TWO PICTURES
THAT SHOW THE AMAZING VERSATILITY OF

Cemesto
REG. U. S. PAT. OFF.

The Multiple-Function Insulating Wall Unit

Cemesto, the Complete Wall Unit is AVAILABLE NOW for You to Use in Almost Any Building Job

The remarkable versatility of Cemesto has been firmly established in scores of wartime projects. This amazing adaptability of Cemesto to sound, speedy construction has stirred the interest of architects everywhere. As a result, new uses are being found for Cemesto in almost every kind of present-day building job—large and small. For industrial construction, in small homes, small business structures, farm buildings as well as in such special applications as conditioning rooms and drying rooms.

Cemesto is an unusual product. Its core of Celotex cane fibre insulation is sheathed two sides with an eighth-inch layer of asbestos cement bonded to the core with waterproof, vapor-resistant bituminous asphalt adhesive. It is fire-resistant, moisture-resistant. Its rigidity eliminates need for intermediate support. Both faces are smooth and hard, warm gray in color, provide agreeable interior and exterior finish without need for painting. Cemesto comes in 4'-wide panels, 4', 6', 8', 10', or 12' long, and in thicknesses of 1 5/8", 1 9/16" and 2". Can be used either vertically or horizontally.

Cemesto can be cut to required sizes in advance, resulting in speed and economy in building walls and roof decks. There is no sacrifice in construction quality. It is truly a multiple-function material of many uses.

FREE! Two Booklets, "Cemesto with Wood Framing" and "Cemesto with Steel Framing," are ready. They contain complete information for architects and builders on Cemesto and Cemesto construction. Write for your copies today to The Celotex Corporation, Dept. AF10, Chicago 3, Illinois.

In the Kearney, New Jersey, plant of Western Electric Company, Cemesto panels are fixed to huge door frames of metal to stop heat transmission and infiltration losses. This is an example of how the unusual insulation qualities of Cemesto are utilized in industry.

IMPORTANT!
Without obligation, we will be glad to provide any technical assistance you may need regarding the use of Cemesto Wall Units. A note to us will bring a thoroughly trained Cemesto representative to your desk.
A limited supply of THE ARCHITECTURAL FORUM's postwar planning booklet PLANNING WITH YOU is still available. Copies for distribution can be obtained by sending $10 for the first hundred, $5 for each additional hundred.

COMMERCIAL REMODELING

INTRODUCTION

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PRODUCTS AND PRACTICE

A system of wall construction based on the principle of equalizing pressures to prevent moisture penetration.

BUILDING REPORTER

Technical news . . . new products . . . technical literature.

BOOKS

Hospital Color and Decoration . . . Enjoyment of the Arts . . . The Contribution of Holland to the Sciences.

LETTERS

NEXT MONTH: A special issue on residential remodeling . . . large and small houses, farm homes, apartments, mock-ups and models of seven new design elements . . . completed jobs and projected designs.

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 1944, these four publications will use 73,000,000 lb. (1,450 freight carloads) less paper than in 1942. In view of the resulting shortage of copies, please share your copy of the FORUM with friends.

In Military Service:

Managing Editor: George Nelson, Henry Wright; Art Director, Paul Grotz; Associates, Louise Cooper, Christopher Tunnard; Assistants, Eleanor Bitterman, Ruth Felterbend, Mary Jane Lightheim, Mary Mix, Mary Sanders, Charlotte Spright, Dorothy Ohashi, Richard E. Saunders.

Publisher: Howard Myers; General Manager, Ruth Goodhue; Advertising Manager, George F. Shutt.

THE ARCHITECTURAL FORUM is published monthly by Time Inc., at 19 W. 44th St., N. Y. 18, N. Y. Maurice T. Moore, Chairman; Roy E. Larsen, President; Charles L. Stullman, Treasurer; David W. Bumbaugh, Secretary. Subscription may be sent to publisher's office or to 230 East 22nd Street, Chicago 16, Ill. Address all editorial correspondence to 19 West 44th Street, New York 18, N. Y. Newly subscription payable in advance. In the U. S. and Possessions, Canada, Mexico, South America, $4.00. Elsewhere $6.00. Single issues, including Reference Numbers, $1.00. All copies mailed flat. Copyright under International Copyright Convention. All rights reserved under the Pan American Copyright Convention. Entered as Second Class Matter July 37, 1944 at the Post Office at New York, N. Y., under the act of March 3, 1879. Copyright 1944 by Time Inc.

VOLUME 31, NUMBER FOUR
The Modern Bath

...FOR OLD AND NEW HOMES

Because Weisways are equally well adapted for modernizing and new building, architects will find many uses for these leakproof Cabinet Showers, when war restrictions are lifted.

The "before and after" pictures above show what a striking modernization is possible. A Weisway built in with the "In-A-Wall" Entrance Adapter becomes an integrated unit of the bathroom wall. Thus the faults, such as shrinkage, cracks, and leaks, which often develop with built-on-the-job shower construction, are banished.

More people every day are coming to prefer the zest, comfort and cleanliness of bathing in clear running water. When war restrictions end, Weisways will again be available in a complete range of models, suitable for homes of every size and price class.

For the new and modernized homes you plan remember, too, that Weisways make added bath facilities easily possible even where floor space is limited.


Weisway CABINET SHOWERS
ONE MAN DOES THE WORK OF FOUR

when TRANE Convectors are installed

Light Weight Heating unit not only saves installation time but can now be shipped sooner

When Trane Convectors were installed at a west coast naval hospital it was possible for one man to do the work of four. Here's why—

Trane Convectors weigh one-fourth as much as conventional cast iron heating units. The same crew of men can unload four convectors to one cast iron radiator. Wall hung Trane Convectors can be completely mounted in the same time it requires to mount only the hangers for cast iron radiators. The smooth surfaces of the Trane Convector can be painted much faster than the rough hard-to-get-at surfaces of old-fashioned heating units.

Of course thousands of convectors were installed in this big naval hospital. But proportionately the same amount of installation time can be saved on all jobs, small or large. Whether for one war worker's home, or a factory to build B-29 bombers, Trane Convectors save valuable man-hours at a time when every minute of every worker is vital.

Not only that, but today Trane Convectors can be shipped faster. Trane Convectors are not dependent on manpower-drained foundries. In most instances Trane Convectors can be shipped in one-third the time required for cast iron radiators.

Add the advantages of time saving and quick shipment to all the other features, such as quick heat, cleanliness, space saving, and low cost, when you consider the heating unit for your job.

TRANE
THE TRANE COMPANY • LA CROSSE, WISCONSIN
TRANE COMPANY OF CANADA, LTD., TORONTO
AIR CONDITIONING HEAT TRANSFER AIR HANDLING EQUIPMENT

Information for this advertisement furnished by H. C. Hasterf of San Francisco, a heating contractor on this mammoth government project
The Forum synthesizes postwar living for Chautauqua Institution's examination of the world today.

Originally conducted as a two-weeks seminar for Methodist Sunday school teachers, the annual summer gathering at Chautauqua, N. Y., has, in 70 years, evolved from an old-fashioned camp meeting to a nationally famous festival of culture.

The broad horizons of Chautauqua, as it is known today, were first envisaged with the foundation of a Literary and Scientific Circle. Soon lectures, concerts and operas were added; a library, community center and 50 individual music houses for piano practice built.

Now, when the quest for purely academic education has been replaced by an urgent need for understanding the modern world, the Chautauqua Institute has met the challenge with characteristic progressiveness. The 1944 season featured certain days allotted to representative business firms so that they might make clear their public usefulness. One of these was Publisher's Day, presided over by Time, Inc. As its contribution, The Architectural Forum endeavored to present a synopsis of what may be expected of the postwar environment:

EXHIBIT BEGINS WITH TWO PANELS LISTING POSTWAR OBJECTIVES IN GENERAL TERMS

The house for the postwar community is efficient, easy to run

it lets in the view and the sun

and can keep it out too

It uses native local materials in new ways

It is good to work in

and it is good to rest in

AND CONTINUES WITH A BRIEF SUMMARY OF THE INHERENT ASSETS OF FLEXIBLE DESIGN
LEADING designers of stores in years past have secured such sparkling and interesting modern results with Formica that they can no longer afford to design such commercial premises without considering it.

Sales counters, lunch counters, table tops, column covering, back bars inlaid with silhouette designs, show window backgrounds, doors, wainscot, stairwell, wall covering—these are a few of the uses in which Formica laminated plastics have produced fresh and telling effects that have greatly increased the selling effectiveness of the establishment.

Formica is a handsome modern material, with smooth, dense, non-porous surfaces in a wide variety of colors, patterns and genuine wood grains.

It reduces maintenance and cleaning costs. It can be kept in perfect shape by washing with soap and water, or with solvents, if that becomes necessary. It does not stain with ordinary liquids, and for horizontal surfaces may be had in a cigarette-proof grade.

Ask for data describing methods of installation and for writing specifications.

"The Formica Story" is a moving picture in color showing the qualities of Formica, how it is made, how it is used. Available for meetings of designers and business groups.

THE FORMICA INSULATION COMPANY
4620 Spring Grove Avenue • Cincinnati 32, Ohio

FORMICA
Planned large-scale construction of protected neighborhoods will replace haphazard, piecemeal building.

To chart the outline of the future, separating valid trends from momentary fashions, to help give direction to U.S. building and planning is the editorial assignment of THE FORUM.

COMMUNITY AND URBAN PLANNING. THE FORUM'S OVER-ALL AIM CONCLUDES THE EXHIBIT

POSTWAR DESIGN OF THE MONTH

Telescoping as neatly as a polished spyglass, this portable, prefabricated, circular house can be hauled around like a trailer and, when collapsed, is not much larger. As yet none of these units has been constructed but the design is earmarked by real ingenuity and livability despite a highly complex assembly. Composed of a series of pie-shaped, cantilevered sections which swing out, fanwise, from a central supporting mast, the single story version provides four average size rooms. A two story... (Continued on page 202)
A PROFITABLE FIELD
for Architect and Builder!

— stimulated by the new Kawneer Program!

LEADING ARCHITECTS AND BUILDERS throughout the nation are becoming more and more interested in the store-front field, which is definitely due for tremendous activity in the years ahead.

The demand for architectural and design services with stores is growing every day. Retail merchants now recognize that proper planning and design create extra selling power. The new Kawneer program, reaching hundreds of thousands of retail merchants in every trade, is accelerating this national trend.

Kawneer Store-Fronts—"Machines For Selling"—are being promoted with special emphasis on the importance of the function of good design.

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**LST's ARE CARRYING TANKS** that do their job in war and never go ashore! Their Ship's Whistle Tanks and Ship's Service Tanks are welded by Case craftsmen to meet the severe service conditions encountered in amphibious assignments.

**WHEN THE ARMY GOES** to sea, Case tanks go too. Air, water, fuel and other supply services are maintained dependably from Case tanks. They help numerous types of craft such as this Army Supply Vessel to "keep going in rough going."

**LAUNCHES' FUEL TANKS** must be especially rugged and reliable. So must tanks installed in Submarines, Destroyer Escorts, Transports, Cargo Ships. For all these types of vessels, Case welded tanks have been furnished to leading ship builders.

**UNFAILING PERFORMANCE** under all conditions of sea and weather is expected of Mine Sweepers and their equipment. Hundreds of them in U.S. and British service are equipped with Case Hot Water Generators and Expansion Tanks.

★ American shipbuilders and the Services for which they are building want "happy" ships. Hot and cold water, fuel, air and other supply services must serve without fail. That's why, "everywhere you look", you see Case welded tanks aboard so many types of vessels.

HE TIME IS GETTING SHORT... the end of the war is within sight... and American business must plan its postwar building program with increased energy and foresight!

Truscon is helping stimulate this action with a new series of advertisements in BUSINESS WEEK, whose readership is over a half-million important business executives and civic leaders.

Truscon is illustrating and describing actual jobs that are down on paper, ready to go... plans drawn and everything set for the actual placing of contracts and immediate starting of work.

Truscon feels that the publicizing of these jobs... big jobs, involving large expenditures of money... will encourage American business and municipalities to embark on a nationwide program to fill building needs. The necessity for immediate cooperation with architects and engineers is amply emphasized. We hope that you will benefit from this campaign in many ways.

TRUSCON
Steel Company
YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation

OCTOBER 1944
Where there is Johnson Comfort Control . . . with a thermostat in every room . . . real comfort prevails!

Turn the adjusting dial on the thermostat in any particular room to the temperature desired and that temperature will be maintained in that room despite wind, direct sunshine and other weather conditions which often upset the "averaging" effect of a centrally located thermostat.

When comfortable conditions prevail in every room, fuel is conserved, too, for there is no overheating in some rooms and therefore no tendency to open windows to "cool off."

Comfort Control for individual rooms is conducive to good health and well being. Pioneered by Johnson nearly 60 years ago . . . and with the numerous refinements made by Johnson engineers through the years since then . . . it meets many of today's modern comfort requirements more effectively than any other type of temperature regulation.

Johnson Comfort Control is adaptable to all types of buildings. If you would like to know more about its specific application to a particular modernization or new construction project, get in touch with the Johnson office nearest you. Direct branches are in all principal cities.
Radio apparatus going forward with the U. S. Army must travel over some mighty rough terrain. Trucks equipped with transmitters and receiving sets are provided with special frames to which the radio instruments are attached. Thus these delicate pieces of machinery are held stationary and are protected against the banging and bumping of uneven ground.

Many of the sturdy radio frames used in U. S. Army trucks are made by Frink. The Frink Corporation has specialized in precision engineering and manufacturing for 87 years. During that time the name Frink has become synonymous with quality and skill in the lighting industry.

Frink was instrumental in developing Incandescent lighting in the days when that method of illumination was considered revolutionary. Likewise The Frink Corporation has pioneered in the development of Fluorescent lighting. LINOLITE, the famous "engineered for vision" Fluorescent equipment, is a product of Frink designing and manufacturing skill. LINOLITE is now giving efficient and profitable service in many of America's foremost factories, stores and banks.

Today Frink is heavily engaged in war production. Tomorrow Frink will resume the designing and manufacturing of the high-quality lighting equipment that has gained such an enviable reputation in the industry.

Frink-built frames help army radios over the rough spots

Subsidiaries: Sterling Bronze Company, Inc.
Barkon-Frink Tube Lighting Corporation

All Frink employees invest at least 10% of their earnings in War Bonds
WE ARE PROUD OF THAT RECORD. LET'S ALL BUY WAR BONDS!
provides moisture penetration without recourse to waterproofing material.

Adams’ own account of the trial and error process by which he finally uncovered his new system is perhaps the best explanation of exactly how it works. “My first clue came while helping in the construction of a 13-story office building,” he explains. “The exterior surfaces of this building were so-called impervious brick and the windows (steel double hung) were rated as probably the most nearly storm proof for high buildings. The interior courses of the external walls were hollow brick and these were treated with two coats of waterproof plaster-bond material. The roof never gave trouble, but during rain storms with winds of from 50 to 70-mile velocity, the walls leaked badly and water in considerable quantities came in at the window sills in spite of the fact that in doing so the water had to ride up over a baffle at least 1 in. high, down into a channel in the steel sill and then up nearly 2 in. to flow out over the wooden stool.

“I suspected from this and other observations that this serious penetration was not due to the impact of the storm and proved it by building a free standing brick pier approximately 30 in. wide, 8 in. thick and 4 ft. high, and after proper setting and drying, subjecting it to a hose test. Water with estimated impact force of 60 lbs. to the ft. was played upon one face of the pier for six hours. Subsequent examination of the pier showed a penetration averaging only 1/4 in. In the case of the office building water had appeared inside under much less than half the pressure, through 12 in. of brick, plus waterproofing, plaster and oil paint all in less than two hours.

STORM WITHOUT LEAKAGE

“In a vainly speculative mood and for purposes of temporary domicile, I had just purchased a “Cracker-built” house. In Florida parlance that term indicates a minimum of material—no sub-floor, no wall or roof sheathing, no building paper. The roof was of riven cypress slingles on stripping with many opennings big enough for a mouse to get through. The sash was so loose in the runs that in a windstorm the window shades assumed a horizontal position. My astonishment can be imagined when after several severe tests it became evident not only that the walls, roof and windows had not leaked, but they apparently had no intention of doing so.

“Then the light began to dawn. The impact of the storm had little if anything to do with penetration. In fact there had been liberal penetrations observed during the summer rains with little or no wind; and there was the evidence of the free standing pier subject only to impact. On second thought, however, this phenomenon became understandable. Confined air is resilient, whether occupying the pores of materials, the voids within walls or the space within buildings and would therefore have a repulsive reaction against the impact of storm driven water. At this point the answer became rather obvious. If water was not being pushed into the building, then it had to be pulled in by suction for it was certainly going in.

AIR EXHAUSTION

“The conclusion was that something must be causing a material reduction in the air pressure within the building to force the water to penetrate the walls, and within the wall voids to induce water to enter there. Either of two conditions might produce that effect. One would be the exhaustion of air within the building in a manner similar to that produced with a vacuum pump and the other would be a reduction of the air pressure in confined spaces by a lowering of the air temperature within these spaces. Two rather violent phases of Florida weather can and do provide these conditions on occasion. One of these is the so-called tropical hurricane which may be expected during the autumn months and the other is the rainy season which usually lasts during the three summer months. Similar, though less extreme conditions maintain in corresponding weather phases of all climates with definitely similar, if less spectacular results. The storm or hurricane lasts six or eight hours, varies greatly in intensity, but is always accompanied by torrents of rain which seal all cracks, pores and other openings on the windward side of the building. The movement of the wind past the building and the partial vacuum thus caused on the lee side where windows or doors are apt to be open, tends to exhaust the air within the building, emphasizing the differences in pressure on either side of the windward wall. Then the air moves inward through the small openings to satisfy the falling pressure and in so doing exerts a very powerful suction on the water which completely covers the weather face of the wall. The water quickly follows the air into the building.
ONE OF MANY JOBS on which drywall construction has been used is Riverview Terrace housing project. Built of hollow concrete block, whitewashed on the exterior and plastered on the interior without waterproofing or furring, the walls are made weatherproof by open ports which equalize pressures between outside air and air within the wall envelope.

During the rainy season there is a hard shower almost daily, often two or more, preceded and followed by periods of hot sunshine. Surface temperatures of walls reach 125-150°F, while that of the rain water is about 75°F. The showers come and go suddenly and are of brief duration. During the periods of sunshine the heat of the sun materially raises the temperature of the air in the voids characteristic of practically all walls, from the large spaces within hollow concrete block and clay tile to the joint voids in brick masonry and even to pores and cracks of bricks and mortar material. Under this added heat the enclosed air expands and the excess under pressure leaks out through the cracks and pores. The sudden downpour of the shower seals the entire surface of the walls and at the same time, by chilling and rarefying the remaining enclosed air and thus creating a minus pressure, sets up a very strong suction which draws the water into the voids.

SUCTION STRENGTH

"Many persons with whom this theory was discussed believed that the strength of the suction thus stimulated would be negligible. They failed to realize that the low ratio of the area of the pores to the volume of rarefied air is a pertinent factor. An infinitesimal amount of heat energy will immediately and materially increase the pressure within an enclosed volume of air. This is demonstrated, for instance, by the "dime and beer bottle" experiment. Place a dime over the top of a recently emptied, still cold beer bottle and tip the bottle to permit the beer inside to seal the dime in place. When the bottle is righted the dime will immediately begin to pop up and down to relieve the pressure as heat enters the bottle through the glass. The action will accelerate almost at once if the hands are placed against the bottle thus augmenting the entry of heat, all in spite of the fact that silver, one of the components of the dime, is one of the heaviest of the elements and that the actual temperature rise is immeasurably small. Assuming a rise in temperature of the air enclosed in a wall void from 80°F to 100°F the pressure within the void would increase approximately 0.5 of a lb. per sq. in. or about 70 lbs. per sq. ft. Cooling through the same range of temperatures would produce an equivalent drop in pressure, powerfully inducing suction.

"An interesting illustration of the strength of this suction was a problem brought in by a carpenter. He had renewed a roof on a residence using sawn shingles, and, though the roof had a good pitch, it leaked during the rainy season. Questions brought out the facts that: 1) the attic space was large and..."
unventilated; 2) the shingles were laid close; 3) the shingles removed in trying to correct the trouble were wet at the laps; 4) the roof was not insulated. In this case, the large volume of air in the attic had been heated to a high temperature by the sun and the temperature had dropped suddenly under the cold rain. The intense resulting suction had drawn the water uphill between the laps and over the top edges of the shingles, from which point it had dripped upon the plaster below. The condition was permanently corrected by placing louvered vents in the gable ends of the attic, thus breaking the suction.

"From these and many other experiments over a period of nearly twenty years, a definite system of wall construction has been developed based upon a very simple principle—a principle so naive it seems incredible that no one has thought of it during centuries of building leaky structures. Leaks (except those resulting directly from gravity) are invariably due to a lesser pressure within than without an enveloping shell which is not air tight, whether the shell is taken to mean the walls and roof of a building or the material enclosing voids within the walls. Therefore to get a leak-proof building the shell must be made air tight (a costly and almost impossible attainment) or the difference in pressures must be neutralized. My effort has been toward neutralizing the pressure differentials. Because the control of pressures is more practical and positive if kept beyond the interior spaces of the building itself, and its wall voids, I have interposed between those interior spaces and the weather an envelope of air automatically kept equal to the weather pressures by means of external ports or vents in an intervening baffle wall which takes the impact of the weather. Since no horizontally acting force such as suction interferes with the downward pull of gravity on the surface storm water, the material composing the baffle wall may be anything that does not actually disintegrate under conditions of exposure to the weather. Porosity, cracks, open lap joints or even holes if not too extensive are not practical handicaps.

"Ports may be placed at any desired height above the ground, but there must be no enclosed space without at least one such port. If ventilation of the wall space is sought in addition to pressure relief, the port should be placed as near the bottom of the space as possible and there should be a top outlet. Through lack of confidence in the system during the early days of experimenting, the ports were always placed at the bottom for drainage purposes, but it has been definitely determined that no free water penetrates the baffle wall or the ports and hence drainage facilities are unnecessary."

Although Adams has experimented with his dry-wall construction only in Florida, the theory can undoubtedly be adapted to northern structures which must meet similar weather situations in milder form. Its practical application would vary with different parts of the country and with specific jobs and materials. In addition to its value in preventing moisture penetration, both northern and southern states would find dry-wall construction helpful in excluding sun heat. Construction problems in cool climates would, of course, be influenced by the fact that ventilation reduces the insulation value of a wall. For this reason insulating materials would be a necessity in conjunction with the dry-wall system except in semi-tropical areas.

For instance, a wall consisting solely of ventilated hollow masonry blocks, as used by Mr. Adams in Florida, would be impractical for use in New England. The importance of this factor would vary from one type of construction to another. Insulating values of frame walls would be negligibly influenced by ventilation. Both concrete block and cavity brick walls would be considerably reduced in insulation value by the opening of ports, but the importance of this reduction would be much less in the case of masonry with an added layer of insulation. This would also be true of ventilated roof construction unless adequate insulation were installed.

One obvious application of the Adams' principle would be to the so-called brick cavity wall. Originally designed to prevent water leakage, this wall is distinguished by a continuous vertical and horizontal air space bridged by no masonry ties, but by metal ties embedded in the mortar joints. It also has no masonry connection at door and window jamb. Because of this absence of header brick connections, moisture..."
Pocket-size, but powerful enough to knock out the heaviest enemy tank—a multi-purpose weapon developed by the engineers of Pass & Seymour in cooperation with the Onondaga Pottery Company and Army Ordnance.

A soldier can carry a number of these powerful destructive mines. Smaller and lighter in proportion to power than any weapon heretofore produced, this mine contains a new type firing means also designed and produced by Pass & Seymour. And thanks to the skill and precision of our workers, it has Sure Fire effectiveness against enemy machines and installations. For two years our three plants have been working on this new weapon, also on fuzes for the recently announced non-metallic mine.

In addition, our production of electrical wiring devices has been expanded to meet the demands of Army Engineers to meet the demands of Army Engineers and the Navy. A large share of the warships, submarines and landing craft built for the Navy program are provided with new Pass & Seymour products made to Navy specifications.

The experience gained in the manufacture of special wartime products will be reflected in the many advancements that will distinguish the post-war design of Pass & Seymour electrical equipment.

Consult the P&S Wiring Device Catalog for your requirements—send for an up-to-date copy today.
Count the many ways

ARCHITECTURAL

LOUISIANA STATE CAPITOL, Baton Rouge, La. • WEISS, DREYFOUS & SEIFERTH, Architects

Photo by S. H. Gottse deco
METALS

CAN ADD TO THE BEAUTY and PRACTICALITY OF ANY BUILDING YOU DESIGN...

You could count up into the hundreds and not reach the end...
The reason is the very great versatility of architectural metals—the adaptability of both ferrous and non-ferrous metals to so many different uses.
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As fabricators of architectural metals we believe that architects' use of metals, in the peace-time building boom, will be the greatest in history.
If you have already started designing for that boom, we are ready and anxious to help you with your detailing now. Write today for Directory of leading architectural Metal Fabricators. Address Dept. AF-9.

NATIONAL ASSOCIATION OF
ORNAMENTAL METAL MANUFACTURERS
209 CEDAR AVENUE, WASHINGTON 12, D. C.

OCTOBER 1944
BUILDING REPORTER

NEW 75 LB. HEATING UNIT is a simple metal tube through which coal is fed in a continuous and automatic process (see diagram above). In comparison with complicated prewar equipment (right), it is small and compact, burns 50 to 60 lbs. of anthracite per hr. instead of the former 10 lbs., thus liberating 500,000 BTU per cu. ft. Resulting heat absorption per sq. ft. of heating surface is raised from 6,000 BTU to 40,000 or 50,000 although total coal consumption is reduced.

TECHNICAL NEWS

A NEW PRINCIPLE of burning anthracite for home heating, developed by Anthracite Industries, Inc., will make possible small, cheap, completely automatic heating units after the war. This new development substitutes a concentrated fast-burning fire in a steel tube only 18 in. long and 6 to 8 in. in diameter for the former method of burning anthracite slowly in a large firebox. Test models reveal that the burning rate of coal and the heat output are increased five times by the new method. Almost complete combustion is obtained without the secondary air spaces necessary in old-fashioned furnaces. Since less coal is ignited at one time and the burning is more complete, less coal would be consumed during the heating season.

Coal is fed into one end of the small metal tube by a worm, and ashes are discharged at the other end, making stoking and ash removal unnecessary. Draft is provided by air which enters at the ash end of the tube and is drawn through the incoming coal by an induced draft fan in the smoke pipe.

A pump forces water into a small, compact jacket around the sides of the tube, cooling the burning coal enough to completely eliminate clinkers. One motor furnishes power for all three mechanisms—worm, forced draft fan and water pump. Their operation is synchronized and thermostatically controlled. The complete mechanism fits into a space 2 ft. by 2 ft. by 3 ft. Like prewar furnaces, it is necessary to light the new unit with newspaper and kindling or with specially prepared kindlers. These are placed at the ash end of the tube and because of the forced air draft quickly light the coal. Maximum heat is reached in 15 minutes as compared with almost an hour in former furnaces.

The unit as described is particularly adaptable to hot water heating systems since water for circulation throughout the house is drawn directly from the water jacket used for cooling the unit. With steam heating systems the jacket would be enlarged at the top providing a steam liberation space. In warm air systems the water jacket would be dispensed with and fins built up through which air would be circulated, again serving the double purpose of cooling the fire-box and providing warm air for heating. These methods are under discussion by the stoker, warm air and boiler manufacturers who will start production when materials are available.

Initial cost of the units will be substantially lower than prices of prewar furnaces since the new mechanism is so simple and consequently easy to install. One is sufficient to heat an ordinary 6 to 9 room house. Combined units could be used for industrial heating, although as yet no plans have been made for commercial application. Because of the tube's small size it is a good solution for heating basementless houses which have no extra space to accommodate a large furnace. Even more important, it provides a good, low cost heating unit for use with hot water radiant heating.

(Continued on page 226)
Look to the future through screens made from Saran—a Dow Plastic

The hot, humid, steaming jungles of the far east have served as an exacting proving grounds for insect screen. But, tough as these extreme conditions may have been on most materials, they did not affect screens made from Saran... for this Dow plastic is tough itself—as tough as they come.

Hence, when extruded as a monofilament and woven into an open mesh cloth, it makes a screen material that can really “take it.” It is not subject to corrosion which ordinarily shortens the life of iron and copper screens. It is truly a remarkable advance over the time-honored variety.

For Saran ignores extreme weather—hot, cold, dry, humid... they are all the same to this plastic. Rain doesn’t bother it a bit, for one of Saran’s outstanding characteristics is its amazing resistance to water.

Similarly, Saran is not affected by either sulfur fumes found in the coal smoke of large industrial cities or salt atmosphere along the seacoasts—long arch enemies of the finest screens. It can be cleaned by brushing or washing with soap and water.

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

Because it is open mesh cloth, screens from Saran are lighter and more easily put up, taken down, or stored. And good visibility is obtained with a finer mesh.

Screen from Saran is fabricated by licensed manufacturers. We shall be glad to put you in touch with one of them, or send you more information.

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New York • Boston • Philadelphia • Washington • Cleveland • Detroit
Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

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

DOW
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Here's a panel of typical hardwood flooring. Half of it has our famed Bruce Factory Finish protection—the other half is finished in the ordinary way. Scrape the edge of a coin across the panel. It will scratch the ordinary finish—but the coin will glide smoothly over the Bruce Finish without leaving a mark.
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Because they're completely and expertly finished at our factory in a way that can't be matched on the job. And what a finish!

Bruce Factory Finish actually penetrates the wood... seals the pores against dirt... armors the floor against wear and makes for easy cleaning.

Before a single piece of flooring is laid, you know how the completed floor will look... there's no guesswork about it. You know, too, that the beauty of a Bruce Streamline Floor is lasting beauty... because of the unique Bruce Factory Finish which penetrates the wood.

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E. L. BRUCE CO., MEMPHIS 1, TENN.
EXPLANATION: On a group of buildings requiring 120,000 locks using System B noted below:

1. Great Grand Master Key passes all 120,000 locks.
2. Different Grand Master Keys pass 10,000 locks of its individual group but no others.
3. 100 Different Master Keys pass 100 locks of its individual group but no others.
4. 120,000 Different Change Keys pass one lock only — no others.

Note this is only an example — certain locks may be keyed alike as desired — more or less Master or Grand Master Key Systems may be used.

<table>
<thead>
<tr>
<th>MASTER KEY SYSTEM</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Locks Controlled by Each Key</td>
<td>No. of Locks Controlled by Each Key</td>
<td>No. of Locks Controlled by Each Key</td>
<td>No. of Locks Controlled by Each Key</td>
<td></td>
</tr>
<tr>
<td>Great Great Grand Master Key</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Great Grand Master Key Sets</td>
<td>5</td>
<td>12</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>— each set different</td>
<td>24,000</td>
<td>10,000</td>
<td>2,400</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Grand Master Key Sets</td>
<td>10</td>
<td>100</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>— each set different under separate Great Grand Master Key Sets</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Master Key Sets</td>
<td>20</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
</tr>
<tr>
<td>— each set different under separate Great Master Key Sets</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Change Key</td>
<td>120,000</td>
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<td>120,000</td>
<td>120,000</td>
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</tbody>
</table>

ANY people think that master-keying makes for greater security—but the opposite is true. It's a matter of mathematics. The chart shows five systems in which 120,000 locks can be controlled with a single key. Any number of variations are possible to meet the needs of single buildings or large groups.

However, keying simplification is always advisable — keying alike does not decrease security, but the more you require in master, grand master and great grand master keying, the more you decrease security.

By all means take advantage of keying simplification wherever convenient for the client — insuring protection of property by eliminating unnecessary or complicated keying wherever possible.

Plan your keying carefully — and call in your hardware consultant for co-operation.

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Commercial and industrial plants that have installed Todd burners report fuel savings ranging up to 10% and more, and corresponding power increases. Efficient boiler room operation will be a factor of special importance in the competitive years ahead. That's why forward-looking owners will appreciate your advice to MODERNIZE NOW — WITH TODD!

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TODD SHIPYARDS CORPORATION
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ON THE FIRING LINE OF AMERICA'S WAR PRODUCTION FRONT
Some practical recommendations for the effective use of color and materials in hospital decoration.

COLOR AND TEXTURE CAN EASILY TRANSFORM BLEAK "HOSPITAL WHITE" INTO LIVEABLE, CHEERFUL SURROUNDINGS

HOSPITAL COLOR AND DECORATION. By Raymond P. Sloan. Physicians Record Co., Chicago. 222 pp. Illustrated. 7 x 9½.

The psychology of color, daily becoming a more advanced and complex science, offers unprecedented possibilities for environmental improvement when applied to hospital interiors. The idea, however, is by no means new. For many years private hospitals have attempted to counteract institutional drabness by introducing colorful touches on the furniture or at the windows. These early efforts were for the most part unstudied and amateurish. Green was favored to the virtual exclusion of all other colors because it was known to have soothing qualities. From a scientific standpoint, little else was known about the spectrum except perhaps that red stood for love and blue for loyalty. More recently science has proved that the psychological reaction to color tones has definite therapeutic value and contributes importantly to the morale of both the patient and staff.

A number of books have been written on this subject, most of them in a highly technical vein. Mr. Sloan, however, approaches the problem of hospital decoration from the design standpoint. He is not a doctor and does not pretend to have any profound knowledge of the medical aspects involved. While his book would undoubtedly be of assistance to some hospital officials, its chief value is as a guide to the architect and decorator.

The author finds three major reasons for introducing color in hospital interiors: 1) for the patient, a less severe transition from home surroundings to those of the hospital, 2) for the public, an appearance that encourages confidence and friendliness, and 3) for the staff, a more congenial atmosphere.

Mr. Sloan's principle recommendations are simply products of common sense. Because of stringent professional requirements and the extreme degree of sanitation required, there is little flexibility possible in either the plan or the choice of surface materials. Effect must therefore be created by a number of minor adjuncts among which color certainly produces the most significant results.

Simplicity, durability and harmony are three important requisites for every phase of hospital design. Another aspect to be remembered is that all furniture, accessories, draperies, etc., must be interchangeable.

Basing his conclusions on recent psychological findings Mr. Sloan makes the following suggestions for color schemes: "For those rooms in which we serve the patient, we shall hold to light, clear tones. To assist convalescence we shall employ the warmer tones providing greater stimulus; for chronic illness we shall tend toward the cooler tones which are more restful." All of which seems to make sense at a glance. Actually the basis for these conclusions, and many others drawn by the author, is questionable. He admits accepting color expert Faber Birren's finding that the great majority of people, regardless of race or religion, react to the hues of the spectrum in a similar manner. Not mentioned, but seemingly of vital import, is whether or not sick and healthy people react in the same way.

Generally speaking, Mr. Sloan's book contains little more than the ABC of decorating: enlarging the appearance of a small room by using a light tint, the desirability of using warm tones for rooms with northern exposures, the harmony and interchangeability in colors of even value, etc. In texture and pattern, subdued designs and durable materials are suggested. Granting that the author is working in a field where there is little room for creative expression, there is still a marked absence of inspiration. This lack is particularly striking when one stops to consider that he is not hampered by an informed medical viewpoint. Some of the illustrations depict distinctly unfortunate examples of what is being done in hospital decoration. There are also some easily identified fallacies. At one point, for example, Mr. Sloan resignedly admits that in a great many cases existing linoleum or terrazzo floors will have to be dealt with since wall to wall

(Continued on page 28)
More "buy appeal" is the single goal of hundreds of store executives who have commissioned their architects to plan their postwar stores, today.

Consideration for customer comfort is a vital ingredient in such plans. That inevitably means modern air conditioning. In stores that have it, customers will shop at their comfortable leisure, listen more readily to good sales presentations, linger longer, buy more. For those good reasons be sure that the plans you submit include Modern Air Conditioning.

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OCTOBER 1944
carpeting is not conducive to sanitation. As an alternate he suggests scatter rugs. It is common knowledge among laymen and professionals alike that no object in a sickroom is more hazardous than a small rug unless it be a banana peel.

As a whole, the book has one great virtue: it makes clear to architects and designers concrete possibilities for improved hospital interiors. Even taking into account the numerous shortcomings, if it contributes anything toward overcoming the sterile monotony of "hospital white"—amen.


To provide a means whereby the average reader can orient himself in the realm of art is the purpose of Mr. Schoen's book. In preparing his guide to esthetics the author assembled a series of essays written by prominent professionals in nine fields of art and prefaced them by his own short dissertation on the over-all relationship of art and man. The result is a readable primer which can best be utilized as auxiliary reading matter in the elementary study of art appreciation.

Mr. Schoen, in his introduction, leads the reader gently through an enumeration of the pleasures to be gained through the intelligent appreciation of the arts, analyzes the elements of form and subject, and arrives eventually at the familiar crossroads of art for the many or the few. Logically enough, he finds the cause for this ancient controversy in man's failure to recognize the psychological fact that whereas the need for art experience is present in all human beings, all are not equally susceptible to it. He says, "The truth about art is that there is art for everyone in keeping with the measure of his craving for esthetic experience. No one has an intellectual obligation beyond knowing his own taste which will prevent him from suspecting the soundness of a taste other than his own." This theme of esthetic self-knowledge on the part of the reader keynotes all the writings, some healthy and encouraging differences of attitude among the various authors notwithstanding. Aside from being sound advice for the novice it is also an acute reminder for some of our more biased authorities.

The late Lazlo Gabor's essay, Aesthetics in Architecture proves to be an outstanding chapter because of its lucid explanation and sane evaluation of order. Appreciation of contemporary (Continued on page 214)
RESEARCH of the Bohn organization will aid materially in developing future housing. An example of a duplex apartment of tomorrow is shown above. Rooms will be flexible—can be made larger by merely pressing buttons. Greater beauty and improved construction will be possible. Homes will be warmer in the winter—cooler in the summer. After the war, the great resources of this company will be at the disposal of the architects and engineers interested in new light alloys by Bohn. These advanced materials undoubtedly will hold first place with many industries in the shape of things to come.
EXTREMELY long spans . . . large, open arches . . . heavy concentrations of load . . . difficult shapes . . . intricate reinforcing problems . . . eggshell type domes . . . whatever you encounter in the design and construction of unusual structures, think first of STEEL as the means of solving the problem—efficiently, safely, economically.

STEEL not only offers architects and engineers a combination of qualities found in no other material—STEEL is versatile and, considering first cost, maintenance and years of service life, is comparatively low in final cost.

STEEL has been tried and proved as a building material. Its properties have been definitely established. And complete engineering data is available.

STEEL is strong, tough, stiff, safe.
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—will not warp or shrink.
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—fireproof, vermin proof, splinter proof.
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—provides a stable base for finishes—metallic, vitreous enamel or various colored surface coatings.
—provides, in stainless grade, a permanently attractive, lustrous, silvery finish.
—is easy to fabricate both by shop and job methods.
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—is inherently long in life with little need for maintenance.
—is low in cost per year of service.
—is available in a wider range of forms than probably any other material.

Before wartime applications demanded priority on steel, Republic offered the most complete line of steels and steel building products made by a single manufacturer.

After the war, this line—improved through new wartime developments, wartime experience and Republic's unceasing research—will be back again. Plan with STEEL. It will be ready when you are ready for it.

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ON LAND as on the Sea

The navy-smart air and snug appearance of the prefabricated kitchen unit shown above prove that the space-saving efficiency of marine design is just as effective for homes on land as on the sea...

Defoe presents this design as an example of how American industry will improve living standards, promote the nation's prosperity... and create postwar employment. Today the only thought of nearly 4,000 workers, here at Defoe, is building battleworthy ships for the Navy. But when the Axis is defeated, the same competitive spirit and craftsmanship that have set records in producing for Victory will be reflected in the quality and value of whatever Defoe may build to serve peacetime America.
Reactions to “Living Memorials” . . . The layman views modern architecture and a modern architect views the layman . . . The FORUM’s first war correspondent . . . Letter from Italy.

LIVING MEMORIALS
Forum:
Congratulations for raising an issue which must be faced as the war draws to a close. I am looking forward to future articles on “Living Memorials.”

HENRY ASPINWALL
New York City

Forum:
Undoubtedly the articles by Archibald MacLeish and Charles D. Maginnis were masterly pieces of prose, but these guys are so philosophical I never did discover exactly what they were talking about. If you print anything more on this subject please give it at least some resemblance to reality instead of allowing the deep and involved brain wanderings which only a professor emeritus could follow.

JOSEPH D. SMITH
Seattle, Wash.

Forum:
Apparently both Maginnis and MacLeish consider useless pieces of statuary the only answer to the memorial problem. To my mind it is nothing short of criminal to spend in this way thousands of dollars which could be better used for needed community projects. Why not print the humanitarian side of the question?

MRS. ALICE DILTER
Indianapolis, Ind.

Forum:
... two thoughtful and compassionate pieces of writing . . .

JAMES BERTRAM
New Haven, Conn.

CONDEMNATION . . .
Forum:
So far since I have been getting your magazine the only thing featured has been city planning or box modern: neither of which does me any good.

This is a fine old residential section, with New England houses and nice summer homes. Skyscrapers, city planning and box modern do not come into our picture at all. There is going to be plenty of building here, as soon as the war is over, and the Yankees and summer people will want to introduce the good features of the modern into their homes of tomorrow, but they will want to do it without losing the charm that has long been manifest in New England houses.

To date I have seen no example of a modern home with architectural charm — exterior, I mean. Some of the interiors show charm in spots. The skyscrapers have it. Some of the new city blocks have it. But the home continues to look like an amplified orange crate with innovations.

What the future generation of home builders will want is the light, the convenience, the atmospheric crispness and simplicity of the modern combined with some of the grace of the 18th century.

Westervly, Rhode Island

ANN HICKOX

Forum:
... Your super-colossally ultra modern small house designs leave me cold. Modern conveniences can be incorporated into homelike homes. So far, I feel you have missed the boat.

E. P. RADFORD
St. Petersburg, Fla.

... AND REBUTTAL
Forum:
Receiving your May issue of THE FORUM was literally a shot in the arm. It is an inspiration to know that there still is such a thing as architecture left in the world. A welcome thought after a few months spent in Quonset Huts — be they ever so blessed for their purposes.

Interesting to note was the reaction of the “layman” to modern architecture pictured therein. Typical remark by fellow officers “Here is that book with those crazy houses in it.” Such is the situation here as faced by two young “ex-architects.” Is not this complete lack of understanding representative of those who are returning home purportedly to rebuild the world? These same people are inclined to ridicule English worship of the old and the traditional, to hold up to the English American ideas of advancement and achievement. Yet when the design of their own homes is concerned they do not think beyond grandfather’s house. But they want all modern conveniences and ideas (such as large windows and areas) no matter how incompatible with the “crib."

The architect’s greatest postwar problem will be rather hopeless; that of trying to educate the vast, architecturally illiterate public in time to prevent in the postwar haste the large scale building of already antiquated structures — prefabricated or whatever.

Is anything being done now to educate the layman?

RODNEY S. DAVIS
Fleet Post Office
New York, N. Y.

CABLE FROM HERSEY
Forum:
Russia’s postwar planning has already begun. I have material on the reconstruction of Leningrad as outlined by Leningrad’s chief architect, Baranov. Leningrad is a rather special case in Soviet reconstruction because the city is monumentally beautiful and almost chauvinistically conscious of the beauty. Baranov also had some interesting things to say about Soviet attitudes on modern architecture. As ARCH FORUM’s first war correspondent (to my knowledge) I have already taken the liberty of translating the Soviet war correspondents’ song about the terrible hardships reporters go through to get material back, with the chorus as follows: “But early in the morning — were printed right on time — ARCHITECTURAL FORUM, FORTUNE, LIFE, and TIME.” This is already being sung in English by Russians who said they love to roll out that third line, so you see, ARCH FORUM is achieving a certain limited fame in these parts.

JOHN HERSEY
Time Inc. Moscow Bureau, Russia
Correspondent Hersey (author of A Bell for Adano and Into the Valley) has been cabled to rush his material.—Es.

KILLAM AGAIN
Forum:
In the July, ’44 number of the Journal of The American Institute of Architects, David H. Morgan makes an oft repeated misleading statement which should be

(Continued on page 36)
**PROBLEM:**
Design and installation of a new ceiling in the lounge of an exclusive men’s club. Plaster had fallen as shown below, narrowly missing one of the members. A permanent ceiling in keeping with interior is desired.

**SOLUTION:**
Furring strips were applied directly over old plaster and bare lath. Upson Floating Fasteners were nailed to furring strips to anchor Upson panels securely from the back. No nailing is visible. Upson Shad-O-Line Mouldings with recessed edges provide a striking light and shadow effect, eliminating the possibility of a broken paint line.

Result: A permanently beautiful *crackproof* ceiling in two days time without the mess, dirt and delay of replastering — plus a satisfied customer.

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If desired, a representative will call to render any needed assistance upon similar problems. The Upson Company, Lockport, New York.

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**UPSON CRACKPROOF CEILINGS OF ENDURING BEAUTY**
contradicted. He says: “Further, the real slum-clearance projects of the public housing program, have very substantially, if not wholly, eliminated the social and anti-social city costs, and the housing authorities are paying into the city treasuries amounts equal to or greater than the city’s costs of furnishing the customary city services (street cleaning and lighting, garbage collection, sewer service, police patrol, etc.) to the slum clearance area.” He does not say that some projects are making no payment at all.

In addition he, like many other public housing advocates, leaves out the most expensive services, services which are not reduced at all by new projects. In connection with the other items, can Mr. Morgan give us examples of a significant number of cases (not just one favorable case), which show reductions in public works, police, and fire department personnel due to the building of a housing project?

The annual report of the USHA for 1939 shows the pitifully small payments in lieu of taxes on different PWA projects, in some cases nothing at all. A housing project does not eliminate poverty nor does it raise wages.

The magnitude of this discrimination against the private owner is entirely inexcusable, particularly when we consider that his house is not new and that it probably has far less light, air, and modern conveniences than the new project housing.

It is to be hoped that architects will not give any blanket approval to any more subsidized housing until the U. S. Housing Act of 1937 is radically amended to require more direct and more easily understandable financing for much shorter periods than 60 years, with revised and more flexible standards, with more consideration of the low-income family whose earnings are a little too small for a subsistence living.

Charles W. Killam
Cambridge, Mass.

WITH THE ARMY

Forum:
I have learned the meaning of the word “tenacity.” While a civilian in Chicago and later as a soldier in Washington, D. C., I had taken the Forum for granted along with the rest of what was a rather luxurious mode of life. Now, down here in this post, I have learned what it means to get along with

Dear Reader:
Within the comfortable memory of this gaffer it was commonplace for the entire editorial staff to put aside work on the next issue to figure out the right answer to some reader’s inquiry. Sometimes, the question really was tough, other times it presented some particularly intriguing problem (how to build a screened sleeping porch on a half-timber house without sacrifice of its “authentic” appearance?). A few of these each month would keep the boys and girls up at night and harass eager subscribers who had to wait an extra day or two for their Forum.

Now the monthly questions run around two hundred. Most of them are answered within twenty-four hours, all of them are answered authoritatively—and until they are answered they are rarely seen except by the one person on the staff who handles them all. So there, Mr. Fadiman.

Perhaps you will assume that we use radar or that we have uncovered a new triumph of the machine age. Actually we have made an equally important discovery—we have found Henry Martin, about whom more in a moment. But first let us show you the Martin technique at work.

A Consulting Engineer asks for “a list of metal products used in the past in home and industrial construction and the approximate yearly sales of same.”

A Mayor in Illinois wants “plans and descriptions of an Old Folks Home.”

The wife of a Medical Officer overseas, who apparently intends to stay there, wants picture of a two-story building, suitable for a corner lot 55 x 64 to be built in the tropics and used as a doctor’s office.

The Society of Architects of the Republic of Poland wants material on libraries, picture theatres and recreation centers (this, sir, is the brave new world).

Henry’s latest prize is a letter from 10 Downing St. (see cut) which actually came in the ordinary mail.

Cordially yours,
When Sir Yeshwant Rao Holkar, Maharajah of Indore, planned this home at Santa Ana, California, he could, of course, command the best in equipment. That he chose Payneheat upon the advice of well-informed American friends and technical experts, is, we feel, a tribute to Payne quality and performance. * Tens of thousands of other homes... from humble cottage to great mansion, coast to coast... enjoy Payne heating and ventilation... assured of carefree comfort for the duration and many years to come.

Coming... Payne Zone-Conditioning... Post-war successor to old-fashioned central heating: Healthful circulation of fresh air, gas-heated in winter, with cooling summer ventilation if desired... controlled by zones or individual rooms. * Available after the war. Write for new folder.

**PAYNEHEAT**

**30 YEARS OF LEADERSHIP**

Payne Furnace & Supply Co., Inc., Beverly Hills, California
You can build better and faster with STEELOX panels

This partly finished steel hangar at the National Airport in Washington, D.C., shows one wartime use of ARMCO STEELOX panels. The panels are bolted to the top chord of pressed metal arches to form the roofing and siding for the hangar. U.S. Army Engineers did the grading, built the concrete footings and paved the floor. The building was designed, manufactured and erected by Armco.

You can save construction time in post-war houses and other structures by using STEELOX floor-ceiling panels.

These interlocking units do two jobs at once by making a firm base for sub and finish flooring on the upper side, and a complete, ready-to-paint ceiling on the lower. Two men can lay 20 square feet in three minutes.

STEELOX panels will save money and time in other ways, too. They are easy to insulate, incombustible, and reduce the thickness of floor construction by 50 per cent.

You can have the same advantages in the commercial buildings you design—for floors, walls, roofs and partitions. STEELOX panels have been used successfully for more than 10 years, and have the complete approval of structural engineering firms.

Standard STEELOX panels are also available in ARMCO Galvanized PAINTGRIP steel. This is the special Bonderized sheet that takes and preserves paint.

Send for the manual at the right. The American Rolling Mill Company, 2871 Curtis St., Middletown, Ohio.

FOR EXPORT: THE ARMCO INTERNATIONAL CORPORATION

HELP FINISH THE FIGHT—WITH WAR BONDS

STEELOX panels will save money and time in other ways, too. They are easy to insulate, incombustible, and reduce the thickness of floor construction by 50 per cent.

You can have the same advantages in the commercial buildings you design—for floors, walls, roofs and partitions. STEELOX panels have been used successfully for more than 10 years, and have the complete approval of structural engineering firms.

Standard STEELOX panels are also available in ARMCO Galvanized PAINTGRIP steel. This is the special Bonderized sheet that takes and preserves paint.

Send for the manual at the right. The American Rolling Mill Company, 2871 Curtis St., Middletown, Ohio.

YOU CAN USE THESE PRACTICAL IDEAS FOR DESIGN AND CONSTRUCTION OF MANY TYPES OF BUILDINGS. WRITE FOR A FREE COPY ON YOUR BUSINESS LETTERHEAD. THE AMERICAN ROLLING MILL COMPANY, 2871 CURTIS ST., MIDDLETOWN, OHIO.

Special Purpose Sheet Steels FOR TOMORROW'S BUILDINGS

FREE... this useful design and installation manual for your files.

You'll see how STEELOX floor-ceiling 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.

You can use these practical ideas for design and construction of many types of buildings. Write for a free copy on your business letterhead. The American Rolling Mill Company, 2871 Curtis St., Middletown, Ohio.
"—Say, this guy offers Post-War Plans by the foot!"

Hold, it friends. Your correspondent isn't nuts. He's an authorized Kentile contractor and that proves he's a responsible citizen and the best floor-man in town. He's merely raving about Kentile and he means that a new Kentile floor installed now will be a permanent improvement in any interior. He's probably getting excited about the brilliant, modern color combines and the patterns you can devise with Kentile (set by tile, instead of in sheets). Or he may be pointing out that no one can imagine a post-war improvement on Kentile—the super-durable, resilient floor that resists all stains and is so easily cleaned that any untrained employee can maintain it. Actually there are 14 advantages to Kentile, all told. Do you, for instance, know about Greaseproof Kentile? For improvement right now or surefooted planning, learn all the facts. Consult your local Kentile contractor. To learn his name write to David E. Kennedy, Inc., 58 2nd Ave., Brooklyn 15, N. Y.
How Research Bumped Into a Blank Wall

TAKES ANY FORM OF DECORATION

SHEETROCK Fireproof WALL AND CEILING PANELS

Did U-S-G Research Men reach a "dead-end" when they came face to face with a blank wall? . . . Not at all, because that's exactly what they set out to find ... a system that combined Sheetrock® wall and ceiling panels into one continuous surface ... where joints became notably conspicuous by their absence.

The advantages of Sheetrock fireproof wall and ceiling panels are well known. With their use, interiors go up on the "double-quick" . . . no waiting for decorating—wood trim may be applied immediately. These points have been demonstrated through twenty years and more of use.

The treatment of the joints was the one remaining problem to be solved. That became a thing of the past with the Perf-A-Tape® System of Joint Concealment . . . not only are joints concealed but "welded" together so securely that the joints are stronger than the Sheetrock panels themselves.

Continual research and new developments, proved in practice with an eye to the future, have kept Sheetrock well in the lead, as the most widely used gypsum wallboard in the world.

Ask the men who have operated and serviced Ampro 16-mm. sound projectors in training camps and behind battle fronts the world over.

They will tell you almost unanimously, as they have told us, that Ampro projectors have come through the gruelling tests of war with the highest record of performance.

These facts are important to you when you are planning the physical facilities for a school visual educational program.

To keep in touch with the latest developments in this field, write today for the Ampro catalog of 8-mm. silent and 16-mm. silent and sound projectors.

Buy War Bonds

Ampro Corporation • Chicago 18, Illinois
Precision Cine Equipment
Here's the money saving way for your after-the-war carpet installations. Get expert advice and counsel on the right colors and designs for the right spaces—the right texture and quality at the right price. Carpet Counsel means wear surveys—It means a big extra service, through your dealer, of plans, estimates and designs at no extra cost.

BIGELOW-SANFORD CARPET CO., INC., 140 MADISON AVE., NEW YORK 16, N. Y.
"ON REMODELING JOBS
I ALWAYS CHECK AIR CONDITIONING"

Today, plans for the modernization of literally thousands of commercial buildings are on the drawing boards of architects and engineers.

Air conditioning figures largely in those plans. For the new air conditioning units and equipment now under consideration will bring new store comfort and merchandising efficiency.

Dust-Stop* Air Filters will be an important part of these new air conditioning systems.

Before the war, design engineers in air conditioning had included these filters in systems installed in theaters, office buildings, hotels and many industrial plants. Dust-Stops have found an even wider acceptance during the war in providing controlled, dust-free conditions in all types of buildings.

So, in considering remodeling plans for your clients, investigate the efficiencies, flexibility of design application and the ease and economy of this inexpensive, replaceable air filter.

For further engineering data, get in touch with your air conditioning equipment manufacturer, or write Owens-Corning Fiberglas Corp., 1913 Nicholas Bldg., Toledo 1, Ohio; in Canada, Fiberglas Canada Ltd., Oshawa, Ontario.

FIBERGLAS* DUSTOP AIR-FILTERS

OCTOBER 1944
Termites were once practically unknown to people who lived in houses. But that was because the termites thrived in forests, where there was an abundance of wood to feed on. As many forests were cut down, termites searched elsewhere for their natural food. Today termites may be found almost anywhere in beams, joists, porches, steps, subflooring—wherever they can build their tubes from the ground to reach wood.

But termites need not be dangerous. Any structure can be protected from termites through use of wood treated with Du Pont Chromated Zinc Chloride. “CZC” treatment makes wood unattractive to termites, fending off their destructive invasions.

This protection is only one of “CZC”’s benefits. “CZC” treatment also gives wood measurable fire retardance and decay resistance. It gives you wood that is odorless, clean to handle, and paintable.

Without sacrificing any of wood’s natural, age-old advantages, you can give your buildings additional long life, safety and low maintenance costs by specifying “CZC”-treated wood. Bear it in mind for today’s work and for the many big jobs that will cross your boards later on. E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department, Wilmington 98, Del.

Let's All Back the Attack!

**THE ARCHAECTURAL FORUM**
The home owner of tomorrow will demand every modern feature which enhances pride of ownership. Certainly he will insist upon the ultra-modern detail that permits the flush, unbroken interior surfaces provided by SOSS INVISIBLE HINGES.

No longer need surfaces be marred by those unsightly gaps and projections wherever hinges are necessary. Soss Invisible Hinges are out of sight when the door is closed. The use of Soss hinges beautifies doors, cupboards, folding partitions—and widens the opportunity for modern, unusual design. Write for full details.

SOSS MANUFACTURING COMPANY
21767 HOOVER RD.
DETROIT 13, MICHIGAN

The Hallmark
OF TOMORROW'S HOME
Sure Surgery for Sick Slums

Thousands of Americans will study with stimulation William Lescaze’s proposal to eliminate slums through building groups of “superblocks.” Quite possibly there will be differences of opinion as to some details. But surely nobody can object to Mr. Lescaze’s basic contention as to the necessity of freeing increasing millions of Americans now penned up in slums and providing them—at a minimum rental with “sun, air, space, in ample proportion for the enjoyment of life.”

In presenting the ideas of various distinguished architects and designers for the improvement of post-war living, Revere feels it is doing a public service if it be only to animate discussion both within and without professional circles. But it feels also that the whole post-war building industry must benefit: architects, builders, contractors, realtors, manufacturers and financiers.

And in stressing copper and copper-base alloys—their durability and beauty—Revere is only again emphasizing that their use makes any building better to live in—easier to rent or sell. After Victory, Revere will offer improved building materials such as roofing, flashing, pipe, tube and architectural shapes.

Revere will be glad, without obligation, to work with post-war building planners and share its fund of technical information. Address: Revere Copper and Brass Incorporated, 230 Park Avenue, New York 17, N. Y.
Uplifting the downtrodden

The-government in America has been...
There's a new trend in store design toward the "open vision" front. By employing large areas of Pittsburgh Polished Plate Glass, unobstructed vision is permitted into the store interior, which thus supplements the sales appeal usually provided by the show windows alone. Architect: John Matthew Hatton.

No medium is so effective as mirrors in creating an impression of spaciousness in a small shop. Here, a store of narrow proportions is made to seem wider by an attractive mirrored wall. In Pittsburgh Mirrors, you have a choice of flesh tinted, blue, green or regular plate glass with silver, gold or gunmetal backing. Note the smart display niches and show cases of plate glass. Architect: V. H. Nellenbogen.
The Pittco line of metal members for use in store front and store interior design is of the exceptional high quality found only in the finest types of metal craftsmanship. This unretouched photograph of the hood member of a Pittco awning bar shows the grace, strength and quality finish typical of all members of the Pittco line.

* PITTSBURGH * stands for Quality Glass and Paint

We believe you will find much to interest you in our new, illustrated booklet of ideas concerning the use of Pittsburgh Glass in architectural design. Send the coupon below for your free copy.

Pittsburgh Plate Glass Company
2258-4 Grant Building
Pittsburgh 19, Pennsylvania
Please send me, without obligation, your new booklet entitled: "Ideas for the Use of Pittsburgh Glass in Building Design."

Name: ____________________________
Address: _________________________
City: __________________ State: ______

PITTSBURGH PLATE GLASS COMPANY
ONE NURSE DOES THE WORK OF TWO

with CONNECTACALL to help her

TYPICAL of the important contributions good communications can make toward hospital efficiency is Connectacall, which enables a nurse to supervise the welfare of her patients more efficiently... with less effort. It enables her to "look in" on any room without leaving her station, ... to talk to patients readily, and send orderlies or aides on less important errands.

Postwar communicating and signalling systems by Connecticut Telephone & Electric Division will incorporate every desirable, proved step forward. We have reason to believe they will be available very soon after major military communications equipment needs have been taken care of.

If you have postwar construction or modernization projects in the planning stage, it will pay now, as always, to look to "Connecticut".

CONNECTICUT TELEPHONE & ELECTRIC DIVISION
GREAT AMERICAN INDUSTRIES, INC. • MERIDEN, CONNECTICUT
New Development in Air Conditioning for Hospitals

FOR NEW OR EXISTING STRUCTURES;
PROVIDES INDIVIDUAL ROOM CONTROL

Patients in the new St. Francis Hospital, Peoria, Ill., have a better chance for recovery, thanks to a revolutionary new development in air conditioning—the Carrier Conduit Weathermaster System.

Odors and germs cannot circulate from room to room through this system, nor does it transmit noises. Each room has its own individual Weathermaster supplying an abundance of clean, outdoor air, properly humidified, and kept at the temperature wanted in that room. Doctor or nurse changes temperature by dialing “warmer” or “cooler.” Temperatures in adjoining rooms may vary widely, as desired.

Advantages of the new system are obtained through a basic development in design—use of compact conduits instead of conventional ducts for carrying high-velocity conditioned air from a central station apparatus to individual rooms. Saves 85% of floor space required for conventional ducts—provides as much as one extra floor of usable space in an eight story structure. Easily installed in existing buildings. Amazingly low installation and operating costs. Write now for a brochure detailing the advantages of the Carrier Conduit Weathermaster System.

CARRIER CORPORATION, Syracuse, N.Y.
THERE'S NO OBLIGATION IN ASKING 
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CONSULTANTS FOR SIGNAL SERVICE 

Your time is crowded. The time of Faraday communications consultants is yours for the asking—to confer on any modern signal system you may have to plan. There is absolutely no obligation involved in this offer. It's a service we are glad to render to architects. Simply telephone your nearest Stanley & Patterson office, and a Faraday man will call. He will gladly recommend the equipment most suited to your purpose, and will prepare exact specifications if you wish.

Valuable Reference Manual: The complete Handbook of Faraday signals is a valuable reference manual, offered free to architects, engineers and other executives. Write today on your letterhead.

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IN CANADA: BURLEC LIMITED, TORONTO 13

THE ARCHITECTURAL FORUM
in reply to yours of December 7th

Ever since Pearl Harbor, the Sloan Valve Company has been working day and night turning out various items of war matériel. We have produced millions of parts for airplanes, guns, tanks, armored vehicles and ammunition fuzes—each accurately machined to micro-tolerances. Sloan employees have worked diligently and with meticulous care to maintain the accuracy required in their work and the urgent delivery schedules demanded by the progress of the war.

But while we were busy at this war work, Sloan engineers developed the emergency VICTORY Model Flush Valve which has conserved thousands of tons of copper, plus developing new and improved flush valves for after-war production. Sloan Flush Valves have always been precision-made water measuring instruments—small wonder there are more Sloan Flush Valves sold than all other makes combined.
STANLEY

The trade-mark that appears on highest quality Butts, Hinges and other Hardware Equipment for commercial, industrial and residential buildings.

The Stanley Works,
Magic Door Div.
New Britain, Connecticut

Gentlemen: Please send full information on Stanley Magic Doors for Commercial ( ) Industrial Use.

Name: ____________________________
Firm Name: _______________________
Street: ___________________________
City: _____________________________
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STANLEY MAGIC DOORS
REQUIRE NO HAND TO OPEN

TIME-SAVING
is Basic in Industry

Stanley Magic Doors Open At Approach
Close After Passage . . . Completely Automatic . . . Save Working Time . . . Eliminate Damage . . . Quickly Repay Their First Cost

Every minute saved in transportation of parts or packages between departments in any industrial plant saves money. Stanley Magic Doors save minutes that add up to dollars every day. They speed up traffic, reduce accidents, save heat, eliminate breakage, cut door repair costs. For these reasons, architects took a professional liking to them right from the start!

Stanley Magic Doors, actuated by "electric eye", have been thoroughly time-tested. Their streamlined action earned a leading place in modern building plans. Make these sturdy, dependable, money-saving doors a part of your earliest discussions of industrial and commercial building projects. Stanley will cooperate with you in preparing plans and specifications. Fill out and mail the coupon now.
Here is an ideal example of Thrush Zone Control applied to the heating system of a combined business and fraternal or apartment building. The Masonic Temple at Elwood, Indiana, shown here, has seven zones, each of which is entirely independent of the others. The importance of this arrangement is obvious when you consider that the drug store is open more hours than the variety store or barber shop, while the kitchen, dining room and lodge rooms on the second floor are used only periodically. Each receives just the amount of heat it requires without overheating. The fuel saved is surprising. When compared with the cost of central city heating formerly used, the new Thrush installation is saving at least half the annual fuel bill. Owners of similar buildings, including apartments and larger residences, will thank you for telling them about Thrush Zone Control. Get all the facts now from your wholesaler or write Dept. H-10.
Who couldn't work better in a factory like this?

To make it a good looking, cheerful place in which to work was the aim of this company and its architects.

That explains, in part, why it was built of brick. Brick has always been known for its fresh, permanent beauty.

But there were other good reasons for selecting clay masonry. It is fire safe. It is low in first cost... economical in upkeep.

Architects who design new factories, or modernize old ones, can turn to clay masonry with complete freedom. It imposes no restriction on artistic conception. It is available in a wide range of colors and textures. And soon—it will be available in modular units, sized to eliminate designing and erection time.

Write for literature, including complete specifications for facing interiors.

Structural Clay Products Institute, 1756 K Street, N.W., Washington 6, D.C.
A Recreation Room ... with a view to the future

Typical of the modern home designs now being developed for the great postwar building market is the above recreation room in a Sunken Garden Home, designed for Timken's current consumer advertising campaign by Harold H. Ehlert, member of American Institute of Architects.

Regardless of the size or type of new homes, builders and home owners are unanimous in demanding the newest and best in equipment. No home is better than its heating system, and Timken Silent Automatic, with all its years of furnishing fine heating systems for homes of every type and description, will be in a better position than ever to supply the right kind of heating equipment for postwar home building.

New Timken Silent Automatic heating and air conditioning equipment, ready for production as soon as wartime restrictions can be relaxed, will set new standards of comfort, economy and modern styling.

Work with the nearest Timken Dealer now on your plans for the future. You will find his services invaluable in helping you select the most satisfactory automatic heating equipment.

TIMKEN
Silent Automatic
Quality Home Appliances—
for Comfort, Convenience and Economy
Division of THE TIMKEN-DETROIT AXLE CO., Detroit 32, Michigan
SPECIFY 'INCOR' TO KEEP FALL JOBS ON SCHEDULE

Fall temperatures average about 50 degrees, retard the hardening of concrete, delay stripping schedules, slow down the job. Sudden cold snaps expose concrete to freezing risk, in this in-between season, before winter methods are in use. 'Incor' 24-Hour Cement is the sound solution. Without protection, 'Incor' concrete at 50 degrees attains stripping strength 2 or 3 days sooner, which means—

JOB PROGRESS MAINTAINED
FREEZING RISK AVOIDED
COSTS REDUCED
STRONG, DURABLE CONCRETE

Specify 'Incor'® 24-Hour Cement . . . save time, money, worry . . . get better concrete at less cost.

LONE STAR CEMENT CORPORATION

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS:
15 MODERN MILLS, 25-MILLION BARRELS ANNUAL CAPACITY . . . OFFICES: ALBANY • BIRMINGHAM
BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS. • KANSAS CITY,
MO. • NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA • ST. LOUIS • WASHINGTON, D. C.

17 Years' Outstanding Performance . . . 'INCOR' . . . America's FIRST High Early Strength Portland Cement
General view of plant, showing raw material storage and solvent recovery equipment. Huge towers are Carey-insulated.

Fermentation tanks where mold, from which penicillin is obtained, is grown by the new "deep culture" process. All of these tanks are insulated with Carey materials.

Ammonia refrigeration room—Carey-insulated. Compressors furnish about 375 tons of ammonia-system refrigerant for storage, freezing, and cold processing.

Cold room where vials of Penicillin-C.S.C. are frozen. The walls and ceiling in this room, as well as the lines, are insulated with Carey materials.

COMMERCIAL SOLVENTS CORPORATION

When the government called for huge quantities of life-saving penicillin for our armed forces, one of the important organizations to respond was Commercial Solvents Corporation. That Company's quarter-century of experience with micro-biological processes enabled it to bring "Penicillin-C. S. C." into mass production in an incredibly short time.

At this Commercial Solvents Corporation plant, production of penicillin by the deep-fermentation process is in full swing. Heat processing, dehydration, and freezing are all involved in this production. And here again, as in so many vital industries, an important part is played by CAREY INSULATIONS.

To maintain uniform temperature at each stage of production, insulating materials of utmost efficiency and dependability were selected—Carey 85% Magnesia, Carey Rock-Wool Blankets, Carey Asbestos Cement, and Carey Thermotex for waterproofing.

In highly specialized industries, as in power plants of public utilities and industry in general, reliable Carey Insulations are standing firm guard against temperature variations, preventing heat losses, making possible maximum power production from minimum fuel. For details, write Dept. 20.

THE PHILIP CAREY MFG. COMPANY

Dependable Products Since 1873

LOCKLAND, CINCINNATI, OHIO

In Canada: The Philip Carey Company, Ltd.

Office and Factory: Leenanville, P. Q.
A House Is As Young As Its Arteries!

Two residents may look alike, yet be actually as far apart as the poles in accomplishing the main reason for which they were built. ONE IS A HOME, while the other is "just another house." One contains the essentials for livability—for the promotion of convenience, comfort and continued efficiency, while the other does not. The real home has a reliable plumbing or heating piping system—the other has not. A building may be the last word in modern design with beautiful and modern bathroom and kitchen fixtures, but they are utterly inefficient if the arteries which supply them with hot and cold water are defective and unreliable.

OF ALL THE SERVICE UNITS IN THE HOME NOTHING IS SO VITALLY IMPORTANT AS A RELIABLE PIPING SYSTEM—THOSE ARE ITS ARTERIES—yet they are sometimes given the least consideration.

Equip the post-war home with the piping that is as modern as tomorrow—a STREAMLINE copper piping system that will be just as good on all the succeeding tomorrows as long as the building stands. A STREAMLINE piping system cannot rust; it doesn't leak; it conducts hot water faster and with less heat loss by radiation than iron or steel pipe and—it costs but little more than rustable pipe, even in first cost—and over a period of years it costs a great deal less.

While you build the house, build your own reputation. Standardize on STREAMLINE for your post-war homes. It will pay you big dividends—it will help you move property faster.
The walls of tomorrow's homes will have a new job to do!

The homes you design tomorrow will have many new improvements, in equipment, in construction.

New methods of heat control demand that walls provide adequate insulation.

Air-conditioning demands that walls be so constructed that moisture condensation within the walls be reduced to a minimum. If not, serious trouble will inevitably result.

If you specify the Approved Insulite Wall of Protection, you'll accomplish these two objectives. This wall, by its scientific construction principles, gives:

*Double Insulation . . . plus Superior Bracing Strength . . . plus Protection Against Internal Moisture Condensation.*

The illustrations below explain, in broad terms, the wall's construction. For complete details, consult Sweet's Architectural File, Section 10, or write for free “Scientific Facts” booklet.

**INSULITE**
MINNEAPOLIS 2, MINNESOTA

**INSULITE**
Structural Insulation

OUTSIDE THE STUDS, Insulite  Bildrite Sheathing. The large boards provide a wind-proofed, weather-tight wall. Bildrite provides a bracing strength four times that of wood sheathing, horizontally applied.

INSIDE THE STUDS, Sealed Lok-Joint Lath furnishes a second wall of insulation. The patented Lok-Joint provides a strong, rigid plastering surface, prevents joints from opening under trowel pressure.

*Sealed Lok-Joint Lath, with asphalt barrier against the studs, effectively retards vapor travel. Bildrite Sheathing, being permeable to vapor, permits what little vapor escapes to pass naturally towards the outside.*
As modern and distinctive as the buildings you are designing today

You can do more than just look ahead. You can work ahead on the heating specifications for the buildings you are planning now. Even for those essential buildings to be constructed before V-Day.

And you can be sure that with Modine Copper Convectors their heating systems will be just as modern as the buildings you're designing today.

Distinctly different from conventional radiators... Modine Convectors are vastly more attractive in appearance. They combine space-saving compactness and convenience with automatically controlled comfort... extra economy with all the efficiency of steam or hot water systems.

All detailed data is ready now—types, dimensions, etc.—right in the new Modine Convector catalog.

SPECIFY modine CONVECTORS NOW

A New Line of Enclosures Specifically Designed for Institutional Applications—Not only do these enclosures have the extra weight usually specified (fronts are 14 ga. and backs 18 ga. steel) but other special design features most frequently called for. Strikingly smart in appearance, but extra strong, grille has 80% free area for high heat delivery with extremely low air resistance.

Virtually custom built, yet their extra cost is very moderate, Modine Institutional Enclosures may be had in Projection Recessed Type (see hospital view); and Sloping Top Wall Cabinet Type (insert).

Write for Catalog SA-44

Filed in SWEETS

Look in your phone book for Modine representative's name—"Where to Buy It" section.

MODINE MANUFACTURING COMPANY
1736 Racine Street, Racine, Wisconsin
"The design contemplates merchandise typical of the needs of a small community. To make the interior as inviting as possible to passers-by, display window backs and divisions between departments are limited to structural glass, and both display window and entrance vestibule are strongly illuminated from glass ceiling panels.

The first floor is devoted to the merchandising of men's wear, sports, electrical equipment, etc., together with such items of women's wear as may be attractive to shoppers en route to other departments. The entire second floor is devoted to the outfitting of women.

Structural features, in addition to plate glass, include Herculite Doors, Carrara Structural Glass exterior, mirrors and glass front stock cases and counters."

SILVERMAN & LEVY'S conception of a General Store

In this design, as in the store designs of leading architects throughout the country, Pittsburgh Glass plays a prominent part. These glass products are particularly suited to help in the creation of striking, sales-winning store fronts and interiors. They are versatile. Consistently high in quality. And serviced through a nationwide system of Pittsburgh branches and dealers which assures ready availability anywhere.

Hundreds of thousands of merchants are being urged to consult architects by Pittsburgh Plate Glass Company. Advertisements running regularly in 21 leading retail magazines suggest planning now for postwar building and alterations, with the help of architects.

FREE!

Two perspectives, plan, and several details of this design — on a 21" x 25" sheet. The fifth of a series of store designs by some of America's leading architects. Mail the coupon now.

PITTSBURGH GLASS FOR STORE FRONTS AND INTERIORS
The United States Plywood Corporation in cooperation with Arts & Architecture, invites your entry to the second annual contest for the design of a small post-war home.

The competition . . . open to all architects, engineers, designers, draftsmen and students . . . started officially September 20, 1944 and runs for three months until December 20, midnight. Entries will be accepted up to that time at the office of Arts & Architecture, and are eligible if postmarked no later.

$2500.00 IN PRIZES
WILL BE DISTRIBUTED AS FOLLOWS:

1st Prize ............. $1250.00
2nd Prize ............. 500.00
3rd Prize ............. 250.00
Honorable Mention .... 100.00
Honorable Mention .... 100.00
Honorable Mention .... 100.00
Honorable Mention .... 100.00

Winning designs will be exhibited in principal cities all over the United States. Full credit will be given the designer.

There are no entry fees of any kind. You can get complete information on rules and regulations by writing to Mr. Sumner Spaulding, Arts & Architecture, 3305 Wilshire Boulevard, Los Angeles 5, California.

The United States Plywood Corporation is happy to offer jointly this opportunity for the expression of ideas that must now be uppermost in the minds of all concerned with the improvement of the American standard of living.
Judging by performance, aluminum roofing and skylights have a promising future

Installed in 1931, the aluminum batten-seam roof and skylight on Haish Memorial Library go faithfully about their business of protecting the building’s valuable contents. And, judging by the excellent condition of the aluminum, they can be expected to be on the job for many years to come.

“Performance has been satisfactory in every respect,” says Mr. Louis Bartos, caretaker of the building ever since it was erected thirteen years ago.

Service records like this are being reported from every corner of the United States; on aluminum windows, sills and flashing, roofing, skylights, ventilators, wall copings, spandrels, fronts, doors and grillwork. In many cases, wartime shortages of help have caused maintenance to be slighted. Yet, underneath the surface grime, the aluminum is sound.

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OCTOBER 1944
OVERLOOKING a deep, wooded ravine and park grounds, at Shaker Heights, Ohio, is this four-building apartment development, erected at a cost under $5,000 per living unit. The 67 suites have thermostatic heat control, all-tile bath with tub and shower. On the three-acre site are playspots for children, parking space, and provision for future garages. All buildings are of masonry construction with tile roofs. Circulating hot water heat comes from a stoker-fired central plant.

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FAIRHILL PARKWAY APARTMENTS, FAIRHILL GARDEN APARTMENTS (left) SHAKER HEIGHTS, CLEVELAND, OHIO

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Building reconversion order in the works (this page) ... Remodeling clears WPB (page 76) ... Building's share of full employment (page 76) ... Federal dollars for local planning (page 78) ... New assembly techniques turn out houses every 30 minutes (page 79) ... One-package aluminum kitchen on the way (page 79) ... Britain turns toward housing subsidies (page 168).

BUILDING STARTS

It was big news, and Building had waited for a long time to hear it. On Acting WPB Chairman J. A. Krug's desk last month lay the first major building reconversion order—an order that will, if Krug signs it, permit an immediate start for any construction not interfering with the war effort and not in a labor-short area.

September's reconversion news had moved almost as fast as the news from Europe. First came Chairman Krug's declaration that civilian production would be freed from WPB controls the day Germany surrenders. Next came word of complete repeal of L-41, the building restriction order, on X-day. There was loosening all along the line: a go-ahead for remodeling, more steel for stoves, coal stokers, mechanical refrigerators, more bathtubs. By month's end most of the WPB reconversion planners arguing for light program control over building resumption had swung over to Chairman Krug's hands-off point of view.

But, hopeful as the news was, building's worries were by no means at an end. A great deal would depend on specific terms of the building reconversion order. And a great deal more would depend on builders' ability to buy equipment and materials in an uncontrolled market. Lumber was a large question mark. Would the Army and Navy soon see their way clear to release lumber from their immense stockpiles? There was some fear that a sudden easing of building restrictions might precipitate a buying panic in materials and equipment, with the attendant evils of hoarding and speculation.

Housing Controls Dropped. While these problems would have to be faced and solved, builders could look with assurance to a much better prospect for housebuilding than the National Housing Agency's tide-over program for H-2, or interim housing. (See ARCH. FORUM, Sept., Aug. '44.) Under the proposed building reconversion order, NHA would exercise over-all quantity control of housing production, basing its quotation amount of materials available. But restrictions on location, selling price, amount of materials used, room sizes would be dropped or greatly eased.

Since present WPB thinking promised that Building would soon be free to manage its own affairs, there was small disappointment over the Department of Justice's decisive thumbs-down on a Construction Advisory Committee, proposed to work with WPB on reconversion planning. After lengthy meditation (see ARCH. FORUM, Sept., '44), the Department had decided that the committee, representing both buyers and sellers, would have a semblance of anti-trust violation.

Equipment Promise. Although many building men still thought it would be fine to have somebody on the job at WPB—maybe a construction vice-chairman—to push the matter of building equipment, there was good evidence that the equipment producers were not being left out of the general turn toward reconversion. There was, for example, aluminum-maker, R. J. Reynolds, who said he could have sink, stove, and refrigerator wrapped up in a single unit and on the market by spring.

And all over the nation there were signs that Building's customers thought it would not be long before they could move into a new house—or a new plant. Rochester, N. Y. reported a lot-buying boom that topped all records for the last ten years. In Chicago, William Wrigley, Jr., put architects to work on plans for three new chewing gum plants. In California, an imaginative architect had buyers lined up for a desert subdivision where hangars would replace garages.

Building U. S. There were also plenty of signs of how much these new houses were needed. Acute apartment shortage in New York had helped to precipitate a black market in remodeling. In Denver, the apartment-wanted ads read like an agony column, and shortage of rental
housing boosted real estate purchases for the first half of September to a total of $784,025—a figure exceeding any two-week period in the city's history. In Montana, one school superintendent promised to find a husband for any teaching applicant, but most simply tried to find housing, lack of which was keeping the teachers off the job, some of Montana's schools shut.

Postwar planning hurried to catch up. Three Colorado counties set up a joint planning commission, whose first job would be to work on building codes and zoning ordinances to cover unincorporated areas. St. Paul, Minn. called in industrial designer Raymond Loewy, planned a complete new face for its central business district. Postwar works planning got its biggest boost from the general reconversion bill which cleared Congress late in September, offering, for the first time in U. S. history, federal funds for local planning of public works.

**TWO-THIRDS OF A HOUSE?**

Construction costs are up 30 percent over prewar levels and still climbing. The $6,000 house was the popular prewar house—70 percent of all home buyers in 1941 paid no more. But $6,000 can buy only two-thirds as much house postwar as it did in 1941. Wages have climbed with prices; chances are that a lot of 194X buyers will want to pay a little more than $6,000 for a house.

Geared to a period of depressed prices, the Federal Housing Administration has not yet adjusted its insuring facilities to a realistic picture of present housing costs. Few home buyers want to put up more than a 10 percent down payment, most prefer a 25-year amortization period. But if postwar buyers want these mortgage terms, they will have to settle for a trimmed-down house. FHA will insure 90 percent mortgages with a 25-year repayment period only on houses costing $6,000 or less. Any portion of cost exceeding $6,000 will be eligible for only 80 percent coverage. More important: mortgage amortization period must be stepped up to 20 years. Builders fretted at what was likely to be a big hitch in marketing the fully-equipped, better-designed house that customers, in countless gallupolls, had declared themselves ready to buy. FHA, with its usual caution, gave signs of looking into the matter.

**REMODELING GO-AHEAD**

It all started in New York with a good deal of commotion about a booming building black market, rent gouging, and a scramble for apartments unlike anything the city had seen before. Black market operators sold priority-controlled building materials under the noses of WPB inspectors, while conscientious owners waited for a remodeling permit that would put a few more rental units on the market. Even respectable New York University, Trinity Church and the New York Housing Authority were labeled rent gougers as explosive Mayor Fiorello LaGuardia charged into the fight about widespread increases in commercial rents. Residential owners, most of whom had hopefully added an escalator clause to fall leases, got a brisk turn-down from OPA on their impressively documented petition for a 10 percent boost of the city's rent ceiling.

By mid-month New York's plight had helped to shake loose WPB's remodeling controls. Remodeling that would supply additional living units could go ahead in housing-short areas, WPB said. The National Housing Agency, which must designate the areas, promptly named New York, planned to name a good many more. This was good news, but better was on the way. Under L-41 only remodeling amounting to not more than $200 for a single-family house and $1,000 for a multi-family structure is legal without a WPB permit. By month's end WPB hinted that it would soon lift these cost limits to $1,000 and $10,000, respectively, opening the way for a substantial amount of remodeling with no fuss about a permit.

**FLY-IN SUBDIVISION**

Henry L. Gogerty of Los Angeles is undoubtedly the only man in the U. S. who has settled on an 80-acre tract of sand, lost in the vast stretch of California's Imperial Desert as the place to start building a subdivision as soon as L-41 controls are lifted. Gogerty's site plans calls for runways instead of roads, hangars instead of garages. Stretching down the east side of the development will be a wide concrete airstrip, with feeder runways from each homesite, ending in a triangle landing field fronting a community air service station.

Gogerty, an architect who has flown his own plane for 15 years, has already shown blueprints to "a score or more" potential clients interested in owning both a small ranch and an airplane. Development cost, which he will finance himself, Gogerty puts at $250,000. Ranch tracts will sell for $400 an acre. For land, building, and a pro-rata share of the runway cost, ranchers will pay from $10,000 to $15,000. With well water in abundance in this part of the desert, Gogerty believes buyers can soon make enough from date or citrus ranching to cover the cost of the property.

The notion of a ranch subdivision came to Gogerty one day in 1937 when he was flying over the desert on his way to a construction job. Shortly before Pearl Harbor, he began to talk about the subdivision to other plane-owners, business men of moderate finances, and...
DESER T SUBDIVISION will be laced by air-strips, supplied with hangars. Developer Henry Gogerty already has customers for ranch homes which he hopes soon to begin building on this 80-acre California tract.

found more than enough enthusiasm to get him started on plans and cost estimates.

Ranch homes will be in what Gogerty calls a "conservative modern" style, with both design and materials keyed to the desert climate. Hangars will be part of the house, with the hangar roof used either for a second floor patio or for additional bedrooms. At the west end of the tract, Gogerty plans four "Aerotels", each with four apartments and its own hangar, for vacationers.

Gogerty's conviction that the airplane is here to stay occurred as early as World War I, when he was a construction engineer in the Air Corps. Since then, he has designed a large part of the Imperial Valley's bigger construction jobs—schools, air terminals, public buildings, factories. His advice to developers: count in the airplane.

PROBLEMS UNSOLVED

Two influential opinion-molders buttonholed the housebuilding industry last month. Each had more than a word to say about the matter of more housing for more Americans. Neither felt that the partnership in which government and the industry now work to meet housing need would be dissolved. Both were anxious to define carefully the terms of the partnership.

To a big mailing list, the Producers' Council sent a 96-page report, prepared by Frederick Babcock, vice-chairman of the PC postwar committee and formerly Assistant Administrator of the Federal

REPORT FROM RUSSIA

(John Hersey, Time-Life Forum correspondent now in Russia covering reconstruction, cabled this report.)

Russian reconstruction has three stages. The first corresponds to the work of our AMG. It follows immediately after occupation and consists of restoration of minimum living facilities. The second stage, which follows a month or two later, is a semi-permanent stage, characterized by temporary housing and emergency factories. And finally comes the long-range reconstruction, which is not rebuilding but complete replanning and new development—a projection of five-year plans of the prewar period.

Perhaps the most dramatic example of interim reconstruction is the small town of Istra near Moscow. This was a town of ten thousand, almost completely destroyed by German bombings at the time of the battle of Moscow. The town undertook to rebuild itself without any assistance from the State. First the townspeople, mostly women, built a sawmill entirely with what they could find in the area. Then they built a temporary town of wood. They expect to build a permanent city eventually, but for the time being Istra is jerry-built, like an American gold-rush town. When the townspeople converted the sawmill into the town's new industry—the making of prefabricated parts for houses in surrounding towns.

Temporary reconstruction is done with extraordinary attention to the details of long-range plans, many of which are already drawn up. For instance, in Stalingrad much of jerry-built temporary housing is on land which has been set apart for eventual parks.

The best evidence that the third phase of reconstruction is long range is that for 1944 Russia will do only 33 per cent of her new building in areas freed from the Germans, the other two thirds in the east. Industrial development in eastern Russia is getting as much attention in terms of rubles of the national budget as it did last year, which was a peak year. And in the west, for instance in the Donbas and Dnieper industrial areas, factory equipment which was removed is not being brought back. Instead new factories are being built.

One of the most important aspects of the third phase of reconstruction is electrification. In rural areas both liberated and uninvaded, this is going forward. In this, as in all things, the Russians are apparently patient people. One Armenian town has plans for hydroelectric development which will mature only after 75 years.
NEWS

Housing Administration. Keynote of PC thinking about government and industry teamwork, as struck by Babcock: "It is inevitable that government, at all levels, will participate in housing matters... Governmental facilities should be used in meeting housing problems only as a last resort..."

PC is still plugging away at its favorite notion: that private enterprise may eventually be able to operate a mortgage insurance system comparable to that now offered by FHA. Meantime, Council spokesman Babcock feels, a yield insurance plan should be added to FHA operations.

Mrs. Samuel Rosenman's determinedly open-minded National Committee on Housing also produced a lengthy set of recommendations, intended to "coordinate the activities of all sections of the home building industry and of the governmental agencies concerned." The Committee, which is something of a specialist in coordination, thought that these things might help everybody quite a lot:

- Municipal surveys of need to chart the course of housebuilding activity.
- Statewide conferences between FHA, the Federal Home Loan Bank Administration, and the industry for the purpose of achieving better standards and practices.
- Permissive state legislation for joint administrative bodies that will enable municipalities to cooperate in planning and subdivision control.

Both groups earnestly entered the familiar tilt with the financial windmills that surround the problem of urban redevelopment. Said PC: "It is difficult to view favorably any suggestion whereby the federal government is to furnish or lend funds to acquire blighted areas because of the implied federal control over an essentially local problem." Agreeing that subsidy will be necessary to cover high land costs, Mrs. Rosenman's Committee simply said, "Where that subsidy is to come from is a major unsolved problem." Good point made by the Rosenman group: public works, wherever possible, should be tied in as a contribution to urban redevelopment.

DOLLARS FOR PLANNING

Public works planning was lagging. Last month cities and states had less postwar work on their drafting boards than they had last spring. This was the gloomy report of federal men checking local postwar planning progress. Reason: many localities were stalling on plans, waiting for the federal dollars for advance planning promised by the hotly contested reconversion bill.

Late in September the long-rumored federal dollars were fact. Never before offered by the federal government, advance aid for planning means that local public works needs can be carefully surveyed, long-range construction programs carefully developed. Heretofore, federal funds for the plans have been packaged with the appropriation for construction; when shovels might have

BARGAINING WILL BE HARD

U. S. planners, lost in a thicket of high urban land values, have found Great Britain's rebuilding proposals breath-taking. Has England's older economy found a way out of the tangle? Geoffrey Crowther, editor of Great Britain's most influential journal of opinion, the 100-year-old Economist, thinks that there is good hope for substantial land use reform within England's existing legal and financial framework. But Crowther, in a special Forum interview, reminded that Britain's present coalition government has not yet displayed much evidence of getting down to business on specific ways-and-means. Meantime, "a central set of fanatics" bent on radical changes in land use threaten to wreck useful, if compromise, legislative steps in the right direction.

"The rosy glow of utopian thinking about land use does more harm than good," Crowther said. "Those planners who would, for example, have half of London moved out have not told us how they propose to accomplish this. Are we to write a letter to Mr. Smith of Bloomsbury and tell him to go and live in Manchester? Members of Parliament are briefed by all sorts of impractical people who have small knowledge of the complexity of existing property rights and financing necessities. The recent refusal of Parliament's Labor members to approve a useful small bill for acquiring the land to rebuild bomb-damaged and slum areas because the whole system of land planning has not been worked out is an example of such impractical thinking."

Opposition to this bill, now being revised in Parliamentary committee, was bolstered by local authorities who felt that the national Treasury should be called on for more substantial help than was proposed. This controversy has, of course, its counterpart in U. S. arguments over federal aid for urban redevelopment. "Plymouth's excellent rebuilding plan," Crowther said, "calls for a large part of the cost to be paid by the central government. There is a good deal of feeling that no large amount of national funds should go into special amenities for the people of Plymouth. On the other hand, it wasn't Plymouth's specific fault that it was bombed. This kind of problem will, in the last analysis, be a matter of hard bargaining between the cities and the Treasury."

One big thing Britain has learned from the war and from the 20 years of "depressed areas" that followed World War I is to think less about the mobility of labor and more about the mobility of industry. "Broadly speaking, we have found out that you can make anything anywhere and that there is less social waste in moving industry than in moving people. As yet we have only negative controls. The government may forbid an industrialist to locate a plant in London, but haven't yet screwed up their courage to the point of telling him where he may build it."

Crowther, who got part of his education and a wife in the U. S., once worked in Wall St., is also the editor of a recently launched monthly magazine, Transatlantic, whose sole purpose is to explain Americans to the often incredulous British. Circulation, he said, is going well.
18 HOUSES EVERY 9-HOUR DAY is record of Robert D. Johnson, head of Oregon's Prefabricated Engineering Co. This prefab plant stretches 780 ft., has 110,000 sq. ft. of floor space. Four assembly lines are served by a 10-ton, 80-ft. overhead bridge crane. Read down for the assembly line that produces the TVA sectional design, bulldozer dumping section at site, and complete unit, which Johnson is now selling to the War Dept.

been turning on foundations, architects were just beginning to sit down at drafting boards. Under the new plan, interest-free federal advances will be made for planning, deducted from any future allotment made for construction. No advance is to be construed as a promise that there will be such an allotment. If there is not, states and localities will have nothing to pay back.

HALF-HOUR HOUSE

Every thirty minutes a three-room prefabricated house rolls off one of the four 600-ft. assembly lines at the Prefabricated Engineering Co.'s plant at Toledo, Ore. It takes ten minutes longer to turn out a four-room house.

With a big War Dept. order in hand and a careful eye on the postwar market, Prenco's head, Robert F. Johnson, is not anxious to do much specific talking about the improved assembly techniques responsible for a production record that comes close to the pace of automobile manufacture. One of them: painting and quick-drying sections on the line. Working one nine-hour shift, 400 men man the assembly lines.

Using the Tennessee Valley Authority's sectional plan, Prenco has made only minor design changes. One important time-saver is inclusion of thermostatically controlled electric heating units—eliminating TVA's plans for alternate use of gas, coal or wood. Each section is complete from roof to wiring and plumbing fixtures when it leaves the line. Sections hauled by motor trailer stop at a Portland furniture factory, arrive at the site equipped with 30 pieces of furniture. Walls are of plywood; framing lumber is supplied by the C. D. Johnson Lumber mill, which is next-door to Prenco's plant.

A prefab newcomer, Prenco went into operation in 1942, but Robert Johnson and the firm's engineer, Russell E. Dahl, have been experimenting with the mass-produced house since 1936. Design chief Arnold Southwell helped to develop the Moduluk system of panel construction, which the firm uses in producing military hospitals and barracks.

Prenco has already sold 2,000 of the TVA units to the War Dept., none, as yet, to anybody else. On the basis of present material costs, Johnson estimates that price to individual buyers would be $1,800 for a one-bedroom unit, $3,000 for the three-bedroom unit. Prenco looks forward to a big postwar market for summer homes on Western streams and beaches, plans to sell units on a short-term financing plan like the automobile contract.

KITCHEN SUCCESS STORY

R. J. Reynolds, who now produces about one-fourth of the national supply of aluminum, and Guyon L. C. Earle, a Long Island real estate man with an inventive turn of mind, are both characterized by a singular indifference to the voice of majority opinion. When foil-maker Reynolds set out in 1940 to invade the hitherto unchallenged production monopoly of the Aluminum Company of America, there were plenty of experienced production men on hand to warn him that he would lose his shirt. But Reynolds sold his aluminum production plans to RFC to the tune of some $40,000,000 backing, today produces more aluminum than did the U. S., England and France combined in
1939. When in 1938 Earle began thinking about an integrated kitchen unit that would at once yield more efficient refrigerating facilities at less kilowatt cost and combine them with sink, stove and adequate cupboard space, there were a number of experienced refrigerating engineers who assured him that his notion would never work. Earle, who had neither the advantages nor the prejudices of formal training in design or engineering, went right on experimenting in his basement workshop. Last month Reynolds went down to Earle's basement workshop, came up with plans to put three of his 40 plants into production of the kitchen unit by early 1945.

In this happy alliance, the Reader's Digest had acted an unwitting go-between. Earle had long been enchanted by the notion of making his unit out of aluminum, but, until he read the Digest's version of the iconoclastic swathe which Reynolds had cut in the industry, had not hit on what seemed to him a proper man to back it. One look at the kitchen unit was enough to convince Reynolds, who has been finding one answer after another to Jesse Jones' question—"What are we going to do with three billion pounds of aluminum a year after the war?"  (Among them: an improved type of aluminum insulation, which Reynolds first introduced in 1934.)

With controls lifted on aluminum and steel (for the counter top) in good supply, only materials tough spot in kitchen unit production will be compressors. But Earle, who has joined Reynolds' firm to work on the tooling job, believes there will be enough of these to get the unit on the market by next spring.

Since the unit packs all kitchen equipment into seven or nine feet of wall space, Earle expects it to have a big market for use in small apartment kitchens. He figures that, in an 8 x 9 ft. kitchen, the unit would mean 33 per cent more dining and working space—plenty of room for a table and chairs. The unit has 9 cu. ft. of drawer-type refrigeration space, includes such special amenities as dish and towel drying compartments, operated by waste heat from the compressor. The stainless steel double sink is welded to the steel countertop top, eliminating crevices. Refrigerator drawers are designed to minimize heat leakage, close by gravity when pushed within an inch of the opening.

Present thinking puts selling price of the unit under $300 for quantity deliveries. But there will be cost-cutting on every front. Aluminum itself now costs 15 cents a pound, against the prewar price of 20 cents. Designed for assembly-line production, the unit, according to its inventor, also permits simplification of tools and dies. Cost of shipping, merchandising, and servicing a single unit would logically be less than costs for each separate piece of equipment. Production and marketing will be handled through a Reynolds Metals Co. affiliate, the Richmond Radiator Corp.

LABORATORY JOB

Recommended by every specialist who has thumped housebuilding's sagging chest over the last decade, comprehensive technical housing research may soon reach a legislative birth. Joint fathers: Senator Robert Ferdinand Wagner, whose interest in low cost housing dates back to a childhood spent in the slums of New York, Senator Harlan Martin Kilgore, whose confidence in the miracles of technology has inspired an unflagging interest in federal research.

Committee hearings, soon to begin, will be held jointly by several Congressional Committees to speed passage of S. 2046, the bill providing for an Office of Housing Research with adequate funds to undertake broad research for improving the production, fabrication and construction of the nation's housing. The bill provides that any invention resulting from publicly financed research will belong to the U. S. Not less important than the Office's own research endeavors would be its correlative program for coordinating the many kinds of specialized studies in housing technology now being undertaken by manufacturers, universities, foundations.

Under the strong lens of Senator Joseph O'Mahoney's Temporary National Economic Committee in 1941, the industrial giant that is housebuilding dissolved clearly into hundreds of thousands of small business enterprises. Seat of most of the industry's woes, this well-publicized fact is also the reason why housing product development has never been gilded by the research magic that emanates from the million dollar laboratories maintained by the bulk of U. S. industry. TNEC diagnosticians R. Harold Denton and Peter A. Stone summed up the lack of research impetus: "Contractors operate upon too small a scale to carry on research . . . No single manufacturer produces a very large proportion of the materials used in a house. . . . No manufacturer is interested in the house as a whole, and none of them has been willing to spend money upon industrial research of a comprehensive nature."

The TNEC probings released considerable steam back of a proposal for federal housing research, but the war emergency shunted an O'Mahoney-sponsored bill off the legislative tracks.

Over-all federal research expenditures have zoomed with war expenditures. Investigating the government's research

(Continued on page 162)
Prescience was never more fully rewarded than with the appearance of this issue of *The Forum*, devoted to remodeling, just as the government announces its first release of building materials from wartime controls. To be sure, commercial remodeling, the subject of this issue, is still under restriction, but many see in the present relaxation Step I in a program which will open building opportunities of many kinds as soon as the European war ends. The November issue, a companion to this one, will deal with residential remodeling, already restriction free in many areas. Thus, these two *Forum* issues have great currency because actual remodeling soon will be possible in communities where there are neither labor nor material shortages.

For too long remodeling has been the stepchild of the building business. Those who deal with urban rehabilitation in its larger aspects are tempted to scorn the realistic fact that we must recognize the legacies of the past and that in many instances it is both practical and economical to modernize rather than to demolish existing structures.

The financial problems and the design techniques involved in successful remodeling challenge our best talents. Where once this field was dominated by a heavy-handed, commercial approach, it is now becoming widely understood that conversion of old structures into quarters which compete in facilities and in appearance with their modern counterparts, demands competence and ingenuity. A review of the material in this issue makes clear that remodeling is a major assignment.

It is also evident that store design has made big strides forward. The distracting, eye-catching store "architecture" of ten years ago has been junked in favor of systematic study of consumer appeal in terms of display techniques, lighting and mechanical equipment. The shop front, for example, has undergone revolutionary changes. The old-style front in which display windows flank the entrance vestibule is on its way out. New types are coming to the fore: the billboard window, with its narrow strip of display space for small objects like jewelry and accessories (page 104); the open front, which affords maximum visibility of the store
interior (page 92). In some cases the designer has literally dispensed with the formal window while retaining glass as a transparent enclosure. Illumination has been elevated to an exact science employing an artificially extended scale of light values to focus attention on the merchandise (page 129). Restudy of store layout in relation to sales has resulted in many changes. Silverware, for example, is no longer placed next to the jewelry counter but is included with home furnishings where the housewife can make her selections along with other household equipment. Light, portable display equipment makes possible seasonal changes in allocation of space (page 84). This new orientation has challenged the designer’s abilities and at the same time has given him a freedom which he may not have found in other types of work.

The selection of jobs aims at the widest possible coverage, from the select dress shop to the supermarket, from bar to office interior. Even in those examples where sales to the consumer are not a factor, the same attention to detail and appearance which marks the store designs is evident. Particularly in the office field this is a notable new development. Built-in lighting and furniture, attractive colors and materials and specially designed equipment are found as frequently in the offices illustrated as in the stores, and are also making their way into the industrial field, as shown by the two examples of such work included.

In one respect the material presented falls short of the standard which must be met in the postwar period. Almost all of the work is fragmentary. Individual buildings which have been remodeled without reference to their neighbors, interiors which provide a controlled environment limited to the confines of a 20 by 40 ft. space, handsome displays which are all but “blacked out” by parked cars, are among the penalties of the piecemeal approach. In short, no matter how brilliant the individual solution, it often suffers in its splendid isolation. How true this is can be seen by referring to the project for remodeling the main street in Niles, Michigan (page 100). Here is no one-shop solution, but a unified reclamation of a complete city block in which each individual store not only gains from its own transformation, but borrows from its spruced-up neighbors new vitality and attraction. It serves to illustrate, once again, the prime importance of remodeling in the postwar picture: it is only through such a wholesale approach to our existing buildings that we can hope to change substantially present patterns of urban building within a reasonably short time after the war. And only through such changes, multiplied by ten thousand Main Streets, can we hope to alter our basic business environment.
The sale of women's wearing apparel, constantly subject to capricious fashion dictates and overlapping seasonal changes, requires correspondingly flexible display facilities. Before remodeling, the coat and suit department of this store had rigidly divided merchandise grouping. Stationary stock and show cases created barriers which interfered with the seasonal fluctuation in the stock of various types of clothing. Analyzing the situation, the architects found that by turning the department into one large sales area, the furniture and some movable fixtures could be grouped to subdivide the department according to the merchandising requirements of the moment.
Because of its spaciousness and ample provision for stock, fittings and alterations, the original plan needed no significant changes. The most important structural addition was a louvered Ther­molux screen in front of the windows which diffuses the light and introduces a major new design element.

A combination of metal tube and upholstered furniture was used. The metal tables have glass tops; chairs are upholstered in striped and solid tapestry. The absence of bulky overstuffed pieces adds to the feeling of spaciousness. Specially designed display pedestals raise the mannequins a few inches off the floor—enough, however, to attract attention from a distance.

Walls are of plaster and V-joint sand blasted oak. Birch, the wood used for the furnishings, is repeated in the doors, trim and screen frame.

Design and lightweight furniture a necessity. Existing structural features remained unchanged.
The type of long, narrow floor space frequently found in store and loft buildings never fails to present merchandising problems, particularly when a wide variety of articles must be prominently displayed. The standard solution which places the small, inexpensive items nearest the door and bulkier merchandise toward the rear was worked out by department store owners long ago. In this instance, the exaggerated elongation of the building created an unusually acute problem of this type. The front part of the store amounts to little more than a passageway. To counteract the tunnel-like perspective from the main entrance the architect employed a number of contrasting shapes and colors, occasionally placing a showcase or table well away from the wall. Wherever stock space along the sides could be dispensed with, niches were created. Furs, the most expensive and slowest selling article, were given all the privacy possible. A series of free standing display units in the center of the main sales room at the rear screens the fur department and guides the customer unconsciously to the right through the principal circulation channel.

The fixtures and most of the upholstery fabrics were designed by the architect. Pickled oak, gray and off-white, make up a basic color scheme used throughout the store. The small, closely related departments are identified by brighter color accents; green in the jewelry department, rose in the millinery department, red for the sportswear and blouses. White plaster and marbled paper were lavishly used throughout as decorative touches. The showcases at the front of the store were designed with legs instead of carried to the floor to add to the feeling of space in the narrow section of the building. Cove lighting furnishes the general illumination; spotlights are used for individual displays. Space for future expansion is provided on the floors above.

**FINISHES AND EQUIPMENT:**

- **FLOOR COVERINGS:** Carpeting and linoleum, Alexander Carpet Co.
- **WALL COVERINGS:** Wallpaper — Laverne’s “Marbala”; Katzenebach & Warren; Jacobs Co.
- **FURNISHINGS:** Chairs—Theodore Abrams. Showcases and tables Stanger Bros. Fabrics—Creative Looms, Schumacher Co.
- **WOODWORK:** Trim—oak. Doors—pickled oak.

**GENERAL CONTRACTOR:** STANGER BROS.
JEWELRY AND ACCESSORY DEPARTMENTS ARE GROUPED IN AN INFORMAL SETTING

PHOTOS: Gotscho-Schleisner
UPHOLSTERED PARTITIONS CREATE BOOTHs SPOTLIGHTS ILLUMINATE SHOWCASES

FALSE EGG-CRATE CEILING

FRAME CANOPY JOINS COLUMNS AND MARKS DIVISION BETWEEN COAT AND FUR DEPARTMENTS
All designers agree that the war has taught them much about their work. Most emphatic are Gruen and Krummeck, who used unconventional methods and materials in redesigning a group of three stores to suit the expanding wartime business of a single firm of women’s clothiers. The result is probably as lively and original a design as this type of remodeling has produced in some time.

The firm originally occupied only one-third of the present site. Expanding to include space formerly occupied by jewelry and cigar stores, the problem of a unified front was the first to be tackled. Under normal conditions the three fronts would have been remade to form a single entrance. This was found to be impossible in wartime. Instead, a wooden frame was constructed 60 ft. wide and 25 ft. high and covered with half-round rods, forming a background for wooden cut-out lettering, which stands out in gold leaf against the flesh-tinted screen. Accomplished without structural alterations, the sign provides good advertising as well as a general face-lifting of the exterior. The three entrances remain, somewhat modified by the addition of curved wooden screens, which close off the arcades from the interior.
Chief problem of interior remodeling was the ceiling treatment. Each of the three original stores had three ceiling heights, making nine different levels in the new one. Restrictions put replastering out of the picture, and an existing sprinkler system prevented solid draping, which the designers had applied to other stores. The ingenious solution consisted of stretching crosswise 4 in. strips of flameproofed fabric, allowing the sprinklers to function through the square openings. By painting the area above this network dark and concentrating light downward, the designers succeeded in creating the effect of a uniform ceiling throughout the 200 ft. by 70 ft. interior.

Another problem encountered and solved, was that two of the columns carried exposed main water and sprinkler pipes. They were concealed with wood screening purchased ready-made by the yard and placed in free shapes around columns converted into signposts for the direction of customers. The remaining columns were covered with mirrors from floor to ceiling. Walls were draped with two-color fireproofed fabrics.

All sales fixtures were designed so as to be easily moved and fitted together. The wall bins are of standard length and can be used for hanging space or shelving. Umbrella and ashtray stands which would normally be made of metal are of wood, with glass fittings purchased at the corner cigar store.

By erecting dust-proof partitions and remodeling the store in sections business continued without interruption during the entire operation. Rearrangement of the interior can be accomplished simply by adjusting the size of the islands and table display counters.
Colorful new decor, a practical example of applied remodeling under shortage conditions.

Mammoth nameplate on undulating wooden screen. Lettering is gold and blue.

Wood fixtures replace metal.

New sets of glass doors were purchased before Pearl Harbor.

OCTOBER 1944
MANGEL’S, MONTGOMERY, ALA.

Architect Lapidus confesses that all he knew of modern architecture when he designed the original Mangel’s in 1928 was learned from the then-famous Paris Exposition of Decorative Arts. The job was modern for its time, but he admits he was glad of the opportunity to remodel the front and interior in accordance with present-day merchandising ideas.

Major innovation is the raised front, which was obtained by removing the second floor to a depth of 56 ft., creating an upper level display space backed by a plaster cove which gives the illusion of great depth. The entrance wall is a single large window of hardwood frames and glass, giving almost 100 per cent vision of the inside of the store. Large, floodlighted showcases extend the window-like effect to the sidewalk and form a wide arcade for leisurely shoppers.

Inside, the plan was changed to give more space to sales by including a large proportion of the stock in wall display cabinets and hangers. The cabinets have architect-designed lift-up and slide-back doors of glass framed in maple, so that the goods can easily be identified. The dress-cases form a pleasant curve, behind which fitting cubicles and an alteration room are located.
proves that a higher front, open arcade, and second floor display space can really increase sales.


GENERAL CONTRACTOR: ROSS-FRANKEL, INC.
The generally acknowledged importance of controlled lighting in display areas is well illustrated in this store where the sales floor was deliberately made an interior room. Only the millinery department, where the accurate matching of colors is most important, receives natural light. However, most of the dressing rooms have windows. Bracket fixtures on the sales floor give subdued, indirect illumination. Cove lighting is used in the show cases to stress merchandise on display.

The plan ranges stockrooms, offices and dressing rooms around a central sales area. Before remodeling, the floor was used only for storage, and except for the structural columns and elevator bank, the architect had a clean space with which to work. The masking of the columns has been well handled. While there is nothing new about using mirrors for this purpose, backing the columns with a wall is a simple idea which does much to play down their prominence. Since the district required fireproof construction, the walls were built of hollow tile to a height of 8 ft. with glass to the ceiling. The glass is set flush and painted to resemble plaster.

The choice of wall coverings is imaginative and appropriate. Because of the large scale of the space, texture is particularly desirable. In the shoe department it was achieved with stock oak flooring first ripped into 1 in. widths and applied to the wall with 3/16 in. spacing. In the millinery department the walls are covered with reed window-shade material painted beige. Oak plywood, bleached and waxed is used in the main salesroom. The same wood is used for doors, trim and furniture. Its tone is matched by the paint, creating an unobtrusive background for the merchandise. Color accents are found in the upholstery, decorative plants and accessories.

**FINISHES AND EQUIPMENT:**

**FLOOR COVERINGS** — Carpet. **WALL COVERINGS:** Oak plywood, reed screens and 3 in. oak flooring. **FURNISHINGS**—oak, bleached and waxed. **TRIM**—oak. **HARDWARE**—Sargent & Co.

**GENERAL CONTRACTOR:** JACKS & IRVINE.
agement are the outstanding characteristics of this specialty shop interior designed by Gardner A. Dailey.

Photos: Roger Sturtevant

VINE-COVERED POLES SCREEN MILLINERY SALON

COMBINED MIRROR-LAMP IS FOR TRYING ON HATS

LIGHTING FIXTURES ARE SPECIALLY DESIGNED
Wartime problems of rationing and fuel shortages have limited the operation of supermarkets located away from heavily-populated districts. It is therefore doubly interesting to find that this firm not only remodeled its store in the most critical period of supermarket history but introduced a number of new design features and special types of service.

Occupying the largest single shopping tract in the St. Louis area, the building was set back 300 ft. from the roadway to allow for ample parking. The present owner added 8,000 sq. ft. to the existing 20,000 sq. ft. of floor space, in the form of warehouse and refrigeration facilities, a curb-service fountain and self-service liquor department. Little was done to the original structure, except to enclose part of the colonnade and install a sound absorbing ceiling and a terrazzo floor. The Colonial front, oddly unrepresentative of the throbbing, seven-day-a-week activity which goes on behind it, remains un-changed.

The architect and owner gave much thought to labor-saving installations to alleviate personnel shortages and increase customer convenience. Storage coolers were located so that replacement stock could be obtained with the minimum of effort. In the self-service produce department 85 per cent of the stock is always on display on all-metal elbow-high counters with an 8 in. stainless steel casing around the upper edge to protect customers' clothing from snags and tears. Each variety of vegetable and fruit is displayed in a wire ice-tray. Perishable varieties rest on beds of "ribbon" ice, provided by a machine behind the counter. The dairy section has a blanket cooling system which covers the open bins with a layer of cold air.

Combining these technical innovations with a series of new sales methods, the firm has successfully weathered the war years. By servicing the maidless, middle-income district with a hot foods delivery system it has extended its operations into the surrounding homes. An insulated motor-cycle side-car, electrically heated, protects the temperature of the food on its journey from the kitchens. Busy housewives can also select hot foods from the twelve thermostatically-controlled food pans in the main building or an entire dinner can be eaten at the stainless-steel soda fountain to the left of the main doors.
ice, and regulation marketing facilities. A drive-in store in St. Louis, Mo., designed by Carl F. Schloemann.

**Super Market Merchandising**

**SERVICE PRODUCE COUNTERS HAVE BAG SHELVES, REFRIGERATED TRAYS. MEAT COUNTERS ARE IN 10 AND 20 FT. UNITS**

CUSMERS ARE CHECKED OUT HERE

**SHELVES HAVE RECESSED BASE. DAIRY GOODS ARE BLANKET-COOLED**

ACRES OF PARKING SPACE SURROUND THE RECONDITIONED FOOD EMPORIUM

**OCTOBER 1944**
In strange contrast to the old warehouse in which it is situated, this cleanly-designed salesroom is expressive of the chemical products it is designed to sell. Unadorned to the point of severity, it is reminiscent of the laboratories, hospitals and photographic studios from which its customers come.

Originally the store was merely an open space sketchily separated from racks for stocking and warehousing bulk material. In the new plan, merchandise is completely segregated from the salesroom. The necessary sales counter becomes a display for samples of chemical products and the opposite wall is devoted to cases exhibiting scientific equipment.

The most significant factor in the design as a whole is lighting, used to create block patterns in an otherwise bare interior. Both the recessed ceiling panels and the continuous glazed window are based on repetition of rectangular shapes. This theme is repeated inconspicuously in the linoleum floor covering.

The design formula of this showroom — straight unbroken lines — has much in common with the International Style popular a few years ago. Intrinsically appropriate to a chemical company, its component elements have been handled with a sureness that comes only from experience.
Ketchum, Gina & Sharp, Architects, convert a block of outdated storefronts into a modern shopping center without sacrificing individuality.

This postwar project envisages the simultaneous remodeling of an entire block front under the direction of a single architectural firm as part of a still larger program for the improvement of shopping centers throughout the country. The design is intended as a prototype for modernization of the town's entire business section and as an example for other interested communities. Sponsored by the Kawneer Co., manufacturers of storefront equipment, the plan calls for the cooperation of merchants, citizens and the municipal government. It is hoped to coordinate this project with civic improvements which include a by-pass highway around the center of the town.

To inaugurate the plan, Kawneer had its consulting architects prepare a study for the postwar remodeling of the storefronts along one side of a single block of Niles' Main Street. The resulting design, presented on the following pages, was recently submitted to the twelve merchants concerned with the assurance of the active cooperation and assistance of the Kawneer organization in carrying it out. It was emphasized that the proposed improvement was simply a unit in the over-all redevelopment of the Niles shopping center and that eventual agreement of all the merchants and building owners concerned will be necessary before the more fundamental problems of traffic, parking and service access to the stores can be solved; also that the preliminary design would be modified and further developed on the basis of discussion between the architect and the individual merchants.

Convinced that postwar modernization must proceed on a community rather than an individual basis, the sponsors plan to develop a service which will make available designs for remodeled shopping centers, complete with replanned stores, to groups of storekeepers all over the country.

Niles, the home of the Kawneer Company, was selected for the pilot study not because of any spectacular deficiencies, but because it is a typical American community. Regional and city analysis proved that it suffers from most of the symptoms of uncontrolled development: congested traffic and parking, inadequate service facilities, obsolete buildings and stores. It was also discovered that while the majority of shoppers purchase their staples in Niles and make use of its service establishments (dry cleaners, laundries, barber shops, etc.), the neighboring cities of South Bend and Chicago draw part of the trade for clothing, gifts and furniture. In other words, consumers find Niles' shopping facilities inadequate for the purchase of other than staple merchandise.

The frontage selected for the pilot study is typical of Main Streets all over the country for both size and type of store. Because of the experimental nature of the project, the architects' scheme is by no means complete: modernization of the storefronts is based only on exterior appearance. Interior requirements will be worked out later. Continuity of design and harmonious use of materials are major elements in the project. While it is planned to paint all the buildings a uniform color above the first floor, the two instances where an entirely new facade has been applied to the full height of the building suggests that a more extensive remodeling of the block might be practicable at a later date.

The Niles project goes a long way toward reconciling the storekeeper's desire for individuality with the need for unified design. Striking character has been given the separate stores, but through ingenious handling of the group plan adjacent facades play an important part in complementing and emphasizing each other. A number of unusual design features, all created from stock elements, are used to produce this interrelationship. The elimination of show windows for stores where no merchandise is sold is one example; the dual treatment of two stores featuring a large, common entrance is another. As a result, the block front appears much less cut up, and because disorganized competitive signs are absent, each display receives additional emphasis. In most cases the new plan greatly increases the prominence of the display area despite small frontages.
DRUGS, CANDY. Two smart designs lead off the block remodeling project. Their open front treatment and

KETCHUM, GINA & SHARP, ARCHITECTS

Perspectives: Joseph N. Boaz and Dale C. Byrd
lity signs point up the outmoded appearance of existing shops.

DRUGS

The corner drugstore, like its counterpart in many small American towns, does not take advantage of its strategic position. By merely moving entrance doors to the right, the location can be given a continuous open front on Main Street. The entire sales room will become a display and the sidewalk, which carries showcases at right angles to the sidewalk, will be visible from both intersecting streets. Sign lettering, carried around the end of the store, will also be clearly seen from two directions. To identify a basement barber and beauty shop without detracting attention from street level displays, separate sign walls and improved stairs will be provided.

CANDY

A commonplace store front, broken up by separate entrance doors for upper and lower levels is replanned into a light, open-faced shop expressive of the candy and soda fountain it contains. Combining the two entrance doors in a panel is the most important step in the remodeling. By concentrating traffic at the left, this device will save valuable street frontage and permit a spacious store-high show window. Translucent ceiling panels will provide general illumination. A lateral arm awning box will be used at ceiling level to enclose both this store and the adjoining jewelry store. Without loss of identity, the continuous box pulls the two shops together in a unified design. A separating partition provides excellent eye-level sign space visible to pedestrians approaching from either direction.
JEWELRY, HARDWARE. Although every new store front is indicative of the business it represents, 

KETCHUM, GINA & SHARP, ARCHITECTS

PORCELAIN/ENAMEL

COLD CATHODE GLASS

REMOVABLE PLYWOOD FLOOR PANEL

PORCELAIN TERRAZZO OR CONC. BASE

SECTION THRU SHOWCASE AT SIDE WALL

JEWELRY HARDWARE

Schematic section thru show window

WINDOW FLOOR

GLASS

104 THE ARCHITECTURAL FORUM
JEWELRY
As in the case of the candy store, the major disadvantage of the next building is its entrance arrangement. Because three doorways occupy the most valuable frontage, leaving only a small space for show windows, its two shops are hard to rent. As a simple solution to this problem, a metal-faced partition with a horizontal case for jewelry display will be used to screen the doors. Access will be around either side of the display wall, while the original vestibule and entrance to upper floors remains unchanged. The ground floor, however, will be replanned as a single store with the twin selling spaces united behind the central staircase into a large sales area.

HARDWARE
Because its original store front is more functionally planned than any other on the block, the hardware store will require no fundamental changes. Certain poorly executed features will be restudied and the entire upper front included in remodeling. A metal molding around the sides and top of the building ties together upper and lower doors. Free-standing metal spandrels between windows conceal objectionable elements and provide excellent sign space—suggesting an inexpensive solution which could be applied to the upper part of other buildings in the block. The main show window—with a vision panel at the back—is recessed to encourage window shopping, and slanted to lead pedestrians inward towards the entrance. To provide a suitable background for the display of larger items, the right-hand showcase is divided in an eggcrate arrangement.
NOVELTIES, SHOES. Cluttered stores are replaced by simple designs which make liberal use of the op

KETCHUM, GINA & SHARP, ARCHITECTS

PLAN OF STORE FRONT

THE ARCHITECTURAL FORUM
NOVELTIES

Although the existing ten cent store front is more up-to-date than its neighbors, its door and show window arrangement is too complex for good display. In the new design, the whole store is converted into an open front display lobby—a theme which, in varied form, runs through the entire block. With entrance doors and facade combined in one simple glazed unit, the impact of interior sales counters will be heightened. Sidewall showcases—another feature repeated in nearly every store—will be visible to shoppers approaching from both directions. Although the entrance to the second floor stairs will not be moved, remodeling will integrate it with the new display walls. The ceiling, which contains translucent lighting panels, will project to form a canopy over the recessed lobby.

MEN'S STORE

Because of their location in adjacent buildings of similar size, this store and the two which follow will be remodeled as a group. Although each retains its identity, certain design elements common to all three will create a unified effect. Most significant individual change in the men's store will be the substitution of a large display case for two smaller existing windows. Sliding panels at the back will provide either a partial view of the store interior or an entirely closed showcase. Displays can be attached to these background panels and to the slotted window wall. An unsightly glass transom above the store will be replaced by prominent metal lettering on a grooved background.
CLEANER, UTILITY, WOMEN'S APPAREL. A continuous sign panel groups three st...
The entire facade of the department store is remodeled.

**WOMEN'S APPAREL**

Second in the planned three-store unit, this dry cleaning establishment has long needed a thorough modernization of its entire facade. Remodeling will unify the present patchwork of two show windows and door into a single front. The entrance door will be moved to the left and grouped with the adjacent door to the men's store. A simple billboard (executed in the same metal facing used below the men's store showcase) covers most of the glazed front and further correlates the separate stores. The upper sign panel is part of a continuous strip over the three stores, individualized in each case by distinctive lettering.

**UTILITY**

Third store in the group is an electrical appliance salesroom which will need proper sign identification, good pictorial display and an inviting interior. All these requirements are met in the new design. The left-hand door to an upper staircase and the adjacent door to the salesroom will be united into one display panel. A low bulkhead to the new show window, combined with full height glazing provides a good setting for large-scale appliances. The right-hand wall is utilized for photo murals of company products.

**WOMEN'S APPAREL**

The women's clothing store is one of two buildings which have a complete new facade. A metal surround like that used on the hardware store will wrap the perimeter of the upper stories and metal spandrels attached between windows will serve as sign backgrounds. Three large mannequin show windows to the right and a long accessory case to the left will lead shoppers back to the entrance.
LOANS
Present show windows, a liability to the personal loan service, are eliminated in the new plans. In their place, three-quarters of the store front will be closed by an eye-level sign panel. This will shield the interior office space, but still assure it ample daylight. The entrance door, now in a central position, will be replaced by a pair of clear-vision doors at the side. Identical background treatments of the upper sign panel will relate the store to those on either side.

SPORTS
The last two stores on the block have been replanned as a unit to take full advantage of their corner location. Store fronts will be combined to form a single display lobby, partially broken by a separating partition. Recessed windows will create a pedestrian short cut at the street corner and permit the use of shallow ramps instead of steps at the various entrances. The sports shop will have a small show case at the side and one large window.

SPECIALTIES
An upper panel, common to the finance corporation, sports and apparel stores, will be carried around the corner as a facing for the building on the side street. It will be used as a background for new signs and as a surround for the side street showcases. This treatment modernizes the appearance of the end of the block. A basement barber shop which at present is a confusing note will also be integrated in the new plans. A combined entrance which serves the barber shop and the upper floors of the apparel shop is aligned with the adjoining show window. Two large windows flank the street floor entrance.
ssed store fronts provide a shelter for shoppers.

SHOW WINDOW

PLAN SECTION (SPORTS SHOP)

OCTOBER 1944
The Schulte cigar store, tucked between the stone columns of downtown office buildings, is one of the common sights of many U.S. cities. It is also a highly successful merchandising venture based on the unconventional mixture of tobacco and haberdashery. That Schulte should plan so drastic a departure from their established store pattern provides a convincing measure of the extent to which design will influence postwar merchandising.

A number of extremely advanced ideas will be incorporated into the new stores. Most important, of course, is the replacement of show windows by an open front which turns the entire store into a display. Also significant is the setback of windows from the building line, eliminating the need for awnings and providing shelter for window shoppers. The slanting entrance wall encourages people to cut across the corner, offers greater ease of access and permits the addition of a unique "island" display case.

Combined tobacco, candy and magazine counters are located immediately alongside the two entrances. By pushing a button, one of the front panels can be lowered beneath floor level to allow sidewalk sales from the nearest counter. Along the interior sidewall, rotary units in a sawtooth pattern provide full display of haberdashery in a small space.
Since the day, a good many years ago, when the American drugstore broke an all-time record for atrocious merchandising it has been in the throes of an interesting development, provoked mostly by the good example of its stiffest competitor, the five and ten cent store. The two stores chosen for this project illustrate the present trend toward modernization. While none of the proposed changes are radical in character, they have the effect of a general clean-up which will help raise merchandising caliber and improve circulation. In the case of the smaller drugstore, only one or two major changes are to be made; the counter behind the soda fountain will be moved to the outside wall and the over-all length of the fountain slightly reduced by a slanted corner. An eye-level window over the rear counter will provide a view of the street. Three showcases in the center of the floor create additional display space and act as circulation barriers between the soda fountain and the sales department.

The more pretentious scheme for the larger drugstore relocates an existing liquor store which cuts into the present space. Two new entrances replace the present three. Circulation is again controlled by centrally located showcases. A cul-de-sac at the rear formed by the new liquor store and prescription department contains the telephone booths.

Both schemes were designed with an eye to postwar equipment miracles. They also put more than customary emphasis on the prescription department since it is believed that in drugstores of this type the pharmacist's work should be handled in a more scientific fashion. Mixing bowls and other equipment used in the compounding of drugs will be sterilized on the spot and kept in special sterile compartments.

On the exteriors, colored, nonbreakable glass will be used for bulkheads, cornices, window moldings, etc. The present porcelain enamel signs will be replaced by relief lettering executed in glass, plastic or metal.

The designs indicate that drugstore owners are at last awakening to the fact that it is possible to display quantities of small articles in a way which insures a pleasanter shopping environment.
and interiors complete with humidified tobacco counters, sterilizing equipment for dishwashing and fluorescent display lighting.

ENTRANCES ARE ALL BUT INDISSINGUISHABLE

CURVED RETURNS MAKE ENTRANCES INVITING BAYS. SIMPLE TREATMENT BLENDS WITH CLASSIC BUILDING STYLE

OCTOBER 1944
FASHION SALON. Adrian's new dress establishment replaces menus and potted palms with recipes for

ADRIAN, LTD., BEVERLY HILLS, CALIF.

Hollywood, the home of beautiful women, has its own idea of the settings they look best in. Both its domestic and commercial architecture currently shows a trend to the chic which at its most restrained resolves itself into streamlined baroque and in its flamboyant stage becomes confectioner’s gothic. Adrian’s new establishment, which used to be the fashionable Victor Hugo restaurant, falls somewhere between the two. Avoiding the plaster curlicue, it nevertheless makes use of floating columns, oriental canopies and an analogous color scheme called glamorose. The general form of the reception rooms was kept, although much effort appears to have been expended in changing an ellipse into a circle.

The vestibule was given mirrored walls and retains its marble floor. Unpolished plate glass balustrades lead to the circular salon with its 16 ft. high ceiling. Cold cathode and recessed down lighting bathe Immediate Wear customers in a rosy, flattering glow. The square Custom Salon has a stage for models, and furniture designed by Adrian himself, who dreams up his creations in an adjoining room.

CORE OF THE NEW PLAN IS A GLAMORIZING SUITE OF RECEPTION ROOMS. FROM ENTRANCE THROUGH VESTIBULE EN...

READY-TO-WEAR AND CUSTOM SALON AND INTO ADRIAN'S PARLOR, THE EMPHASIS IS ON FLATTERY AND CHARM
MARY LEWIS, INC., NEW YORK, N. Y.

This dress shop, which brashly broke into print last spring (see Arch Forum, June, '44, p. 55) with its yellow wooden door, has none of the elegance of its more staid neighbors, whose inspiration was the Beaux Arts tradition of the Rue de la Paix of yesteryear. But the inviting, sensible quality of its design is more in keeping with the future of American fashion than with the French chic of the past.

The former tenant's Parisian taste for dark mahogany cases of impeccable but gloomy respectability has been displaced by bright colors and an informal, open floor arrangement that eliminates the usual stock fixtures. White canvas is laced up as an impromptu wall, pink canvas and jade green curtains brighten the dressing rooms in the rear, yellow rectangular strips in the black asphalt tile floor repeat the bright cross-hatching of the now-famed door.

On the side walls are cases for blouses, sweaters, etc., and on the floor are simple tables for smaller items. A pole and canvas projection in the middle of the shop shields two dressing rooms, while its outer poles serve as informal hat racks. Up two steps, in the rear of the shop, are four more dressing rooms and the cashier's desk.

The second floor, used for junior miss styles, is equally informal. In the rear are buyer's and cashier's facilities, four dressing rooms; in the front a stock room flanks the general shopping area.
A gay informal interior—Skidmore, Owings & Merrill's epitome of the new trend in commercial design.

INFORMAL RACKS FOR HATS

Photos: Ben Schnall

SIMPLE, PORTABLE FIXTURES

CASES ARE NATURAL BIRCH

October 1944
WOMEN'S HAT AND APPAREL SHOPS.

Paul Bry designs contrasting interiors of ex-

TERRY HATS, WHITE PLAINS, N. Y.

Simplification of details, bold contrasts, and original uses of wood and glass are the basis of this designer's technique, whose headquarters show a generous use of natural redwood contrasting with white painted brickwork to form a unified new exterior.

The hat shop (below), has a black glass arcaded front and an extremely simple plan. The floor space is divided only by sinuous velvet curtains, which serve to break the long interior. One of these forms the background to the window display and is pulled back to give a glimpse of the interior. The dressing tables are draped with chartreuse and oxblood rayon.
CONDE STORE, WHITE PLAINS, N. Y.

Three old stores — the smallest a tobacco shop — were converted into the dress shop shown on this page. A staircase was remodeled and made the central feature of the design, flanked by showcases of sandblasted western pine. This wood was also used for dress compartments on the upper floor and cut in a Dutch scallop pattern to fit the curved end of the display section.

SPACE AROUND DRESS SHOP STAIRWAY IS USED FOR ACCESSORIES

HORSESHOE CASE IS BUILT OF PINE WOOD

SCALLOPED OPENING FRAMES CLOTHING
CHAIN BOOKSTORES. A series of cluttered, dimly-lit bookshops are converted into open, well-organized.

DOUGLEDAY DORAN BOOKSHOPS
NEW YORK, N.Y.

When the typical bookjacket spoke in a whisper instead of a shout, the conventional bookstore was expected to be dreary, cluttered and dark. Breaking sharply with this Greenwich Village tradition these remodeled Doubleday Doran bookshops have been designed with an eye to their up-to-the-minute contents, and an air of gaiety is their most significant feature. Striped wallpaper and display cases in light woods contribute much to this effect. Exposed fluorescent lamps provide brighter-than-usual lighting. The popular open front found in many of the other types of stores in this issue has invaded the bookshops, producing an atmosphere of lightness and space impossible to achieve otherwise.

Because merchandising is the basic problem in designing a shop of this type, the architects were anxious to discover the best possible display arrangement. This was no easy job. The fairly uniform size of books makes for monotony even though each cover is an individual attention seeker. Added to this difficulty is the constant flux of daily stock—a supply which often amounts to 14,000 or 15,000 books.

To overcome these natural handicaps, planning was based on a few carefully worked out ideas. Most important decision was to feature front display of books, a device requiring more space but having ten times the sales appeal of former spine display. Special shelves and cases were designed to accommodate books placed in this position.

Two other ideas strongly influenced the store designs: one, the decision to group stock as to subject matter for quick location of any book. The other, to route browsing customers away from the main traffic flow. The usual cluttered center tables were therefore replaced by neatly arranged side displays which form bays along the wall and help break up the confusing mass which a number of colorful books can create.

The plans throughout were kept open, tables and aisles eliminated and convenient wrapping facilities made an important feature. The tremendous success of the first shops prompted the remodeling of twelve more. In all of them business has increased at least 25 per cent.
units by the replanning of floor space and sensible grouping of books. Side displays replace former center tables.

SHELVES FRAME EACH GROUP OF BOOKS. ARRANGEMENT BY SUBJECT PERMITS QUICK LOCATION OF ANY VOLUME.

OPEN FRONT REVEALS ORGANIZED INTERIOR. DISPLAY CASES FORM BAYS, A SENSIBLE USE OF SMALL SPACE.

Doubleday Doran Book Shop
CHAIN BOOKSTORES. Plans for both rectangular and circular spaces use air conditioning grilles and fluorescent light.

BOOK SPACE IN AIRLINES STORE IS FLEXIBLE

NOVEL DISPLAY UNITS SHOW BOOKS TO ADVANTAGE. NOTE HOLDERS AT ENDS OF CASES, STRIPED FABRICS
Plaster dome
Fluorescent lamp
Movable shelves
Counter
Ledges
Shelves
Line of plaster dome
Children's book display
Catalogs
Cash register
Wrap
Lavatory
Show window
Show window

BUILT-IN LIGHTING, AIR CONDITIONING AND LETTERING CONTROL CEILING DESIGN

LONDON CHARACTER SHOE STORE, NEW YORK, N. Y.

Located in a busy retail district of the Bronx and finding its old store too small for potential business, this firm moved to an adjoining corner site replanned for increased sales. Some of the requirements met by the architects were: an open plan to accommodate large numbers of customers, shoe stacks accessible to salesmen of average height, and show cases at a good height for either seated or standing customers.

Logical planning developments led from the attention given to display. Show windows on the Fordam Road side are backless, to open the interior to the street. On the Grand Concourse side they are backed with plywood and yellow canvas, on the principle that a light background reduces the mirror-like quality of the glass. These windows have removable access doors at the ends, enabling the shoe stacks to extend almost the full length of the interior.

Passers-by get wide views across the low seating accommodation to the decorative box-ends and the cypress screen at the back of the store, which hides a staircase and air conditioning unit. In front of the screen is a combined show case and wrapping counter (see detail).

The rear of the store is largely for service, and has a linoleum floor covering. The curved line on the plan marks the beginning of an all-over carpet which covers the customer section. Thoughtful details of this kind also include a shoe shine stand for busy purchasers.

UNLIKE ARCHITECT'S DESIGN TENANT DISPLAY IS FUSSY
chum, Gina and Sharp solve an old problem in new terms of spacious, uncluttered ease.

ERIOR HAS MAHOGANY WOODWORK AND TERRACOTTA WALLS, HARMONIZING WITH RICH TONES OF SHOE LEATHER

LAY CASES ARE SEEN FROM CHAIRS  SALES COUNTER CONTAINS HOSIERY BINS

FINISHES AND EQUIPMENT:

INTERIOR PARTITIONS—stud and plaster on plaster board; cypress poles.

FLOOR COVERINGS: Linoleum—Armstrong Cork Co. Carpet, terrazzo. TRIM:
Painted wood. Mahogany, natural finish.

GENERAL CONTRACTOR: JAFF BROS.
WOODWORKING INC.
JEWELRY STORE. Good lighting and materials are important elements in Charles S. Telchin’s solution.

RICHTER'S, NEW YORK, N. Y.

Because interest must be focused on so small an object, the display of jewels requires unusual thought and attention. Nevertheless, many tried merchandising principles hold true particularly in regard to exterior treatment where stores of all types compete, window for window. For this reason, the recessed door and bulkhead and curved glass window returns of this storefront are designed to increase the outside display space and draw the customer into the store. The gray vitreous exterior facing is complemented by a bronze sign and trim, giving a clean-cut appearance. The translucent glass panels behind the sign illuminate the second floor.

The interior, where the passerby becomes a customer, places more emphasis on the individual jewels. Lighting is of the utmost importance since its color, intensity and direction affect the appearance of any gem. The circular coves in the ceiling conceal neon tubes which give off a clear, blue light. A row of recessed reflectors on either side of the coves provides general, incandescent illumination and tends to offset the harshness of the neon blue. Tube lighting in the showcases casts a strong downlight, reflected by the jewels.

Showcases are simply designed, executed in natural primavera. Rose carpeting and walls contrast with the chalk white ceiling, completing the color scheme.
BEN SCHLANGER has been consultant-architect for more than 50 theaters. He studied at Columbia and was graduated from the Beaux Arts Institute of Design. One of his inventions is the compound floor slope which pitches up toward the motion picture screen.

THE WHALLEY THEATRE,
NEW HAVEN, CONN.

Stripped of its prewar gingerbread, this small, suburban theater is a good illustration of how easily an out-of-date building can be modernized by good design. The interior expresses the present highly laudable shift in emphasis from decoration as such to the screen, which is after all what the movie-goer wants to see. Exterior changes are compatible with this point of view. The removal of two stores which now flank the entrance makes possible a smooth front designed solely as a background for the name of the theater in large letters, an attention-getting curved marquee and recessed entrance.

Interior modernization also hinges on elimination of the stores. The position now occupied by one store will be taken by restrooms shifted from basement to lobby for more convenient access and control. A manager’s office and candy concessions, which will help make up the rent lost from the stores, are also fitted into this space. Occupying the space left by the second store, a new lounge will open up the side of the foyer, and contribute a general air of spaciousness to the entrance as a whole.

Beyond the lobby, two sets of stairs leading from the main floor to the small mezzanine will be removed and replaced by one new stairway, all that is actually needed to serve the small balcony.

Redecoration in the auditorium proper, which seats 1,000 people, will be subordinated to the improvement of visual and acoustical conditions. Wall treatment is an important factor since the play of light and shadow on the screen must not be reflected into the eyes of the audience by the slanting side-walls. For this reason, the ceiling and approximately three quarters of the walls will be finished in corrugated plaster. The remaining wall space toward the rear of the auditorium will be transite board covered with a washable wall covering in a large floral design. Concealed flood- and spotlights on the face of the balcony will be substituted for the present lanterns, giving ample general illumination from an invisible source.
fashioned movie palace into a simple, smoothly functioning entertainment machine. Concessions replace unprofitable stores.
LESTER TICHY traveled abroad and attended the Beaux Arts after graduating from Columbia University. He has since worked in leading architectural and design offices and recently opened his own office as architect and industrial designer.

The remarkable transition from an outdated industrial plant and adjacent tenements (below), to the handsome working-living development (right), is a result of the owner's conviction that employee amenities pay off in profit and labor. The remodeled building group will provide unusual conveniences for workers in the form of small apartments, recreational facilities, modern stores and restaurants in addition to larger workrooms. Recognized as a factor of increasing importance, employee convenience is more cheaply provided in big factories located on low priced land away from metropolitan centers than on highly valued urban plots. For this reason the scheme provides two sources of revenue intended to offset operating costs—a restaurant and rental apartments.

The factory building will be enlarged by taking in the adjacent one-story garage and alley for the full height. Existing floor levels, carried through from the old building, create a horizontal pattern behind a new glazed facade on the building's north side. The building units will be connected at second floor level for maximum efficiency and minimum circulation. An employee's lunch room is supplemented by a restaurant at street level, open to both employees and the public. Since the restaurant will serve breakfast and dinner, it is assumed that its patronage will be drawn from the surrounding neighborhood and from the apartments above.

The employee's lunch room, lockers and washrooms are grouped on a single floor immediately accessible to the factory workrooms. The apartments, an executive's restaurant and recreation area occupy the two upper floors.
A more expressive exterior suggests the incorporation of adjoining properties into a unified setting for in-city manufacturing.

Handsome grouping houses and feeds workers, is also the nucleus for an improved neighborhood.
POSTWAR INDUSTRIAL PLANT. Emphasis is on employe amenities including lounge and recreation areas, a part of the new architecture that is monopolizing the postwar building scene. Emphasis on circulation, lay-out, and the arrangement of services was the keynote of the design. The plan of the corner unit makes excellent provision for circulation, and employs angled partitions and free forms to solve awkward planning problems. The ground floor kitchen, separated from the restaurant by a diagonal wall, has its service entrance on the side street, and is linked to the pantry serving the employe's dining room above by connecting stairs.

The second floor, designed to serve employe needs during working hours, has its washrooms concentrated in the center of the building leaving ample light and space for dressing rooms on either side. Lockers occupy the solid wall at the end of the building. The lunch room is illuminated by a large window overlooking the court.

The employe's lounge on the third floor opens on a large canopied terrace. On the fourth floor, an executive dining room can be divided into two separate rooms by means of a folding wall. To make the size of these major rooms adequate the architect used a slanted hall and laid the apartments out in irregular shapes. Although these are small, the slanting walls help alleviate a cell-like appearance.
Restaurant and even rental apartments attached to the plant. Cross connections facilitate use of space in adjoining structures.
The requirements for an advertising executive's office are numerous and varied. In addition to more routine functions, it must serve as a conference room and a presentation room for layouts and sound recordings. A curved desk, the focal point of the scheme, provides a large, clean working space. By a simple quarter turn of the chair, its occupant is placed at the head of a good sized conference table. Only a few shallow drawers are provided since all correspondence and supplies are kept in an outer office, occupied by the secretary. The washroom off the entry contains a shower and clothes cabinets.

For visual presentations, four fabric covered panels have been placed above the sofa. The two central panels are double, swing out and back against the wall creating interchangeable sets of four surfaces each. Maps and a movie screen unroll from a recessed space in the hung ceiling. The furred space next to the window contains a radio-phono-graph, record storage and loudspeaker. Several occasional chairs can be grouped about the sofa for less formal discussions.

Both direct and indirect lighting are used. Direct light, controlled by lenses flush with the ceiling, illuminates the desk; indirect fluorescent lighting recessed in a cove along the south wall gives a pleasant general illumination.

To relieve the severity of a strictly professional interior, the architects have introduced their client's favorite hobby—a collection of cactus and desert plants. These are reflected in a full length mirror between the south windows when the wide venetian blind is raised. The asymmetrical desk and free curves of the planting box contrast agreeably with the angularity of a typical office space.
iture and lighting create a private office, conference room and cactus-fancier's retreat for the head of an advertising agency.

REQUACY OF OLD LAYOUT. REMODELED, THE OFFICE NOW OFFERS COMPLETE FACILITIES TO FIT TENANT'S NEEDS

SECRETARY  EXECUTIVE  MIRROR

CASE  FILES  SCAI IN FEET

DRAWERS  DIVAN  SHOWER

OCTOBER 1944

MAPS & MOVIE SCREEN

ADJUSTABLE LIGHTS FOR VISUAL DISPLAYS

FLUORESCENT LIGHT TRough
With a few simple partitions and little structural alteration, Paul Thiry changes the cluttered "ice c

CAFETERIA.

KIRKPATRICK'S RESTAURANT
SEATTLE, WASH.

Sensible arrangement rather than a lavish display is the remodeling theme of this cafeteria in a busy shopping district. By adding a double row of center booths and a low zigzag partition between tables, a formerly large and disorganized space is broken into compatible groupings. Existing booths and tables are retained in combination with a few necessary new ones. Carpeting and acoustical ceiling treatment complete the redesigning job and effectively control noise.

The general atmosphere of order and privacy is enhanced by a small entrance hall for waiting customers. A particularly well handled part of the cafeteria design, it is constructed of simple bleached mahogany partitions inset with glazed panels.

Of the original color scheme including tan walls, tan floor and tan seats, only the old booths remain the same. New furniture is upholstered in wine red, walls are veridian green with mural decoration by Eustace P. Ziegler. Carpeting is wine with a goldleaf pattern.

The satisfactory kitchen layout was left unchanged. Budget and time limits plus wartime restrictions prevented improving the plumbing and electrical work.
"For" look of a self-service lunchroom into an atmosphere of quiet and privacy. Booths replace isolated tables.

**BEFORE**

![Floor plan before renovation](image1)

**AFTER**

![Floor plan after renovation](image2)

New table arrangement adds functional design element. Murals are well above average lunchroom art.
Important competitive and advertising values were realized by Sydney Goldstone’s scheme for the Barbizon-Plaza Cafe, New York, N.Y.

Located in a residential section which contains a number of excellent hotels and cafes, the Barbizon-Plaza with its single, interior cocktail lounge failed to attract a satisfactory percentage of the passing trade. To remedy this, the architect converted a basement corridor and three shops of moderate rental value into an additional room, opening the cafe to the street. The remodeling was simple, involving little more than the elimination of partitions, but interior details such as the furled and coved ceiling have a definite architectural quality. A new, circular bar was placed at the front of the cafe where it is easily seen from the street. The windows are sliding panels in fire-proofed wood frames which can be opened wide when the air conditioning system is not in use. Of further assistance in bringing the festive light from under its bushel is a skillfully applied color scheme of red, white and blue.

FINISHES AND EQUIPMENT:
FURNISHINGS: Table tops—Formica Insulation Co.
PAINTS: Sherwin Williams Co.
AIR CONDITIONING: Owens, Illinois. Anemosats
SPECIAL EQUIPMENT: Bar—Nathan Strauss-Duparquet, Inc.
GENERAL CONTRACTOR: Gotham Construction Co.
Opening and opening the interior cafe of a large hotel. Three converted stores provide the newly acquired street frontage.

DINING AREA RECEIVES LIGHT FROM CIRCULAR COVES

SWEEP OF WHITE LINOLEUM AROUND BAR FOLLOWS THE CONTOUR OF A GAILY COLORED CEILING RECESS ABOVE
GENERAL AND EXECUTIVE OFFICES.

JOHN MORRELL & CO.,
SIOUX FALLS, S. D.

If any proof were needed that remodeling of the structural shell should have first place in modernization, a glance at the offices shown on these pages offers sufficient evidence. The fact that the furniture was not changed in the general office focuses attention on the structural alterations, finishes and mechanical equipment. With the introduction of a partition the space was simplified and reduced in scale. The partition created a billing room in which the noisier machines are located, away from the general office. Fluorescent troffers were introduced to take the place of incandescent fixtures. The intensity of the new installation was stepped up sufficiently to eliminate the need for desk lamps; moreover, this method of lighting cleared the ceiling of hanging fixtures and gave a smooth effect to the interior.

Executive offices show the same ceiling treatment, but the walls are finished in richer materials. The manager's office was redone in riftsawn oak, the sales manager's office in a lively combination of Weldtex and rawhide. The elimination of picture rails and the use of roomhigh curtains also assist in creating a modern effect.

Photos: Everett Kroeger

BEFORE VIEW, MANAGER'S OFFICE

PRIVATE OFFICES FOR MANAGER, ASSISTANT AND SALES MANAGERS HAVE PANELLED WALLS, RECESSED LIGHTING

BEFORE VIEW OF UNDIVIDED GENERAL OFFICE LACKS ORDER, SPACE
Functions contribute to efficiency in the headquarters of a Sioux Falls packing company. Architect: Harold Spitznagel.

FINISHES AND EQUIPMENT:


SECOND FLOOR—AFTER

OCTOBER 1944
Believing that a product will sell only when it is based on the needs, requirements and tastes of the customer, this firm tested the reactions of its staff to a new office plan before it was executed. They found that the flow of the office must center in the drafting room and that the preference of its occupants was for extreme simplicity. Few changes were made in the plan of the original offices. The main purpose was to make work easier and facilitate the frequent brief conferences necessary between design specialists and administrators.

Reception and presentation rooms were located in adjoining offices and linked to the drafting room by a corridor by-passing the stenographic offices which serve all departments. Other conference rooms and offices were arranged along the same central corridor. The slower process of research was removed from the main flow altogether. At the further end of the drafting office, storage and model-making space was provided, together with a small dark room.
AFF CONFERENCE ROOM UTILIZES CORK WALLS FOR PIN-UPS AND A DESK-HIGH TABLE FOR PRESENTATION OF MODELS.

ENT'S DESIGN MATERIAL IS EXAMINED ON LOW PRESENTATION ROOM TABLE.

FINISHES AND EQUIPMENT:
- FLOOR COVERINGS — Hotel & Theater Carpet Co.
- WALL COVERINGS — Corrugated structural glass — Mississippi Glass Co.
- FURNISHINGS — Valley Upholstery Corp.
- PAINTS — George Debovoise.
- ELECTRICAL FIXTURES — Kurt Versen.

GENERAL CONTRACTOR: ROGER & McCAY.

OCTOBER 1944
Furniture and equipment show the results of intensive research in this field. Posture studies were made for the design of drafting tables and conference chairs. The drafting tables have sliding blocks to adapt them to the height requirements of each individual, while the conference chairs are said to reduce bodily fatigue during long sessions.

In the drafting room each pair of desks is separated by a reference table. Suspension telephone booths were soundproofed with Acoustone blocks to ensure designers of privacy and audibility in conversations with clients.
George S. May, Chicago, Ill.

With a minimum of structural alteration and a generous use of custom-built furniture, the designers of these Chicago offices have improved inter-office communication and created a series of handsome new interiors. A former general office was divided into a reception room and corridor, the latter forming the means of connection among all departments. A tiled floor continues the passageway across the waiting room, which has access to a public corridor. A careful masking of the structural elements has added interest and variety to the interior without causing unnecessary projections or fussiness. Overhead beams are screened by lighting troffers and acoustical ceilings deaden sound.

Inside the reception hall (1) the desk forms a continuous surface across the end of the room. The working space is partially separated by clear plate glass panels from the waiting area and by a Louvre glass partition from an adjoining office. Flush drawers and sliding panels conceal the receptionist's equipment.

The lighting intensities are well handled. Circular receptacles for incandescent fixtures are recessed in a false ceiling which extends on both sides of the plate glass panels and also contains a fluorescent trough to light the desk. Other lighting consists of a troffer, which is a continuation of the false ceiling soffit around the perimeter of the waiting room. This casts the light downward, using the walls as a reflecting surface.

Visitors' accommodations (2) consist of red leather upholstered banquettes along two sides of the room separated by white oak buffers containing ash trays. The walls are of horizontal rift-sawn oak, with battens of the same material. Oak is also used vertically behind the mural, which depicts a wartime shipyard scene. The whole of the interior can be seen from the receptionist's chair (3) which is upholstered in green leather. The carpet is a rich dark brown.
ADMINISTRATIVE OFFICES. A change-over from the stereotyped to the informal is apparent in the comforta

CORRIDOR TERMINATES AT PRESIDENT'S OFFICE

LIQUOR CABINET PUNCTUATES WHITE OAK WALL

PRESIDENT'S ROOM HAS KIDNEY-SHAPED DESK

NEW STORAGE WALL CONCEALS REFRIGERATOR

THE ARCHITECTURAL FORUM
ishings for executives and callers, keynoted by decorative upholstery and cabinet work, mural panels and refreshment bar.

A COMBINATION DESK AND PROJECTING DISCUSSION TABLE DIVIDES SPACE IN THE GENERAL MANAGER’S OFFICE

MANAGER’S BUILT-IN SETTEE AND RADIO ADD LUSH NOTE

Offices of the president and general manager remain structurally unchanged, except for remodeling of the dividing wall to contain a bar and bookcases. Much has been done, however, to add warmth, color, and convenience to both. In the executive’s office a closet conceals lavatory, linen and accessory compartments. A small table near the president’s desk houses an inter-office communication system, telephone, radio control, and switch for the recessed ceiling lights. In the manager’s office continuous curtains and low, built-in furniture emphasize the horizontal lines of the long room. The conference table is lighted by a combination spot and indirect fixture, maintaining the high standard of illumination achieved throughout the job. All the furniture was designed and built by G. McStay Jackson, Inc.
INTERNATIONAL DETROLA CORP., DETROIT, MICH.

Undaunted by a disproportionate space cluttered with structural columns, this architect succeeded in producing a factory cafeteria that belies the original limitations. Outstanding are the ingenious handling of circulation and scale and the successful masking of the offending columns. The requirements were, in a sense, paradoxical. While there had to be facilities for feeding 1,500 workers, a restful, isolated atmosphere was also desired; both convenience and intimacy were necessary. In addition, the plan had to provide rooms for executive luncheons since the building is located four miles from the city.

The factory, constructed in 1917, had an interior characteristic of the period: an oversized rectangle dotted with rows of supporting columns. In the solution, the diagonal placement of the kitchen and the use of free shapes throughout proved successful in overcoming the most unsightly structural features and provided excellent circulation facilities. An ample entrance lobby connects directly with both the public and the private dining areas. The layout of the main dining room dictates that ingress shall be at the left, egress at the right.

The steel columns, encased in round, elliptical and rectangular boxes, became subdued elements of the decorative scheme. Foreshortening of the building's length was aided by placing a circular stage-storage unit, used for addresses at employee gatherings, between the entrance and the main dining area and by furring the space between windows at an angle, giving a louvered effect along the outside wall.

Conforming to a strict budget, only simple materials were used; natural woods for the wall surfaces, asphalt tile for the floors. Red, grey, green and beige are the predominant colors. As a whole, the decorative scheme succeeds in imparting a fresh, progressive spirit in restful surroundings.
sition from the strain of precision assembly to a relaxing recreational atmosphere. Alexander H. Girard, architect.
FACTORY CAFETERIA - A free-flowing space organization and the masking of existing columns with short parts.

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WINDOWS ADMIT ABUNDANT DAYLIGHT

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olves the barrenness of the dining area. Equally ingenious is the treatment of the three small luncheon-conference rooms.

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PRODUCTS AND PRACTICE
(Continued from page 158)

used it is necessary to cross strip horizontally over the furring strips for nailing. Window and door frames and sashes can be detailed on the principle of balanced pressure so that any air leakage which might occur around them will come from the dry air of the envelope rather than from the water-inducing outer air.

While working on water leakage, Adams discovered that the vented baffle-wall can be made to do double duty as an almost perfect insulation against sun heat. Ventilated roof construction is also of great importance in this connection since roofs are naturally more exposed to the sun's rays than other parts of the house. This feature of Adams' system is an added advantage for year-round hot climates and for sections of the country which reach high temperatures during the summer. Stimulated by the sun's heat, the air of the wall envelope moves upward carrying the penetrating heat units ultimately to the ridge ventilator and discharging them to the outer air, thus effectively preventing their entrance into the building. Adams has employed dampers to close off the ridge vent in cold weather, but it is doubtful whether this is necessary with proper insulation and whether building owners could be depended upon to open and close the dampers at the proper time.

Although drywall construction has produced amazing results in Florida, its application to building in the north is still a matter for speculation. Many problems are involved which can be solved only by further experimentation. One such problem is that of heat loss which is apt to occur when hollow masonry walls are built in the ordinary manner without an airtight inner wall.

The exact worth of the system to various building situations cannot now be predicted, but laboratory evidence shows that the principle itself is correct. Its possibilities are still to be worked out in terms of many types of construction and results should be limited only by the ingenuity of the experimenter.

* See BMS No. 7, Bureau of Standards.
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When you are working out your plans for the future it will be to your advantage to give Michaels products your most serious consideration. Since 1870 architects and builders have depended upon Michaels for faithful interpretation, in metals, of their most exacting demands. Feel free to talk over your postwar plans with Michaels engineers. They will be glad to give you the benefit of their experience. Architects in all parts of the country have found in Michaels craftsmanship the full expression of their artistic ideals faithfully reproduced in everlasting metals. When the war is won and manufacturing restrictions lifted, all Michaels products will again be available to architect and builder.

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MONTH IN BUILDING
(Continued from page 80)

activities, the Senate Subcommittee on War Mobilization, headed by Senator Kilgore, found that 40-odd agencies and bureaus are spending about $600,000 annually for research, as against an average prewar expenditure of $50,000.000. But housing's research share has dwindled. In fiscal 1944 less than $60.

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MONTH IN BUILDING
(Continued from page 80)

Housing Research Backers are Senators Wagner (above) and Kilgore

000 was spent for housing research, as against a prewar annual figure of $150,000. Similarly organized in many small, independent production units, agriculture is an often-pointed parallel to the building industry. For a long time, the federal government has done the laboratory job for agriculture, spending $40,000,000 for this purpose in 1937 and 1938.

No existing federal housing agency has legislative authority to undertake housing research. The National Bureau of Standards conducts routine testing of building materials. Most of the $60,000

(Continued on page 164)
U. S. ARMY PROVES
MANY-LAYER PROTECTION IS BEST
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And in home insulation, too,
many-layer construction
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Only KIMSUL* has it!

KIMSUL is the only insulation with many-layer construction. For dramatic proof of the advantage of this, note how the U. S. Army uses the layer principle in insulating soldiers' uniforms. KIMSUL itself is used in the Army and Navy's famous Quonset huts, which shelter fighting men against arctic cold and tropic heat.

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* A great testimonial to KIMSUL...The famed Quonset prefabricated military huts, shown at left, are insulated with KIMSUL to keep our boys comfortable in the bleakest arctic wastes and in the jungle heat.

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MONTH IN BUILDING
(Continued from page 162)

spent last year for housing research came, however, from the budget of WPB's Office of Production Research and Development. But even this slim purse is now empty; OPRD has recently canceled all housing studies.

The Office of Housing Research would be headed by a $10,000-a-year director, appointed to a 6-year term by the President. No annual expenditure is specified by the bill, but Senatorial sponsors are looking forward to appropriations amounting to around $20,000,000 annually. If, as sponsors point out, technological development could cut the cost of every U. S. house by $1,000, the return on the public investment would be substantial.

NEWS NOTES

$6,000 House. According to the newest assay of the rich lode of postwar home buying power, conducted on a nationwide basis by Masonite Corp., many customers expect to get a house for $6,000 or less. Half of those Galluped by Masonite said they expect to spend between $4,000-$6,000, one-fourth said they would spend up to $10,000. One in six hopes to pay less than $4,000; only one in twenty plans to spend more than $10,000. No marked preference for either traditional or modern style was expressed, but almost everybody emphasized convenience and ease of maintenance. Wood was preferred as an exterior finish, but brick veneer, solid brick and stone were runners-up. A combination living-dining room was favored by those expecting to pay less than $4,000, but got small approval from those who expect to pay more. More than a third of all participants said they would rather have a ground floor utility room than a basement.

Reconstruction sans Bathubs. Among the wreckage of Cassino—scene of some of the bitterest fighting of the Italian campaign—125 new houses will soon go up. But Italians who hoped for modern plumbing and lighting will be disappointed. Turning down a request for these conveniences, the Allied Control Commission for Italy pointed out that former houses did not have them.

3,000 Construction Jobs. New York City is looking for 790 tons of bolts, washers and nuts. Lack of these stopped construction of the giant $87,000,000 Brooklyn-Battery tunnel in January, 1943; the cast iron sections that line the tunnel had all been made before war cut-down. Renewing the City's application for the missing bolts, Mayor LaGuardia said he wanted to test WPB's willingness to speed reconversion preparations so that

(Continued on page 166)
Homes designed with Lupton Metal Casements are assured of added beauty and livability in every room. Completely weathertight yet easy to operate, Lupton Metal Windows meet every requirement for natural ventilation and abundant daylighting. With Lupton, you get dependability backed by an experience of more than forty years in modern metal window design.

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You would be ready when manpower is available. The Mayor thought his tunnel would provide 3,000 jobs.

**Coordinated Furniture.** It used to be done with what was known as a "suite", but nowadays sophisticated furniture buyers prefer what the trade calls "related styling." To give some help to the customer lost among a welter of traditional and modern styles, nine Grand Rapids furniture manufacturers have joined hands to distribute both furniture and accessories designed to fit into a unified decorating scheme. Some 200 registered furniture stores will sell the correlated designs produced by members of the Grand Rapids Furniture Makers Guild.

**Chewing Gum Plants.** Apparently figuring that chewing gum will hold its own in the postwar world, William Wrigley, Jr., has announced a decentralization program that will take gum manufacturing closer to its market. Chicago architects Shaw, Naess & Murphy are now at work on preliminary sketches for three new plants, where gum will be rolled out in air-conditioned rooms, back of glass-bricked walls. Raw materials will enter the plants through a top tower, be fed down to ground level automatically. Plants will be located in the East, South and Pacific Coast; specific sites have not yet been chosen. Wrigley's main manufacturing plant is in Chicago.

**St. Paul Remodels.** Looking around for somebody to plan a remodeling job for its central business district, St. Paul, Minn., settled on New York industrial designer Raymond Loewy, who will start by making a five-month survey. Hope is that individual property owners will adopt the Loewy plan and remodel to fit into it as soon as possible.

**Occupational Design.** Smart merchandiser W. & J. Sloan, which serves up high-priced furniture with substantial eclat, not long ago hired an astrologist to inspire living rooms keyed to personality as read in the stars. The National Association of Home Builders has not yet gotten around to taking up astrological design, but they do have a new angle which they find pretty enchanting — houses designed around the occupation of the owner. NAHB is offering both prizes and publicity for designs in these classifications: the City Home, the Suburban Home, the Industrial Workers' Home, the Farm Home, the Summer Resort Home, the Veteran's Home, and the Home for Two. The 100 best designs will be exhibited at NAHB's meeting in Chicago next January. Architects (Continued on page 168)
TOMORROW’S HOME
WILL BE A BETTER HOME
IF EQUIPPED WITH
ROUND OAK PRODUCTS

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HEATING EQUIPMENT
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**P.S.** For full information about the complete line of Armstrong's Resilient Tile Floors—including Armstrong's Linotile (Oil-Bonded) and Armstrong's Conductive Asphalt Tile—and Armstrong's Safety Floor Coating, a new, nonslip ramp covering, consult Sweet's or write to Armstrong Cork Co., Resilient Tile Floors Department, 2310 Duke St., Lancaster, Pa.

**M O N T H I N B U I L D I N G**

(Continued from page 166)

will get full credit and publicity for prize-winning and exhibited designs, NAHB said, but must submit them through builders who are active members. The contest closes October 20.

**HOUSING SUBSIDY?**

Although the U. S. has worried as much as any other nation you could name about low cost housing, the federal government has never extended a subsidy arm on which the operative builder might lean for a promenade in the low cost field. Nor have U. S. housebuilders ever betrayed any noticeable enthusiasm for such a supporting arm. Prudent private enterprisers fear that the arm of public subsidy will soon begin to feel more like a harness. Prudent economists warn that direct subsidy for housing has the effect of freezing high construction costs. But last month Great Britain's Minister of Health, Henry Willink, said that, in the face of construction costs that have jumped 100 per cent, the government believed it would be necessary to offer some form of direct subsidy to postwar private housing enterprise.

This statement of official policy was precipitated by a report offered the Ministry by its Central Housing Advisory Committee, which recommended a subsidy amounting to "a substantial proportion of the difference between the actual average cost of building immediately after the war and the estimated average cost when building prices have reached stability." The Committee thought the subsidy should be "simple and readily understood," suggested "either an annual payment over a period of years, or an equivalent lump sum grant on completion of the house."

(Continued on page 170)
 Probably the most recently completed of all skyscrapers is the new Mercantile Bank Building in Dallas, Texas.

Designed to anticipate the banking needs and the requirements of modern business for years to come in a lusty, growing city, this new skyscraper has been termed by some “the building of tomorrow”.

New materials, new ideas and the latest thoughts on functional design found widespread use in this forward-looking building. In keeping with its use of the finest in equipment, Watrous Flush Valves were installed throughout.

In this choice of Watrous there is further evidence that for postwar buildings, more and more attention will be given to the selection of flush valves that—

(a) can be readily adjusted to give maximum water savings with each individual fixture.

(b) provide a simple, single-step method of servicing.

(c) can be supplied with efficient, enduring silent-action equipment.

In planning buildings for tomorrow, you can count on Watrous for dependable flush valves that will match fully the latest developments in building construction.

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a postwar standardization
of shower cabinet sizes

To establish a standard for architects and plumbers to use in future construction, Fiat is presenting the following sizes to the trade now for the purpose of expediting postwar planning. Fiat showers will be classified into four groups according to structural design (details to be announced later) based on the general price range of prewar models.

GROUP NO. 1
Skipper type, low cost shower

GROUP NO. 2
Cadet type, medium priced shower

GROUP NO. 3
Marine Ensign type, for "above average" installations

GROUP NO. 4
Admiral type, de luxe class

Measurements conform to the American Institute of Architects 4" unit module system.

Fiat's postwar line of showers will be modernized to take full advantage of advanced design and recent material developments. Included will be standard types of receptors for tile, slate and glass walls and a complete line of glass doors with the exclusive Fiat adjustable jam feature. All shower cabinet models will retain the distinctive Fiat characteristics — leakproof, beauty and trouble-free construction that have made Fiat showers the standard of value with the trade for over twenty-five years.

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MONTH IN BUILDING
(Continued from page 168)

Some measure of control of selling price or rents and of standards of size and construction would be necessary, the Committee agreed.

Great Britain has had earlier experience with housing subsidies, as have a number of other countries. But on the whole, subsidies have been much less favored than government loans or government guarantee of private loans, according to a weighty piece of research just finished by the National Housing Agency's Division of Urban Development. Summarizing the history of housing aids in nine countries, NHA probes found that a widespread policy of providing low cost homes by public construction was followed by interest in stimulating private building activity—a transition resulting from recognition of the close relationship between activity in the construction industry and the general level of employment. Highlights of NHA's report on five countries whose housing experience has recently been crowded out of the news by bigger headlines:

Finland has made extensive use of second mortgage loans, offered both to limited dividend corporations and to private persons building on their own account. At the end of the first Russo-Finnish war, the President approved new housing laws calling for:
- Federal loans for low cost housing, made directly to municipalities and through them to private builders, to cover up to 40 per cent of construction costs. Five per cent interest is charged and the loan is payable within 25 years.
- Federal guarantee of private loans on multi-family low-rent projects.
- Rent subsidy for low-income families with three or more children.
- Loans up to 30 per cent of costs, made to joint stock companies. The company must provide 25 per cent of costs; four-fifths of the buildings must be earmarked for occupancy by stockholders.

Sweden's private builders accounted for 60 per cent of all construction in 1941, with help mainly from state loans. National banks provide first and second mortgage loans for urban real estate owners. Government capital, plus rigid state control of loaning operations, makes possible the very low interest rate of 3 per cent.

In 1933 Sweden took steps to combat depression and pursue an active population policy, providing:
- Improvement grants and construction loans for rural properties.
- Special loans for the building of
ALTHOUGH welding has made amazing progress as a structural fabrication method, full advantage is not always taken of the special adaptability of welding to the most modern types of construction. Also, details of design as used in practice, often have not provided for the most efficient use of welding.

For example, in some buildings it is desirable to develop continuity of beams, columns and girders, not only to save steel material, but also to reduce depth of framing and thereby to facilitate the provision of smooth modern interior surfaces. Here all-welded design facilitates this objective to an unusual degree.

There are many other practical features of welding as a structural method that merit full consideration... its demonstrated savings in steel... its quietness on erection work... its more efficient application due to the great increase in the number of trained welders and foremen who are becoming available for welding as war production decreases.

Representatives of Airco's Applied Engineering Division have acquired extensive experience in the application of welding to many types of war and peacetime structures. Architects, engineers and designers are invited to make use of their experience in working out problems of structural design.

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OCTOBER 1944
houses for large families, plus rent subsidies. By 1942 rents were high, construction costs were high, and Sweden faced a severe housing shortage. As easement direct subsidies, in the form of interest-free and amortization-free loans, were introduced. These supplementary loans cover 90 to 95 per cent of additional cost resulting from wartime price increases.

Denmark has many mortgage credit cooperatives—associations of owner-borrowers which obtain funds by issuing bonds, with members jointly responsible to bondholders. This type of housing credit is supplemented by both state and municipal mortgage loan funds. When the Germans occupied Denmark, the Danes increased their efforts to promote construction activity. Reasons: employed Danish workers were less likely to be drafted to work for the Germans; the building product—durable and immovable—was of much less use to the Germans than any exportable commodity. These aids were introduced:

- Special loans for slum clearance operations.
- Low-interest loans to builders of multi-family dwellings.
- Tax exemption for 22 years for all new building started before April, 1943.
- Subsidies for agricultural construction amounting to 25 per cent of expenditures for wages or Danish materials.
- Subsidies up to 30 per cent of cost for urban home repairs.

Eire offers both grants and loans from state funds to private persons, limited dividend companies and local authorities building houses in urban and rural areas. The government carefully stipulates design standards for houses on which it makes grants—for example.
Worth Watching!

New developments in Movable Steel Partitions and Prefabricated Interiors

In the coming years, more than ever before, building interiors will have to be flexible so that they may be quickly and economically rearranged to meet ever-changing conditions.

HAUSERMAN MASTERWALLS are the means by which architects create ideally flexible industrial and office interiors. These prefabricated, prefinished wall units are designed to fulfill a wide range of acoustic, lighting, and decorative requirements.

During the war, while engaged in marine and aircraft production, we have been able to review at arm’s length our long series of developments in the partition field. With a fresh approach, and with new techniques we have learned, we are ready to consult with architects on the best means of utilizing prefabricated steel interiors in new building plans.

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31 Years of Leadership

THE E. F. HAUSERMAN COMPANY, CLEVELAND 5, OHIO — BRANCHES IN PRINCIPAL CITIES

OCTOBER 1944
WHEN YOU CONSTRUCT

THIS SYMBOL IS YOUR ASSURANCE OF
SKILL—INTEGRITY—RESPONSIBILITY

For twenty-five years the Associated General Contractors of America, through its chapters, branches and individual members has been recognized as the organization whose membership is made up of the leading general contractors of America.

When you build it is to your distinct advantage to select a general contractor who is a member of the A.G.C. You can know that you are dealing with an individual and an organization who has qualified in many ways to give you the utmost in ability and reliability—to produce a finished structure to your satisfaction at a guaranteed specified time and cost.

This is blue print time. Call in a general contractor who is a member of the A.G.C.

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC.

NINETY CHAPTERS AND BRANCHES THROUGHOUT THE COUNTRY
NATIONAL HEADQUARTERS—MUNSEY BLDG., WASHINGTON, D. C.

MONTH IN BUILDING

(Continued from page 172)

"New houses must be placed on the site in a way that will permit the greatest amount of direct sunlight in the rooms. Houses must be set back at least 35 feet from the center of the street. . . . The total glassed area of the windows of a room must be at least one-tenth the floor area."

Home owners may borrow from the local authorities an amount which, with the grant, is equal to 83 per cent of the market value of the property. Loans are repayable in 35 years. Charges and other outlays amount to much less than rent for similar accommodations.

Switzerland, facing a serious housing shortage after World War I, sought to encourage private building both by the purchase of second mortgages and by direct subsidies to builders. In 1926, 22 per cent of all new dwellings were built by private builders with subsidy aid. Use of subsidy declined, however, and in 1938 only 1.2 per cent of new dwellings had such help. Exploring in the inter-war period many other types of public aid to private housing enterprise, Switzerland turned again to direct subsidy as a means of stimulating private construction to meet the housing shortage born of World War II. Other types of housing aid used:

- Rent subsidies to families with many children.
- Low-interest loans for home repair.
- Loans used for purchase of second mortgages covering rebuilding operations in slum areas in older cities.
- Sale of government-owned building sites at prices below market value.
- Exemption from municipal taxes for low cost dwellings, offered by the canton of Terrina.

Switzerland's wartime housing subsidies are offered only in areas where housing demand is greater than supply. Subsidy priority is given to houses built for families with at least three children and to those requiring the least amount of critical materials.* To check speculation, the owner of a house built with subsidy aid must repay the subsidy if he sells the house at a profit. The federal government pays 5 per cent of construction cost on houses built by private builders; the cantonal government pays a subsidy twice as large. When a municipal authority or cooperative building society builds the house, the federal government pays a 10 per cent subsidy; the cantonal government matches this. Maximum costs per room are stipulated by the government.

In Switzerland, these are iron, cement, sanitary equipment and electric installations.
FRESNO CITY HALL
BREAKS WITH TRADITION
...with a Design of the future

A Tri-zone Air Conditioning System is an Unusual Feature

THE ULTRA-MODERN structure shown here is the seat of city government in Fresno, California. This clean-cut building is a distinguished example of tomorrow’s thinking in today’s design, and presents a dramatic departure from the usual ornate style of architecture traditionally employed in municipal buildings of this character. Erected in 1941 and completely air conditioned, it reflects the trend toward public structures combining comfort and livability with functional efficiency and symmetrical beauty.

The air conditioning installation, which uses a “Freon” refrigerant, is of 70 tons capacity, adequate for the average of 325 people occupying this building of 385,000 cubic feet. The system is laid out in three independently controlled zones...the lobby, the offices with north exposure and the offices with south exposure. This scheme equalizes differences in temperature resulting from the variations in exposure.

With air conditioning playing an increasingly important part in the architecture of tomorrow, you will find it helpful to build your own reference file of current air conditioning facts. Why not write today for complete data on “Freon” safe refrigerants? Address:

Kinetic Chemicals, Inc., 10th and Market Streets, Wilmington 98, Delaware.

BUY A WAR BOND EVERY MONTH
BATHROOMS AND KITCHENS CAN HELP YOU SELL MORE HOMES

America has been on a starvation diet of new homes since 1941. Surveys show that one of the things uppermost in the minds of Mr. and Mrs. America today is home ownership. They have the money to satisfy this desire as soon as home construction is possible.

Crane bathrooms and kitchens can be strong selling arguments for the homes you are planning to meet this market. Whether you expect to build simple Cape Cod bungalows or homes in the upper brackets—you will find in the complete Crane line of tomorrow, fixtures at every price range to suit every requirement.

Mr. and Mrs. America—who expect a better postwar home—have expressed a preference for Crane plumbing fixtures. Why not put this recognition of Crane quality to work in your homes?...it will increase sales value and help you sell more homes.

For today's essential construction, Crane has developed a line of quality fixtures made largely of non-critical materials. These are available now—without priority. Talk to your plumbing contractor or call your Crane Branch.

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVENUE, CHICAGO 5

VALVES - FITTINGS - PIPE
PLUMBING - HEATING - PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

THE ARCHITECTURAL FORUM
A FAIR question, thinks little Oswald, for his reputation as a host is at stake.

"Looks like we're serving soup—for dessert!" says he, worried about the end of a perfect party...

Naturally, his mother blames it all on the refrigerator. But she's wrong. The trouble really lies in the antiquated wiring circuits in the Bjones kitchen.

You see, everything but the kitchen stove is hooked onto the same circuit that serves the refrigerator!

As a result, the circuit is overloaded and all appliances connected to it operate ineffectively. The refrigerator motor, for example, fails to come up to proper speed and the protective device shuts it off to prevent damage to the motor. Consequently, the refrigerator doesn't keep the ice cream hard.

Overload in home wiring also reduces lighting efficiency—slows down cooking—runs up the monthly electric bill.

Sizing of wiring, water supply, and drainage lines for electrical equipment.

Location of convenience outlets, lighting outlets and controls.

"Electrical Living in 194X" will help you explain the urgent need for "better wiring for better living" to prospects for home modernization and for new homes.

ARCHITECTS will find, in this new brochure, complete engineering data—charts, tables and explanatory text—all the information needed by men who plan efficient insulation—and keep a sharp eye on costs.

In core walls, PC Foamglas becomes an integral part of the wall structure when tied in to brick or other backing and facing. It does not pack down, swell, shrink, warp or rot. Being glass, it does not deteriorate, is an efficient vapor-seal and water-stop as well as a permanent insulation. It helps to control temperature and humidity—to prevent condensation.

The same qualities that make PC Foamglas the ideal insulation for core walls have won it general acceptance for use in duct work, floors, and roofs in many types of industrial plants.

When your plans include insulation problems, our specialists will be glad to consult with you on the most advantageous use of PC Foamglas. Meanwhile, fill in and mail the convenient coupon and your copy of the new booklet, “PC Foamglas Core Wall Insulation” will be sent to you without charge or obligation.

**MAIL COUPON TODAY**

Pittsburgh Corning Corporation 2405-6 Grant Bldg., Pittsburgh 19, Pa.

Please send along my free copy of your new booklet on PC Foamglas Insulation.

Name: _______________________________________

Address: _____________________________________

City: ___________________ State: _______________
BATHROOM SPACE
will do double duty
in tomorrow's homes

Kohler is interested in post-war trends in plumbing planning for both new and remodeled homes.

Shown above is a combined bathroom-lavette which offers the advantages of two complete bathrooms and two lavettes. Grouping of the fixtures is planned to save floor space and for economical piping. Entrance can be made either from the bedroom or hall.

A built-in linen closet serves the three units. Cabinets behind lavatory mirrors, and built-in shelves in the lavettes, provide storage space for towels, wash cloths, soap and accessories.

Note the towel bars on lavatories and the grab rail over the tub.

Fixtures include the 4x4' Times Square bath, with Triton mixer showering fitting. Integra one-piece siphon jet closets and Jamestown vitreous china lavatories, with compact mixer fittings, metal legs and towel bars.

Kohler is most anxious to co-operate with architects and builders in considering ideas for tomorrow's homes. Write: Kohler Co., Dept. AF-10, Kohler, Wisconsin.

* BUY UNITED STATES WAR BONDS *
Today's aviation headlines promise better home heating for your clients tomorrow. Because the modern refining methods which produce super-power high octane gasoline also yield heating oils of higher heat power per gallon. These oils burn with a hotter flame—a flame which reaches new high temperatures and new peak efficiencies in smaller space than that required for burning pre-war oils. Intensified, concentrated combustion of this type permits, in fact demands, new overall compactness in oil heating systems. Thus, these new oils make product engineering all-important.

Just as aviation engineers have designed and built more efficient engines to fully utilize the advantages of high octane gas, so must oil heating engineering keep pace with oil refining advances. Ordinary oil burners will miss the increased heat potential in tomorrow's hotter-burning oils. Tomorrow—as for a quarter of a century—Oil-O-Matic heating products will be completely engineered and precision-built. They will take full advantage of the extra heat power in these new oils.

Oil-O-Matic engineering experience and know-how will give Oil-O-Matic products exclusive mechanical advantages. Precise adjustments will make it possible to meet individual heating requirements with an amazing degree of accuracy. For time-proved engineering to bring the benefits of modern refining to your clients' automatic heating... you can expect more from Oil-O-Matic.

WILLIAMS OIL-O-MATIC
HEATING CORPORATION
BLOOMINGTON ILLINOIS
In these pictures you see America making an important discovery.

Every day, thousands of people are discovering the restfulness of foamed latex.

They’re sitting and sleeping on it—in trains, buses, planes, hotels, hospitals and homes from coast to coast.

They’re finding out this modern mattress and furniture cushioning makes better sense.

It floats you to blissful relaxation on millions of air-breathing cells. Molds itself to your form, never molds you out of shape because it never packs hard under weight.

It’s cooler, more sanitary, because it breathes and airs itself constantly.

It replaces springs and stuffing with one molded, sag-proof material. That means it simplifies all upholstered furniture, makes space-saving built-in furniture a cinch to construct.

All our foamed latex production is strictly military today. But while making it for war, we’re improving it for peace. Firestone’s perfected foamed latex cushioning is called Foamex.*


*TRADEMARK

ANOTHER CONTRIBUTION TO A BETTER WAY OF LIFE by Firestone

Listen to the Voice of Firestone, Monday evenings over NBC
HAVE YOU HEARD about Optonics?
THE NEW SCIENCE that puts COLOR POWER to work for INDUSTRY

SEND FOR THIS BOOKLET
It contains the full story of a new development in the practical, functional use of color in industry. . . . outlines the new science of OPTONICS. A note on your business letterhead will bring you a copy of "Color Power for Industry" by return mail with our compliments.

THE ARCO COMPANY
CLEVELAND, OHIO   LOS ANGELES, CALIF.

ABESTO ASSURES BETTER ROOFS AT A SAVING

GOOD DESIGNERS MAKE AND USE PRACTICAL IDEAS—

Our idea years ago was that a good cold application would give the built-up roof construction and recoat field a then new, but completely practical method.

ABESTO COLD PROCESS Roofing materials were developed and have proved their quality and efficiency now beyond question.

ABESTO is tops in the three qualities that are essential to a good roofing material—(1) adhesion for close, tight bonding of the laminations in built-up work, (2) elasticity when cured to allow for the temperature expansion and contraction of the roof without cracking or checking, and (3) a high resistance to oxidation to give long life to the roof.

ABESTO COLD PROCESS increases the efficiency of roof work by eliminating heating equipment investment, double handling on the job, and gives marked savings in time and labor.

Write for our free specifications which show the various types of construction for which Abesto is used.

ARCO MANUFACTURING COMPANY
134 Wabach Street
Michigan City, Indiana

THE ARCHITECTURAL FORUM

LETTERS
(Continued from page 36)

little or nothing and the Forum has emerged as one of the largest, if not the largest interests I have in the postwar existence we all hope for. I loan my copies and am keeping a card file so that I will get them back. I read and reread those I have. I watch carefully the careers of the men in the profession I have had the pleasure of knowing—Fred Keck, Bill Pereira, Bill Kaesser, and Chuck Luckman (who owns Bob Hope). One can still get lost for a while in detailing a new design for a kitchen cabinet or a bookcase or a railing. May I congratulate you all on keeping your perspective in these times?

Sgt. R. F. Allen
Fort McIntosh, Texas

Forum:
Sitting here in a foxhole somewhere in France with an issue of your Architectural Forum in my hands, it takes my mind off the everyday existence of fighting this war. It is the only tie I have in my present life with my prewar profession.

I can't help thinking how many changes in architecture must be taking place in the States, which I would be absolutely ignorant of except for your magazine. It has therefore meant a great deal to me from month to month.

Hoping for a speedy conclusion of the war when I will once again be a civilian subscriber.

Arthur W. Isackson
c/o Postmaster, New York

Hornbostel Rehash
Forum:
In both The Forum and the Record appears a sketch by Mr. Hornbostel which arouses the hostility or some such on the part of Lt. Sidney N. Shurcliff, U.S.N.R. in the July Forum. Is this a private fight or can anybody get in?

Even as a landlubber and far from the ocean, may I also chuckle over the anchored and moored ships although I saw a man today wearing both belt and suspenders.

The Lieutenant's criticism is well taken about the lack of turning space and the helicopter and the bat-wing jobs and the intrusion of the control tower. However, even before 1941 I saw a warehouseman unloading a double parked freight car without a tug by the simple expedient of trucking through the doors of the car adjacent to the dock.

If the Lieutenant had ever made a drawing like this he might well have drawn it upon tracing paper, turned it face downward on a sheet of bristol (Continued on page 186)
Architects now developing post-war building plans are invited to draw on the CARDOX Engineering Staff for practical cooperation in analyzing fire protection needs... and in planning fire extinguishing facilities engineered for the specific hazards they cover.

Advantages of Cardox Engineered Fire Protection

Through Cardox methods of control and engineered application, a Cardox System extinguishes fires and cools fire zones and combustibles by mass discharge at high rate of flow of pounds or tons of non-damaging, non-contaminating Cardox CO₂. Control may be fully automatic, manual, or a combination of the two. Automatic systems include actuation by heat detectors, pre-discharge alarm, release of doors and windows, shut down of fans and motors and essential related functions.

Uniform, Enhanced Extinguishing Performance

Carbon dioxide, one of the fastest of all fire extinguishing mediums is given uniform, enhanced performance by the Cardox method of control and application. For example, Cardox CO₂ has uniform extinguishing characteristics regardless of plant or atmospheric temperatures; its high CO₂ snow yield provides increased cooling effect (carbon dioxide released at 0°F. yields 45% CO₂ snow) and, because of high CO₂ snow yield, and special engineering of Cardox nozzle, accurate projection is achieved through relatively great distances.

Write on business letterhead for Bulletin 6104 containing Cardox Fire Extinguishing Systems data of special interest to architects.

CARDOX CORPORATION
BELL BUILDING • CHICAGO 1, ILLINOIS
New York - Boston - Washington
Detroit - Cleveland - Atlanta - Pittsburgh
San Francisco - Los Angeles - Seattle

BUY WAR BONDS

In this demonstration of the speed and efficiency of a Cardox Fire Extinguishing System under extreme conditions, 100 gallons of quenching oil, primed with gasoline, was allowed to burn long enough to develop maximum burning rate and heat.

At the height of the burning period a mass discharge of Cardox CO₂ was applied from fixed linear nozzles on two sides of the 10'x20' test pool. Note in picture above how the mass discharge of Cardox CO₂ is enveloping the fire zone.

Complete extinguishment and cooling below re-ignition temperature was accomplished in total discharge time of 33 seconds. Note CO₂ snow on oil surface.
How to make the
best use of clean Gas Heat

Janitrol Gas Fired Unit Heaters first attained their leadership by supplying quick, clean, automatic heat in "hard-to-heat" places . . . places where larger, more expensive equipment couldn't be used.

Because these units performed so satisfactorily and installations were so simple and inexpensive, alert heating men were quick to utilize these flexible, self-contained units for more and more types of applications instead of bulky, often time, complicated systems.

New type Janitrol Unit Heaters incorporating many exclusive features, improved design and operation had "arrived" just before the outbreak of war. No other unit heater combines all the advantages that Surface Combustion gas experts have engineered into Janitrol equipment.

Records of satisfied users, including some of the country's largest manufacturers, down to the small store operator, reveal astonishing low operating costs, with fuel savings ranging as much as 25%.

If you want economical heat, directed where it will be most useful; the complete unit suspended out of the way, requiring no valuable floor space, for a beauty salon or steel foundry, there's a type of Janitrol unit ideally suited to meet the B.t.u. requirements.

Write today for complete specification data and delivery information.—Surface Combustion, Toledo 1, Ohio.

Specify Proven Performance

Janitrol Gas Fired Furnaces and Heating Units

The complete line of Janitrol Unit Heaters meets every heating requirement ranging from 50,000 to 1,250,000 B.t.u. input. Suspension units are equipped with either propeller fans or powerful centrifugal fans. Other models are specially designed for duct installations.

Heavy Duty Floor Mounted models are ideally suited for many industrial uses requiring input ratings of 250,000 up to 1,250,000 B.t.u.
MODERN LIGHT
for Modernization
...the new
BEACON

Effective for office
or drafting room

 Designed for high quality fluorescent lighting at lower cost, the BEACON is especially good for lighting essential offices or drafting rooms. Postwar, it can be a decided help in stores and other commercial interiors. Provides pleasing, smooth, shadowless light to help handle paper work faster and reduce eyestrain.

Maintenance is easy; no horizontal surfaces on which dust can collect. New rigid design louvers are hinged to simplify lamp replacement. Etched, ribbed glass on the side panels gives smooth, pleasing light; louvers diffuse down-light.

Available in stem suspension or close-up mounting for low-ceiling areas. See our catalog in Sweet's for details, or write us.
Here is a standard Crawford Door—full width for two-car garage. Fits pleasantly, unobtrusively into many architectural styles. Its basically good design is supplemented by durability and ease of operation. Engineered by Crawford specifically for two-car opening. Glass area may be wood panels if desired.

What will the new postwar home look like? We’ve seen many conjectures, some far-fetched and fanciful, but, being realistic about such matters, our slant is that there will be no startling revolutions. The pleasant and familiar styles—American Colonial and Farmhouse, French Provincial and the English Countryhouse—are too well liked to disappear overnight.

And, so, as we project our engineering plans for new postwar Crawford Doors, we remember that many of them will be required to fit into the graceful styles that wear so well.

Naturally, we are exploring new materials and new techniques and in this we are inspired by our success in converting our entire production to the making of important, high-precision aviation parts. When we re-convert, we will take advantage of every new idea that proves its merit on the basis of improving the quality, appearance and performance of our product.

As always, our first objective is to produce superlatively fine, good-looking, easy-operating doors. It is not too early, now, for you to correspond with us concerning your postwar door needs. Your inquiry will be given our immediate attention.

Floor Show...starring TENITE an Eastman Plastic

COLORFUL TENITE in the form of terrazzo trim is used to create striking floor patterns. The strips can be made in any color and are resilient enough to be formed to any pattern.

Since the introduction of Tenite divider strips for terrazzo floors three years ago, more than three-quarters of a million feet have been installed—in naval hospitals, veterans' hospitals, schools, government buildings, and cafeterias. In addition, Tenite strips are used extensively in flooring of magnesite composition. The plastic withstands the constant abrasion to which it is subjected without signs of wear or discoloration.

Tenite is used for many articles of building hardware which were formerly made only of metals, wood, or glass. Such products as thresholds, linoleum trim, door knobs and handles, piano-type hinges, plumbing fixtures, and piping demonstrate the importance of Tenite as a basic raw material in the building industry.

Tennessee Eastman Corporation
(Subsidiary of Eastman Kodak Company)
Kingsport, Tennessee
SAFETY is a prime factor in the construction of Type AC THERMAG CIRCUIT BREAKER PANELBOARDS

All current-carrying parts are permanently covered—careless hands can't touch them. Needless circuit interruptions are prevented when harmless, momentary overloads occur—but the circuit breakers "trip" on short circuit or harmful, sustained overload. These circuit breakers are operated like an ordinary tumbler switch. Simply return the handle to the ON position when the cause of the short circuit or overload has been removed.

They afford modern protection with ease of operation, and are built for long life—these circuit breakers are Underwriters' Laboratories tested for ten thousand complete operations.

The cabinets are designed with ample gutter space and plenty of knockouts to expedite installation. Type AC Thermag Circuit Breakers are assembled in Panelboards of 4 to 42 branches, for light and appliance service, in standard, narrow column type, and dust-tight cabinets—for either surface or flush mounting. Branch circuit capacities: 15 to 50 amperes, 120 volts AC, for 3 wire single phase or 4 wire three phase mains. Mass production of Panelboards is attained by the use of standardized units as component parts. This results in equipment of high efficiency at lowered cost.

Write for Bulletin 67
It contains complete descriptions, dimensions, capacities, wiring diagrams, prices and suggested specifications. You'll find it helpful...

Frank Adam Electric Company, Box 357, St. Louis 3, Mo.
When your plans call for LARGE KITCHENS in SMALL SPACE

One of the most difficult problems of the architect is that of providing food service for large numbers of people from small kitchens. This is essentially a problem of planning. For example, the kitchen illustrated above occupies only 180 square feet of floor space but it serves 600 complete meals a day. When you have a similar problem on the boards or in prospect, take advantage of

JOHN VAN RANGE
KITCHEN ENGINEERING

Beginning with your preliminary plans we will suggest a layout that will make the best possible use of the available space. We will design every unit of equipment to fit into the space provided for it without crowding and with sufficient capacity for peak loads. We will manufacture the equipment of materials subject to governmental regulations, with rounded corners and welded seams, easy to keep clean and sanitary. We will make the installation complete and ready for use, relieving your staff of innumerable annoyances and delays.

We invite inquiries from architects responsible for projects involving provision for mass feeding.

The John Van Range Co.

Equipment for the Preparation and Serving of Food

Branches in Principal Cities

328 EGGLESTON AVE., CINCINNATI, O.
RUBEROID
PERFORATED
Air-Vent Felt

Pin-point Perforations Form "Inlet" and "Outlet" Valves

TRAPPED AIR
CAUSES BLISTERS

On Flat Roof Decks
At Flashings and Bends

Air-Vent Prevents Blisters
Air Escapes thru Perforations

THE ANSWER TO ROOF BLISTER PROBLEMS

- The "Double Valve" action of Ruberoid Air-Vent Felt averts many annoying roof failures. Air, trapped under roofing, expands with the sun's heat, causing blisters that bulge and lift. Patented Air-Vent Felt has pin-point perforations—punched alternately from top and bottom—that form "Outlet" and "Inlet" valves. When Air-Vent is laid, the air or vapor beneath is forced out through these tiny "Outlet" valves. Asphalt seeps through the "Inlet" valves giving a better bond between the layers of felt. Result: freedom from blister problems because there are no air bubbles to expand and lift the felt from below.

Ruberoid Air-Vent Felts (available in both Asphalt and Asbestos types) have proved themselves through years of use on industrial and commercial buildings in all weathers. Specify Air-Vent for built-up roofs... it reduces roofing failures... it reduces roofing failures and costly repairs. Ask your approved Ruberoid roofing contractor or write us for full specifications.

The RUBEROID Co.
Executive Offices: 500 Fifth Avenue, New York 18, N. Y.

ASPHALT AND ASBESTOS BUILDING MATERIALS
The Burning Question...

Weigh your answer well... you who plan and select materials. For a clause in the specifications that leaves a loophole for fire can be a sentence of death and destruction . . . whereas, a specification of fire protection acts as a guardian for life and property.

There’s one right answer—walls and ceilings “Fire-Sealed” with gypsum plaster applied over a gypsum base—“Fire-Sealed,” because building framework cannot burn as long as fireproof gypsum is there to shield it. For gypsum fights fire and allows time for help to arrive.

Your answer—is Red Top* plaster and Rocklath*, names that have won fame through use on more walls and ceilings than any other brands. The reason is they provide this protection and do it best.

Air Conditioning makes a hit with tenants and shoppers too!

Of course, customers like to linger in properly air conditioned night clubs, restaurants and theaters. And their enjoyment of this cool comfort may well lead to a new viewpoint on apartments, hotel rooms and offices, too.

So there's something for architects and building management groups to think about in this cartoon, reproduced from a G-E advertisement originally addressed to readers of Time, Business Week, Newsweek and the leading restaurant, store and theater publications.

You're probably already planning to capitalize on the public's interest in air conditioning. Now, you can take practical steps toward realizing your plans—enlist the cooperation and "know how" of trained engineers.

By turning to G-E for air conditioning equipment you gain by G-E's unified responsibility in the design of all important system components... and by widespread engineering, installation and servicing facilities through authorized dealers and contractors. And in G-E postwar equipment, new features will give you further advantages... greater economy, compactness and flexibility.

Air Conditioning by GENERAL ELECTRIC

Hear the General Electric Radio Programs: The "G-E ALL GIRL ORCHESTRA," Sundays, 10 P. M., EWT, NBC... "THE WORLD TODAY" News, Every Weekday, 6:45 P.M., EWT, CBS

OCTOBER 1944
(Continued from page 196)

bull, politics, and I personally had a hand in tennis a decade ago—of those of us from Texas having to go east and whip hell out of the so-called "big boys" (at least they thought so). We had to do it not only once, but year after year in order to get meager recognition in a national way. It looks as if we must do it in architecture now—and don't think we can’t—and while we’re still a part of the Union!

KARL KAMRATH

Fl. Sam Houston, Tex.

INVESTMENT IN PREFAB

Forum:

Your articles on prefabrication are most interesting, but it seems to me that you have neglected the problem of investment. An important question in small house design is: Would the income equal the outgo if the owner were compelled to find cheaper shelter? To accomplish this, design has to follow the efficiency used in commercial and industrial construction. Houses must be good investments or the banks will not supply the wherewithal.

In the past, before FHA, the banks supplied 50 per cent. The purchaser and private funds, taking second mortgages at large discounts, supplied the remaining 50 per cent. The bank was safe with its 50 per cent and was little concerned with reduction of the mortgage. Because of these old long term mortgages on most homes it has been impossible to get the banks interested in anything new in home construction. It would depreciate their equities in these older properties.

Now, thanks to FHA it is found practical to sell a home for as little as 10 per cent down, the banks protected by the U.S. government taking 90 per cent on a 25 year amortizing basis.

Ex-President Hoover’s recent study voiced an excellent compromise: 20 per cent down payment in bonds, 80 per cent on a mortgage amortizing in 20 years.

Now if we could get that 80 per cent without the complications of government and the limitations as presented in the past by the banks—and by the banks I also mean insurance companies—we really could go to town on small home building for the working people of America. The solution is to build inexpensive, but still substantial houses.

The lowest cost building material is the concrete block. It is made from the cheapest materials in nature—clay and lime burnt and mixed with cinders or stone by automatic machinery.

Some precast specials could be used with the standard block—such as a cornice piece, canopies for solar windows, precast pieces to make an excellent wood-burning fireplace, precast filler pieces for a reinforced joist roof or to build economical radiant panel heating systems, precast sills and lintels. This would mean that 50 per cent of the home materials are prefabricated by machinery into conveniently handled pieces which can be built into anything designed on an 8 in. modular unit without measuring or cutting. Variety can be infinite without being costly.

Semi-skilled workmen build up the structure course by course, including such specials as stairs, fireplace, etc. as they go. This procedure permits assembling a high standard, low cost home durable as the main bank building in your town. No untried devices, these practices have long been used in building for investment, but never permitted in the workman’s home.

Can we get that 80 per cent mortgage money for such building? There are so many powerful forces at work against it, that only the optimist will say we shall be able to interest the regular mortgage agencies.

But such homes have been built and used in Buffalo for several years. They are an investment. Rentals are paying for these homes, thus proving their investment value. The workman-owner need not experience the usual sweat, blood and tears only to lose his home during hard times. A tenant will keep up his expenses until such time as he can again afford to live there himself.

HARRY W. MILLER

New York City

SYCOPHANTIC DRIVEL

Forum:

In reply to our fellow countryman—S. W. Hall—in February’s Forum, we hope that he did not succeed in getting a free subscription, besides, 30 pieces of silver is the standard payment for this sort of thing. Your cryptic postscript was the only bright spot in this sycophantic drivel which cast aspersions not only on the writer but on the architects and students in Australia. Without belittling the standard of Forum, there are students who have managed to gain diplomas and degrees without it.

We can only hope that when you receive this letter (making allowance for the Pacific mail service), Forum readers will have forgotten S. W. Hall, Esq., and all his unsavoury work.

For, and on behalf of the Club.

LOYAL H. ALFAXANDER
The Architectural Club
Sydney Technical College
Ultimo, N.S.W., Australia
"HILLS AND VALLEYS"

... lovely in a landscape

... all wrong in a paint film

"HILLS AND VALLEYS"—which is another way of saying pronounced brush marks—are bad news in a paint film. In the "valleys" the film is thinner—more likely to break down. In Pittsburgh Paint (see illustration below, at right) brush marks are rounded, without deep valleys. The result is a uniform film which resists cracking and peeling.

Pittsburgh Paints level out smoothly from the brush because they are enriched with "Vitolized Oils." These improved oils not only promote better application, but they also keep the paint film LIVE, tough and elastic—enable it to contract and expand as the temperature changes. This is known as live-paint protection and is still another reason why Pittsburgh Paints resist cracking and peeling.

In addition, many Pittsburgh Paints are fortified with special molecular-selection oils, which vastly improve the drying qualities and make it possible for Pittsburgh to control uniformity of paint performance.

Thanks to these oil developments, Pittsburgh technicians are able to "build" paints that have every desirable quality architects look for. For paint jobs that reflect credit on your professional judgment, specify Pittsburgh Paints.

Pittsburgh Paints
PITTSBURGH PLATE GLASS COMPANY
PITTSBURGH, PENNA.

PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS
A LETTER FROM ITALY
(Letters continued from page 194)

This description of army construction in a combat zone was sent us by an Air Corps Lieutenant:

Forum:

When this Group reached its present airbase site there was nothing but a steel matting strip for takeoffs and landings. The one usable building in sight—a farmhouse—was appropriated for Group Headquarters. Every other type of building had to be built from the freezing mud up. Inasmuch as this Group was put down in the hilly sheep and small farm country of southern Italy all building materials were almost impossible to get, lumber being the scarcest item, with hardware fixtures running a close second. In spite of the difficulties involved, individual combat crews and ground crewmen began building homes and a base that today compares favorably with many in the States. Approximately 65 per cent of the Group’s personnel live in homes designed and constructed by themselves, while 100 per cent of them have improved living conditions to an almost unbelievable extent.

On the occasion of Major General Twining’s last visit, he complimented the entire group on their initiative and industry and said that we had one of the finest bases in the Theatre, although many other Groups moved into bases already well-equipped with buildings of every nature left by the Italian and German Air Forces.

A dubious compliment was paid the Group when Berlin Sally warned us to expect to see all our pretty little white homes crumble into piles of dust after the Luftwaffe was through with us.

So the men of this Group have built themselves a base of which we are all very proud. It has its own water system, electrical system, community showers—in other words a complete city in itself. So much so that the natives of a neighboring Italian village are already planning to leave their centuries old city and move into our buildings as soon as the Group pulls out.

E. J. Devney
U. S. Army
This advertisement will appear in:

- THE LADIES' HOME JOURNAL
- GOOD HOUSEKEEPING
- BETTER HOMES & GARDENS
- THE AMERICAN HOME
- HOUSE BEAUTIFUL
- THE PARENTS' MAGAZINE

MAKING PROFITS by SAVING WORK

Just before the war, millions of American housewives began to realize that they were paying an unnecessary penalty in time and health for working in kitchens badly arranged and poorly equipped. Youngstown Pressed Steel, aware of this living problem, automated kitchen-designed and developed modern work-saving kitchens made from proved, low-cost materials.

Immediately, thousands of American housewives bought YOUNGSTOWN Kitchens and learned how easy and pleasant their kitchens could be.

In these strenuous days, crowded service stations, new tools, the wares of YOUNGSTOWN Kitchens point to all those other homemakers in their old-fashioned kitchens.

When the enemy are not at work peace to the world, YOUNGSTOWN will again be ready with the conveniences that thousands expect.

Help Win the Fight by Buying Bonds. After the war, buy YOUNGSTOWN Kitchens. The will save work for it. Selling and make production and distribution troubles of workers.

YOUNGSTOWN KITCHENS

The new YOUNGSTOWN catalog, "Get Acquainted With Your Kitchen," tells how to plan for more comfort in your peace-time kitchen. Send for your copy today.

YOUNGSTOWN PRESSED STEEL DIVISION
Mullins Mfg. Corp., Dept. AF-1004, Warren, Ohio

Please send me YPS booklet, "Get Acquainted with Your Kitchen Business."

As soon as civilian buying begins, no field will be lusher with "ready-to-buy" prospects than the modern kitchen field!

Youngstown Pressed Steel has kept YOUNGSTOWN Kitchens and their work-saving, step-saving features before 16,000,000 National magazine reading families, constantly. Floods of inquiries prove that women are thinking NOW in terms of work-saving kitchens for postwar living.

YPS dealers will have the advantage of inquiries from prospects in their own territory.

Please send me YPS booklet, "Get Acquainted with Your Kitchen Business."
SAVE NOW...fight inflation...

.. and these are things worth saving for!

SAVE FOR CHILDREN! It costs money to have a child, to raise a child. But where's the father or mother who would tell you it isn't worth every penny it costs and more? Save now... while the money's coming in... save to have and enjoy your children while you're young!

SAVE FOR COLLEGE! If you went to college yourself, you want your children to go, too. If you didn't—that's a double reason you want them to have the good life you missed. Start your college fund now—while you're earning good money. It will come in handy.

SAVE FOR A HOME! A house of your own, a garden to dig in, room-to-grow for the children—every man and his wife want that. Houses are high-priced, hard to get now. But there'll be a lot of home building after the war. Save for your house now.

SAVE FOR A TRIP! Today's no time to travel. But after the war—aren't you raisin' to go? To the ocean or the mountains, to Yellowstone or the Smokies, to Mexico or the new Alaska highway. Sensible saving today can finance glorious spending then.

SAVE TO RETIRE! Sooner than you think, the day will come when a little shack in Florida or a place in the country looks bet­ter to you than an active life in town. Social security is good—but it won't pay for all you want unless you supplement it.

SAVE FOR SAFETY! Money's easy today! But nobody can remember that it wasn't always that way—and it may not be again. The man who has a little money laid by, helps prevent depression—is in better shape to ride out hard times if they come.

SAVE TO SAVE AMERICA! It's the money you don't spend that helps keep prices down. And only by keeping prices down—saving, not spending—can we head off inflation, keep America a stable, happy place for our boys. For your sake, for theirs—SAVE!

4 THINGS TO DO to keep prices down and help avoid another depression

1. Buy only what you really need.
2. When you buy, pay no more than ceiling prices. Pay your ration points in full.
3. Keep your own prices down. Don't take advantage of war conditions to ask for more—for your labor, your services, or the goods you sell.
4. See. Buy and hold all the War Bonds you can afford—to help pay for the war and insure your future. Keep up your insurance.

A United States War Message prepared by the War Advertising Council, approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.
THE MODERN METHOD OF JOINING COPPER AND BRASS PIPE

FOR LEAKPROOF PIPE CONNECTIONS specify Silbraz Joints

MADE WITH *Walseal* VALVES, FITTINGS and FLANGES

In modern homes as in modern public buildings, “one-piece” copper and brass lines made with Silbraz joints save trouble and cost by eliminating leaky joints, maintenance, and repairs. Make Silbraz joints with Walseal valves, fittings and flanges. Silbraz joints are silver-brazed joints — leakproof, permanent, and stronger than the pipe itself.

In thousands of installations ranging from war ships to buildings these modern pipe joints have convincingly proved their worth. In fact, no properly made Silbraz joint has ever failed.

Be sure to include Walseal products and Silbraz joints in your present and post-war planning. Walworth Catalog 42 gives full details on the complete line of Walworth piping products. Write on your company letterhead for a free copy.

*Reg. Trade Marks

MADE IT A “ONE PIECE PIPE LINE” WITH WALSEAL

WALWORTH
valves AND fittings
60 EAST 42nd STREET, NEW YORK 17, N.Y.

DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD
What the railroads can tell you about "U.S." KOYLAN FOAM cushioning

Architects, decorators and interior designers who specified "U.S." Koylon Foam Cushioning before the war will tell you that it is not only sound and comfortable construction, but easy to use—available in moulded, one-piece forms and in yardage that can be cut to fit. But theirs is only part of the story!

"U.S." Koylon Foam has really been put to the test in practical use on railroads where hundreds of thousands of passengers have slept millions of miles on "U.S." Koylon Foam Mattresses during the past 8 years.

HERE IS TYPICAL RAILROAD EXPERIENCE WITH CONVENTIONAL TYPE MATTRESSES

At 6-month routine inspection periods, it is often necessary to repair center sections of conventional type mattresses, where the heavy part of the body rests.

"At 18-month overhaul periods, conventional type mattresses are completely re-worked."

"At the end of 36-month periods, many conventional type mattresses have to be replaced."

BUT WITH "U.S." KOYLAN FOAM MATTRESSES—

"Maintenance costs on "U.S." Koylon Foam Mattresses have been practically nil. No repairs or replacements. Some have been in service for 8 years."

TODAY "U.S." Koylon Foam is serving only war and medical needs. But one day, it will be back—a better Koylon Foam, and you will be able to specify it as the modern, adaptable cushioning—especially practical for use in space-saving furniture.

UNITED STATES RUBBER COMPANY
1230 SIXTH AVENUE • ROCKEFELLER CENTER • NEW YORK 20, NEW YORK
All activities in the kitchen center around the range. It is literally the heart of the kitchen. That’s why housewives prefer Magic Chef. They know it is dependable. Their preference for Magic Chef is based on performance and a sustained program of national advertising over a period of twenty-five years.

Magic Chef heavy duty ranges have long been the accepted standard in thousands of restaurants and cafeterias, in hotels, schools, hospitals, institutions, factories and commercial establishments. You can depend on quality and performance to confirm your judgment in specifying Magic Chef ranges. A kitchen survey and planning service is maintained to help in specifying the correct number and type of heavy duty units.

Inquiries are invited.

AMERICAN STOVE COMPANY • 4901 Perkins Avenue, Cleveland, Ohio
NEW YORK • PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • ATLANTA • LOS ANGELES

MODERNIZE WITH—

Magic Chef

RED WHEEL GAS RANGES AND HEAVY DUTY GAS COOKING EQUIPMENT

Specify a Magic Chef CP Gas Range

Accorded to
Quick Meal Store Co.
Division of American Stove Co.
model which telescopes vertically as well as horizontally (and packages within the same space), has two additional bedrooms upstairs. Because of the nesting of the rooms, differences exist in the floor and ceiling levels of the various sections. These variations are taken care of by single steps between the rooms, and clerestory strips at ceiling height.

The designer, Mr. T. F. Zavada, envisions a number of other combinations which would be possible if the manufacture of the sections were standardized. Anticipating the use of lightweight structural materials, he believes that the finished units could be shipped from the plant completely equipped. Only a small cylindrical foundation containing connections for water, sewage and electricity is necessary.

Kitchens and baths are packaged units installed as the two smallest nesting sections.

Despite the obvious resourcefulness with which Mr. Zavada developed his idea it is doubtful that it could be marketed within the price range of moderate incomes, the prime objective

Specified for our Post-War
Prefabricated HOUSE

1 STRESSED SKIN CONSTRUCTION—is light and easy to handle, is strong and tight against vermin, drafts, and moisture.

2 THOUGHTFUL DESIGN—keeps the summer sun out but lets the winter sun in. The beautiful picture window can face the street or the garden. Careful planning has resulted in usable space equivalent to an average house that is half again as large.

3 INSULATION—in the floors, walls, and ceilings creates cozy warmth with lower fuel bills in the winter, keeps summer heat out effectively.

4 QUALITY CONSTRUCTION—so well built throughout the whole house that it will require little maintenance over a forty-year use expectancy.

5 PROPER ENGINEERING—reduces noise from the outside to a minimum, and eliminates reverberation.

6 SILENT SWITCHES—ample electrical outlets, engineered lighting to avoid eye strain, are electrical features.

7 EASY CLEANING—accomplished by elimination of all mouldings and woodwork that catch dust. Rounded corners throughout the house. Windows open easily, never stick or rattle.

If you have not yet requested that we place you on the mailing list to receive complete facts about our post-war prefabricated house and packaged merchandising plan, write us today. This will be sent as soon as available in the order that inquiries have been received.

Bring Victory More Quickly With Your Purchase of United States War Bonds

A NEW LIDICE

Leopold Arnaud, dean of the Columbia School of Architecture, has announced that a new Lidice, to be built in Czechoslovakia after the war, is being designed at Columbia under the auspices of the Czechoslovakian government in exile. The designing of the new town is under the direction of Robert H. Podzemny, Czechoslovakian architect and town planner.

(Continued on page 206)
The Virtues of SIMPLICITY, CLEANLINESS and GOOD TASTE will not be denied expression.

Nothing less will be acceptable in the toilet room interiors of buildings of the future. These essentials will be realized in part through the installation of toilet compartments of the most suitable type and design, because toilet compartments usually dominate a toilet room.

Sanymetal Porcena (porcelain on steel) Toilet Compartments, two types of which are illustrated, elevate the toilet room environment into harmony with other modern appointments of the building, and emphasize the interior architectural treatment of these vitally important rooms in modern buildings. Sanymetal Porcena Toilet Compartments are available in several strikingly new designs and colors, and two different types of construction.

Toilet compartments for buildings of the future, in order to avoid obsolescence, will be fabricated of the ageless and fadeless material, porcelain on steel, as utilized in Sanymetal Porcena Toilet Compartments. Porcelain on steel makes a glass-hard, stainless material that always looks new, does not absorb odors, is moisture-proof and rust-proof and resists the corroding nature of ordinary acids. The glistening porcelain finish can be wiped clean as easily as any glass-smooth surface, thereby insuring a high standard of cleanliness.

Sanymetal Porcena Toilet Compartments embody the results of over 29 years of specialized skill and experience in making over 60,000 toilet compartment installations. Ask the Sanymetal Representative in your city for further information about planning suitable toilet room environments for strictly modern school, commercial, industrial and institutional types of buildings. Refer to Sanymetal Catalog 17/12, Sweet's Architectural File for 1944, for complete information on toilet room environments, or write direct for copy of Catalog No. 82.

Sanymetal offers six types of toilet compartments suitable for installation in buildings of the future, equally suitable for modernizing toilet rooms in all types of existing buildings. Use Sanymetal Porcena Toilet Compartments to be sure of strictly modern toilet room environments and to insure against obsolescence.

THE SANYMETAL PRODUCTS CO., INC., 1687 Urbana Rd., Cleveland 12, Ohio
Will this be the trend in postwar home construction?

You've heard a lot of fantastic predictions about postwar housing . . . but there has been some good sound thinking, too.

Leaders in the construction field are coming to the conclusion that homes designed, built, and financed complete with labor-saving equipment will hold the center of the postwar stage.

It is becoming more and more evident that houses equipped with electric range, refrigerator, dishwasher, automatic heating, and other electrical appliances will have greater consumer appeal.

Says a recent issue of American Builder, "The day has arrived for homes to be sold with at least the basic mechanical devices and equipment arranged to deliver better living."

A three-way "plus"—

The buyer will get greater satisfaction from a home that includes the electrical appliances he wants and needs. And, when such equipment is covered by the mortgage, any increase in monthly amortization payments will, in almost all cases, be offset by actual savings in operating expenses.

The builder will have houses with greater appeal to offer. The built-in, labor-saving devices will provide additional features which should do much to promote sales—as well as provide word-of-mouth advertising—for the builder.

The banker, too, will benefit because efficient, money-saving equipment will increase the homebuyer's ability to keep up his payments. A mod-
ern, fully equipped home represents a sounder mortgage investment because it increases the buyer's desire to avoid risk of foreclosure, as well as his ability to meet mortgage payments.

We've got some answers

Since as far back as 1936 the General Electric Home Bureau has been studying the problems involved in building "electrical servants" into the home.

We feel that we have got some of the answers to some of the questions which you may want to ask.

We'll be glad to help. Home Bureau, General Electric Co., Appliance and Merchandise Department, Bridgeport, Conn.
planner. Constructed around a community center comprised of numerous public buildings, the city will provide an educational example of the most recent trends in American planning to young Czechoslovakian architects whose progress has been interrupted by five years of war. The old Lidice will be used as a war memorial park with the new town located close by.

EXHIBITION
A group of war murals will be shown at the Architectural League, 115 East 40th St., New York, N. Y., October 2nd through 28th under the joint sponsorship of the National Society of Mural Painters and The Artists for Victory.

APPOINTMENT
Eugene Henry Klaber, architect and city planner, and Charles H. Warren, Jr., architect, have been appointed to the faculty of the School of Architecture at Columbia University. Mr. Klaber, in the capacity of an associate, will direct work in planning and housing. He was formerly chief of the technical staff of the housing division of the PWA and director of architecture for rental and federal housing of the FHA. He received his architectural education at Pratt Institute, Columbia and the Ecole des Beaux Arts in Paris.

Mr. Warner will be assistant professor in charge of design. A graduate of the Columbia School of Architecture, he has instructed in architecture at Cornell and won Columbia's Schermerhorn Traveling Fellowship in 1942.

OPENING OF OFFICES
William C. Schneider, architect, will open his office at 5920 West North Ave., Milwaukee 8, Wis. Mr. Schneider was for many years connected with the offices of Brust & Philipp and of Richard Philipp in Milwaukee.

Williams & TWEENY announce the opening of offices for the practice of engineering and industrial design in the Book Tower, Detroit 26, Mich. Mr. Williams was formerly design executive for the Stout Research Division of Consolidated Vultee Aircraft Corp.; Mr. TWEENY, an engineer, was Acting Director of the Department of Aeronautics at the University of Detroit and, prior to that, maintenance and flight test engineer for the Pan American Airways system.

Ruth Gerth, George Kosmak, Alexander Kostellow and Rowena Reed announce the formation of a new firm for the practice of architecture and industrial design at 228 East 61st St., New York 21, N. Y. Miss Gerth's design work has ranged from electrical equipment to typography and packaging. Architect Kosmak has designed shops and showrooms, club houses and restaurants. Mr. Kostellow, a specialist in color and materials, is head of the industrial design department at Pratt Institute. Miss Reed, a stylist and designer has a background of fashion advertising, packaging and architectural sculpture.

CHANGE OF ADDRESS
George Cooper Rudolph & Associates, architects and designers, have moved their office to 155 East 44th St., New York 17, N. Y.

Harold Spitznagel, architect, announces the removal of his office to the eighth floor of the National Bank of South Dakota Building, Sioux Falls, S. D.

James King & Sons, Inc., general contractors have moved their offices to the Empire State Building, 350 Fifth Avenue, New York 1, N. Y.

William Arild Johnson, architect, has moved his offices from Tacoma to the First National Bank Building, Everett, Wash.
NOW, MORE THAN EVER,
DOUGLAS FIR DOORS
MEET MODERN REQUIREMENTS

Attractive 3-panel interior doors—basic, all-purpose layouts in keeping with today's design trends—assure the utmost in client satisfaction when you specify Douglas Fir Interior Doors. What's more, these fine doors are durable, long-lasting—and if FACTRI-FIT features are specified (see below) they go up quicker, fit better, hang better.

Plan now to feature these improved Douglas Fir Doors. Write for catalog showing interior doors, Tru-Fit Entrance Doors, and new specialty items.

FACTRI-FIT
PRECISION - MADE
DOUGLAS FIR DOORS

Specify Douglas Fir Doors for essential jobs today, for every job tomorrow. Write for catalog showing complete series of interior doors, Tru-Fit Entrance Doors and new specialty items.

Douglas Fir
DOORS
FIR DOOR INSTITUTE
Tacoma 2, Washington
How to take full advantage of the economy... long life... effective illumination of......

Cold Cathode

Why COLD Cathode?

Long lamp life and lower maintenance costs are always desirable, sometimes supremely important. These are outstanding characteristics of Zeon cold cathode fluorescent lighting. That is why many architects, builders, contractors, and managers insist on cold cathode fluorescent particularly when maintenance man-power must be conserved. Notice the list shown below; if you have not used Zeon lighting get details now from Federal Electric Company, Inc.

A well-designed installation of Zeon cold-cathode fluorescent lighting at Ohio Farm Bureau, Columbus. One row of Novial Gold and two of warm white 18 mm. Zeon tubular lamps are in each side of the double cove. The vestibule is illuminated by a "Saturn" fixture, of curved tubular lamps.
The many advantages which cold cathode lighting offers can be best realized when the lighting is tailored specifically for the area to be illuminated. That is one of the advantages Zeon cold cathode fluorescent lighting offers. It is available both in special design, lengths, sizes and shapes and a variety of colors; and in standard size tubular lamp units.

Many locations require a high level of glareless, shadowless lighting. This can be done with Zeon standard units or with long lines of tubular lamps. Either of these can be supplied and installed by your electrical contractor. In other locations, illumination may be subordinated to decorative effects. Such installations are especially effective in hotels, theaters, stores and shops, where straight or curved units and various colors may be required.

To meet these special requirements, Zeon cold cathode lighting can be tailored for you by Federal Electric Company, Inc. and installed by your contractor under the supervision of your architect.

SEND US DETAILS OF YOUR PROBLEMS

Federal Electric Company, Inc. has wide experience in the manufacture, installation, and operation of standard and custom-built lighting systems. Its experience and that of its engineers may be valuable to you. If you will send us details of your lighting problems we will be glad to help you solve them. Write us at 225 North Michigan Ave.; Chicago 1, or 8700 South State Street, Chicago 19, Illinois; or call any of the offices listed below.
The "Taco-One Venturi" System offers all the advantages of radiant heat . . . plus —

the predictable performance of a system proved by successful operation of thousands of installations,
complete room-heating by radiant heat plus convected heat,
simple, inexpensive, easily installed piping and fittings,
automatic summer and winter hot water,
inconspicuous radiators; small heating plant, adapted to ground-floor installation,
circulated warm water; with an even, friendly heat.

. . . and many other advantages for the wholesaler, contractor and home owner. Ask your wholesaler, or us, for literature giving further details of this post-war business-building heating system.

PEACETIME HERITAGE

One of Taco's contributions to Victory is Naval-aircraft machine-gun mounts. As a result of these contributions, we now have more precision equipment and more skilled workers—available for post-war production of Taco products, made to their former standards of excellence.
Could it be that your picture of the electrical contractor needs bringing up to date? As electrical usage throughout the building industry has grown more important and complex, qualified electrical contractors have grown as well.

Today the resources of the electrical contractor that are at your service include a large investment in specially-engineered tools to facilitate his work. In addition, his organization will include specialists in electrical planning and installation, ready to help you with electrical specifications or to supplement your knowledge of local conditions, code regulations and new materials.

The time to get together with your electrical contractor is before final decisions have been made on wiring and equipment. Why not enlist his aid on your current plans and proposals?
UNIT TWO ... enclosed fluorescent fixture, of glass or plastic, planned for general lighting. Perspective above shows it in combination with unit one.

UNIT ONE ... a concentrated band of fluorescent lighting which could be mounted end-to-end and directed effectively on shelf space.

G-E MAZDA LAMPS
GENERAL ELECTRIC
GENERAL ELECTRIC brings you one more in its series of postwar lighting perspectives by outstanding architects and designers. To help stimulate further thinking on lighting for stores, G-E presents some unusual ideas by designer G. McStay Jackson, Chicago.

Here's the opportunity Mr. Jackson sees . . .

"Lighting can provide effective postwar help for the neighborhood store. Because light can make the store stand out from its surroundings, can invite folks in to buy, can help display merchandise more appealingly.

"For example, if you could pull back the walls of a modernized food shop, this picture shows what you might see. A streamlined arrangement of shelves and counters, all pleasingly illuminated with cool, comfortable fluorescent light, has revitalized the store interior.

"A striking all-glass store front, set back at one side, together with a well-lighted revolving display, has added extra attraction power for people who pass.

"At the same time, to save money on modernization, the high ceiling has been left in its existing state. The stamped metal pattern, painted in a dark, neutral tone, is not illuminated. Shadows have been minimized by keying the rest of the interior, including the floor, to lighter colors.

"The result is a store that invites new customers and old . . . that builds business with light."

A helpful new booklet, "Light revitalizes a neighborhood store" gives additional details on Mr. Jackson's ideas on effective lighting for tomorrow's modernization. For your copy, write Div. 166-AF 10, General Electric Co., Nela Park, Cleveland 12, Ohio.

THE CONSTANT AIM OF G-E LAMP RESEARCH
TO MAKE G-E LAMPS STAY BRIGHTER LONGER

Dear the General Electric radio programs: "The G-E All-Girl Orchestra", Sunday 9 p.m. EWT, NBC; "The World Today" news, every weekday 6:45 p.m. EWT, CBS.
style is introduced gradually by a simple evaluation of social requisites and building development. While the reading is by no means dry, the article's strength lies not in the style, but in an impersonal and thoroughly convincing presentation of fact.

In contrast, Joseph Bailey Ellis, in his essay on sculpture, waggishly encourages the gullible reader to "make mud pies of his own." While some of the comments, such as that on the work of St. Caudens, display a painful conformity, the chapter as a whole has an air of carefree and agreeable wit; for example, the author's casual reference to some work of "ostentatious display and well modeled inconsequence." In his off-handedness, however, Mr. Ellis fails to achieve the degree of authority present in other articles. He treats sculpture more as though it were a form of occupational therapy than a noble and dignified art.

Painting, industrial design, poetry, music, the theater, the novel and the movies are all covered in brief but excellent chapters. The book terminates with an eminently just dissertation on the problems of criticism itself by George Boas. (This particular chapter is suggested as bedtime reading for certain noted critics.)

On the whole, Mr. Schoen has done a fine job of editing and writing. If any criticism can be made, it is that the book, because of the breadth of its scope, is too superficial in treatment to be considered a truly important work.

THE CONTRIBUTION OF HOLLAND TO THE SCIENCES, By A. J. Barnouw and B. Landheer. Querido, New York. 386 pp. Illustrated. 9 1/2 x 6. $3.00.

The recent appearance of a number of books voicing the plea of the small, subjugated nations for a deeper and more lasting cultural understanding seems at
A Peacetime Use for the Quonset Hut

When the time comes to exchange a tommy-gun for a deer rifle and a machete for a fly rod, the advantages of Stran-Steel engineering will open up a whole new field of architectural development.

Stran-Steel's revolutionary military development in steel buildings with 100 per cent demountable frames offers a portability and a permanency unmatched by any other method of construction. The economy of steel will be applied to warehouses, farm buildings and industrial buildings...to homes, multiple dwellings, cottages, and cabins in the woods. The light-gauge steel forms a rigid framework which will not sag—resists termites and dry-rot—and can be easily transported and erected. The special patented nailing groove for applying collateral materials makes possible cuts in building time and materials.

Stran-Steel's flexibility in use affords the architect wide latitude in design to meet tomorrow's building needs.
YOU WILL GET THESE **New Features** IN POSTWAR WINDOWS

Tomorrow's windows will provide better daylighting—their narrow steel frames and muntins will afford larger glass areas.

They will afford **better see-through vision**—from larger glass areas; **better ventilation**—open-out vents will form canopies over openings; open-in vents will deflect drafts upward, shed water to outside; **easy-opening**—steel ventilators never warp, swell or stick, and they swing instead of slide.

Also, **increased fire-safety**—steel does not burn; **safer washing**—both sides of glass washed from inside the room; **superior weather-tightness**—precision-fitted by craftsmen, they stay tight; **greater beauty**—from narrow graceful lines and fine hardware appointments.

And both the first cost and the maintenance cost will be surprisingly low. Ask us to put your name on our mailing list to receive advance information on new steel window designs, as they are developed by Fenestra engineers.

Address: Detroit Steel Products Company, Dept. AF-10, 2252 East Grand Boulevard, Detroit 11, Michigan (Pacific Coast plant, Oakland, California).
BOOSEY No. 2010 VACUUM BREAKER

For installation on fixtures having inverted water supply to prevent contamination by siphonage. Recommended for use with acid tanks, hospital equipment, laundry machinery, industrial and laboratory equipment. Made in sizes to fit any installation needs. No floats, checks or moving parts. Installs between fixture and water supply valve.

BOOSEY No. 2021 FIXED AIR GAP

Eliminates interconnections between water lines and sewers. Prevents contamination of fixtures and equipment through direct waste connections and prevents water supply contamination by siphonage through direct connections. Sizes to fit all requirements.

Here’s a Challenge to Every American Architect

Knowledge obtained through various surveys concerning water-borne diseases clearly indicate that improper plumbing installations are one outstanding cause of water contamination. Adequate treatment of water at the water plant is not a guarantee of purity for human consumption. Many types of hospital, industrial and laboratory equipment, because of submerged or inverted water supply connections, provide direct cross connections between safe water supply and contaminated contents of equipment.

Every responsible architect should get behind the drive to eliminate contamination of drinking water. Protection against pollution in the plumbing systems is vitally important — and the installation of efficient and proven vacuum breakers and fixed air gaps is the one sure means of guarding against interconnections.

WRITE TODAY FOR SPECIAL FOLDER ON POLLUTION!

General Sales Offices:
420 North La Salle St.
Chicago 10, Illinois

AMERICAN SKEIN and FOUNDRY COMPANY

FACTORY: RACINE, WISCONSIN
ESTABLISHED 1900
believe that the shortest road to success is to rob your neighbors. Presenting the doctrine that the shortest road to success is to rob your neighbors, the book is nevertheless interesting and easily read.

The chapter on architecture, by John C. Kromhout, a Dutch architect and engineer, typifies the general modesty of attitude: "The ten years from the Corn Exchange Building and Kromhout's work to Van der May are taken up by the translation of the former's theories and a rapid evolution of their principal ideas in other countries. This evolution would probably have taken its own normal course and the international importance of Holland's architecture might have played a much smaller role, if World War II had not interfered, making the work of the men of the Amsterdam School universally prominent and prolific."

It is evident throughout the volume that the Netherlands traditional policy of tolerance has been an essential factor in the development of its scientific achievements and the text bears out the true meaning of Queen Emma's words: "The Netherlands shall be great in such matters in which a small country can be great."

**BUILT IN USA.** Edited by Elizabeth Mock, The Museum of Modern Art, New York. Illustrated. 128 pp. 7 x 9'/2. $3.00.

This little book is an elaboration on the architecture section of the Modern Museum's anniversary show, *Art in Progress.* When *The Forum* first discussed this show in May 1944 (see p. 81) the editors made the following points: there appeared a tendency to pick names rather than buildings in choosing the examples; some of the selections seemed based on an approach to architecture which considers a building an abstract object rather than a living space. This book raises one additional question which perhaps goes deeper than either of the first: just what has happened to planning in the USA during these years?

The problem of a new esthetic was largely solved many years ago. It is interesting to see that this esthetic has become rooted in the American scene. It is also nice to know that, as on the British Empire, the sun never sets on the Bauhaus. But where is the framework in which this new architecture must grow? Where is Broadacre City or the Ville Radieuse, or whatever one wants to call it? Is it enough to know that a handful of nature lovers can live a la Wright or a la Gropius? We think that the emphasis has shifted. While some have become more interested in the beautiful free shape and the exquisite window detail—a more serious problem, the master plan, has gone down the drain.

This is not the place to offer a solution. It is the place to suggest that the Museum's extremely valuable work might have been directed to better purpose if they had summed up the work and the aspirations of young planners all over the country during the past years—a new pattern of living in the USA—a pattern to which these 47 structures are undoubtedly valuable contribution, but represent only a small part.

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*The Architectural Forum.* (Continued on page 222)
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OCTOBER 1944

The 1943 Aver Lectures given at Colgate-Rochester Divinity School make up this book. They deal with religious expression in sculpture, painting, architecture, music and drama. Albert E. Bailey serves as both author and editor; contributing authors were Kenneth John Conant, H. Augustine Smith and Fred Eastman. As might be expected, Dr. Conant's discussion of religious architecture is at once sensitive and authoritative; imaginative and factual. Mr. Bailey's contribution deals rather harshly with the modern artists, a grudge which, in a similar frame of mind it would be difficult for anyone to overcome. He says: "In any modern exhibition of art, the religious subjects can be counted on the fingers of one hand. The proper subjects for art today are bananas and triangles, or triangles without bananas; one-eyed or three-eyed women flattened by a steamroller and hung up to dry; distortions, fragmentations..."

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for The Austin Company

232 THE ARCHITECTURAL FORUM
The most attractive post-war home can become a "white elephant" if its chimney is too small to handle all fuels equally well. Such a house may prove very uneconomical to heat. And fuel bills can be far more than your taxes—or mortgage interest!

Make Sure You've Got an Adequate Chimney

To take care of all fuels properly, your house needs an adequate chimney... a chimney that is large enough to handle gas, oil, or coal equally well. The extra cost of building such a chimney when you plan your house is small. And doing so will give you freedom of choice to heat with any fuel—including, of course, Bituminous Coal—the fuel that is by far the cheapest—that 4 out of every 7 homes in the United States depend on for steady, reliable heat.

Your architect or builder will tell you that a chimney adequate for burning Bituminous Coal is also efficient for any other fuel you ever might choose. Talk it over with him—it will pay you to do so!

Look for a big chimney when you build or buy a home! A skimpy chimney "ties you down" to using only the most expensive fuels—which may become even more costly in the years ahead. Be sure your chimney is adequate to burn Bituminous Coal... the cheapest and most plentiful fuel, and one that is automatic when used with a modern cool-stoker.

BITUMINOUS COAL INSTITUTE
60 EAST 42ND STREET, NEW YORK 17, N. Y.

(This is one of a series of advertisements now appearing in home-makers' magazines)
standard switch, and work equally well in three- and four-way switch arrangements. Installation is accomplished by simply connecting two wires to the terminals found on the switch.

Manufacturer: Associated Products Co., 74 E. Long St., Columbus 15, Ohio.

AIR COOLERS for improved cleanliness and sanitation.

Name: Spasaver.

Features: These ceiling type horizontal coolers, housed in streamlined white enamel cabinets, are suitable for all refrigerants, and ready for installation. They are designed for use in institutions, restaurants, food processing plants and similar places where cleanliness and sanitation are of great importance.

Manufacturer: Drayer-Hanson, Inc., 738 East Pico St., Los Angeles 21, Cal.

FLOW CONTROL for grease interceptor.

Name: Flo-Trol

Features: A new automatic flow control designed to prevent waste water passage in volume above the rated capacity of the interception chamber has been incorporated into the Zurn Greaseceptor, a device for the interception, separation and recovery of waste-water grease threatening interior drainage lines. Features claimed by the manufacturer include a fitted gate for optimum flow rate, a touch control handle for flush-cleaning, internal expanding walls which insure free flushing of trapped solids, elimination of all waste spillage during cleaning and no maintenance or replacement of parts.


STEEL CHAIRS AND STOOLS of new design.

Features: A new line of all-welded, tubular steel chairs and stools available at present in a variety of swivel, adjustable and non-adjustable models has been designed to replace the angle steel chair sold before the war. The new construction features a modern, all-welded tubular steel frame to provide the greatest possible strength. Protruding bolts have been eliminated, and the chairs finished in enamel. Adjustable models have been greatly simplified, having but one bolt adjustment which is made by means of...

Irisulux Glass Block is a functional building material—not merely a decoration. It is designed to do certain things that other building materials cannot do. Investigate!

THROUGH THE LOOKING GLASS of Tomorrow

What will the postwar house be like? Nobody knows—exactly!

One thing is certain! The House of Tomorrow will be designed for better living and will make full use of our wonderful, new building materials. Plastics—plywood—cork—synthetic rubber—light metal alloys—glass and glass block!

Many of the new houses will display lustrous, light-flooded panels of Irisulux Glass Block.

Panels of Irisulux can be used to brighten an entry way or to add new beauty to a kitchen, living room, bedroom or bath.

Irisulux Glass Block is a practical building material. It transmits light. It keeps out noise and dirt. And it is easy to clean—and to keep clean.

See our section in Sweet’s Architectural Catalog, or write: Irisulux Products Division, Dept. 78, Toledo, Ohio.

Modular Planning for Coordination

Owens-Illinois was one of the first to recognize the advantages of modular design in home construction. All sizes of Irisulux Glass Block are made in dimensions that fit into the standard 4-inch module.
The Golden Gate Bridge, world's largest span, was finished in 1937 — into it went over 100,000 tons of steel. 80,000 miles of steel wire in the two great cables alone. Ceco provided 1,800 tons of special steel floor trusses on which the six lane roadway was laid.
THE ANSWER LIES IN ONE WORD . . . ENGINEERING.

The great six lane roadway that stretches out across the bay required engineering with unusual precision . . . Suspended 220 feet above the bay it must withstand the tremendous stress and strain of great wind and heavy traffic, must fit to the fraction of an inch to carry year after year its terrific load. This roadway was laid on 1,800 tons of special steel floor trusses designed and supplied by Ceco—a job that took precision fit and skilled engineering.

The Ceco Steel Window, like the Golden Gate Bridge, is precision built, is durable, is beautiful . . . for men who work on monumental structures build “small” with the same engineering precision they build “big.”

This gives the Ceco window advantages in operation and installation, a perfect weather tight seal under all conditions, longer life, and greater beauty. For home builder or bridge builder, Ceco construction products and Ceco Steel Windows do a better job—through better engineering.

What the CECO engineered window means to Architect, Builder and Home Owner

1. Precision Engineering means an extra tight all weather seal—keeps out cold, dust, rain—keeps heat in.
2. Precision Engineering means easy opening, and closing—no sticking, warping, or swelling. Ceco Windows always fit.
3. Precision Engineering means a far greater light area, lets more sunlight in, easier to see out.
4. Precision Engineering means controlled ventilation—you’ll always catch stray breezes—control draughts.
5. Precision Engineering means permanence—Ceco Steel Windows use more steel, last the lifetime of your home.
6. Precision Engineering means Bonderizing, a special process for sure protection against paint failure and rusting.
7. Precision Engineering means all these important advantages at no premium cost!
a sliding tube in each leg. These sliding inner tubes are zinc plated for rust resistance and punched at intervals to receive the adjusting bolt. Details also have been incorporated to help the worker maintain good posture. Backrests are curved to fit properly against the small of the back, and are mounted on spring steel uprights which can be adjusted up and down to suit the occupant. Seats are furnished in both scroll type (formed) and round type. Seat material is non-splintering, oil-proofed Masonite. This new line of chairs and stools will be sold at no increase in cost over the old angle-steel models.


AUTOMATIC WASHING MACHINE is vibration free.

Name: Laundromat.

Features: Complete lack of vibration during the entire laundering cycle is an exceptional advantage in the new Laundromat. Completely automatic, it mixes water to correct temperature, fills itself, washes the clothes, rinses them, spins them nearly dry and shuts itself off. The housewife has only to put in the garments, add soap and water softener if necessary, and set two dials—one for the water temperature, and the other for proper washing time. Freewash treatment, or the equivalent of overnight soaking, is also controlled by the dial. For the complete cycle of laundering the machine uses only about one-sixth of a kilowatt hr. of electric current. Installation may be made wherever there is a hot and cold water connection and an electrical outlet. The machine exterior is of white synthetic enamel and its shape resembles a desk, on the sloping front of which is a square door similar to an electric range. The washing basket is of porcelain and hold 9 lbs. of dry clothes. A pump expels the water when the washing process is completed and after rinsing the basket goes into a spin of 465 revolutions a minute with no vibration transmitted to the cabinet. Spinning continues until 72.3 per cent of the water is extracted from the clothes. The Laundromat then drains, cleans and shuts itself off.


CABINET SPRING CATCH improved.

Features: The Stanley 33 cabinet catch has been improved by substituting a wooden plunger for the former steel one. This change is not a war-time measure, but provides a better article with longer life and easier action. The new plungers are turned out of hard wood and are impregnated with oil to assure long wear and quiet action. Tests have proven the life of the plungers to be practically unlimited.

Manufacturer: The Stanley Works, New Britain, Conn.

PRESSURE SEALING TAPES for industrial and military uses.

Features: A complete line of pressure sealing tapes has been developed with acetate backings which reduce curlback and telescoping, and prevent "ooze" un-
Q. Who took the stooping out of broiling?
A. Estate did it—way back in 1935—with the first waist-high broiler on a table-top range. It made broiling as easy as frying. A later Estate "first": the famous Bar-B-Kewer which made it possible to broil whole hams, chickens, rib roasts.

Q. Who proved that "even four needn't be a crowd" in baking pies and cakes?
A. Again—Estate. With the ingenious invention—the Air-Flow Oven (Balanced Heat Oven in electric models). These superior ovens actually enabled women to bake 4 pies, 4 cake layers, 8 loaves of bread or 56 biscuits at one time...all an even, tempting golden brown. And without shifting a pan.

Q. Who built the first "grill room" on the range top?
A. The Estate Grid-All was the first griddle plate built into the top of a modern range for the home...the handiest thing imaginable for grilling hamburgers, bacon, flapjacks.

Q. What's the most logical range to specify or install in the kitchens of tomorrow?
A. The range which, through the years, has always been years ahead in design and features for pleasanter, easier living—the ESTATE. (P. S.: No fuelish problems...Estate Heatrola Ranges available for city or bottled gas and electricity.)
One outstanding fact has impressed every one of the million people who have visited the Homasote* Homes exhibits in leading department stores throughout the country.

With the Homasote Precision-Built** System of Construction, the architect can design any home in just the way his client wants it.

For Precision-Built Construction is not prefabrication ... it is not based on standard sections, rigidly controlled and restricting design. Rather, it produces any size, style and type of home which you and your client may designate. Precision-Building is mass production applied to conventional construction.

The one great overall purpose of Precision-Built Construction is to deliver more house for the money ... better materials, sounder construction, more convenience features; a house that is cooler in summer, warmer in winter, with the lowest of upkeep costs. And every Precision-Built Home, whether it costs $4,000 or $40,000, is built to the same high quality, in both materials and workmanship.

Precision-Built Construction is rapidly becoming a major force in home construction. $8,000,000 worth of private homes, and $30,000,000 in Government housing have already been built. So when you specify Homasote Precision-Built Construction for your client, you are giving him the advantages of years of engineered construction ... and insuring for him a machine-perfect house—of your own design. We invite you to write for the full details.

HOMASOTE COMPANY, Trenton, N. J.

YOU MAY HAVE SCRATCHPROOF FURNITURE

Chemical treatment of wood may make scratchproof furniture a post-war reality.

Inventors promise many new improvements to add to your comfort and convenience in the post-war world...but then...as now, the KOVEN WATERFILM BOILER will be your best assurance of economical heating comfort. This smartly jacketed boiler incorporates all the latest scientific developments to bring you quick heat, even room temperature and a plentiful supply of hot water. The patented construction of this fast steaming boiler cannot be duplicated by any other boiler on the market. Made in a variety of sizes, there is a WATERFILM BOILER for every type of home and industrial building.

WATERFILM BOILERS, Inc.
154 OGDEN AVENUE
PLANTS: JERSEY CITY, N. J. • DOVER, N. J.

SECTIONAL SERIES for war plant or apartment house use...can be taken through a 2 foot door.

THE ARCHITECTURAL FORUM
SYLVANIA offers new FLUORESCENT FIXTURE CATALOGS
to Architects. Release of steel for fluorescent fixture fabrication has added commercial and industrial models to the Sylvania Fluorescent Fixture line. The two catalogs illustrated above cover these additions and describe design improvements you will want to know about. Just fill in the coupon below, and a file folder containing these catalogs will be sent to you without obligation on your part.

SYLVANIA ELECTRIC PRODUCTS INC.
Dept. AF 10  Boston Street, Salem, Mass.

Please send me the new Sylvania Industrial and Commercial Fixture catalogs.

NAME __________________________
COMPANY _______________________
ADDRESS _________________________
CITY __________________ STATE _______

OCTOBER 1944
BUILDING REPORTER
(Continued from page 238)
der pressure. All the tapes have high
tensile strength, are weatherproof,
highly resistant to moisture and vapor
penetration, and are unaffected by ex­
treme temperatures, sea air, or chemical
fumes. They are offered for every use
including sealing, identifying, coding,
labeling, splicing, insulating, riveting,
holding, protecting, attaching, mounting,
mending, reinforcing, packaging, and
decorating. The full line consists of
printed, riveting, luminous, electrical
and masking tapes, and are available in
widths ranging from ⅛ in. to 18 in.
Manufacturer: International Plastic
Corp., Morristown, N. J.
ROOM-TEMPERATURE-SETTING RESIN GLUE
produces durable boilproof wood joints.
Name: Cascophen RS-216.
Features: This synthetic resin glue,
used with a separate dry-powder ca­
talyst, sets at 70° or warmer forming a
bond that meets the most rigorous joint
tests required by any current U. S. Gov­
ernment specifications. This adhesive
for wood provides good bonds at low
pressures, if surfaces being glued are
brought into uniform contact. The bonds
are immune to mold or fungus, can with­
stand immersion in boiling water, ex­
posure to moist or dry heat and continu­
ous exposure to water or moisture. Cas­
cophen RS-216 can be stored for an in­
definite period at room temperature. It
is recommended for work where com­
plete durability is required and where
joints cannot be heated.
Manufacturer: Casein Co. of America.
Div. of the Borden Co., 350 Madison
Ave., New York 17, N. Y.
TWO-WAY LOUD SPEAKER
in compact form.
Name: Altec Lansing Duplex Speaker.
Features: This compact, multi-cellular
loud speaker combines both high and
low frequency units to increase the effi­
ciency of present paging and public ad­
dress systems up to 500 per cent. The
speaker, less than 1½ cu. ft. in size,
covers an area twelve times greater than
that of the single unit speakers now in
use. This increased area of distribution
means that fewer speakers are required
in paging and public address systems,
and that pitch, quality, clarity, volume
and coverage are greatly improved.
Manufacturer: Altec Lansing Corp.,
1210 Taft Bldg., Hollywood 28, Cal.
PLASTIC SLEEVE
filter for black light.
Features: Tubes of Tenite plastic, dyed
by a special pro­
cess, form sleeves
over fluorescent
lamps to provide
black light (which
activates fiuores­
cent dials on in­
strument boards I.
The filter and lamp
combination costs
much less than
black light sources produced by mercury
and carbon arc lamps. The plastic has
good dimensional stability and is ex­
truded to close tolerances to assure fit
between lamp and sleeve. Postwar ap­
plications may be on automobile dash­
bords, radio and television dials, etc.
Manufacturer: Lion Mfg. Co., Chicago,
III.
(Continued on page 246)
Modern floors do a real selling job in modern stores

A fact which is strikingly proved by sales figures from coast to coast. Whether in great department stores, as in Gimbel Brothers in Philadelphia whose Bath Room Specialty Shop is shown above, or in smaller stores of every type, this most modern of floors—Nairn Linoleum—is being most effectively and convincingly proven as the outstanding floor for your postwar buildings.

A handbook on linoleum specifications has been prepared for your use. May we send you your copy?

CONGOLEUM-NAIRN INC., KEARNY, N. J.

After years of continuous heavy service, Nairn Veltone Pattern 42956 in this Gimbel Brothers Salesroom is fresh, beautiful—like new.

For modern floors and walls

NAIRN LINOLEUM

easy to maintain, colorful, permanent, resilient.
PREVIEW OF POSTWAR SPECIFICATIONS

connections from house-to-sewer to be of Orangeburg Fibre Pipe...

Even the “dream house” of tomorrow, equipped with such features as solar heating and many other revolutionary improvements that seem incredible now, will have to be practical.

That’s why ORANGEBURG PIPE will be so widely specified in postwar plans for house-to-sewer connections, and all other non-pressure uses outside the building... ORANGEBURG PERFORATED PIPE for septic tank filter beds, foundation footing drains, and subsoil drainage.

This permanent, non-metallic pipe is made of cellulose fibre impregnated with coal tar pitch. Non-corrodible... does not chip or break easily... does not crack under temperature or soil changes. Tight joints, easily made with TAPER-WELD couplings without cement or compound, prevent infiltration and entry of root growth. Perforated pipe is joined with snap couplings which keep pipe in line and keep out backfill. Light weight, long lengths, and fewer joints mean easier installation. First and ultimate costs are surprisingly low. Write for descriptive booklet.

THE FIBRE CONDUIT COMPANY, ORANGEBURG, N. Y.
HIDES the TUBING...

but NOT the light!

Lumitile is the amazing new shield that hides and protects fragile tubes and at the same time increases the emission surface from that of the bare tube itself, to twelve or more inches wide. Where is the tubing in the above unretouched photograph? Exactly three and one half inches behind the Lumitile! Here is perfect diffusion of light without its source being discernible.

Lumitile is molded of styrene; is resistant to water, acids, alkalis and alcohol; unaffected by age; does not warp. Wide variety of colors. Panels of Lumitile are welded from tile, and may be secured from lighting contractor in sizes needed. Lumitile truly will make cold cathode area lighting architecturally practical postwar. Send for free folder giving further facts about Lumitile.

Lumitile
327 EAST EIGHTH STREET
CINCINNATI 2, OHIO
SELF-LOCKING SPEED NUT for plywood.

Features:
This self-locking speed nut can instantly be anchored into plywood of any thickness. When driven into thick plywood the legs are forced outward to anchor the nut in screw receiving position. When used with thin plywood the locking legs peen over when driven against a backing plate thus anchoring the nut. The "U" type speed nut, snapped over the saddle, provides "float" to compensate for any misalignment of clearance holes. The saddle is offset to retain full contact with the plywood. The large bearing surface distributes the load over a greater area than is usually possible with ordinary fasteners. Available for use with 6Z, 8Z and 10Z sheet metal screws and 6-32, 8-32 and 10-24 machine screws.

Manufacturer: Tinnerman Products, Inc., 2036 Fulton Road, Cleveland 13, Ohio.

FLOOR TOPPING for industrial plants.

Name: Ferem.

Features:
Ferem, a "Blue Temper" component, contains all the desirable characteristics of hardeners, admixtures and processed components. It requires only the addition of cement and water to produce floor toppings with approximately four times the compressive and tensile strength of ordinary cement topped floors. Ferem is used exclusively as the "Blue Temper" component in place of sand and gravel or stone in floor toppings of dairies and industrial plants where floors are subject to heavy traffic or where resistance to water, oil and dilute acid spillage is necessary. It is used on shipping room floors, or any heavy duty floor, corridor or runway which is subject to shock or abrasion. It is also useful for patching, resurfacing or relaying worn floors.

Manufacturer: A. C. Horn Co., 43-36 10th St., Long Island City, N. Y.

PLASTIC FOAM offers good insulation.

Features:
Plastic foam, which is lighter than rock wool, glass or cork and weighs less than 2 lbs. per cu. ft., is particularly good for insulation. It is also lower in heat conductivity than any of the three. The mixture, which resembles molasses, is self-raising and self-curing. It will begin to foam within 2 to 5 minutes after the mixing stops and cures without application of heat or any other element. A quart will expand sufficiently to fill a 7 to 8 gal. receptacle in about 10 minutes, with the little heat needed self-generated by the mixture itself. Present uses are secret, but postwar uses promise many applications, especially where insulation is required.

Manufacturer: General Electric Co., Schenectady, N. Y.
Pulls Increased Patronage to Drug Stores

Concealed behind walls, or out in the open, Chrysler Airtemp “Packaged” Air Conditioning keeps the atmosphere in drug stores odorless, fresh and stimulating to customers.

When the war is won, the public will insist on the comfort of air conditioned drug stores. New buildings, with their many new modern features, will be obsolete without year 'round temperature-humidity control. Druggists know this fact! They are asking architects to include Chrysler Airtemp “Packaged” Air Conditioners which, in combination with the famous Airtemp Percolator Boiler, provide ideal year 'round indoor climate control—plus adequate hot water.

Chrysler Airtemp offers architects helpful cooperation in making plans and estimates not only for cooling, but heating and commercial refrigeration installations. Airtemp Division of Chrysler Corporation, Dayton, Ohio. • In Canada, Therm-O-Rite Products, Ltd.
EICHLF service includes steel erection, moving structures, foundations for heavy machines, installing machinery, relocating industrial units, and related projects. Frequently while foundations are being constructed machinery is erected and then moved to location, thus saving much "down time."

EICHLF
33 S. 19th St., Pittsburgh 3, Pa.

Choose ROGER

"America's Finest Gas Range"

You'll even surpass the expectations of your post-war clients when you specify new Roper gas ranges for the modern kitchens you'll plan.

Always distinctive! Proved dependable! The new post-war Roper with many advanced improvements is sure to gain even greater preference among America's housewives.


SPECIFY WAR BONDS NOW • A ROPER GAS RANGE LATER

TODAY OR POST-WAR!

It Is Important to Measure Valuable Stored Liquids Accurately With

LIQUIDOMETER Tank Gauges

"THEY'RE ALWAYS DEPENDABLE"

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.

THE LIQUIDOMETER CORP.
3630 Skillman Ave., Long Island City, N. Y.
"I wish your mother could have had a BENDIX!"

Soon, Every Mother Can Have This Modern Home Laundry Miracle!

FITS ANYWHERE...OPERATES PERFECTLY...THANKS TO EXCLUSIVE BENDIX DESIGN

KITCHEN...Counter high. Compact. White finish.
PLAYROOM...Quick way to modernize a laundry.
BATHROOM...Clean, neat, gleaming white.
BASEMENT...Excellent spot for the Bendix.
UTILITY ROOM...Perfect here and everywhere.

Modern women want no old-fashioned washing machines in their "homes of tomorrow." By the tens of thousands, they are clamoring for the one-and-only Bendix Automatic Home Laundry—as beautiful, as efficient as their dream home, itself! But the Bendix is not a dream. It's a blessed reality that washes, rinses and damp-dries clothes at the click of a switch! Takes only 4 square feet of floor space. Fits anywhere. Eliminates set-tubs. In many states is eligible for FHA financing. And soon, the Bendix will again be available. Helping them and helping you, too. Helping to sell the house, and increase the property value. Soon no home will be truly modern without the Bendix!

DE LUXE MODEL: 26" wide, 38" high, 22½" deep.
STANDARD MODEL: 25¼" wide, 35" high, 22¼" deep.

BENDIX automatic Home Laundry

Bendix Home Appliances, Inc., South Bend, Indiana...Pioneers and Perfectionists of the Automatic "Washer"...Not Affiliated with any other Organization of Similar Name
TECHNICAL LITERATURE

WINDOWS. How and Where to Use More Win­
pp., 8½x11. This booklet gives advice
摂 groupings, corner windows, picture windows,
and gives consideration to the use of these
possibilities in remodeling. Hints on what to
look for in choosing windows, are also included.
Curtis Companies Service Bureau, Clinton, la.

PLASTICS. Plaskon, Plastic Materials for Modern
Industrial Production, 16 pp., 8½x11. This
booklet describes the properties of various
Plaskon compounds and covers the use
of these materials for modern industrial produc­
tion. A wide variety of products molded from
the different types of resin are illustrated to
demonstrate their practical application. Plaskon
Resina plastic for bonding materials is also in­
dicated. Plaskon Div., Libby-Owens-Ford Glass
Co., 2138 Sylvan Ave., Toledo 6, Ohio.

ARC WELDING. Practical Design for Arc Weld­
The first of three volumes following the original
publication of design plates in loose-leaf form,
this book contains 100 plates illustrating weld­ing procedure. These detailed drawings
show how tubing, plate, sheet, standard steel
sections, angles and bars can be used with arc
welding to fabricate stronger products of im­
proved appearance at lower cost. The book
offers practical working information for the
welder, manufacturer, engineer and designer
who are looking to the advantages of arc weld­ing
in present and postwar production. It con­tains
a complete work sheet in graphic form
opposite each design plate, on which can be
made notes, estimates and sketches as the
basic design plate relates to the projected design.
A record form also on the work sheet, can be
used to keep accurate permanent records of
all design ideas to the users own products, with
a permanent record of each such procedure. All design
plates are clearly marked with American Weld­ing
Symbol Society symbols, and a cross reference in­
dicating the manufacturer's designation plates that give
specific details such as base, bosses, columns,
frames, gussets, lug types, etc., that are concerned,
manufactured applications. Hobart Bros.
Hobart Square, Troy, Ohio.

MOULDBLE STEEL WALLS. Steel Mouldwall, Sound
Proofed and Sewed Together, 27 pp. hobart
Descriptive catalog gives advantages, specifica­tions, details and illustrations of movable, re­
soundproof steel and metal combined steel and glass
partitions. Erection and rearrangement is
very easy. Mouldwall panel is strong, solid, safe
wall accessories, finishes, costs, working
facilities and other advantages are covered in
the various types of partitions. Details of the
flush type, semi-flush type, molded and
Mouldwall partitions are in­
cluded with specifications for each. Sneed & Co.,
Orange, Va.

8½x10½. This pictorial presentation contains
drawings and descriptions of all current
stock injection and compression molds, extruded
cross-sections, and laminated sheets, rods and
tubes. Practically all cataloged stock resin in
the plastic industry have been gathered together
in this book by Modern Plastics Magazine for
the specific use of manufacturers. Designed for
easy reference, each stock mold item is num­
bered and indexed with the name of the molder,
either extruder or laminator. This catalog, a direct
link between the customer and the molder, should
be of great value to every user of molded plastics, since the use of stock molds saves many time-consuming and expensive op­
erations. Stock Mold Dept., Modern Plastics
Magazine, 123 E. 42nd St., New York 17, N. Y.

UNIT HEATERS. Modern, Vertical Delivery Unit
Heaters, Bulletin 144; Modern Horizontal De­
livery, Unit Heaters, Bulletin 144 A. Both 8
8½x11. Two bulletins offer complete descriptive
data on the new lines of copper condenser unit
heaters for horizontal and vertical air delivery.
They include design details, air control devices,
installation information, sizes and prices and
hot water performance tables for both types of
delivery heaters. Diagrammatic photographs
illustrate the construction features of each. Also
incorporated in the bulletins is engineering information on Low Outlet Temperature Models
designed for use on steam pressures of 30 lbs.

ELASTIC STOP NUTS. Erna Data Book and Cat­
alog, 119 pp., 9½x11½. Price $1.50. This book, which is practically an engineering hand­
book, gives information for use in design­ing and driving pile foundations. By a direct
practical approach, all the theoretical factors
involved, assists the engineer in obtaining safe
and economical results in the handling of actual pile foundation problems. Chapters are devoted
to the Philosophy of Pile Foundations, Pile­
Drivin Analysis and Application of Formulas, Speed, Stroke, and Driving Strasses, Selection
of Driving Equipment, Selection of Types
Pile and Methods of Driving, Effects of Pile
Spacing and Grouping, Design of Piles for
Loadings. Types of Construction, Construction
and Preservation of Piles. Many tables,
formulas and illustrative diagrams and graphs,
and comparative results of tests, methods of making
test loadings, and standard specifications for
piles are included with a store of other helpful
information. The book is amply illustrated with
either extruder or laminator. This catalog, a direct
link between the customer and the molder, should
be of great value to every user of molded plastics, since the use of stock molds saves many time-consuming and expensive op­
erations. Stock Mold Dept., Modern Plastics
Magazine, 123 E. 42nd St., New York 17, N. Y.

REQUESTS FOR LITERATURE

That's when, the song says, "I'm coming back to you." There have been a lot more things than apple blossoms in Normandy this year, but Lawson metal bath­room cabinets won't be back for some time. For though the Allies have made magnificent progress, much remains to be done.

So Lawson production is still chiefly military and the manufacture of our regular bathroom cabinets cannot yet be resumed. But, the way things are progress­ing, we all have the right to be hopeful. Perhaps, when it's next blossom time in Normandy, we will be—happily—coming back.

LAWSON CABINETS

When we say that Lawson Warwood Cabinets are the
finest bathroom cabinets now being made, we want it
understood that they are not as good as the metal
cabinets we used to produce, and that we'll produce
again when the war is over. But the Warwood is the
most satisfactory wooden cabinet on the market—the
best that wartime conditions allow us to make.

THE F. H. LAWSON COMPANY

Cincinnati 4, Ohio

That's when, the song says, "I'm coming back to you." There have been a lot more things than apple blossoms in Normandy this year, but Lawson metal bathroom cabinets won't be back for some time. For though the Allies have made magnificent progress, much remains to be done.

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most satisfactory wooden cabinet on the market—the
best that wartime conditions allow us to make.

THE F. H. LAWSON COMPANY

Cincinnati 4, Ohio
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In your planning... when you come to this business of "going up"... remember the service that Dahlstrom offers, and has offered for 40 years; Design and Engineering Staffs ready, willing and able to work with you and your clients. Working in this manner, you can save considerably in time when Building's green light goes on again.

Illustrated above: Dahlstrom first floor elevator entrance installation in the United States Post Office, Albany, N. Y.
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In this attractive modern home designed by Architect Richard J. Neutra of Los Angeles, the spacious feeling is further enhanced by the use of a large mirror which extends from the left of the glass wall in the foreground, back alongside the lily pond.

Give your interiors a "feel" of outdoor spaciousness with Daylight Engineering

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Casually chosen materials, such as just specifying “plastics”, invite trouble. It leads to misapplication—almost invariably the fault when plastics go wrong.

Time was when designers, engineers and production men had small choice among plastics compounds. Types just weren’t numerous enough. But the situation has changed radically. Today the new user of plastics is confounded by the endless variety of plastics available.

And there are wheels within wheels! In just one class—the cellulosic family of thermoplastics—Lumarith* alone accounts for hundreds of precision formulations. Included are Lumarith CA, Lumarith X, and Lumarith EC—the appended letters denoting the plastic bases: cellulose acetate, special high acetyl cellulose acetate, and ethyl cellulose.

Lumarith CA itself includes over 100 compounds, each aimed at avoiding failures, misapplications...perhaps a fine adjustment of structural or tensile strength to needed impact resistance...toughness graded to heat and moisture resistance...dimensional stability correlated to transparency and surface stability...density and surface permanence engineered to color stability...allowances for fabrication economies. All these and other characteristics, balanced to meet the specified “end-use” with precision.

Obviously the selection of modern plastics is no longer a “stock” affair. As one architectural authority puts it:

“It should be clearly understood that the final choice of any plastic...should be made only after consultation with the technicians of the producers.

Celanese Celluloid Corporation, having started the plastics industry in this country, has never been able to lose that paternal interest in the successes of all plastics. That is undoubtedly why such great emphasis has been placed on technical service in this organization. Consultation in the early stages of a plastics product or part is of great value. You have much to gain by urging your suppliers to consult the Celanese technical service organization on any problem in the rapidly expanding field of plastics. Celanese Celluloid Corporation, a division of Celanese Corporation of America, 180 Madison Avenue, New York 16, N.Y.
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