilled in gauging the public temper, is convinced that people will want something new, even in their houses.

4. There will be builders ready to meet this demand.

The builders who managed to survive the transition from peace to war had sufficient flexibility to convert their operation to something different. After the war, they will again have to convert. Inertia will hold many to the 1939 models, but strong leaders know that a better house is just as easy to produce, easier to sell.

5. There will be new manufacturers in the home building field.

These are firms with surplus postwar industrial capacity. Many of them are looking at the building field. Advantages for these new competitors are modern plant facilities, production know-how, and a complete lack of inhibitions. Their possible poroducts will run all the way from small parts to room assemblies and complete houses. Their competition is bound to speed new developments all along the line. The builder who is not sufficiently flexible to incorporate these improvements in his product will be in a bad position.

6. New materials and equipment will affect the house plan.

Radiant heating, now acquiring impressive industrial backing, is one example. Fluorescent lighting is another. The deep freezer is a third. The house which makes the most effective use of these developments—not to mention the many others—will not be the 1939 house.

7. Building is ripe for industrial production.

The builders who learned how to do site prefabrication, the mills that had their first taste of real house production, the old line prefabricators who have consistently improved their position during the war—these all represent forces that *must make for change*. They will try to consolidate and expand at the expense of the great majority of smaller builders. This means only one thing: production of a continually improving house with regard to space, equipment and price. 1939 will not be their model.

8. The modern architect is entering the house-for-sale picture.

Most of you have maintained a pretty haughty attitude toward all architects in general and modern architects in particular. "OK for the well-to-do eccentric" we have heard you say about the modern house, "but the public wouldn't buy it." You meant, of course, that you wouldn't give the public a chance to buy it. This was a strange thing to have done, for the modern architect is the only architect who was ever on your side. He could think of design in terms of merchandising; his "traditional" competitor always saw it in terms of fancy trim and doodads over the front door. The portfolio which follows this article is proof of that. Before the war he would have given his eye teeth to have worked for you, but after the war it will be a little different. The best of the modern architects will have been signed up—by the big merchant builders, by the manufacturers new to the field, by the prefabricators. Many have been commissioned already. And for these men, the 1939 house will not be the answer. The picture of what the postwar house will *not* be is interesting and useful, but it can hardly serve as a guide to action. In many instances, to be sure, no guide is needed; and in many others it will not be wanted. "I'm dusting off the plans I was using before Pearl Harbor," we were told by one upstate New York builder, "and I'll bet you anything you like that I'll sell more of them than I can build." Of course he will. Anything anybody can produce in the first year after the war will sell faster than it can be made. We all know that. But what comes after the second year, the third, the fifth—is still "postwar."

What will the saleable postwar house be like?

It will be a one-story house, with three bedrooms or room for a third and the equivalent of two baths. It will have a pitched roof, above-ground storage space for trunks, and the like, and it will have more glass (though fewer windows) than you ever saw in such a house before.

It will not have a basement (except for a possible heater pit). It will not be Colonial. It will not even be what has been passed off as Colonial. It will not be all-plastic, all-metal, or all-anything.

It will use prefabricated elements on an increasing scale. Its closets and cabinets, its door and window assemblies, and much of its service portion will be purchased in packaged, ready-to-install form. It will have more, and better-designed equipment, notably better stoves and refrigerators. There will be space for a deep freezer, for washer-dryerironer combinations. Controlled ventilation to produce a dustless interior will be a big selling point.

It will not be startlingly different in appearance from some of the houses in the following pages. The major exterior changes will develop only after house manufacture has been a big and going industry for a number of years.

These observations were not collected at random, but represent part of a definite trend which has been visible for a long time. Improvements which have been developed since the turn of the century can hardly be described as a revolution. But putting them together in one house is the kind of a revolution we need.



DETAILED ON THE PAGES FOLLOWING, THESE HOUSES ILLUSTRATE MANY POINTS IN THE ARTICLE AB

The second and third articles in this series will develop in detail this picture of the saleable postwar house.



SEVEN HOUSES FOR OPERATIVE BUILDERS

Selected examples of advanced prewar design show that a good foundation for planning the postwar house has already been laid.



CUMENT ITS EXAMINATION OF POSTWAR PROBLEMS

Most, if not all of the homes published each month in THE ARICHITECTURAL FORUM include designs and ideas of value to operative builders along with others in THE FORUM's readership. This month's examples, however, have been chosen with particular reference to the problems of builders their architects and bankers, and special emphasis on trends which the editors believe will have an important part in the postwar picture. The first house, for example, illustrates how easily the basic plan of the Thirties can be expanded to meet the probable shift towards a larger and more livable unit without sacrificing its fundamental economy and convenience. It also shows how potent selling features like picture windows and radiant heating can be applied to the house-for-sale. The last house (pp. 88-90) demonstrates that it has even been possible to move a long way in this direction within the limitations of war housing, and presents an unusually excellent living room plan and fine fenestration. Sandwiched between are five more houses actually built on specalation, showing the influence of the modern approach on this class of building before the war, and indicating the many selling advantages to be obtained by the most conservative steps in this direction.

OWNER BUILT: ARCHITECT MALCOLM DUNCAN'S HOUSE EXEMPLIE

This house was built with no thought of pleasing anyone but the architect's family. Since it was not intended for sale, no one—except perhaps the banker who advanced the mortgage money —worried about its acceptability to potential customers, or whether the many unorthodox construction features were too "advanced" for popular consumption. It was planned for informal living and easy housekeeping, and to take advantage of the extensive views offered by the $1\frac{1}{2}$ acre site. Most important, it was designed to meet the real needs of a fairly typical family, with few concessions to conservatism and every effort to incorporate recent technological advances.

Probably for this reason the design offers an excellent prototype for the postwar house-forsale, which must, above all, put aside preconceived ideas in favor of a fresh evaluation of what people really need and how best to supply it. It is a *practical* house, which takes advantage of the basic four-room rectangle hammered out in depression years as a good minimum solution of present-day living requirements. But to this basic rectangle it adds attractive sales



GARDEN SIDE HAS GLAZED DOORS OPENING ON TERRACE. CORNER WINDOW IN LIVING ROOM FACES BEST VIEW



Photos: P. A. Dearborn



CTING ROOF SHELTERS GARAGE DOOR AND ENTRANCE, LIVING ROOM CEILING SLOPES UP BENEATH ROOF



P. A. Dearborn

features and increased space: an additional room capable of occasional use as a third bedroom, an attached garage big enough for use as a storage space and workshop, added height in the kitchenliving room portion of the plan. Few of these things involved added cost: floor heating made possible an unusually economical foundation and floor, the pitched ceiling, a low (7 ft. 4 in.) eaves line that saved on walls and framing, the garage, needed in any event, cost little to enlarge and incorporate in the design.

In addition to hot-water, radiant floor heating (supplemented by ceiling panels in the living room and bathroom), features include generous closets, a number of special cabinets, indirect lighting in the living room and fixed, doubleglazed picture windows throughout. In the kitchen, which has a service opening to the living room, the refrigerator was set atop a low storage cabinet to make the contents more accessible, and a cutting board installed over the automatic washer.

Cost of the entire job, built as an individual unit in 1941; was \$6,300 exclusive of land and architect's fee. Carrying charges on the 20-year bank mortgage were \$33 a month, well within the low cost bracket. Despite the generous windows, the average cost of heat and hot water (automatic oil) has been \$8.50 a month over a two-year period.



FIXED, DOUBLE-GLAZED WINDOWS ARE FLANKED BY LOUVERS



Most interesting single feature of the Duncan house, from the design standpoint, is the unusual system of fenestration, consisting of fixed, double glazed windows flanked by ventilating panels fitted with screens and louvers. The sketches above show how the units are operated to meet various requirements of daytime and night-time lighting and ventilation. This arrangement has the following advantages:

► Allows unobstructed vision in all seasons (windows are never obscured by screens).

Protection from rain without reducing ventilation.

► Burglary protection plus ventilation when house is temporarily unoccupied.

► Windows may be curtained for privacy without obstucting ventilation.

Eliminates blowing curtains and rattling Venetian blinds.

Eliminates the usual dirt on window panes caused by rain driving through screens.

►Insect screen permanently in place.

A special telephone cabinet and living room closet for sewing materials used in the house are illustrated in sketch form at the right.



Telephone di







Inorth-succes Inorth-succes Unitage California Califori

Despite the really impressive number of modern houses built for private clients in recent years, operative builders have for the most part remained wedded to the traditional styles, concentrating more and more on Colonial. Contemporary architecture is almost as free as personal taste, and offers great flexibility to the architect designing for a particular client. Speculative building." on the other hand, must be aimed at a common denominator of preferences and prejudices, and such a denominator is more readily found among the familiar patterns more or less accurately designated by the names of the traditional styles.

These facts are frequently cited as "proof" that the speculative builder will never go modern. Actually they may just as logically be cited as evidence of the strength of the contemporary movement, since in spite of powerful pressure in the opposite direction, more and more attempts are being made to introduce the modern "style" to the speculative field.

More often than not, such attempts take the form of an evident effort to effect a compromise between modern and traditional design. Natural as this is, it is not calculated to produce houses that are pleasing to purists of any stripe, and frequently has results that are downright unfortunate. The important thing in evaluating such attempts, however, is not to compare them with houses that are truly modern or truly traditional, but with other examples of the work of the speculative builder of which they are a part. As such, even the most halting steps towards modern design are often a distinct forward movement, and the better examples a real register of progress.

Of the latter trend, the five houses shown on this and the following two pages-the work of Architect Charles Tilton for two different operative builders-offer an excellent illustration. As a group, these houses are neither particularly modern nor are they outstanding architecture. Their importance lies in the fact that they were actually built for sale, and do incorporate some of the improvements which modern designers have been giving their individual clients but which have been largely denied the purchaser of the ready-made house. They are presented here as examples of good contemporary house design, as well as to show that blind allegiance to Colonial may mean the sacrifice of many a sound selling feature.



THIS HOUSE OFFERS A GENEROUS DECK OVER A BASEMENT GARAGE



ARCHITECT-CHARLES E. TILTON BUILDER-PHILIP HANSON HISS III

ENTRY IS THROUGH CORNER STAIRWELL LIT BY GLASS BLOCK PANEL





OUTLINES ARE TRADITIONAL, DETAILING MODERN



ENTRANCE DETAIL IS SIMPLE, CLEAN CUT





FLAT ROOF IS RELIEVED BY PROJECTING WINGS AND POR



ARCHITECT-CHARLES E. TILTON BUILDER-PHILIP HANSON HISS III

These four houses, all in the medium price bracket, range from definitely traditional to definitely modern in outward appearance, but they all make one use or another of contemporary design ideas. The two shown on this page are in New Canaan, Conn., those on the facing page in Lawrence, N. J. The more conventional of the New Canaan houses (extreme left) was planned for a site facing a brook and pond to the north. For this reason, the living room was designed with two exposures, to enjoy both view and sun, while the porch was placed on the shady side overlooking the pond. Because of a poorly-drained site, it was built without a basement, and a heater and utility room provided on the first floor. The second New Canaan house (directly above) is the least traditional of the four. It is on high land facing west and south, with its main rooms at the south end. It is also without a basement, and for this reason a generous storage closet was provided on the second floor. Both of the Lawrence houses (opposite page) face a public road to the north, and have their main rooms at the back, to the south. Most interesting feature is the garage of the first house, built as a wing projecting towards the road and connected to the body of the house by a covered drive and carport. Both have unusually large windows on the garden side and attractive. simple details.



RAGE PARALLELS STREET, CONNECTING ROOF COVERS DRIVE ALL MAIN ROOMS FACE BACK OF LOT TO THE SOUTH



TCHEN, DINING AND LIVING ROOMS OPEN ON SOUTH GARDEN



ARCHITECT-CHARLES E. TILTON BUILDER-L. C. BOWERS & SONS, PRINCETON, N. J. MORTGAGOR-FIRST NATIONAL BANK OF PRINCETON





NOTE PICTURE WINDOW IN LIVING ROOM







BUILT FOR RENT: ARCHITECT CHARLES GLASER'S WAR HOUSING UN

It is probably natural that a development of houses for rent should make fewer concessions to conservatism than one consisting of houses to be sold. The typical tenant evaluates rental quarters on the basis of facilities actually provided, while the prospective purchaser must also consider questions of style and other factors which are supposed to affect the resale value of his investment. True as they are, these facts hardly account for the appearance of a project like this where modern architecture has been employed throughout in an evident effort to turn large windows, open planning and other features of the contemporary approach to real commercial advantage. As a matter of fact, the results have already proved so popular with tenants that a number of the houses have been sold on the rent-purchase plan.

In addition to the excellent and economical housing unit, which was repeated 50 times with minor variations, the architects also provided the developer with an unconventional but effective site pattern in which the houses were set cornerwise on the plot with unobstructed outlook in four directions. The outstanding interiors of the model house (facing page) were worked out in the same spirit by Design, Inc., to show prospective tenants how to make the most of the open plan.



TURNING HOUSES ON LOT INCREASED FEELING OF OPENNESS, PRODUCED INTERESTING RELATIONSHIPS LIKE



Cushing-Gellatly

V THE IMPACT OF ''MODERN'' ON DEVELOPMENT WORK. L. L. RADO, ASSOCIATE

ARCHITECT-SAMUEL GLASER, L. L. RADO, ASSOC.

CONTRACTOR-AUGUST JOHNSON ASSOCIATES MORTGAGOR-SPRINGFIELD INSTITUTION FOR SAVINGS

LIVING ROOM has plenty of space for main furniture group, facing large window and not broken up by circulation.



BEDROOMS (below) are well laidout, excellently fitted with stock furniture.









Photos: Cushing-Gellatly



ENTRANCE HOOD IS ATTRACTIVE, BUT TRELLIS MAY BE TOO LIGHT FOR CLIMBING CHILDREN

The particular version of the standard four-room, one-story house which Architect Glaser developed for the project is handsome outside as well as in, and unusually practical throughout. Based on the usual 24 x 30 ft. rectangle, it gains added space for the living room by use of a broad bay window, shown in the picture above, cantilevered out from the foundation. Part of this space is used for an entry and coat closet, the balance to create a definite place for dining. A full basement is provided, with an inside stairway over which space for a stair to the attic is roughed in. Since the latter stairway can land in the bathroom hall, two useful bedrooms may be added on the second floor at very little expense. A good deal more glass area has been provided than is common in this type of housing, and adroitly concentrated where it is most needed: in the living-dining-kitchen portion of the plan. Altogether, Mr. Glaser is to be congratulated on having made so many important improvements in a plan which has been restudied so many times that it seemed almost beyond changing.







PRIMARY SCHOOL IN BASEL, SWITZERLAND

Architect Hermann Baur's prewar school for Basel's children offers many significant lessons for America's postwar builders. This school was built about four years ago, in a residential section of Basel. Though the site was awkwardly shaped, and sloped in the bargain, the architect met these problems so well that in the final solution they look more like advantages. Moreover, the system of short wings hooked together by covered corridors has kept sizes down so that the scale of the school does not clash with that of the nearby houses.

The school was selected for publication, despite its comparative remoteness, because it conveys a number of lessons which are important. One is that the spread-out plan, despite the difficulty and added cost of heating, was accepted by the Swiss, who are not extravagant. Another is the superb use of standardized elements. And most significant: the school was designed for the children, not the school board.



STRUCTURE IS EXPOSED IN THIS SUPERB INTERIOR



Basel is in the same latitude as the northermost tip of Maine and, has a climate comparable to that of Washington, D. C. In this school, however, glass and open areas have been used with a freedom that would be acceptable to few school boards north of Los Angeles or Miami. The long corridor, for instance, is open the year around; since the pupils do not shift from one wing to another, there is no reason why it should not be left open. If the large windows follow conventional Swiss practice, they are probably double- even tripleglazed. The remarkable design quality achieved in the school is not explained quite as easily. There is an abstract, almost mechanical perfection in the gymnasium, and an informality that approaches the rustic, in the open corridor; both have been handled with equal assurance, and both fit very naturally into the pattern of the school as a whole.



MAIN ENTRANCE LINKS SCHOOL AND SPORTS UNITS





THE RETAINING WALL HAS BEEN USED TO CREATE A CORRIDOR-PLAY AREA BETWEEN CLASSROOM WINGS



PRIMARY SCHOOL, BASEL, SWITZERLAND



THE BLINDS USED TO KEEP SUN OFF THE HIGH CLASSROOM WINDOWS FORM AN INTEGRAL PART OF THE DESIGN

It is hard to see how anyone could fail to like this school. Its bright interiors, intimate scale, the delightful use of murals, the excellent landscaping-all combine to produce an exceedingly pleasant impression. A little study of the plans and photographs reveals facts which are pertinent in this connection. The classroom unit,* for instance, is standardized, rigidly standardized, in fact. Moreover, the individual elements of the typical unit are all familiar parts of Swiss buildings the lighting fixtures, wood casements, even such structural elements as the rigid frame in the gymnasium are all standard products. Thus the school appears for what it is: a "traditional" design in the best sense of the word, its details refined through long use and change, its plan different only because the site is different. No value has been put on originality for its own sake; hence the unforced, "easy" character of the building. This was the direction American architecture was taking when the war broke out.



NORTH WINDOWS GIVE CROSS LIGHT AND VENTILATION







*See Design Data No. 14, page 96.



HE EXTRAORDINARY CHARM OF THE SCHOOL'S INTERIORS WAS NOT LESSENED BY THEIR STANDARDIZATION



PRIMARY SCHOOL AND KINDERGARTEN DETAILS

DESIGN DATA 13.

HERMANN BAUR, ARCHITECT; BASEL, SWITZERLAND

THE ARCHITECTURAL FORU





BASIC TIMBER ENGINEERING DATA FOR ARCHITECTS AND ENGINEERS



"Wood as an Engineering Material," by L. J. Markwardt, distinguished research authority of the

U. S. Forest Products Laboratory, was presented at the invitation of the American Society for Testing Materials as the 1943 Edgar Marburg Lecture.

The purpose of this annual lecture is to present outstanding developments in the extension of knowledge of engineering materials.

In continuation of Teco's practice of making latest information on timber available to engineers and architects, copies of this lecture have been obtained and are available on request.

Keep posted on new timber design devel-

opments. Use the Teco Services and Teco Timber Connectors and Tools. TIMBER ENGINEERING COMPANY Washington — Chicago — Minneapolis Portland, Oregon.



MONTH IN BUILDING

(Continued from page 48)

trated" Journal of the A.I.A. Its aim, "to voice the thoughts and aspirations of the profession in a time when the widest discussion and best thinking seems urgently needed for the days ahead."

Man behind the gun will be popular, perennial architectural editor, Henry Hodgman Saylor, whose talents have

Photo Ret Hardy Jr.



SAYLOR: popular pundit

covered the gamut of publishing commotions from the long extinct Architectural Review, Architecture, Country Life, American Architect, House and Garden, Architect's World (his own), and Architectural Forum to a foot-long shelf of books. In this newest Saylormade mag advertising will be limited currently to 12 pages an issue. Working with the editor will be a committee chairmanned by Edgar I. Williams.

MARKET BULWARK

Night school for prospective home buyers, the Home Planners Institute of Portland, Ore. is an imaginative effort to channel postwar buying power securely into home purchase. Prospective buyers who like to dream in specific terms of their future home



have been invited by the Equitable Savings & Loan Association to deposit monthly savings toward **a** down payment and come to monthly classes to learn what every prudent home buyer should know. Pet scheme of Ralph

RALPH H. CAKE

H. Cake, head of Equitable and former president of the U. S. Savings & Loan League, this new approach to the postwar home market is also backed by the West Coast Lumbermen's Association (Continued on page 100)

... and this Armstrong Floor looks new and modern today

Foley & Smith, New York

INSTALLED 12 YEARS AGO

STEP into the business office of the Long Island Headquarters of the New York Telephone Company today and you'd never guess that the Armstrong's Linoleum Floor was installed back in 1931. This floor still looks modern and up-to-date, fresh and bright.

Good maintenance has helped to keep this floor looking young, of course. But the quality built into this Armstrong Floor itself is equally responsible. With proper care this floor will continue to contribute color and smartness to the company's office interior for many years to come.

Think what such a service record means in terms of client satisfaction to the well-known firm of Voorhees, Walker, Foley & Smith, the architects who designed the floor. Think what a similar performance could mean to you. Your own floor designs can be equally lasting and backed up by equally fine performance if they're carried out in Armstrong's Linoleum. It's available in a range of colors for any desired effect. It can be installed quickly right over old floors to transform remodeled interiors. And once it is properly installed, the flooring job is finished and ready for years of service service that will speak well of the architect.

GET FULL INFORMATION

So plan now to give your specifications the service backing of Armstrong's Linoleum Floors. For more information, turn to your copy of *Sweet's*. And, for samples and individual file-sized specifications, just write to Armstrong Cork Company, Floor Division, 2301 State Street, Lancaster, Pennsylvania.



coal question That's what we asked you. Here are our answers to a few of your questions.

What's your

An accountant in Boston asks:

Are miners paid all they deserve considering the hazards of their work?

American coal mines are the safest in the world, and American coal miners are the best paid in the world. Moreover, coal miners' hourly earnings are higher than the average for all manufacturing industries. Fatal accidents in the mines have been reduced by approximately 40% in the past fifteen years, while the pay of miners in has more than doubled. Progress in the development and installation of new mechanical safeguards never stops. Teaching miners themselves to be careful is part of a consistent, well organized safety program. Federal and state inspection is constantly going on. In the event of accident, miners and their families receive definite,

specified compensation.

A garage mechanic in Nashville asks:

What kind of homes do miners live in today?

For the most part, miners live in homes as attractive and comfortable as those of any other well-paid workers. Washing machines, radios, refrigerators and other home appliances are commonly found in miners' homes. A miner is just as free to choose where or how he will live as anyone else. The automobile makes it possible for him to ride or drive to and from his place of employment like a worker in any other industry. When a miner lives in a company home, it is because he wants to. Today company homes on company property are usually better than the average home in the sections where they are located. Rents average around \$15 a month.

A New York policeman asks:

Are miners always"in hock to company stores?

The answer is that they are not. And there is no reason why they should be. Most miners may draw against their pay any time they want to for taking care of their living expenses. They may trade at an independent store, a chain store or a company store. In a small mine in West Virginia, the pay roll figures show that only about 91/4% of the combined pay of all the 296 miners employed there was currently owed to the company store. Besides all this, the OPA forbids any store, and of course this includes company stores, to extend credit to any individual for more than 60 days. The only exception is credit for heavy consumer goods, and these would normally be financed on time payments anyway.

Sth

n war and in peace America depends on bituminous coal for most of its warmth, most of its electricity, most of its industrial power.

That makes it important for the public to know the real facts about this fuel, and about the people who mine it.

So we take this method of reporting to you.

And to make sure that we cover the subjects of greatest interest we have asked thousands of people what they most want to know about the coal industry and the way it is run.

On this page we present three questions asked over and over again. Next month we will present further questions and answers.

We are fully conscious of our responsibility as good citizens and good employers in the course of supplying America with its No. 1 fuel-and we consider answering your questions a part of that responsibility.

BUY MORE WAR BONDS



60 East 42nd Street

New York 17, N.Y.



MONTH IN BUILDING

(Continued from page 98)

and the Western Retail Lumbermen's Association.

Anybody wishing to join night classes in home planning shows up at Equitable's office where experts help him settle on the cost of the house he wants to build, supply simple arithmetic to show how much he will have to save each month to be ready to make a 20 per cent down payment in two years. Equitable suggests that savings be in war bonds, puts the bonds away in its vaults, gives receipts. Monthly savings are class admission tickets.

No strings are attached. If a prospect decides he wants to buy an automobile instead, Equitable will hand his war bonds or cash savings back with nothing more than a reproving nod. But Institute sponsors hope that home planning students, their scrapbooks fat with plans and pictures, their dream of the ideal house complete in every shining fixture, will constitute an active and immediate market.

NEW FACES

New man in the Senate, Democrat Arthur Walsh got precedent-breaking congratulations from his Republican colleague, Senator Albert W. Hawkes of New Jersey, a warm reception from federal housing agencies, a big hand from men in the home building business. As one of the key men who

Harris & Ewing



drafted the National Housing Act and set up the Federal Housing A dministration's organizational procedure, Walsh had d emonstrated a rare talent for clear-cut thinking that will be more than welcome on Capitol Hill. With

SENATOR WALSH

a specialist's grasp of the field, Walsh will be useful in smoothing out the snarls which occasionally tangle housing legislation in committee and on the floor. Sample: Consideration of an important bill was recently stalled until one Congressman had satisfied himself that the Federal Housing Administration does not use the public money to build houses. Appointed by New Jersey's Governor Charles Edison, Senator Walsh replaces the late Senator Warren Barbour.

Soft-spoken Representative Brent Spence of Kentucky is the new top man of the argumentative House Banking and Currency committee and as such will have the job of steering all legisla-

(Continued on page 102)



Products or Employees.

PROPELLAIR Ventilating Specialists Can Solve the Problem!



Part of an installation of 45 Propellair Units, with wire guards, cooling new storage batteries during the charging operation. Approximately 200,000 cubic feet per minute is circulated over the batteries. Heat that endangered the *product* was a problem in the plant of a large storage battery manufacturer. Fast charging of new batteries required a tremendous input of electrical energy which was converted to heat energy by the resistance of the batteries. Unless rapid dissipation of heat could be provided, the batteries would be damaged or a slower charging rate must be used.

Propellair ventilating specialists completely solved the problem with the installation of 45 Propellair fans, circulating approximately 200,000 cubic feet of cooling air directly over the batteries. The batteries were protected from damage and a higher rate of production was achieved.

There may have been other ways to handle this situation, but Propellair engineers, through their long experience, were able to apply the simplest, most effective and economical method. In war plants everywhere, Propellair is solving air-moving problems of all types, involving excess heat, fumes, dust and moisture. Propellair can solve your ventilating problems, too—whether affecting your products or employees.

Exclusive ! AXIAL-FLOW AIR-FOIL PROPELLERS

Specially designed by Propellair to deliver maximum air with minimum horsepower. Air flow is even over all parts of the blades not just the tips. These unique propellers are non-overloading. Number of blades, angle and shape depend on the job to be done.



Ordinary straight-edge rings serve merely as mounting devices, but this Propellair ring is curved to deliver considerably more air per horsepower. It makes possible the utilization of the "Air-Foil" air-movement principle in the ring as well as in the propeller.



Exclusive! VERTI-VENT STACK



The Propellair Verti-Vent stack is the result of radical

changes in the design and construction of roof ventilators. Truly automatic and eliminates restrictions to air flow virtually 100%, thereby utilizing the full capacity of the fan.



Mail This Coupon Today!

PROPELLAIR, INC., Springfield, Ohio
Please send me Propellair Catalog No. 10AF containing technical tables, charts, diagrams and other valuable information for architects, engineers and plant men.
NameDept
Firm Name
Street Address
City & State



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.



- WOOD Select northern birch or maple — cut from vast tracts of timber reserves in northern Wisconsin and Canada.
- RESIN Impregnated into veneers by methods and techniques developed by Pluswood re-search.
- HEAT 300 K. V. A. high frequen-cy electrostatic generating unit-largest in the country + for this purpose-delivering 540,000 B.T.U.'s per hour.
- PRESSURE Largest and most powerful press in the plywood industry—with total pressing capacity up to 5,000,000 pounds.



MONTH IN BUILDING

(Continued from page 100)

tion affecting the Federal Housing Administration as well as any new legislation to extend federal loans or grants to local housing authorities. Conscientious about going down the line with Roosevelt, Spence can be expected to work hard at pushing Administrationsponsored bills through the important committee he now chairmans, succeeding the late Representative Henry Steagall.

NEWS NOTES

No Rent Control. When United Nations leaders wound up their Cairo conference, the British had a near \$30,000 rent bill to pay. To lodge the conferees, 44 private villas, including a summer palace once used by the Shah, were rented.

Vocabulary. The National Association of Real Estate Boards, which added the term "realtor" to the language, last month proudly puffed a new invention: avigation easement. As defined by the industrial realtor who coined the mouthfiller, avigation easement is a restrictive use right imposed upon real property for the purpose of airway clearance at specified angles.

New Job. Le Corbusier, Swiss father of the international style in architecture, is now working with the German Todt building organization, the British Builder reports. Mourned the Builder: "He has turned from designing the 'machine-for-living-in' to the machine for dying in."

Ask the Voters. Putting its postwar plans up to the public, the city planning board of Miami, Fla. described recommended projects in Sunday newspapers, asked for a vote. Listed as first choices by Miamians were: sewage disposal, a new railroad terminal, slum clearance, hospital additions, waterworks improvement.

Inca Method. In Ecuador to build hospitals and dispensaries for the Inter-American Cooperative Public Health Service, two U. S. engineers were stalled for lack of materials. Taking a look at ancient Inca buildings, they noted that the plaster walls fixed to thin bamboo-like reeds had stood through centuries, promptly borrowed the idea for their own lathing.

Slum Clearance Money. While there is no present assurance of federal aid for postwar slum clearance, some cities are so well sold on such a program that they have granted local housing authorities funds for advance planning. Making a \$10.000 appropriation, New Haven, Conn. (site of the "nation's

'OMFORT will determine true livabil-C ity in homes of tomorrow. Comfort whether members of the household are televising the latest headline event . . . enjoying delectables from their magic kitchen . . . or reading by the soft, shadowless lights in their living rooms. Then -as for more than twenty pre-war yearsprecision-built Oil-O-Matic products will assure better living at its best ..., whether in present homes, resplendent with their years of happy memories or in those spectacular new homes which are being planned for tomorrow. For either - yes, for both - there will be a Williams - designed, precision-built Oil-O-Matic product to keep home temperature at healthful comfort level . . . automatically, dependably, economically. Tomorrow, once again, Oil-O-Matic will mean better business through better living . . . at its best.

> THE BONDS YOU BUY TODAY ARE YOUR GUARANTEE OF

ORATION

Botter

omothou

inna

BUY WAR SAVINGS STAMPS & BONDS

CO

BLOOMINGTON, ILLINOIS

EATING

MS OIL-O-MA

RP

with

note for TOMORROW



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

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

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

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

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



MONTH IN BUILDING

(Continued from page 102)

best" Elm Haven project) was the first to act. The New York City Housing Authority has been given enough money to purchase sites and prepare plans and specifications. The Pittsburgh Housing Authority has asked the city for \$40,000 to be spent for advance planning.

Non-Stop to Gimbel's. Helicopters were still skipping like grasshoppers in practically everybody's postwar planning. Gimbel Bros. said they would install a roof landing area, looked forward to the day when every housewife on the Eastern seaboard could fly to New York for an afternoon of shopping. Playing it the other way, Washington's Hecht Co. applied to the Civil Aeronautics Board for authority to introduce a helicopter delivery service.

Soldiers' Mortgages. Not anxious to be in the position of foreclosing a mortgage on the home of a service man who could not make payments, life insurance companies have for some time nervously reminded Congress that something ought to be done about the National Housing Act. Foreclosure on FHA-insured mortgages is mandatory after a certain delinquency period, and the Soldiers' and Sailors' Relief Act gives no help in this situation. Last month Congress acted to exempt service men from this stipulation.

Overgrown London. The average London worker spends about 8 per cent of his income on daily transportation, according to a royal commission studying the distribution of industrial population in England. Estimate is that the average passenger journey on Greater London railroads has increased from 3.9 to 4.44 miles in the last eight years, keeping pace with the city's growth.

Architect. Berliners remembered Nero as the story went round that Adolph Hitler kept important executives waiting for hours to discuss pressing war matters while he drafted architectural plans for rebuilding Hamburg.

SLUM OF THE SOUL

Cornered in Chicago by the Associated Press, veteran trouper Frank Lloyd Wright shook his white mane, obligingly emitted a few of the hearty bellows for which he is famous. "A monstrosity and a stricture" was his reliably belligerent indictment of the obsolete city.

"Something drastic must be done before long or the machine itself will tear the city down," he warned the startled

(Continued on page 106)

Lhe promise of plastics, in the after-war years, holds so much for manufacturers and consumers alike that perhaps we should learn a little more about the nature of these new materials.

Of prime significance, chemically made plastics are unlike any structural material we have had to work with in the past.

Plastics are the product of chemistry. They are one of the outstanding examples of the chemist's ability to produce—out of coal, petroleum, air, salt, and other basic elements—totally new substances.

Important to an understanding of plastics is that they differ widely in their property characteristics.

For example, some plastics are extremely tough and withstand rough usage. This is true of Ethocel

 $\begin{bmatrix}
(C_3 H_7 Q_3) (O_2 H_3) \\
(O_3 H_1 S Q_4 P) \\
[C_8 H_2 C H_2] \\
[C_8 H_2 C H_2] \\
[C_{H_2} = C \\
[C_{H_2}$

—one of the Dow plastics. Other types are pliable. Some have almost optical qualities in their clarity. Others possess excellent electrical insulating value. Some withstand heat and others extreme cold.

five minute " V 2 forum on plastics

Among Dow plastics possessing some of these properties to a high degree is Styron—a plastic especially valuable as an electrical insulator and having many other uses where lustrous beauty or resistance to acids and alkalis are factors of importance. Saran, on the other hand, is notable for its tensile strength and flexibility, which make it widely used for such products as tubing, woven fabrics and rope. Ethocel, in a special formula, is especially strong and tough at extremely low temperatures.

JUST WHAT ARE "PLASTICS"?

The important point to remember is that the science of plastics is progressing rapidly. Already there exist many specialized plastics for specific applications. As our knowledge of both plastic compositions and the techniques for handling them increases, these new materials will undoubtedly become even more widely used than is now planned.

Dow Plastics include Styron, Saran, Saran Film, Ethocel and Ethocel Sheeting

E DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN York Boston Philadelphia Washington Cleveland Chicago St. Louis Houston San Francisco Los Angeles Seattle





AS I opened those covers, I was a little skeptical. But when I saw those sketches and precautions to be taken when designing or installing propeller fans or blowers, I started to sit up and take notice. Here were new ideas and practical information that I needed and could use on my job!

And then . . . when I came to those

dozens of typical installations, in all kinds of buildings — apartments, stores, homes, factories, etc. — well indexed and complete with photos and drawings, I said to myself "Hank, here is a swell work-book. It's going to be right at my elbow from now on!" And that's where it is now! So I'm passing this tip on to you. If you have anything to do with the layout, installation or operation of ventilating systems...get this 88-page "ILG-Book"! It's priced at \$1.00, but you can get it *free* if you fill in and attach coupon below to your company letterhead. Or consult your classified directory and phone ILG's nearby Branch Office!

ARIMY	ATTACH COUPON TO YOUR LETTERHEAD - MAIL TODAY
	ILG ELECTRIC VENTILATING CO., CHICAGO 41 2809 North Crawford Avenue, Offices in 38 Principal Cities Send FREE copy of new ''ILG-BOOK''
VITALIZED VENTILATION	Individual
AND AIR CONDITIONING	Address
AIR CHANGENOT JUST AIR MOVEMENT!	CityZone
	State




I T'S important that your future prospects start thinking about and planning their postwar homes right now. To stimulate their interest in new homes—to aid them in some of their planning— Crane Co. is offering a "Step Planning" Portfolio containing a wealth of information on planning bathrooms and kitchens. This portfolio gets them out of the wishing and into the *doing* stage...induces them, in many cases, to consult you at once about the kind of homes they wish to have when the war is over.

Yes, Crane is working today to build greater postwar volume for builders. Already Crane designers and engineers are at work developing the Crane plumbing and heating line of tomorrow—a line that reflects the wishes of America's home owners, as shown by actual survey.

Wouldn't you like to see a copy of the Crane "Step Planning" Portfolio? Although intended for your customers, you will find much in it to interest you. Just mail the coupon for your copy!

0	D	Λ	NI	
し	Π	A	IN	E
CRANE CO. GEN	IERAL OFFICES: 83	6 SOUTH MICHIGAN	AVENUE, CHICAGO	5. ILLINOIS
PLUMBING	• HEATING •	PIPE . PUMPS	s · FITTINGS ·	VALVES
NATION-WIDE SERV	VICE THROUGH BRANCH	IES, WHOLESALERS AND P	LUMBING AND HEATING	CONTRACTORS

Crane Co.,	AF-1-44
836 S. Michigan Ave., Chicago 5, Ill.	
Please send me your "Step Plannin folio on Bathrooms & Kitchens.	ng" Port-
Name	
Address	
CityState	

Yes...7 out of 10 buildings can get more heat with less fuel

With fuel rationing, it is more important than ever that building owners thoroughly investigate their heating systems to make sure they are not wasting valuable fuel.

Webster Engineers have found through thousands of surveys that seven out of ten large buildings in America (many of them less than ten years old) can get more heat per unit of fuel consumed.

Before the development of the Webster Moderator System, steam was either "off" or "on" except for the control provided by the radiator supply valve. There was no better way to control *quantity* of steam delivery to radiators.

The Webster Moderator System prevents the discomfort of "scorching hot" radiators by making possible low radiator temperatures... Eliminates annoying and fuel-consuming surges of heat—or "cold spots." Supplies heat *continuously* to all radiators through orifices and central controls. There is no waste of valuable fuel through overheating.

If you are interested in getting more heat with less fuel, write for "Performance Facts." This free booklet gives case studies of 268 modern steam heating installations and how they are effecting great savings in fuel.



Actual proof of low radiator temperatures! Here are actual temperatures at nine points and showing average radiator temperature of 112° F.... due to scientifically controlled turbulence.

WARREN WEBSTER & CO., Camden, N. J. Pioneers of the Vacuum System of Steam Heating Representatives in principal Cities : : Est. 1888



MONTH IN BUILDING

(Continued from page 104)

young lady from AP. "The present status of the machine belongs squarely with Fascism and all forms of dictatorship because the machine itself is a dictator. A Democratic citizen wants a free initiative.

"There are two kinds of slums—the slum that is a physical matter, and the slum that is a matter of the soul. We



WRIGHT: unappreciated prophet?

seem to be trying to trade the first for the second."

Wright view of tomorrow's house: It will be mass-produced but not standardized. "The assembly line could create a product sufficiently flexible to allow a wide range of choice."

► Furniture will be designed when the house is built and so far as possible made part of it. "The idea of a house as a box, dragging in stuff that ruins it, is outmoded. The modern American home will be a complete unit and will have style."

► A low cost house will not be inferior in quality to a higher-priced dwelling. "There should be no Grade A, B and C in architecture. . . The only difference should be in extent. You should get more house for \$10,000. But that is no reason why its character should go down at \$2,500."

The young lady from AP found Wright "by turns fierce and whimsical." "He seems to feel himself an unappreciated prophet," she ventured.

U. S. VERSUS WILLINGHAM

Mrs. Kate C. Willingham's challenge of federal rent control will soon go befor the U. S. Supreme Court. Determined property owner Willingham, who rents three apartments in Macon, Ga., has fought the government's right to regulate her rents through a federal district court (FORUM, Oct. '42), whose judge condemned OPA's "dangerous tendency to assume and exercise powers never intended by Congress to be granted or by the Constitution to be exercised."

PREFAB RESEARCH

New York City's liberal New School for Social Research has long given notable lecture courses in social and economic aspects of housing problems. Last month the school ventured into another housing field, joined the handful of American universities now conducting technical research in housing. Given \$50,000 by an unnamed donor for the purpose, the school was ready to finance experimental research to be conducted by Paul Lester Wiener and José Luis Sert, inventors of ratio structures, a new prefabrication system. Wiener and Sert hope to achieve a ratio-designed, demountable structure that will compress to a minimum of shipping space, give European countries a boost in their postwar building job.

The ratio system is a new and hopeful answer to one of prefabrication's basic design problems: How standardize structural parts for mass production and also provide for flexibility of size, shape and function in the total structure? Based on a standard buildng unit which is repeated many times to form structures of various sizes and shapes, ratio design also involves a basic coordination of the size of all structural parts. The new system has already been used by the Federal Public Housing Authority for a temporary dormitory project at Sidney, N. Y. (Forum, Dec., '43).

Offering a high demountability potential, ratio design is also well adapted to a variety of building materials, including steel, lumber, fiber board and plywood. Several foreign governments have already asked for detailed information about ratic structures.

INVENTORS Paul Schulz, Sert, Wiener



INSULATES G. D. SEARLE & CO. NEW LABORATORY Herbert G. Banse, Chicago - Architect George A. Fuller Company, of Chicago General Contractor

Zonolite Offers Lightweight, Fireproof Roof -Insulated Against Heat, Cold and Sound

ZONOLITE CONCRETE

If you are not thoroughly familiar with Zonolite-the unique mineral insulation -you are urged to send for a complimentary copy of the 86-page Zonolite manual describing this micaceous, nonmetallic product in its many forms and uses. With so many of America's largest buildings using Zonolite, you owe it to yourself to become fully acquainted with its unusual properties.

Zonolite Concrete is easily formed into cants, saddles and slopes to give proper drainage.

It was used for insulating roof fill on the G. D. Searle & Co. laboratory pictured above, and in so many hundreds of other outstanding new buildings within the past few years, that a copy of the Zonolite manual really belongs in your file. Send for it today!

UNIVERSAL ZONOLITE INSULATION COMPANY, Dept. AF1, 135 S. La Salle St., Chicago 3, Ill.





A ZONOLITE PRODUCT FOR EVERY

INSULATION REQUIREMENT

CONCRETE AGGREGATE: Replaces sand--to make a permanent, fireproof, rotproof, feather-weight insulating concrete.

PLASTER AGGREGATE: For lightweight, fire-proofing plaster of high insulating and sound deadening qualities.

HOME INSULATION: Granular fill type of high

efficiency, having tamperproof density **Prompt Deliveries from 22 Plants**

A: Built-up Roofing over entire job B: Zonolite Insulating Concrete Roof Fill

COMING... the same type of Window Books on: Hospitals! Residences! Apartments! Public Buildings! Office Buildings! ...and others!



Even before the war

Planning a Post-We

... the Steel Sash Merit Meter, using sworn facts from Sweets Catalog, proved Mesker quality supremacy. Yet, this we promise... out of war precision experience will come the very best Metal Windows in Mesker's 65year history! THAT'S a promise!

THE. WINDOW

Menter School Mindows Book of School Prepared for Architect by an Architect!

You'll enthuse over this ama ing "bible" of School Window Pages of ideas, new uses, hel ful architectural renderings. plus an invaluable Detail Su plement. Planned and illustrate by Bernard F. McMahon, wel known architect-designer. In brand new! And, it's Free!

You Won't File this Boo You'll Use It!

WITH

Book of School Windows

then send for

Mesker Brothers

ours *free for the asking*, this amazingly helpful Book of School Windows. And it's a ook you'll *use*...not just "file." The school windows illustrated are not imaginary indows. *These* you can count on! *These* you can show in post-war plans you are workindows. *These* you can specify... and *know* you'll get! Don't confuse this book ith "mine-run" catalogs you are accustomed to seeing. *This* Book has been done from he architect's viewpoint...not from ours, the manufacturer's. And it's made a dif-

rence...a *big* difference! Paper shortages naturally mit quantities. Hence requests will be filled in the kact order in which they are received. To avoid isappointment ... mail your coupon *immediately*.

REPUTATION

MESKER Without c	BROTHERS, Dept. 1 ost or obligation, n	COUPON F-14, 424 S. 7th St., nail me your Beok of	TODAY , St. Louis (2) Mo. f School Windows
Address			
Sity	(give Stree	I Number or P. O. Box	No.)
	Selle	State	

chool



USEFUL IDEAS FOR YOUR POST-WAR FILE

This valuable design and installation manual is full of ideas for your post-war building.

You'll see how STEELOX floorceiling panels make a finished ceiling and rigid floor construction with the same unit; how they eliminate lathing and plastering and form an incombustible fire stop.

There are handy drawings of fire-resisting STEELOX used as supports for precast concrete and gypsum floors, and furred ceilings. You'll also find drawings and instructions for anchoring STEELOX floors in masonry walls.

There is much additional information in this book you'll want to have—practical ideas for design and construction of many types of buildings. Write for a free copy on your business letterhead. Building Sections Dept., The American Rolling Mill Company, 401 Curtis Street, Middletown, O. EXPORT, THE ARMCO INTERNATIONAL CORPORATION



See our catalog in the 1944 Sweet's Architectural File. LETTERS (Continued from page 36)

the goose that lays the egg when it pounces upon the alteration operator, and our article recommends city tax measures to encourage this stabilizing type of operation. We also recommended that the powerful insurance companies can improve their own neighborhood nest if they will encourage nearby alterations of the type Mr. Mark mentions. They can do this by writing down properties which they acquire and turning over to others who wish to alter, or by direct influence upon the city.

We certainly would not recommend divorcing horse sense measures from good investment timing, and know this well from the operator's position. We also know that the "proper time" will never return to many neighborhoods unless operators large and small provide some measure of horse sense stimuli in every move they make from now on.

JULIAN WHITTLESEY, Architect Vew York, N. Y.

SURGERY

Forum:

I have been very much interested in your series of planning articles. They are chuck full of good ideas. I may have missed it, but I have not yet seen mentioned one type of city rehabilitation that has always fascinated me.

Most large cities, and particularly New York City, have block after b'ock of buildings where space back of the building on any of the four boundary streets is practically non-existent. You are, of course, familiar with the sight. which may be seen from any tall building and very well from the Third Avenue elevated.

The blocks facing on Fifth Avenue are just as bad as the blocks between Second and Third Avenues. I doubt whether there is through ventilation in more than 10 per cent of the houses.

If the owners of this property could get together, and agree to perform a major surgical operation on these blocks, cutting off all of extrusions and excrescences in the core, they would have a nice park in the center and they would certainly improve their ventilation. There are two apartment hotels on opposite sides of Park Avenue about 48th Street which will illustrate the possibilities.

I suppose we would have to have a land pooling act whereby if twothirds of the owners agreed on the operation, the other third would be forced to cooperate....

RAYMOND V. PARSONS Curtiss-Wright Corp. Bloomfield, N. J.



SERVING BY CONSERVING ... No. 1

N this day of ceaseless production, plant painting is often neglected because of the fear that it will the up essential facilities. Maintenance men who specify Arco Rays with Fog Control have no such fears. This unique mill white minimizes mist and splatter...lets production go on even within a few feet of the spray gun

ARCO RAYS is but one item in Arco's complete line of plant maintenance products . . . products which have played a major conservation role in three generations of American industry. Write for details.

THE ARCO COMPANY CLEVELAND, OHIO · LOS ANGELES, CALIF





HOW TO WRITE OVERHEATING Out OF THE SPECS

It's always easy to satisfy the maximum heat requirements of a building...how to *curb* that heat during mild weather is another matter. By writing "B & G Monoflo Heating System" into the specifications you solve the problem simply and correctly!

B & G Monoflo Heating is a system of *forced* bot water, providing healthful, draftless, radiant heat. Heat delivery by means of water under mechanical circulation can be modulated so gradually and smoothly that every slight variation in outdoor temperature is met by a corresponding change in the heat supply.

Therefore, *overheating*, the most common cause of both discomfort and fuel waste is



The simplicity of B & G Monoflo equipment for residential application is shown by this illustration. The basic units are the B & G Booster Pump, Flo-Control Valve and Indirect Water Heater. eliminated. This sensitivity of control obviously makes forced hot water heat the ideal selection for panel heating.

In addition to better heating, the system permits installation of an Indirect Water Heater for heating the domestic water—winter and summer—with the same boiler that heats the house. Only a *single, easily concealed pipe main* is required, saving labor and material.

COMPLETE DESIGN DATA IN B & G HANDBOOK

This manual of instruction gives full information on the design and installation of Forced Hot Water Heating Systems for residences, factories, institutions and commercial buildings. A copy will be sent to you upon request.



BAGBOOSTER BAGAOSTER BAGBOOSTER BAGBOOSTER BAGBOOSTER BAGAOSTER BAGBOOSTER BAGAOSTER BAGAOST



HEDRICH-BLESSING STUDIO

Administration building of the Dodge Chicago Plant. Albert Kahn Associates, Engineers and Architects; George A. Fuller Construction Co., Builders; Owner, Defense Plant Corporation; operated by Dodge Division, Chrysler Corporation, for the production of 18-cylinder 2000 H.P. airplane engines.

Wartime Construction with a Postwar promise

Why Fiberglas^{*} Roof-Deck and Pipe Insulations were chosen for the great Dodge Chicago Plant.

The photographs on these pages show of Fiberglas Industrial Insulation products. Here in one of the world's largest manufacturing plants, Fiberglas was put to work to aid manufacturing efficiency, to contribute to an ideal working environment, and to help keep plant operating expense and maintenance down to a minimum.

Versatile Fiberglas opens new doors to the ingenuity of architects and construction engineers.

Provides for New Construction

In addition to the applications pictured here, Fiberglas is used in several of our gigantic bomber plants as a component part of new types of wall-and-roof constructions. These constructions combine noise reduction, light-reflecting qualities, and thermal insulation *all in a single assembly*.

These same advantages of Fiberglas Industrial Insulation products, now being so well utilized in the speedy building of modern war plants, will also be used to improve building and insulating techniques in schools, hospitals, airports, in fact, all kinds of buildings and homes of the postwar world. Fiberglas will also be widely useful in the remodeling or conversion of existing buildings to peacetime manufacturing.

Thermal and Acoustical Insulating Efficiency

Fiberglas invites comparisons, for no other product can match this modern insulating material on *all* counts.

All Fiberglas insulations are well recognized by industrial engineers for their light weight and low thermal conductivity. Fiberglas insulating wool, installed at 3 pounds per cubic foot density, has a K value of .27 B.T.U. at 70° Fahrenheit.

Depending on the density, thickness of the Fiberglas material, and the finishes used, sound absorption up to 85° can be secured. Glass fibers are permanently fires for and have high temperature resistance Individual fibers do not absorb moisture do not rot or decay, and are resistant to most chemicals. Glass fibers provide no sustenance for insects, vermin, or fungi.

Here, then, is an enduring insulating material which, when properly applied can be depended upon to last for the life of the building.

Why not consider this proved material in your postwar plans and specifications?

For Your Files

Complete technical information and application data concerning Fiberglas in its many useful forms should be a part of your everyday working files. Let us keep you up to date on the latest Fiberglas product developments. Write today Owens-Corning Fiberglas Corporation, Toledo 1, Ohio. In Canada, Fiberglas Canada, Ltd., Oshawa, Ontario.



LUSTRATING THE EASE OF APPLYING FIBERGLAS RIGID-TYPE PIPE INSULATION

light-weight, rugged product that stands up well in handling nd service. Available in all customary thicknesses for temperaares up to 600° Fahrenheit. Fiberglas Blanket-Type Pipe Insulatag covering is available for temperatures up to 1000° Fahrenheit.



HEDRICH-BLESSING STUDIO

Interior of one of the powerhouses of the great Dodge Chicago plant. Note the neat appearance of the pipes covered with Fiberglas Pipe Insulation.



ooking across part of the mammoth 80-acre machining-andssembly building during construction.



HEDRICH-BLESSING STUDIO

Fiberglas Roof Deck Insulation was applied over this section of the building to provide utmost efficiency and economy in the operation of the heating-and-conditioning system.



Fiberglas Industrial Insulation Products Include:

nsulating Wool . . . Metal Mesh Blankets . . . PF (rigid-type) Pipe Covering . . . Blanket-Type Pipe Covering . . . Insulating nd Finishing Cements . . . Insulating Block . . . Industrial Oven Insulation . . . Duct Insulation .

or the insulation of buildings and homes, a special line of Fiberglas products is designed for and distributed by U. S. Gypsum Company under its brand name "Red Top" Insulating Wool.



INDUSTRIAL INSULATIONS

FORUM OF EVENTS

(Continued from page 6)

subsequent years he mingled with well known cubists and adopted abstract forms for his toys does not necessarily make him the inscrutable genius. The famed fountain at the Paris Exposition in 1937 was nothing more than an attractive way of displaying the mercurial quality of mercury.

Calder's love for materials is as fresh and unspoiled as his approach to art. Metal is most sympathetic but he has tried them all; stone, wood, resin, string. He doesn't bother with molding and firing, he simply cuts, hammers and assembles. Out comes a free form, often with free movement, which he finds appealing and amusing. Everyone else would too if they were left alone to acquaint themselves with mobiles and stabiles in the window of a toy store. Eclecticism had nothing to do with developing adult taste for electric trains.

SCHOLASTIC ART COMPETITION

Scholastic, a national classroom magazine, has announced the opening of its seventeenth annual art competition for



The advantages of Terne roofing are generally recognized-better all-around protection against the elements . . . lighter weight . . . fire-retarding properties . . . protection against lightning.

Follansbee Seamless Terne Roll Roofing, made in 50 and 100 foot lengths that eliminate cross seams, gives you all these, plus four more important advantages:

- I. Easier to Handle-The seamless rolls have uniformly straight edges and are free of buckles-no field trimming to correct for camber.
- 2. Saves Time and Materials—The elimination of cross seams affords substantial savings, particularly on larger areas.
- 3. More Durable, Less Maintenance—The weak point in any roofing is the joint; hence the far superior durability and reduced maintenance of the seamless application.
- 4. Smooth, Improved Appearance-No cross seams mar the smart appearance of standing vertical seams, which lend themselves so well to a wide variety of architectural designs.

Only Follansbee-with its reputation for the highest quality Terne Plate-manufactures Seamless Terne Roll Roofing. Owing to wartime restrictions, it is now available in only the 8-pound coating and its use is limited to essential maintenance and repair. Write for data on widths, coatings, and costs for use in preparing your specifications and estimates.

FOLLANSBEE STEEL CORPORATION

GENERAL OFFICES . PITTSBURGH 30, PA.



Sales Offices - New York, Rochester, Cleveland, Detroit, Milwaukee Sales Agents-Chicago, St. Louis, Nashville, Los Angeles; Toronto and Montreal, Canada. Plants-Follansbee, W. Va. and Toronto, Ohio

ELECTRICAL SHEETS & STRIP . ALLOY BLOOMS, BILLETS, BARS, SHEETS STRIP . COLD ROLLED SHEETS & STRIP . POLISHED BLUE SHEETS SEAMLESS TERNE ROLL ROOFING



PASTEL by Arthur Okun

the 1943-44 season. Though little pu licized to the outside world, it is ope to high school and junior high scho students throughout the country fro the smallest town to the largest cit Competitive groups include, oil, wat color, pencil, crayon, ink, sculptur ceramics and mechanical drawing. Th last category has great current sign ficance as it includes the latest type isometric drawing for assembly an prepares students for immediate en ployment in war plants.



WATERCOLOR by Virgil Simon

The entries numbered over 25,00 Preliminary weeding out is account plished through a series of region exhibitions sponsored by departme stores in many cities. This arrangeme has many advantages, the most in portant; it offers the opportunity f high school students to see the work an progress made in other schools of th region. If there were only one nation exhibition, the great majority of con petitors would have no opportunity measure their own standards by seein the work from other schools. The r gional exhibitions have minor award The winning works are then shown the national exhibition held in the ga lery of the Carnegie Institute in Pitt burgh, Pa. Final awards in each i clude scholarships to the country finest art schools including, M.I.I Carnegie Tech, Pratt Institute, etc.

In looking over the entries for the (Continued on page 116)

for post-war sales

Not so secret, either, but a potent force for service and satisfaction to the postwar buyers of Fitzgibbons steel boilers and air conditioners. It's all in the way Fitzgibbons met a war-time difficulty common to most manufacturers and made of it a valuable future sales factor.

You know how it was just after Pearl Harbor-sales personnel everywhere became pretty superfluous through no fault of their own. Fitzgibbons representatives were no exception – could have sold plenty of boilers, but we couldn't build them and make tanks too. So ...

Instead of permitting its valuable, hand-picked sales organization to break up, Fitzgibbons set up a skeleton engineering force, for local maintenance service principally, then brought the key sales people right into the Fitzgibbons production end at the plant. Not just in any stop-gap job, but in positions vitally important to the Fitzgibbons production line, where the driving personalities of these former top-notch, line-bucking sales representatives are given full play in getting things done, getting fighting equipment on the firing line, getting the war victoriously over.

It has worked beautifully. Last October Fitzgibbons was awarded the Army-Navy "E". But that isn't all of the story—

When the war is over, many of these able men will go back to sales representation, armed with new, sound experience in Fitzgibbons production methods, Fitzgibbons engineering, Fitzgibbons traditions in excellence of workmanship, as developed through fifty-eight continuous years of steel boiler building.

Will this experience, when applied in sales representation, be valuable to purchasers of Fitzgibbons steel boilers and conditioners? Most assuredly it will – highty valuable. These men will bring intimate knowledge to their contacts. It

of fighting equipment as well as of steel boilers for Uncle Sam. One of these men is General Plant Manager. Another is his Assistant. Another is Personnel Manager. Still another, Superintendent of Navy Fabricating Division. Others are Chief Field Expediter, Navy In-

spector, Traffic Manager,

etc., etc., all down the

STEEL HEATING



will be almost as good as bringing a Fitzgibbons prospect to the plant, showing him how carefully Fitzgibbons products are built, and how they perform under test. There is no finer way to serve Fitzgibbons prospective and established customers—and no finer group of men to render this service.

SINCE 1886

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

BOILERS

TZGIBBON

The Army - Navy "E" flag, emblem of production excellence, flies proudly over the Fitzgibbons plant.

BUY

U. S. WAR BONDS

and STAMPS

FORUM OF EVENTS

(Continued from page 114)

last competition, it is difficult to believe that such creative ability and imagination could be developed in youngsters of high school age. More significant is the greatly improved quality of the entries in the last ten years. The stimulation and incentive created by the competition itself are partially responsible for the progress as are the traveling exhibits of the winning entries arranged and carried out by Scholastic after the final showing.

Additional cash and educational

prizes are offered by many commercial firms such as Higgins Ink Co., American Crayon Co., and American Pencil Co., also instruction manuals distributed to the classrooms.

It is to be regretted that this competition is not more widely publicized outside of educational circles as it is probably the most important single measure yet taken for the elementary advancement of art in this country.

COURSES IN WOOD STUDY

The University of Wisconsin (Extension Division) is offering correspondence courses dealing with the fundamentals of wood structure and properties, its

for

TODAY'S HOUSING

Investigate Pella Awning-

Type Windows available with

screens and storm sash. For

2 x 4 frame, thin wall or masonry construction. White

pine. Toxic treated. WRITE

FOR FREE FULL-SIZE DETAILS. Address Dept. 114. various defects and the operation necessary in the efficient utilization o wood. The courses were designed a a technical background in view of th many new and vital uses for lumbe developed by wartime needs. This in formation is valuable in achieving th most effective use of wood products an familiarizing the student with the new ideas and methods for the artificial sea soning of wood.

MERRY IMPASSE 1943

Apparently A. Dukelski is prett deeply moved by the rapid and un precedented coverage of the earth' surface by war housing. It even colored



again, compare these three design features with the field for BEAUTY and EFFICIENCY:

WOOD and STEEL both used in Pella Casement frames to combine beauty and strength.

ROLSCREENS, original roller-type inside screens. The ultimate in screen efficiency and convenience. DUAL GLAZING, the single-panel type that mounts on inside of sash. Inconspicuous. Quickly and easily removed for cleaning.

Watch, too, for the new Pella DOUBLE HUNG Windows' which make the Pella line of windows COMPLETE for post-war homes and commercial buildings. ROLSCREEN COMPANY, PELLA, IOWA.



Made by Makers of Famous Pella ROLSCREENS and Pella VENETIAN BLINDS



his conception of the Christmas spirit Bad as it may seem, it isn't here to stay Even a listless and jaded virgin could find an open spot to deposit her little church if she just looked around.

COMPETITION

The Dublin Corp. invites competitive designs for a new tuberculosis sanatori um (to accommodate 320 patients) to be erected at Ballyowen, Lucon, Count Dublin, Ireland. Registered architect in Ireland, England and the U. S are eligible. Prizes are £500, £350 £250, £150. Applications for the program should be made to The City Manager and Town Clerk, Corporation of Dublin, Public Health Department Municipal Building, Dublin, and mus be received not later than March 13 1944. A deposit of £3-3-0, which will b returned upon receipt of a bona fid design or return of the program, should accompany each application.

REQUEST FOR LITERATURE

Schulman & Gurtman, architects and designers, 262 Main Street, Paterson N. J. request literature on postwa construction, and equipment for indus trial, commercial and housing planning

CORRECTION

In the article, *Ratio Structures*, which appeared in the December issue (page 84) it was pointed out that this system uses only a portion of the amount o wood and metal permitted by WPB for war housing. These percentages were erroneously quoted. Actually, the amounts are 65 per cent of the wood and 75 per cent of the metal. Dependable Quality.



Rigorous tests maintain Carey's exacting raw material standards—vigilance prevails at the source.



Weather-Ometer in which intensified weather conditions are reproduced. This equipment makes Carey laboratory technicians independent of Mother Nature.



Small-scale equipment is maintained to produce small quantities of products for experimental purposes.



CREATED AND MAINTAINED IN CALLABORATORIES

MANY notable advances in building materials have been created and brought to a state of high perfection in the Carey Research Laboratories.

Here, too, is conducted that continuous testing and re-testing of Carey raw materials and finished products which assures uniform high quality.

Special machines that simulate actual service conditions is e used in the testing of Careystone Fireproof Asbestos-Cement Shingles and Siding, Carey Fire-Resistant Asphalt Shingles, Carey Rock Wool Home Insulation, and other Carey "Long-Life" Products.

By use of ingenious testing apparatus, the strength, durability, and weatherproof qualities are determined in a fraction of the time that would be required under natural conditions of aging. In addition, test fields are maintained in various parts of the country where parallel exposure to the worst possible actual weather conditions provide a constant check on the laboratory work. This makes for *extra rapid* progress and development.

Important results of this constant search for something better are Carey's many improvements in manufacturing methods and processes in creating building materials of outstanding quality and performance. And finally, there is the advantage of the "know how" made possible by Carey's background of experience—covering nearly three quarters of a century.

Add up all these factors, and you'll understand why you may specify Carey Products with the confidence that they will render outstanding service.

Continuous laboratory testing of raw materials and manufactured products is an assurance of uniform high quality. THE PHILIP CAREY MFG. COMPANY Dependable Products Since 1873 Lockland, Cincinnati, Ohio

END IT SOONER ... SAVE PRECIOUS LIVES ... BUY MORE WAR BONDS!

HERMAN NELSON PRODUCTS

in peace and at war

ERMAN NELSON products which are now at war will again be used to heat and ventilate all types of public, commercial and industrial buildings when the peace has been won. Architects, engineers and contractors will again select Herman Nelson equipment to provide proper air conditions for the pupils, the customers, the workers and the other occupants of these buildings.

The products which gave such reliable service before the war will be available with improvements developed since that time. In addition, several products have been produced since the war started which will find new application when available for civilian use.

When designing post-war projects, architects and engineers will find that Herman Nelson products fulfill their heating and ventilating requirements.



THE HERMAN NELSON CORPORATION

MANUFACTURERS OF QUALITY HEATING, VENTILATING AND AIR CONDITIONING PRODUCTS MOLINE, ILLINOIS

Herman Nelson Unit Ventilators have been providing proper air conditions for school children throughout the world for twenty-five years.

Autovent Type "H" and "HB" Blowers solve many of the big ventilating problems such as in this well known court house.

The Autovent Unit Blower application in this roadside restaurant is typical of the problems solved by this versatile product.

133

This airport hangar is one of the many different types of commercial and industrial buildings which can be heated most efficiently and economically with Propeller-Fan Type hiJet Heaters.

This library and museum is ventilated with Autovent Propeller Fans. While this was a remodeling project, new buildings present many applications for this product.



BOOKS (Continued from page 24)

American postcard, ambulant photographer, author of books on the traditional lore of America, France and England, most recently, as Phineas Beck, epicurian expert for Gourmet magazine. The current phase of this colorful career is marked by the publication of a cookbook which incorporates his talents as an etcher, his travels here and abroad, a somewhat fictionalized portion of the Chamberlain bi-



ography and the exploitation of his French cook. Clementine.

It includes a series of 26 familiar dry points and drawings ranging from



Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg. N. Y.

COLORFUL DESIGNS SPARKLE LIFETIME IN FINE TERRAZZO

Lasting beauty added to High School floor with aid of Atlas White Cement

Your original designs deserve more than a few years of life. When executed in Fine Terrazzo, made with Atlas White cement, they add beauty that lasts for the lifetime of the building, even under the heaviest foot traffic.

Equally important is the fact that Fine Terrazzo made with Atlas White provides faithful reproduction of the most delicate pastels in your design. Only with a truly white cement can the skilled terrazzo contractor capture these fine tones of color. Atlas White gives him full control so that he can set off the colors of the aggregates or blend pigment into the cement to achieve matching shades.

Fine Terrazzo, for interiors and exteriors, retains its beauty without replacement or repair. Its smooth surface is easy to clean. For further information, see Sweet's Architectural File, 1944, Section 13-5.

FACE BRICK MORTAR

Many architects specify Atlas White cement (plain or water-proofed) for face brick mortar because it is non-staining, durable, and strong. They know, too, that Atlas White provides full color control since it may be used for a white mortar or for any desired color to blend or contrast with the face brick.



This Fine Terrazzo floor bears the brunt of thousands of footsteps daily in the Samuel Gompers Industrial High School for Boys, New York City. Walter C. Martin was the architect and Bruno De Paoli and Co., Inc., installed the floor.

Send for more information about these and other uses of Atlas White portland cement: Stucco, Portland Cement Paint, thin precast Architectural Concrete Slabs, Light-Reflecting Floors. Write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N.Y.

AF-C-12



the Burgundy hillside to the Manhattan skyline further argumented by a number of Henry Stahlhut's clever vignettes depicting the problems of Clementine herself.

According to this account, the "Beck" family, pried out of voluntary expatriation in a small French town by the outbreak of the war, were forced to return to Boston, bag, baggage and Clementine. The indoctrination of this solid peasant soul in the mysteries of American high pressure merchandising and such quaint customs as wienie roasts, are fresh and entertaining.

For FORUM readers whose interest extends beyond the progress of Mr. Chamberlain's fortunes, there are recipes guaranteed to bring on madness by such suggestions as, "a morsel of beef, massive and tender (four to five pounds)." They are said to be direct translations from the fabulous Clementine's own scrapbook and will be unintelligible to novice chefs. The thrifty use of leftovers, (probably picked up from Clementine) apparent in the drawings, all of which have been seen many times before, does not necessarily hold true in the culinary department. Endless ration stamps are needed. Mr. Beck's book is a gastronomic paradise for tomorrow and in the meantime, it's good reading for anyone.

INDUSTRIAL PRODUCTION ILLUSTRATION. By R. Hoelscher, C. Springer and R. Pohle. McGraw-Hill Book Co., New York. 168 pp. 81/2 x 11. \$3.50

Though the title indicates that the primary interest is for industrial and mechanical engineers, this book has unquestionable reference value for anyone who uses pictorial drawing as a means of explanation. Teaching illustration by illustration is the method used and though instruction by means (Continued on page 122)



For the buildings of tomorrow

Foresighted building owners recognize the value of Lupton Metal Windows . . . Realize the savings of maintenance as well as installation costs. With Lupton Metal Windows, there's nothing to get out of order. Weathertight, yet easy to operate, Lupton Metal Windows meet every daylighting and ventilation requirement for the buildings of tomorrow.

There's a Lupton Metal Window for every type building: school, hospital, office building, residence, apartment house, municipal building and industrial plant. Save time tomorrow by letting Lupton help you plan today. Write for our free catalog.

> Now Supplying Hangar Doors and Other Materials for the Armed Forces. See our Catalog in Sweet's

MICHAEL FLYNN MANUFACTURING CO. Allegheny Ave. at Tulip St., Philadelphia 34, Pa.



LUPTON METAL WINDOWS

BOOKS (Continued from page 120)

of algebraic equations or other mathematical principles might have proved more direct in some instances, the uniform use of the visual technique provides a generally simplified system. Projection and perspective are the most extensively treated subjects, the latter a remarkably clear presentation of a well known stumbling block.

Lettering, freehand sketching and shading are also dealt with adequately, though there is no claim that the reader will emerge a finished artist. The volume has a paper cover and ring binding. It also includes a series of student exercises based on the contents.

PLANNING THE LITTLE HOUSE, by Alice Waugh. McGraw-Hill Book Co., Inc., New York. Illustrated. 267 pp., $71/2 \times 93/4$. \$2.75. One half of this book is a fair survey of small house plans, their advantages or disadvantages, and the layout of certain rooms. So far so good: the author sticks to her program as defined in the title of her book. While her plans are largely unimaginative and make no new contribution to the



Sea-going hotels-land-locked carriers? Not as fantastic as it seems. But let's leave that for the seers, sages and sorcerers whose job it is to compound the proper formula and popular panaceas designed to beget post-war prosperity. Our job's giving a guy (and his products) a lift-and figuring new ways to do the job better and faster.

For example, take the aircraft carrier. The Navy needed special elevators to lift planes from the ship's belly to the flight deck-*fast*. They had to be large-carry a tremendous load-and line up flush with the flight deck.

We made them!

Similarly, men concerned with post-war plans for hotels, hospitals, schools, factories, airports and the like, are or will be confronted with problems of proper vertical transportation. If you're one of these men . . . if your lifting and hoisting problems seem insurmountable—let us know about them.

Our engineers will be happy to help work out the solution and show you how Sedgwick specialized equipment provides safer, surer, more economical lifting and hoisting.

"MEN WHO KNOW ARE SOLD ON SEDGWICK"



subject, her account is readable and workmanlike.

After this, however, the publishers seem to have mistakenly inserted the manuscript of Miss Waugh's next opus, for the book suddenly enters the ethereal realm of styles and traditions, which have absolutely nothing to do with the subject of planning. To be sure, she spurns the fake exterior pasteups that pass for the different "styles." And yet, these very styles become her main concern. Though her examples are the real McCoy, the implication is, nevertheless, that these are to be imitated today-for if this was not implied, why were they included? Apart from a few wealthy resurrectors like Messrs. Ford, Hearst and an assortment of the D.A.R., a negligible number of people manage to live in a genuine Tudor Cottage or an Early English House.

Her book leaves things pretty well where they were before-or, if anything, puts the clock back a little farther. For it seemed to many of us that the question of faking the old styles was no longer up for discussion. To revive it as an issue, to include in this wardrobe of stylistic nonsense what she calls the "modern style" (thank you very much, Miss Waugh ...), is merely an attempt to continue a somewhat absurd controversy. Informative books have no value unless they inform. People need to be informed about the new architecture. They require no further data on the stylistic horrors of modern suburbia.

The publishers are fortunate enough to have as their field one in which design has made rapid progress during the past ten years. That this familiar annual has kept abreast of this progress will readily be seen in the choice and treatment of the editorial subjects.

Under the heading "Schools for Tomorrow" seven comprehensive articles deal with the requirements and role of the school in the postwar community. Obviously related to community planning, it is logical that these articles should have been written by leading architects and planners rather than by educationalists who have hitherto monopolized the major portion of the yearbook. Some excellent examples of schools recently built in the U. S., England and Switzerland are used as illustrations.

As usual, the extensive advertising is indexed and conveniently arranged for reference with accompanying lists of architects and landscape architects for educational buildings.

THREE WAYS TO USE PC GLASS BLOCKS EFFECTIVELY IN RESIDENTIAL DESIGN

This dining nook is screened for privacy, yet the glass block partition admits plenty of bright cheery daylight. In planning for added privacy and convenience without added floor space, many architects enlist the aid of PC Glass Blocks to transmit light from existing openings. Varied plans are made practical by using semi-partitions like the one pictured below.



• Millions of families are planning to build, buy and remodel homes as soon as restrictions on materials are lifted. At that time your clients will be wanting better looking, more comfortable, more convenient and efficient homes. That means taking full advantage of the many unique qualities of PC Glass Blocks.

We shall be glad to forward to you complete, detailed information on PC Glass Blocks, with specifications for their installation in various types of openings.

Around the entrance door, where important first impressions are made, PC Glass Blocks emphasize, highlight your favorite design. They provide a flattering frame for an attractive doorway, add a cheery note of light at night. Large lighting areas, assuring a bright, cordial entrance way, do not add to heating and air-conditioning problems because of the exceptional insulating qualities of PC Glass Blocks.



The modern housewife demands plenty of clear, diffused daylight in the kitchen, especially on work surfaces. The arrangement of PC Glass Blocks illustrated at left, not only supplies light, but adds an attractive feature to the room. Easy to keep clean, these glass blocks keep out heat and cold. They are not only beautiful, but also efficient.



Distributed by PITTSBURGH PLATE GLASS COMPANY and by W. P. Fuller & Co. on the Pacific Coast

PITTSBURGH CORNING CORPORATION GRANT BUILDING - PITTSBURGH, PA.



How'd you like to "sweat it out" with the Paratroopers?...step off into space on a combat mission? * Perhaps you, and we, could do it *if we had to*. But all that Uncle Sam asks of *us* is to buy more War Bonds, sacrifice a few comforts and produce for Victory! * The PAYNE plant has concentrated on war production for two years. But PAYNE Gas Furnaces will be back ... surpassing even their pre-war standards of design, quality and performance. You can count on that.



Payne FURNACE & SUPPLY CO., INC., BEVERLY HILLS, CALIFORNIA



for POST-WAR low-cost

OUSING

While our entire facilities are engaged in Government war work, our planning and research departments are not idle. We are working on a low-cost, prefabricated house for the post-war period, based on our 25 years in this field.

We are committed to a policy of distribution and sale of prefabricated houses through established dealers, and we'll have a surprise package for you in the form of a smart, modern home and a packaged plan which can be used with profit.



As soon as we have specific information on our packaged plan, it will be sent in the order that inquiries are received. Write us now, so that you will receive this information.





Stanley & Patterson signaling equipment provides the exact answer to every requirement!

The Stanley & Patterson complete service includes factorytrained representatives who will take a personal interest in your problems and give you valuable aid in selecting equipment and preparing specifications exactly suitable to the type of building on which you are working. Countless unbroken records of dependable service have given Stanley & Patterson Signaling Equipment a reputation of unqualified leadership.

SEND FOR YOUR FREE CATALOG. Architects, Engineers, Building Managers and Factory Superintendents are invited to send for our latest signaling systems catalog now in preparation. It shows many attractive new developments—so send your request now and get one of the first copies off the press.



Manufacturers of every type of signaling systems:

HOTELS HOSPITALS SCHOOLS AND COLLEGES INDUSTRIAL PLANTS APARTMENT BUILDINGS DEPARTMENT STORES OFFICE BUILDINGS ... and all other

installation needs

STANLEY & PATTERSON DIVISION ADRIAN, MICHIGAN

TERRITORIAL OFFICES IN: ADRIAN, MICH. • ATLANTA, GA. • BOSTON, MASS. • CHICAGO, ILL. LOS ANGELES, CAL. • NEW YORK, N. Y. • PHILADELPHIA, PA. • SAN FRANCISCO, CAL. • SEATTLE, WASH.



for PUBLIC BUILDINGS—INDUSTRIAL BUILD-INGS — HOMES and HOUSING PROJECTS

Sal-Mo Supply Duct is SAFE—Approved and Listed for Safety, Permanence and Heating by UNDERWRITERS' LABORATORIES, INC. COMPACT — Exclusive folding feature saves space in cans, storage and in transfer to job; saves time in erection. INSULATING— Built-in insulation assures years of fuel saving. LIGHT—Weighs less than 8 oz. per square foot. STRONG—Withstands Mullens Test of over 400 lbs. per square inch. MOISTURE RESISTANT —Fabricated entirely with insoluble adhesives. High humidity will not separate the various layers.

Manufactured in 26 standard sizes (areas from 26 square inches to 448 square inches, in convenient 4-foot lengths) allowing for all types of installations. It is also furnished in flat sheets containing 11 to 24 square feet which can be easily rolled or scored on the job.

FOR WARM AIR HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS

A Typical Duct Installation in a Large Church Building. Sal-Mo Supply Duct Was Used Throughout.

dentical



SALL MUUNTAIN CUN 176 WEST ADAMS STREET OF CHICAGO 3

LIME

TE A SUPPLY OF

Free Book Write for backlet describing the remarkable limestone deposit on our

property and every step in the manufacture of lime in our modern plant.

Tindah

Two fine finishing limes—"Ohio" and "Hawk Spread" White Finish—made from the same 99½% pure dolomitic limestone, in the same modern plant under the same rigid scientific controls. If you seek a lime that's of uniform quality, pure, plastic, one that works cool and spreads far, standardize on one of these brands.

The Ohio Hydrate & Supply Co. Woodville, Ohio

> Always packed in easily distinguishable Red Zig Zag Bags.



In Defense of CIVILIAN HEALTH



Back syphonage, the cause of water contamination, is a source of epidemic, particularly in war time when such dangers are always more prevalent.

The Federal Government, to control this danger, specifies that every toilet fixture with a jet be equipped with approved Back-flow Preventer. In war industry, public buildings, and civilian sanitation installations and repairs as permitted, should be protected against back-syphonage *in defense of civilian health*.

The DELANY No. 50 VACUUM BREAKER is the one flush valve Back-flow Preventer that can successfully prevent backsyphonage, even though the unit may be maliciously sabotaged. It telltales breakdown—it's self policing.

The DELANY No. 50 VACUUM BREAKER is nonmechanical in operation and can be used with *any* flushometer made—new or replacement. Help protect the health of America's families, investigate the Delany No. 50—it's 20 years ahead of any flush valve vacuum breaker on the market.



 ATTRACTIVE ENTRANCE OF THE OREGON SHIPBUILDING COR-PORATION'S NEW PORTLAND OFFICE BUILDING—FEATURING THE CURVED EFFECTS POSSIBLE WITH DOUGLAS FIR PLYWOOD

COMMISSION

MIGER

War Plants

When the job has to be done FAST... when a building must be durable and weatherproof, architecturally-correct and pleasing—Douglas Fir Plywood provides the ideal answer for both planner and builder. TO HELP SPEED VICTORY Plywood Industry is devoting its enfire capacity to war production. We know this program has your opproval.

OREGON

ON THE WAY



This modern, engineered Miracle Wood is serving the war effort in countless ways—for buildings, boats, crates, railroad cars. And after victory it can serve you, too — as one of your most useful construction materials.

DOUGLAS FIR PLYWOOD

Real Lumber MADE LARGER, LIGHTER SPLIT-PROOF STRONGER ABOVE TWO VIEWS OF A WAREHOUSE IN SEATTLE, WASHING-TON. HERE AGAIN. DURABLE DOUGLAS FIR PLYWOOD SAVED CONSTRUCTION TIME. ITS USE RESULTED IN A BETTER IOB

Stronger Per Pound Than Steel There's a long, long road stretching ahead of our service men and women before they can be reunited with their families and return to the security of the jobs they left. Some day their consumer needs will include comfortable homes and modern conveniences wherein they shall enjoy their well-earned leisure.

HOME SWEET

Here at Bilt-Well, we are preparing for that day. Our artisans have learned new skills. Our designers are developing new products. May we acquaint you with this progress.



THE BILT-WELL SPECIALTY LINE

Bilt-Well Superior Unit Windows Bilt-Well Colonial Front Entrances Bilt-Well Clos-tite Windows Bilt-Well Basement Windows Bilt-Well Carr-dor Garage Doors Bilt-Well Lok-tite Trim Bilt-Well Stair Parts Bilt-Well Tclephone Cabinets

BILT & WELL

WOOD WORH

Bilt-Well Nu-Style Kitchen Cabinets Bilt-Well Colonial Mantels Bilt-Well Combination Doors Bilt-Well Ironing Board Cabinets Bilt-Well Bathroom Seats Bilt-Well Breakfast Nooks Bilt-Well Medicine Cabinets

1-2

HON

MANUFACTURED BY CARR ADAMS & COLLIER CO. DUBUQUE, IOWA

ANACONDA BRASS PIPE



dependably serves the Atlanta Biltmore

> Reprint of advertisement published by The American Brass Company in 1924 while the Atlanta Biltmore Hotel was under construction.

When the Atlanta Biltmore was constructed 19 years ago, the hotel's policy was to employ only the most durable materials. That's why Anaconda Brass Pipe was used throughout for water service lines.

A recent checkup revealed that here, as in many similar installations, the choice proved to be a wise one-especially now when manpower and material shortages make maintenance increasingly difficult and costly. For during all these years, Anaconda Brass Pipe has served dependably, with no maintenance necessary—other than that normally required by a building of this type. Indications are that it will continue to supply the Biltmore's guests with clean, rust-free water for years to come.

Such reliability is assurance that peace-time requirements for important construction purposes will again be satisfied by time-tested Anaconda Brass Pipe and Copper Water Tube. 4286

BUY AN EXTRA WAR BOND



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

BUILDING REPORTER

(Continued from page 18)

to 150 lbs. in metal sinks. It can withstand heavy blows and shocks and does not chip as do enamel-coated sinks. Sink is easily cleaned with a damp cloth. Fixture is being made in black and a wide range of pastel colors.

Manufacturer: Developed by William H. Ham, of Bridgeport Housing Co. in cooperation with Libbey-Owens-Ford Glass Co., Toledo, Ohio.

FLUORESCENT LAMP disposes of starter switch.

Name: Quick-Liter.

Features: Powered by a super-ballast, mechanical inbuilt wiring circuit eliminates use of starter switch which is the main cause of fluorescent light failures. Fixture is available in sizes for two 40 watt and two 100 watt lamps, either 110-120 or 220-240 volts. All wiring and ballasts are fully enclosed in a new top housing which conforms to latest WPB steel limitations. Positive flexible trigger supports allow quick reflector removal. Reflector is of Masonite Reflector-Board, is finished in white enamel.

Manufacturer: The Edwin F. Guth Co., 2615 Washington Blvd., St. Louis 3, Mo.





WATER RESISTANT AND WATERPROOF GLUES LOS ANGELES VANCOUVER, B.C. CHICAGO STANBRIDGE, QUE.

CONSULT LAUCKS · AMERICA'S GLUE HEADQUARTERS



DISH RACK is constructed of wood.

Features: Designed for the Quarter master Corps, this new dish rack is co trived to hold plates, cups and tabl ware at the same time. It is used conjunction with spray rinse units for the dishwashing job at army camps an hospitals. It replaces three separa trays previously used. Its wood co struction saves more critical material Manufacturer: Marsh Wall Product Inc., Dover, Ohio.

SPEARHEAD BOLT anchors objects to m sonry walls.

Features: Air lock in masonry wa makes new anchoring device possibl It is installed in seams in brickwor and other masonry seams, is extremel secure against pull-outs, but may be r moved with comparative ease. It has an elongated shank with a flat arrow like pointed head at one end, which substantially smaller in thickness that the shank. The head is adapted to r tentively engage the inner face of wa on either side of the seam. Bolt wi stand 9,950 lbs. before failure. Manufacturer: Masco Co., 418 Oliv St., St. Louis, Mo.

INTERLOCK SWITCH for doors.



Features: Th new door switc has been designe as an emergence device to interrup circui control where access door are opened whe the power is on Application cover

a wide range where doors, window or covers must be interlocked for the protection of equipment and safet of personnel. For example, doors o radio transmitters, X-ray and there peutic machines, burglar alarms an signal controls for fire doors. Switc has a carrying capacity of 10 amp., 11 or 220 volts AC or DC, and an emerg ency opening capacity of AC 71/2 amp 110 or 220 volts; DC on low inductiv circuits, 5 amp., 125 volts; 21/2 amp 250 volts.

Manufacturer: Electronics Dept., Ger eral Electric Co., Schenectady, N. Y. (Continued on page 132)





CECO WARTIME PRODUCTS: Landing Mats * Portable banel Bridges * V-Type Trestles * Screw Posts Glider Sub-Assemblies * Ship Parts for Navy and Maritime Commission. ECO PEACETIME PRODUCTS: Commercial, Industrial, Casement & Basement Windows * Metal Lath and Accessories * Welded Fabric * Column Clamps * Adjustable Shores * Meyer SteelForms * Concrete Reinforcing Bars * Metal Frame Screens * Metal Weatherstrip * Steel Joists * Steel Roof Deck.

What is "Custom" today More and more have the architects and builders of America endeavored to supply homes that were different . . . better! endeavored to supply homes that were different . . . better! Will be "Standard" Tomorrow And what makes a home better? It's the introduction of new ideas, new comfort, new conveniences . . . without the burden of extra cost. And that is what will make miracle homes of America's post-war homes! The war is developing even greater ingenuity and resourcefulness among architects and builders. It is also developing facilities and initiative in such plants as the Ceco Manufacturing Division. When you return to peacetime building, Ceco will return with you . . . offering innovation after innovation in finer, more beautiful Ceco Residential Casements!



CECO STEEL PRODUCTS CORPORATION, MFG. DIVISION, 5701 W. 26th St., Chicago

BUILDING REPORTER

(Continued from page 130)

COATING renews roof surfaces.

Name: Battleship Asbestos Roof Coating.

Features: Costing a fraction of what a new roof would cost, this new liquid coating is recommended for virtually all industrial and commercial type roofs. It is applied right over the old roof and forms a tough, rubberlike, seamless and waterproof surface. Application is made with a long-handled brush. The evenly mixed liquid penetrates the pores of roofing surface over which it is applied, and at the same time a heavy coat remains above the surface, securely bound by the asbestos fiber. Covering capacity varies according to the kind of roof. Battleship is recommended for all roofs except wood shingle or mineral slate shingle. *Manufacturer:* Paint Products Div., Panther Oil & Grease Mfg. Co., Fort Worth, Texas.

LAVATORY has antisplash rim. Name: Marine.

Features: Made of vitreous china, this new lavatory has been designed for installation on wartime boats and ships. Only 15x18 in. in size with an integral





They're "somewhere in the Pacific" helping to keep things cool for our boys who are making it hot for the enemy. Whether they are deep in steaming jungles or high in the icy air, we are proud that White-Rodgers Controls are serving our armed forces with dependability and accuracy. Today, of course, the greater portion of White-Rodgers manufacturing facilities is devoted to the development and production of military control equipment. But when we return to normalcy these new developments in temperature and pressure control will again serve America's homes and industries with increased efficiency.

Official U.S. Navy Photograph

WHITE-RODGERS ELECTRIC CO. 1292A Cass Avenue St. Louis, Missouri





depressed soap dish, it is ideal for th small staterooms on passenger boats. Manufacturer: Eljer Co., Ford City, Pa

CONTROL UNIT coordinates operations of multiple microphones.

Name: Model P566 Relay and Bus Signal Control Box.



Features: Installed with micro phones in suclocations as guar houses, reception desks, telephones switchboards an plant broadcasing centers, new control unit con-

ordinates microphones and provides a instantaneous method of cutting in o central plant sound systems. Bus signal light eliminates interruptio from other microphones in the sam Talk-switch prevents acc system. dental broadcasting of unwanted sounds provides automatic plate voltage rela control, reducing wear on amplifier and automatically cuts off music broad casting when paging is desired. Suit able for wall mounting, the unit i housed in a metal cabinet, 13% x 25% 61/2 in. Connections are made to term inal strips located inside the case. Manufacturer: Executone, Inc., 41 Lexington Ave., New York 17, N. Y.

BEODORANT has many uses.

Name: Odex.

Features: New odorless deodorar adapts the process of oxidation for it effectiveness. Created specifically fo use in mopping floors, as a deodorizin flush for toilet room sanitation and fo other general deodorizing uses in publi buildings, experiments later showe that Odex's qualities also made it sui able for home and personal use.] does not have the objectionable odor of perfumes, phenol or creosote. It i claimed that this deodorant does no just cover up odors, but rather con pletely destroys them. It will not stai fabrics that water will not stain and i harmless to the skin. It comes i powder form. One pound when mixe with water makes about 12 gals. of de odorant. Available in 4 to 50 lb. con tainers.

Manufacturer: Ranetite Mfg. Co., Inc 1917 South Broadway, St. Louis 4, Mo (Technical Literature, page 136)

Push Civic Planning To Take Up Postwar Slack

Does your town have slums and blighted areas, houses over fifty years old, not enough modern schools or hospital facilities, an antiquated sewage disposal or water treatment plant? Correcting such conditions is an excellent way of readjusting employment after the war.

Why not start your civic planning right away, so the end of the war won't catch your city unprepared? And while you're putting plans on paper, figure on using Alcoa Alumi-

num wherever possible.

Architects were including aluminum windows, sills and other aluminum building products in municipal housing projects, before war industries started taking all the metal we could make. Engineers designing water works, sewage treatment plants and other municipal structures used aluminum doors, windows, sills, skylights, spandrels, coping, grating, ducts, conduit and the like.

The superior performance of all of these Alcoa products is an excellent reason for including aluminum in your designs.

We'll gladly tell you how you can include Alcoa Aluminum products in your designs. Write ALUMINUM COMPANY OF AMERICA, 2166 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

The Window of the Future is Aluminum

ALCOA



An insulation that never grows old!

PC Foamglas, the new cellular glass insulating material, is a notable contribution to insulating practice, primarily because of this important fact: PC Foamglas retains its insulating value *permanently*.

Moisture can't get into it or through it. Acid atmospheres don't affect it. It is vapor-proof, fumeproof, vermin-proof. These usual causes of deterioration—especially in roof-insulating materials — can't make Foamglas lose effectiveness with the years... because this unique new material is *glass*, and has the agelessness of glass.

Obviously, Foamglas effects big savings in maintenance and in insulation replacement costs for any type of building.

Foamglas is fire-retardent, too, when used as the insulating factor in standard types of built-up roofing. It is light-weight. Rigid and sturdy. Easy to install. Standard size is 12" 18", in thicknesses of 2", 3", 4",4½ or 6".

SEND FOR FREE LITERATURE

Every architect and engineer wi want the complete facts about P Foamglas – the new insulating m terial of *permanent* effectivenes Send the coupon, now, for free liter ture describing it in detail.

DC FOAL	MCIAG	MAIL
FUIUNI	T. M. REG. U. S. PAT. OFF.	Pittsburgh Corr 2056-4 Grant Br Please send 1
INCILL	ATION	on PC Foamgla Name
INJUL	TITA	Address

MAIL COUPON TODAY
Pittsburgh Corning Corporation 2056-4 Grant Building, Pittsburgh, Pa.
Please send me, without obligation, your free literature on PC Foamglas Insulation.
Name

State.

Flexibility for the Industries of Tomorrow

Out of the hard necessity of war is emerging a new trend in industrial engineering ... a new understanding of plant design as a potent factor in manufacturing efficiency.

It is a concept that demands exceptional flexibility in design and construction—an inherent characteristic of Stran-Steel building systems. Present wartime assignments are bringing about important developments in the application of Stran-Steel systems to industry's widely varied requirements. When peace returns, Stran-Steel will apply this experience to serving the peacetime needs of progressive industrial designers.

STEEL

ANUARY 1944

UNI

CORPORATION



IONAL

22222222

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

TECHNICAL LITERATURE

PRODUCT DESIGN. Sweet's File for Product Designers, 3%x8½x11%. File of manufacturers' catalogs compiled in full color especially for industry's product development and design men. A useful guide to others also to essential information on forms, characteristics, performance and use of hundreds of materials and equipments. Catalog is indexed according to materials, finishes, parts, techniques and work equipments. Sweet's Catalog Service, 119 West 40th St., New York 18, N. Y.

SAFETY WELDING. Preventing Welding and Cutting Fires, 16 pp., 4%x6%. This booklet has been written in easily understood style to instruct users of welding and cutting equipment in reducing potential fire losses. It contains brief, clear discussions of the chief causes of fires and practical, common sense measures for preventing them. International Acetylene Assn., 30 East 42nd St., New York 17, N. Y.

munum

de

CONNECTORS. Design Manual For Teco Timber Connector Construction, 40 pp., $8^{1/2} \times 10^{3/4}$. Booklet offers complete design information covering use of ring connectors for timber construction. The material is presented in chart form for ready use, and includes information on approximate weights of various timber connectored roof trusses and a table of dimensional properties of standard size lumber. Timber Engineering Co., 1319 18th St., N. W., Washington 6, D. C.

PREFABRICATION. Cilco Engineered Prefabrication, 12 pp., 8½x11. This new pamphlet outlines and illustrates how prefabrication has been developed, engineered and perfected; how its principles have been applied not only to individual homes, but also to industrial, farm and military buildings, crates and shipbuilding. City Lumber Coo'of Bridgeport, Inc., 75 Third St., Bridgeport 1, Conn.



SO said a recent news-item depicting the post-war world. Well, maybe it will. Perhaps we have no imagination. But we find it difficult to think of post-war duck-hunting and wartime parachuting in the same breath.

Here, at Lawson, we are not making any bathroom cabinets. We are making Something-Elses—very different Something-Elses—for the use of our fighting men.

And we don't think we can adapt them to postwar bathroom use. (They just wouldn't fit in a bathroom—or in any other part of a house.)

We are not happy about not making cabinets. We hope you regret it, too. And you know that we will be back in the cabinet and other household furnishings business at the earliest possible date.

Meanwhile, even if we *liked* to carry water on both shoulders, we don't quite see how that can be done.

THE F. H. LAWSON COMPANY Cincinnati, Ohio TIMBER DESIGN. Modern Timber Design, 232 pp $5\frac{1}{2}x8\frac{1}{2}$. This book gives the principles of tim ber design and timber mechanics, includes for mulas for use in design and design examples an stresses timber connectors and glued laminate construction. It also has chapters on preserva tives and plywood. By Howard J. Hansen published by John Wiley & Sons, Inc., 44 Fourth Ave., New York 16, N. Y. Price \$3.

MAINTENANCE. Maintaining Your Buildings To day, 12 pp., 8½x11½. A quick easy reference manual for care of buildings, including paint coatings, floor treatments, etc. L. Sonnebor Sons, Inc., 88 Lexington Ave., New York Cit 16, N. Y.

BRAZING. Instructions for Torch Brazing with Sil-Fos-Easy Flo, Easy-Flo No. 3 and Hanay Silver Solders, 2 pp., 8½x11. Seven steps and described to make low temperature brazing with these silver alloys fast, economical and reliable Handy & Harman, 82 Fulton St., New York 7 N. Y.

ACOUSTICS. Practical Acoustics and Plannin Against Noise, 140 pp., 55%x854. This hand boo sums up the major facts of building acoustics a they are found today. Scientific material he been selected rather than collected, and som theoretical aspects have not been discusse Throughout the book the needs of postwe planning have been kept in mind. By Hog Bagenal, published by Chemical Publishing Co Inc., 24 Court St., Brooklyn, N. Y. Price \$2.50

Inc., 24 Court St., Brooklyn, N. Y. Price \$2.51 LIGHTING. Lighting Handbook, 175 pp., 5x7½ This book was designed as a practical guide an reference book for lighting engineers, designer architects and builders. It contains a series of charts which coordinate room index, fixture efficiency and coefficient of utilization curves an provide a new and graphic method of determinin the desired illumination. Charts cover fluorescer and incandescent lighting and provide a means of calculating the size and number of lamps needed with all types of lighting fixtures. First part of the book covers Lighting Terms and Measure ments, Interior Lighting, and other subjects while the second half of the book is devoted is specific lighting, etc. Lamp Div., Westinghous Electric & Mig. Co., Bloomfield, N. J. Price \$1

RANGES. Let's Talk About Your Postwa Range, 16 pp., 6x9. Questionnaire in the form of attractive two-color booklet allows future buyer to determine what type of postwar range will be manufactured. Consumers Institute, General Electric Co., Bridgeport, Conn.

SINKS. Perma-Gloss Postwar Line of Kitche Sinks, 8 pp., 374x6. Pamphlet describes and illus trates line of noncritical vitreous china sink available now for permanent installation in kitch ens and laundries. General Ceramics Co., Sani tary Ware Div., Metuchen, N. J.

INSULATION. New Double Value Balsam-Woo Sealed Insulation, 20 pp., 8½x11. Illustrate brochure tells the right amount and type of in sulation to be used in your home. This bookle is not too technical and shows charts and graph based on recent tests and calculations. Woo Conversion Co., First National Bank Bldg., S Paul, Minnesota.

PIPE. Recommended Commercial Standard T 3819 for Bituminized Fiber Drain and Sewer Pipe 10 pp., 8x10⁴/₂. This standard covers uses, gen eral requirements, dimensions, physical and chem ical properties, and methods of testing bitumin ized fiber drain and sewer pipe, including bend and couplings. National Bureau of Standardi U. S. Dept. of Commerce, Washington, D. C.

FLUORESCENT FIXTURES. Five New Day-Brit Fiztures, Bulletin F 70, 3 pp., 8½x11. A bookle describing and illustrating a new series of 4-lam fluorescent lighting fixtures, both ceiling and sus pension types, for lighting work areas in wa plants and government buildings. Day-Brit Lighting Inc., 5411 Bulwer Ave., St. Louis, Mo

MOTOR. The New Fairbanks-Morse Protecte Polyphase Squirrel-Cage Motor, Bulletin 1160 12 pp., 8½x11. Announcement of new continuous duty induction motor which embodies several exclusive features, including protected frame construction and cross-flow ventilation. Fairbanks Morse & Co., 600 So. Michigan Ave., Chicago III.

BUCKETS. Maintenance and Care of Clamshee Buckets, Bulletin No. 1930, 20 pp., 8½x11. Sine new buckets are unobtainable, the maintenanc problem is of first importance. Liberally illus trated booklet with diagrams of parts and as semblies should prove especially timely to th trade. Blaw-Knox Div., Blaw-Knox Co., Blaw nox, Pa.



AN ANNOUNCEMENT OF GREAT IMPORTANCE TO THE BUILDING INDUSTRY

WHAT types of electrical equipment will be needed in the homes of tomorrow?

Where should fixed equipment be placed in kitchens and laundries? How about dimensions and clearances access for servicing—lighting outlets and controls atility connections?

Westinghouse has long recognized the need for accurate information on these subjects . . . and for this reason has created the

BETTER HOMES DEPARTMENT

The Westinghouse Better Homes Department was created to assist the building profession in the planning of postwar housing . . . and to give authoritative technical advice on the *proper applications of electricity* which will contribute so much to better living in 194X.

To achieve these ends, Westinghouse has organized the *Better Homes Advisory Staff*, consisting of men of recognized standing and wide experience in the housing field:

IRVING W. CLARK, MANAGER, who has been continuously engaged in housing activities for nearly 25 years . . . a nationally recognized authority on home planning and kitchen design . . . and a Director of Producers Council, Inc.

A. CARL BREDAHL, TECHNICAL DIRECTOR, formerly Chief of the Mechanic-Electrical-Utilities Division of the Federal Public Housing Authority from 1934 to 1943, where he was responsible for establishing design standards of mechanical and electrical installations for U. S. Government housing projects . . . and for 7 years electrical designer for Warren & Wetmore, New York.

JOHN S. VAN WART, REGISTERED ARCHITECT, formerly with Fred F. French Company, New York, who has designed many multiple dwellings, hotels, and institutions during the past 30 years . . . including Knickerbocker Village, 10 Gracie Square, and Blind Brook Lodge in the New York area.

SIX-POINT ADVISORY SERVICE

The Better Homes Department offers a Six-Point Advisory Service to the building profession, featuring advice on the following subjects:

1-Selection of correct types of electrical equipment for various classes of postwar homes.

2—Location and arrangement of fixed equipment, for conserving space and attaining maximum efficiency in arrangement of work cycles.

3-Accurate dimensions and clearances of equipment to insure proper installation and efficient operation.

4-Access for servicing of equipment-so necessary for periodic inspection and repair.

5-Location of lighting outlets and controls, for greater enjoyment, comfort, and safety in the home.

6-Utility service connections-including location and size of electric wiring, water supply, and drainage lines.

This Six-Point Advisory Service is available to architects, engineers, contractors, builders, public utilities, housing authorities, electrical inspectors, building management, and investment institutions.

Westinghouse Better Homes Department welcomes the opportunity of giving constructive assistance to those interested in postwar housing.

If you have any problems relating to the selection, installation, and use of home electrical equipment, write: Better Homes Department, Westinghouse Electric & Manufacturing Company, Pittsburgh 30, Pennsylvania.

A NEW APPROACH TO ELECTRICAL LIVING IN 194X

A carefully co-ordinated program . . . for assisting the building profession and homeowners in the attainment of *better wiring for better living* . . . will be announced soon. *Watch for it!*

Westinghouse





Type "VS" for Vertical Air Flow Type "SHS" for Horizontal Air delivery

"Streamaire" Unit Heaters can be used to advantage whether the area to be heated is large or small. Their saving of floor space, case of installation, efficient operation, low "first" and maintenance costs, make them desirable for existing or new buildings. If you have a heating or air conditioning problem write or consult the nearest Young representative.



HEAT TRANSFER PRODUCTS

Oil Coolers • Gas, Gasoline Diesel Engine Cooling Radiators • Intercoolers • Heat Exchangers • Engine Jacket Water Coolers • Unit Heaters • Convectors • Condensers • Evaporators • Air Conditioning Units • Heating Goils • Cooling Coils • and a complete line of Heat Transfer Equipment for Aircraft.

FIRST CHOICE throughout the BUILDING PICTURE!



Wherever smart, modern floor and wall coverings are used, B & T metal trims trademarked Chromedge are the leading choice as the METAL TRIMS trademarked CHROMEDGE Trademark Reg. U.S. Pat. Off.

finishing touch of protection and eye-appeal. (Several rolled metal shapes are still available for current needs, from stocks existing before B & T turned to war production. Write for details.)





INVEST IN THE BEST PAINT

Cabot's Collopakes get their long life from an unique patented process known as "Collopaking". This exclusive process breaks down paint pigments to a submicroscopic fineness and unites them inseparably with the oil. That's why Cabot's Collopakes form a tough uniform paint film that's longer lasting, has greater hiding power, shows no brush marks. And because Cabot Collopakes are made from pure pigments only, their colors are fresher, brighter and will not fade.



and Gloss Collopakes

Beautifying American homes for over fifty years

THOSE WHO CAN'T AFFORD TO MAKE ERRORS IN MEASURING VALUABLE STORED LIQUIDS CHOOSE -



LIQUIDOMETER Tank Gauges

100% automatic.

No pumps, valves, or auxiliary units needed to read them.

Models available for either remote or direct readings.

Accuracy unaffected by specific gravity of tank liquid.

Approved by Underwriters' Laboratories for gauging hazardous liquids. Write for complete details.



Plan Your Kitchens With Modern Ventilation

EMERSON-ELECTRIC KITCHEN VENTILATORS Will Make the Kitchens You Plan Free of Cooking Odors-Smoke-Steam and Excessive Heat

Write now for full information on the complete line of Emerson-Electric Kitchen Ventilator Fans. They are a welcome "must" for future homes—their effective operation, substantial construction and long life have been proved in thousands of installations..."After Victory", both Emerson-Electric Ventilators and Home Cooler Fans will be available in the same dependable quality characteristic of Emerson-Electric equipment for more than 53 years.

THE EMERSON ELECTRIC MANUFACTURING CO. SAINT LOUIS

Branches: New York · Chicago · Detroit · Los Angeles · Davenport

EMERSON

ELECTRIC

TC

HEN



Home Cooler Fans

Turned on after sundown, home cooler fans expel hot air trapped in attics and living rooms; draw cooler outside air into and through entire house...Direct drive, 12 to 30 inch. Belt drive, 24 to 48 inch. Capacities up to 20,000 CFM.

VENTILATORS

ELECTRIC

OME

Now 100% War Production

EMERSO

COOLER FANS

00

352



IT'S easy to specify privacy . . . with Modernfold Doors. These "walls that move" can be used to shut rooms off from one another . . . providing quiet and privacy. Then, when necessity dictates a larger room — simply fold these attractive closures to the wall and the entire area is available.

Accordion-like in their opening and closing, Modernfold Doors eliminate swing area — thus saving space. The precisionbuilt, steel skeleton forms a firm foundation to which beautiful fabric coverings are attached. Harmony with any general color scheme is possible. Modernfold can be used in commercial buildings as well as residences. Specify *instant privacy* in 194X ••• with Modernfold ... "wall that moves."



NEW CASTLE PRODUCTS

1613 I Street, New Castle, Indiana Modernfold Doors, 424 Madison Avenue, New York City Export Department: Utility Building, Fort Wayne 2, Indiana

COMHAIRLE CATHRACH ATHA CLIATH, EIRE

DUBLIN CORPORATION, IRELAND

The Dublin Corporation invites competitive designs for a new tuberculosis sanatorium (to accommodate 320 patients) to be erected at Ballyowen, Lucan, County Dublin.

The competition is open to all qualified architects who are members of The Royal Institute of the Architects of Ireland, The Royal Institute of British Architects, The American Institute of Architects, Registered Architects in any of the above countries or who are members of a similar body or society elsewhere.

The assessors are Messrs:

Harry Allberry, A.R.I.B.A. (Chairman) Vincent Kelly, B.Arch., President, R.I.A.I., F.R.I.B.A. John Murray Easton, F.R.I.B.A. Ralph Byrne, F.R.I.A.I. Dr. A. L.Walsh M.B. B.Ch. D.P.H. Resident Medical

Dr. A. J. Walsh, M.B., B.Ch., D.P.H., Resident Medical Superintendent, Crooksling Sanatorium, County Dublin

The premiums are £500, £350, £250, £150.

Application for the conditions should be made to The City Manager and Town Clerk, Corporation of Dublin, Public Health Department, Municipal Building, Dublin, and should be received by him not later than the 13th March 1944.

A deposit of $\pm 3-3-0$ made payable to the City Treasurer, Dublin, Ireland, should accompany the application.

Deposit will be returned on receipt of a bona fide design or on the return of the conditions.

P. J. HERNON

City Manager and Town Clerk

WANTED MANUFACTURERS' AGENTS

In anticipation of postwar building activity, many progressive manufacturers of building specialties are seeking new representatives, domestic and foreign.

THE ARCHITECTURAL FORUM will be pleased to act as intermediary; agents are invited to register their interest.

Address George P. Shutt, Advertising manager THE ARCHITECTURAL FORUM 19 West 44th Street New York 18, N. Y.



For Victory today ... and prosperity tomorrow, keep the War Bond Pay-roll Savings Plan rolling in your firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Payroll Savings Plan, now is the time to do so. For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.
S H O W E R C A B I N E T

ENSIG

A BETTER SHOWER

Standard Size 36" x 36" x 78"

now available for immediate delivery under low priority. Conforms to government regulations restricting the use of critical materials.

The No. 85 fills the need for a good quality shower cabinet for homes, clubs, hospitals and public buildings. Designed along the lines of our Ensign model, using the regular Ensign deep type receptor, the No. 85 compares very favorably with our standard Ensign cabinet and is the best shower we have been able to build under government material restrictions. Extra heavy treated fibre board wall panels are joined on all four corners with the Fiat tension locking joint which provides a rigid, permanent, waterproof structure that can be quickly erected on the job, as no additional screw fastenings are required for the corner joints.

The No. 85 was originally designed for use in military hospitals where a permanent type of construction is required. Many of these showers have been installed and have proved their value in practical use. Now we are able to offer this high grade shower cabinet for civilian use through the plumbing trade.

SPECIFICATIONS

WALLS: Heavy duty ¹/₄" S-2-S masonite hard board, coated inside and out with waterproof bakedon enamel. Metal frame pieces 20 gauge steel. Head rail 16 gauge steel. All parts formed to eliminate rough edges within the interior of the cabinet. Furnished in white only.

RECEPTOR: Regular Ensign type, precast, reinforced terrazzo. Height 6" with cast-in wall flange and drain. Leakproof and sanitary.

SIZE: Over-all dimensions 36" x 36" x 78". One size only.



1205 Roscoe St., Chicago 13, III. • 21-45 Borden Ave., Long Island City 1, N. Y. • 32 S. San Gabriel Blvd., Pasadena 8, Cal.

U.S. BULLETIN * JANUARY "AN OUNCE OF PREVENTION" NOW will belp with tomorrow's problems

Urge your customers to do the little things in boiler and heating plant care that will guard against breakdowns, with resulting need for replacement and repair parts.

In this way all available equipment can be used for really critical needs. You'll render a genuine service to your customers and yourself.

We in turn - U. S. Radiator and Pacific Steel Boiler Division - will do everything we can to keep up with essential requirements. Let's work together to do the best job possible under present conditions . . . to build good will for the future.





New Pan American World Airways System Photo

U. S. RADIATOR IN THE WAR

New Pan American World Airways hangar and offices at Miami, in which U. S. Radiator heating equipment has been installed. Largest structure of its kind in the country. Can service 12 to 18 giant Clippers a day.

One United States Radiator Corporation plant is in production on magnesium castings for U. S. war planes. Pacific Boiler Division is building pre-fabricated ship sections.

Member The Institute of Boiler and Radiator Manufacturers

* UNITED STATES RADIATOR ORPORATION AND * PACIFIC STEEL BOILER DIVISION Detroit, Michigan · Branches and Sales Offices in Principal Cities

Manufacturing Plants At:

Bristol, Pa. • Detroit, Mich. • Dunkirk, N. Y. • Edwardsville, III. • Geneva, N. Y. • Waukegan, III. • W. Newton, Pa.

*

*

*

*

*

*

*

*





Illustration shows Michaels Time-Tight Exhibit Cases in the William Rufus King Room in the State Archives and History Building, Montgomery, Alabama. Michaels Cases feature many exclusive advantages and are built in various types and sizes to meet all requirements. Fully illustrated folder will be sent on request. I The construction of war essentials now engages the entire resources of this organization, but when the green light for peacetime production is flashed, Michaels will resume the manufacture of many ferrous and non-ferrous metal products.

USEUM CASE DIVISION OF

MICHAELS ART BRONZE CO., Inc. Manufacturers since 1870 of many products in Bronze, Aluminum and other Metals

COVINGTON, KENTUCKY

... to be CONTINUED

This is a picture of what can happen right after the war. Jobs for returned soldiers. Jobs for workers no longer needed in war plants. Business for companies, large and small, in your

Will your community

be ready for this?

IF-POSTWAR PLANS ARE MADE NOW home town. Make postwar plans now, when you can't build? Yes, precisely that-for whether Victory is months or years ahead, the only way to be sure that your community will have postwar jobs

ready is to get plans under way at once. The Building Industry, America's No. 1 employer, must provide millions of jobs-and

provide them quickly-after the war. But actual construction is not the first step-far from it. First must come an idea about the need for that hotel, hospital, apartment, school, factory,

housing project or institution-in the mind of some public-spirited citizen or far-seeing official. After many meetings, the idea grows into a plan on an architect's drawing board. Then financing and other requirements must be worked out

before actual construction can begin. Call the need for Planning now to the attention of your school and hospital boards, and to

your local, state and federal planning and governing bodies. Urge them to use available facilities of architects, engineers, contractors, builders and



START AN ARCHITEC

ON A PLAN

realtors for forward planning NOW. DETROIT STEEL PRODUCTS COMPANY Now Chiefly Engaged in War Goods Manufacture Dept. NW-12 • 2270 East Grand Blvd. • Detroit 11, Mich.

Pacific Coast Plant at Oakland, California

Fenestra suggests WINDOWS . DOORS . ROOF DECK . FLOOR DECK . METAL SIDING . AND OTHER BUILDING PRODUCT

in 1944

TURNING THE PUBLIC'S GOOD INTENTIONS INTO COMMISSIONS FOR ARCHITECTS

Everyone recognizes the importance of planning now, so there'll be jobs waiting when our fighting men come home.

But often that's as far as it goes. Few people outside the building industry seem to realize how long it takes to do good, sound planning. And not all of them appreciate the importance of putting their planning into capable, experienced hands.

FENESTRA FIRST TO PUBLICIZE NEED FOR POSTWAR PLANNING

To get these two points across to the public has been the purpose of Fenestra's 1943 advertising. Fenestra was first in the building industry to advertise this message to your prospective clients. To more than 3 million readers of *Better*, *Homes & Gardens, Newsweek*, school, hospital, dealer and builder magazines, we have repeatedly urged readers to "Start an architect on a plan now." We will continue to stress this need nationally in 1944.

We hope that this campaign will stimulate action on postwar plansbring them out of the visionary stage—and get action started now. Only with blueprints ready, waiting on the shelf, can the building industry provide *immediate* jobs for millions of fighting men when they come home.

DETROIT STEEL PRODUCTS COMPANY

Now Chiefly Engaged in War Goods Manufacture Dept. AF-1, 2252 East Grand Boulevard, Detroit 11, Michigan Pacific Coast Plant: Oakland, California



You'll find many of your questions answered in this new edition of the Westinghouse Lighting Handbook.

What do you want to know about

REFRICES

LIGHTING

8004 n

Designed as a practical, working tool for architects, engineers and industrial designers, it contains 175 pages of lighting information, tables, formulae, sketches and suggestions.

You'll find it an invaluable, constant aid in preparing lighting layouts, designing installations or making recommendations. Order your copy today, price \$1.00.

Some Chapter Headings:

ments Recommended Levels of Illumination Modern Light Sources Interior Lighting Design Calculations

Lighting Terms and Measure-

Additional chapters on lighting for: Stores, Offices, Schools, Public Buildings; Airports, Streets and Highways; Industrial and Architectural Lighting.

Westinghouse

MAZDA LAMPS FOR SEE-ABILITY

Mail this Coupon Today

Wassinghouse Electric & Manufesturies Company
Lamp Division, Bloomfield, N. J.
Enclosed find \$1.00 for "LIGHTING HANDBOOK."
Name
Address
Firm Name and Address



What could be sweeter than an aerial bicycle-except one built for two? Albert Robida dreamed up these airbike-garages long before Bleriot flew the Channel. Men have dreamed up new kinds of buildings since time immemorial – but mighty few ever got built.



BETTMANN ARCHIVE

But some leaders are talking a lot sense—for example, Bror Dahlberg, esident of the Celotex Corporation: "After the war, millions of men now in service and millions of war workers now living in unsatisfac-

tory houses will want new dwellings. We will have the demand for new homes; we will have the skill, materials, labor to build them ... "All that will be needed will be

r planning for that

building boom?

IG AND BOISTEROUS and often fantastic are the dreams of the buildg industry about the building boom

follow this war.

for some force to start the ball rolling..."

s the American tradition that advering is a great force for starting busiss booms a-rolling. And for advertisg aimed to help start a *building boom*, e of the very best media is TIME.

Because in TIME-

kind of Americans who set the pace for the rest of the country —you can get your stories of the new age in housing across to the million most influential U. S. families — you can reach people like Federal, State and City Planning Commission members, who recently voted TIME their first-choice magazine (evidence on request).

Yes — by far the most economical and effective way to reach these top million men and top million women* is through TIME, the Weekly Newsmagazine, for they vote TIME their favorite of all the magazines they read—by a margin of 7 to 1 over their next favorite.

*Among these people are executives and engineers, Government officials, mayors, bankers, architects, and 22 other groups of leaders who recently voted "TIME is America's most important magazine."





Get Acquainted with the Properties of "Vinylite" Plastics that will mean BETTER BUILDINGS <u>Tomorrow</u>

In VINYLITE Plastics, the architect and engineer will find unusual combinations of properties that have never been available previously. One example, from the hundreds of present and postwar applications, is that of superior cable insulation. No other insulating material has ever combined the high dielectric strength of VINYLITE Elastic Plastics with eir exceptional resistance to moisture, flame, oxidation, abrasion.

> s it been possible to produce shapes with all the adof those extruded of VINYLITE Rigid materials . . . such as dimensional stability, ease of forming, translucency or opacity, and an almost unlimited . Its wide variety of extruded shapes will

permit wide latitude in design in many a postwar buildi Here, we have briefly discussed only two of hundreds applications of VINYLITE plastics. Learn the complete ste It may help you to solve many of your postwar proble and can save you many hours of precious time. A qu picture of these materials and their outstanding propertie contained in Booklet 14VE, "Vinylite Resins—Their For Properties and Uses," sent on request.

Plastics Division CARBIDE AND CARBON CHEMICALS CORPORATION Unit of Union Carbide and Carbon Corporation 30 EAST 42ND STREET, NEW YORK 17, N.Y.

1



PROPERTIES OF "VINYLITE" ELASTIC

PLASTICS - These are a relatively new group of VINYLITE Plastics with rubber-like or elas-tomeric properties. They are produced in a variety of forms, ranging from soft to semirigid. They possess great toughness, and excel-lent resistance to continued flexing, and to severe wear and abrasion. Tensile strength is higher than that of most rubber compounds. Their electrical insulating properties are outstanding. They are not subject to oxidation. By correct choice of plasticizer, they can be made non-flammable, and highly resistant to water, oils, and corrosive chemicals. They are available in a wide range of colors, either translucent or opaque, or can be supplied in their natural, colorless, transparent state. Since all VINYLITE Elastic Plastics are thermoplastic, no curing of vulcanizing is required. They are more affected by temperature changes than is rubber, but their operating range is wide, some types remaining flexible at -50 deg. F., yet tack-free at 200 deg. F VINYLITE Elastic Plastics are supplied as sheeting, film and as compounds for calendering onto cloth, and for molding and extrusion.

PROPERTIES OF "VINYLITE" RIGID PLASTICS -Produced from unplasticized vinyl resins, VINYLITE Rigid Plastics possess a combination of properties found in no other thermoplastic material. Because of their extremely low water absorption, these plastics remain dimensionally stable under widely varying atmospheric condi-

tions. They have exceptional resistance to alcohols, oils, and corrosive chemicals. They have high impact strength and tensile strength. They are odorless, tasteless, and non-toxic. They do not support combustion. They are available in a wide range of colors, translucent or opaque, and also in colorless, transparent forms. They are supplied as rigid sheets or as molding and extrusion compounds. Rigid sheets can be fabricated by forming, drawing, blowing, spinning, or swaging, and can be punched, sheared, sawed, and machined on standard metalworking tools. Molding compounds are suitable for both compression and injection molding. Extrusion compounds give highly finished continuous rigid rods, tubes, and shapes directly from the die.

PROPERTIES OF "VINYLITE" RESINS FOR

SURFACE COATINGS - Correctly formulated SURFACE COATINGS — Correctly formulated and applied, VINYLITE Resins yield finishes of unusual toughness, gloss, adhesion, and chemi-cal resistance. They can be applied by spraying, knife-coating, or dipping to a wide variety of surfaces, such as metal, cloth, paper, and con-texts. Personnel by dissolving regins in organic crete. Prepared by dissolving resins in organic solvents, these finishes can be modified with a wide variety of pigments, dyes, and plasticizers. These resins are generally not employed with other film-forming bases, therefore, coatings formulated from them exhibit the desirable fea-tures of VINYLITE Resins alone. Drying is solely by evaporation of solvent, and finishes can be either air-drying or baking types.

PROPERTIES OF "VINYLITE" RESINS FOR

ADHESIVES-Unusual toughness, resiliency, and impact resistance are characteristic of adhesives made of VINYLITE Resins. These resin adhesives are widely used as bonding agents for such materials as cellophane, cloth, paper, cardboard, porcelain, metal, mica, stone, leather, wood, and plastic sheets and film. They are available as powders for the compounding of adhesives, or as solutions sold under the trade-mark "VINYLSEAL." The latter are especially recommended for bonding impervious materials, such as metals, and urea and phenolic plastics. Their bonding strength is comparable to that obtained with soft solder. By the addition of plasticizers, adhesives based on VINYLITE Resins can give almost any degree of flexibility desired.

nvlite

* WORKING FOR

Volunteer pilots of the Civil Air Patrol, busy by day and by night at important tasks, typify the indomitable spirit of American womanhood at war. Norge salutes these valiant volunteers who are today working to speed the victory.



.. PLANNING FOR TOMORROW

Norge, too, is enthusiastically devoting its specialized skills and production facilities to the job of winning the war.

And Norge is planning for tomorrow . . . planning new household helps for the women in the postwar homes. Because of the new skills and techniques acquired as a result of war assignments, the Norge Rollator refrigerators and the Norge washers, ranges and home heaters planned for tomorrow will be better designed, better engineered, better built. They will be, in all truth, products of experiencebetter products for the better world to come. Norge Division, Borg-Warner Corp., Detroit 26, Mich. A BORG-WARNER INDUSTRY



"BETTER CARE-LESS REPAIR"

NORGE APPLIANC HOLD



PRODUCTS BETTER

FOR

۸

BETTER

WORLD

That plastic-finished Marlite continues to foil all destructive attempts by Blurmites is welcome and helpful news to architects and designers who are looking for a pre-finished interior wall or ceiling material that is versatile, durable and moderate in cost . . . quickly and easily installed for new construction or remodeling; that is easy-to-clean . . . that retains original beauty over the years.

AUG ION ILZOHO ORLON

ARCHITECTURAL NEWS

HONOT HOIL ORMON HON ON

BLURMITE* GANG

FAILS TO INJURE MARLITE!

Rogue's Gallery Pictures of The Blurmite Gang

Marlite, available in a wide choice of high-heatbaked colors and patterns (see illustration) gives full-freedom to individual creative imagination and design ingenuity. As proven by thousands of war and pre-war installations, Marlite assures customer satisfaction, thus enhancing the reputations of those who specify its use.

harlit

*Blurmites-destructive agents, harmful to the finish of many wall, ceiling and counter surfaces.

DIRT



DELIVERY TODAY

Today's war jobs usually provide adequate priorities to assure immediate delivery of Marlite. And for your post-war plans, Marlite as a decorative, practical and popular wall treatment likewise has everything to offer. Marsh Engineers are ready now to discuss specifications for the post-Victory installations you are planning. Write for full information and a colorful Marlite catalog today!

duty-ful



MARSH



to slip in the fuses– but they're *clamped tight* for perfect contact . . . Fuse clamp switch blades open slightly when fuse is inserted. This results in a light clamping contact when fuse clamp switch blades are inserted in switch contact slots.

Fuses slide easily and quickly into place. No adjustment necessary

The PULFUZSWITCH

insures against loose contacts and resultant overheating ... The fuse-holding switch blades are so designed that the placing of the fuse carrier into the ON position of the switch automatically *clamps the fuses tight* ... At the same time, the switch blades make *pressure contact* with the fixed switch parts, insuring full current carrying capacity.... These photographs show how this is accomplished.



Note how fuse clamp switch blades, in ON position, make pressure contact with switch contact slots in the base. This draws the tips of the switch blades together, and pulls fuse clamps tightly around fuse ferrule. Contact parts are silver plated, for low resistance and long life. Bakelite barriers isolate each fuse in an individual compartment. Each unit is equipped with solderless type pressure connectors; visible ON and OFF indicators; ventilating holes in fuse carrier; contacts for bus or cable integral with contact slot member, and pull handle for reversing switch.



PULFUZSWITCH units are made in 30, 60 and 100 ampere capacities, for 250 volts or less; also 30 and 60 ampere, 600 volts. They are assembled into panelboards (with either



 Pulfuzswitch Panelboard, double branch, with 60 amp. 3 pole branches.

single or double row of branches) for all types of feeder systems. 60 ampere branches are convertible to 30 ampere—a desirable convenience for heat and power service.

Boxes are of galvanized steel. Wide gutters and ⁽²⁾ Pressure type (Solderless) Connectors expedite wiring. Fronts are rustproofed, and attractively finished in pearl gray. Available for both surface and flush mounting . . . For further information, write Frank Adam Electric Company, Box 357, St. Louis, Mo.





what can I do now ABOUT POST WAR PLANS?

There is a tremendous amount of private and public construction that is necessary and will be needed immediately after the war is won. But if site, financing, complete plans and specifications are not ready in advance, well planned economical construction cannot start quickly; nor can the recent great progress that has been made in materials, design and construction methods be taken advantage of without advance planning. Call in your architect, engineers and general contractor. Prepare plans now so that your needed construction project is brought to the ground breaking stage and can be built economically to serve your purpose with the maximum of efficiency. This is blueprint time!

A general contractor who is an AGC member is reliable, and competent, and can help your plan as well as construct your project efficiently and with economy.



THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC.

NINETY CHAPTERS AND BRANCHES THROUGHOUT THE COUNTRY NATIONAL HEADQUARTERS-MUNSEY BLDG., WASHINGTON, D. C.

SKILL, INTEGRITY AND RESPONSIBILITY IN THE CONSTRUCTION OF BUILDINGS, HIGHWAYS, RAILROADS AND PUBLIC WORKS

Better Windows Through Battlefront Service

Truscon Facilities still 100% Essential

for War Armament Production... Behind each Truscon Steel Window you used to specify was an experience and skill that added a tangible measure of extra worth to your jobs. This facility for steel fabrication now is serving our battlefront armies, with an exceptional quality and quantity

of armament. When our duties to America are fulfilled, we shall be prepared with an improved mastery of steel fabricating science that will bring you immediate production of new and improved windows.



Youngstown 1, Ohio Subsidiary of Republic Steel Corporation

Residential Double-Hung and Casement Windows, Intermediate Casements; Detention, Donovan Awning Type, Maximair Louver Type, Projected, Pivoted, Double-Hung, and Continuous Windows (and Operators); and a complete Line of Steel Joists, Metal Laths, Steeldeck Roofs, Reinforcing Products, and Steel Doors for Buildings and Hangars.



STARTING JANUARY 18TH IT'S UP TO YOU!

STARTING January 18th, it's up to you to lead the men and women working in your plant to do themselves proud by helping to put over the 4th War Loan.

Your Government picks you for this job because you are better fitted than anyone else to know what your employees can and should do—and you're their natural leader. This time, your Government asks your plant to meet a definite quota—and to break it, *plenty*!

If your plant quota has not yet been set, get in touch now with your State Chairman of the War Finance Committee.

To meet your plant quota, will mean that you will have to hold your present Pay-Roll Deduction Plan payments at their peak figure—and then get at least an average of one EXTRA \$100 bond from every worker!

That's where your leadership comes in-and the lead-

ership of every one of your associates, from plant superintendent to foreman! It's your job to see that your fellow workers are sold the finest investment in the world. To see that they buy their share of tomorrow—of Victory!

That won't prove difficult, if you organize for it. Set up your own campaign right now—and don't aim for anything less than a 100% record in those *extra* \$100 bonds!

And here's one last thought. Forget you ever heard of "10%" as a measure of a reasonable investment in War Bonds under the Pay-Roll Deduction Plan. Today, thousands of families that formerly depended upon a single wage earner now enjoy the earnings of several. In such cases, 10% or 15% represents but a paltry fraction of an investment which should reach 25%, 50%, or more!

Now then-Up and At Them!

Keep Backing the Attack!-WITH WAR BONDS

This space contributed to Victory by ARCHITECTURAL FORUM

This advertisement prepared under the auspices of the United States Treasury Department and the War Advertising Council



... YOUR 4TH WAR LOAN QUOTA

WHETHER your plant meets its quota, or fails, lies largely in your hands. Your leadership can put it over—but if you haven't already got a smooth running, hard hitting War Loan Organization at work in your plant, there's not a minute to lose.

Take over the active direction of this drive to meet —and break—your plant's quota. And see to it that every one of your associates, from plant superintendent to foreman, goes all-out for Victory!

To meet your plant's quota means that you'll have to hold your present Pay-Roll Deduction Plan payments at their all-time high—plus such additional amounts as your local War Finance Committee has assigned to you. In most cases this will mean the sale of *at least* one \$100 bond per worker. It means having a fast-cracking sales organization, geared to reach personally and effectively every individual in your plant. And it means hammering right along until you've reached a 100% record in those *extra* \$100 —or better—bonds!

LET'S ALL BACK THE ATTACK! And while you're at it, now's a good time to check those special cases—growing more numerous every day—where increased family incomes make possible, and imperative, far greater than usual investment through your plant's Pay-Roll Deduction Plan. Indeed, so common are the cases of two, three, or even more, wage-earners in a single family, that you'll do well to forget having ever heard of '10%' as a reasonable investment. Why, for thousands of these 'multiple-income' families 10% or 15% represents but a paltry fraction of an investment which should be running at 25%, 50%, or more!

After the way you've gone at your wartime production quotas—and topped them every time—you're certainly not going to let anything stand in the way of your plant's breaking its quota for the 4th War Loan! Particularly since all you are being asked to do is to sell your own people the finest investment in the world—their own share in Victory!

This space contributed to Victory by

THE ARCHITECTURAL FORUM

This is an official U.S. Treasury advertisement-prepared under auspices of Treasury Department and War Advertising Council.



0

Ch

0

FOR ALL WIRING PURPOSES

Here's an ideal wire to specify for new wiring ... for extension wiring ... for rewiring. Its thermo-plastic insulation is superaging, flame-retarding and resistant to oils, moisture, acids, etc. It was developed before the war and has proved its worth in many differ-ent types of buildings. Flamenol Building Wire is available in sizes 14 to 1,000,000 CM.

*Reg. U.S. Pat. Of.

0

0

0

0

G-E Wiring Material News

0

0

UNDERFLOOR ELECTRICAL DISTRIBUTION SYSTEMS

General Electric offers two types of underfloor wiring. Both give almost unbelievable flexibility to shops, factories, offices, etc. Electrical outlets can be added later as they are needed.



G-E WATCH DOG* FLUORESCENT LAMP STARTERS

Specify the FS-40 and the FS-100 Watch Dog starters for 40- and 100-watt fluorescent lamps. The FS-40, introduced first, has efficiently protected 40-watt lamps in war plants for many months. Now the FS-100, just introduced, will protect 100-watt lamps in the same way. Both Watch Dog starters completely eliminate the annoying blinking of dead lamps. *Reg. U.S. Pat. Off.

CLIP THIS COUPON

Send the coupon



Q

0



GRAND RAPIDS HARDWARE COMPANY GRAND RAPIDS • MICHIGAN

SPECIFICATION

The advertising pages of THE ARCHITECTURAL FORUM are t recognized market place for architects and all others engag in building. A house or any building could be built complete of products advertised in THE FORUM. While it is not possib to certify building products, it is possible to open these pag only to those manufacturers whose reputation merits confidence This THE FORUM does.

Adam, Frank Electric Co	1
Aluminum Company of America	1
American Brass Company, The	1
American Rolling Mill Company, The	1
Andersen Corporation), (
Arco Company, The	1
Armstrong Cork Company	1
Associated General Contractors of America, Inc., The	15
Bakelite Cornoration 148	1
Bathe-Rite Division	1
(Milwaukee Stamping Company)	-
Bell & Gossett Co.	1
Bituminous Coal Institute	-
Bonn Aluminum and Brass Corporation	10
Dorg-warner Corp., Norge Division	10
B & I Metals Company, The	L
Cabot Samuel Inc	13
Carey Philip Company The	11
Carr. Adams & Collier Company Inc	15
Ceco Steel Products Corporation	13
Celanese Celluloid Corporation Cover	- 1
Celotex Corporation The Cover	
Covne and Delaney Co.	15
Crane Co.	10
Detroit Steel Products Co	14
Douglas Fir Plywood Association	12
Dow Chemical Company, Theopp.	10
Dublin Corporation	14
Eagle-Picher Lead Company, The	10
Edwards & Company16	, 1
Eljer Co.	1
Emerson Electric Manufacturing Co., The	13
Fiat Metal Manufacturing Company	14
Fitzgibbons Boiler Company Inc	11
Flynn, Michael Manufacturing Co	12
Follansbee Steel Corporation	11
Formica Insulation Company, The	
General Electric Company	15
Grand Rapids Hardware Co.	15
Great Lakes Steel Corporation	13
(Stran-Steel Division)	
Guth, Edwin F. Company, The	10
Houston Ready-Cut House Co	12
II C Electric Ventilating Co	10
Insulite Company The	10
insuite company, the	3
Johnson Service Company	3
Kennedy, David E., Inc	2
Kewanee Boiler Corporation	3
Kimberly-Clark Corporation	3

YING INDEX

aucks, I. F., Company	130
awson, F. H. Company, The	136
CN Door Closers	160
ber Owens Ford Class Company	97
nocle Flockie Company The	01
icom Electric Company, The	120
quidometer Corp., The	138
	-
arsh Wall Products, Inc	151
asonite Corporation	29
cCall's	37
esker Bros	109
ichaels Art Bronze Co., Inc., The	143
ilwaukee Stamping Company	159
(Bathe-Rite Division)	
onsanto Chemical Company, Plastics Division	19
ational Gypsum Company	42
elson, Herman Co	119
ew Castle Products	140
orge Division, Borg-Warner Corp.	150
hio Hydrate & Supply Co., The	126
verhead Door Corporation	IV
wens-Corning Fiberglas Cornoration 112	113
the coming thought corporation minimum the	***
avne Furnace & Sunnly Co	194
agle Company The	144
(Affiliate of Richmond Fireproof Door Co.)	
ittshurgh Plate Class Company 8 0 123	134
hewood Incorporated	102
ronallair Inc	101
ropenan, mc.	101
ichnord Firmmof Dava Comment	E
(Affiliated with The Peelle Company)	
ic.Wil Co. The	26
alegreen Company	116
oiscieci, company	110
Mountain Company	196
all Mountain Company	126
all Mountain Company	126 122
edgwick Machine Works	126 122 15
all Mountain Company edgwick Machine Works ervel, Inc	126 122 15 25
all Mountain Company edgwick Machine Works ervel, Inc bulé Steel Company tanley & Patterson	126 122 15 25 125
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson tran-Steel Division	126 122 15 25 125 135
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson tran-Steel Division (Great Lakes Steel Corporation)	126 122 15 25 125 135
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson tran-Steel Division (Great Lakes Steel Corporation) tructural Clay Products Institute	126 122 15 25 125 135
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson tran-Steel Division (Great Lakes Steel Corporation) tructural Clay Products Institute urface Combustion Company	126 122 15 25 125 135 10 3
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson tran-Steel Division (Great Lakes Steel Corporation) tructural Clay Products Institute urface Combustion Company ylvania Electrical Products Inc.	126 122 15 25 125 135 10 31
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson tran-Steel Division (Great Lakes Steel Corporation) (Great Lakes Steel Corporation) tructural Clay Products Institute urface Combustion Company ylvania Electrical Products Inc.	126 122 15 25 125 135 10 31
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson tran-Steel Division (Great Lakes Steel Corporation) tructural Clay Products Institute urface Combustion Company ylvania Electrical Products Inc. imber Engineering Company ime	126 122 15 25 125 135 10 3 31 97 147
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154 149 142
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson (Great Lakes Steel Corporation) (Great Lakes Steel Corporation) tructural Clay Products Institute urface Combustion Company ylvania Electrical Products Inc. imber Engineering Company ime ruscon Steel Company nion Carbide and Carbon Corporation nited States Radiator Corporation nited States Steel Corporation niversal Atlas Cement Co.	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson (Great Lakes Steel Corporation) (ructural Clay Products Institute urface Combustion Company ylvania Electrical Products Inc. imber Engineering Company ime ruscon Steel Company nion Carbide and Carbon Corporation nited States Radiator Corporation nited States Steel Corporation niversal Atlas Cement Co. (United States Steel Corporation Subsidiary)	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson (Great Lakes Steel Corporation) tructural Clay Products Institute urface Combustion Company ylvania Electrical Products Inc. imber Engineering Company ime ruscon Steel Company nion Carbide and Carbon Corporation nited States Radiator Corporation niversal Atlas Cement Co. (United States Steel Corporation Subsidiary) niversal Zonolite Insulation Co.	126 122 15 25 125 125 125 125 125 125 125 1
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson (Great Lakes Steel Corporation) tructural Clay Products Institute urface Combustion Company ylvania Electrical Products Inc. imber Engineering Company ime ruscon Steel Company nion Carbide and Carbon Corporation nited States Radiator Corporation niversal Atlas Cement Co. (United States Steel Corporation Subsidiary) niversal Zonolite Insulation Co. pson Company, The	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120 120
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120 107 35
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120 120 107 35
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120 107 35 2
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120 107 35 2 106
all Mountain Company edgwick Machine Works	126 122 15 25 125 135 100 3 31 97 147 154 149 142 120 120 107 35 2 106 146
all Mountain Company edgwick Machine Works ervel, Inc. bulé Steel Company tanley & Patterson (Great Lakes Steel Corporation) (Great Lakes Steel Corporation) tructural Clay Products Institute urface Combustion Company glvania Electrical Products Inc. imber Engineering Company ime ruscon Steel Company nion Carbide and Carbon Corporation nited States Radiator Corporation niversal Atlas Cement Co. (United States Steel Corporation Subsidiary) niversal Zonolite Insulation Co. pson Company, The ictor Electric Products, Inc. Zebster, Warren & Co. Zestinghouse Electric & Manufacturing Co. 137, Zeher Company Constant Co. Total Constant Co. Total Constant Co. Testinghouse Electric Co.	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120 120 120 120 120 120 120 120 12
all Mountain Company edgwick Machine Works ervel, Inc	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120 120 120 120 120 120 120 120 12
all Mountain Company	126 122 15 25 125 135 10 3 31 97 147 147 149 149 149 120 120 120 120 120 120 120 120 120 120
all Mountain Company	126 122 15 25 125 135 10 3 31 97 147 154 149 142 120 120 120 120 120 120 120 120 120 12



You Buy Right When You Buy Bathe-Rite

Compare BATHE-RITE Shower Cabinet features! You'll quickly see obvious superiority in quality that works to your own and your customers' benefit . . . superiority proven in thousands of installations — building on a reputation already established through many years pioneering in prefabricated shower cabinets.

Some features are designed for the plumber and contractor — exclusive quick-assembly, time-andlabor-saving features, for instance. Others, like the STEEL-FRAMED construction, assure longlife service — and satisfied customers.

Check the many BATHE-RITE advantages when you're called on to supply modern bathing facilities in today's growing market. BATHE-RITE Shower Cabinets set today's standards, and comply with all government specifications. PROMPT DELIVERY — is another advantage in dealing with a thoroughly experienced, well financed organization.

WRITE OR WIRE FOR DETAILS. Give name of project and quantity required if possible.



must close quietly, efficiently Design and mechanism of LCN Door Closers will set

the standard for the future, as they have in the past.

DOORS OF THE

FUTURE

NORTON LASIER COMPANY . 466 W. SUPERIOR ST., CHICAGO

DOOR CLOSERS

astics

FROM THE GROUND UP



When a seed in a modern cold frame first sticks a leaf above ground, it learns a lot about the fundamental virtues of plastics.

There are a lot of heat calories in sunshine. Plastic Glazing can give them to growing things. Lumarith* and Vimlite*, Celanese* glazing plastics, have many roles around the home and farm. Storm sash, solaria, cold frames, greenhouses, poultry buildings make use of these lightweight, non-breaking materials which transmit light and radiant heat, and insulate as well.

The Celanese Celluloid Corporation, makers of the full range of Lumarith plastics has prepared a plastic glazing booklet containing samples. Write for your copy today. Seeing plastics in this single field of construction, your imagination will be stimulated to their uses in other forms—molded, sheets, films, foils—which are ready to aid and, yes, influence your present and future designs. Celanese Celluloid Corporation, *The First Name in Plastics*, a division of Celanese Corporation of

America, 180 Madison Avenue, New York City 16.

"Reg. U. S. Pat. Off.



May it be remembered as the New Year of Hope and the Old Year of Fulfillment!



BUY WAR BONDS

OVERHEAD DOOR CORPORATION • Hartford City, Indiana, U.