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APR2 -

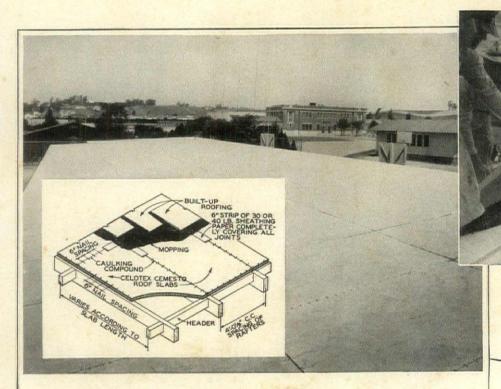
# HEARCHITECTURAL REARCHITECTURAL

DECEMBER 1944

# Why More and More Architects are Specifying

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## for Modern Insulated Roof Decks!



This roof deck is typical of many successful Cemesto applications. Phantom view shows how Cemesto is usually applied, and how built-up roofing is added.

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See how easily these workmen apply Cemesto. It's light ... easy

TODAY, architects the country over are meeting their need for high speed, high quality roof deck construction with 1-9/16" Cemesto! It replaces "hard-to-get" lumber sheathing. And it's available in any quantity!

Cemesto has proven its worth on many successful roof deck installations large and small...all the way from garages to hangars, hospitals and industrial plants!

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It's lighter than common roof decks, yet rigid... making it possible to effect a saving of supporting members and superstructure.

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When roof deck is exposed as a ceiling, the light grey Cemesto surface furnishes good light reflecting value... plus a pleasing and durable finish that requires no painting. And heat loss through the roof is reduced by as much as 40% over 2" wood sheathing!

In addition, Cemesto is fire and moisture resistant...and can be pre-cut to needed sizes for amazing speed and economy of application!

Look into Cemesto for your next roof deck job. It will pay you!

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### Consult Our Architects' Service Department!

If you need technical assistance in planning a Cemesto roof deck, our Architects' Service Department will gladly study any designs you are developing... suggest methods of installing Cemesto...furnish material costs on your job. Drop a note on your letterhead to: Celotex Corporation, Dept. AF-12, Chicago 3, Illinois, A trained representative will call. No obligation, naturally.



#### THE ARCHITECTURAL

# FORUM

#### DECEMBER

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NEWS

1944

79

85

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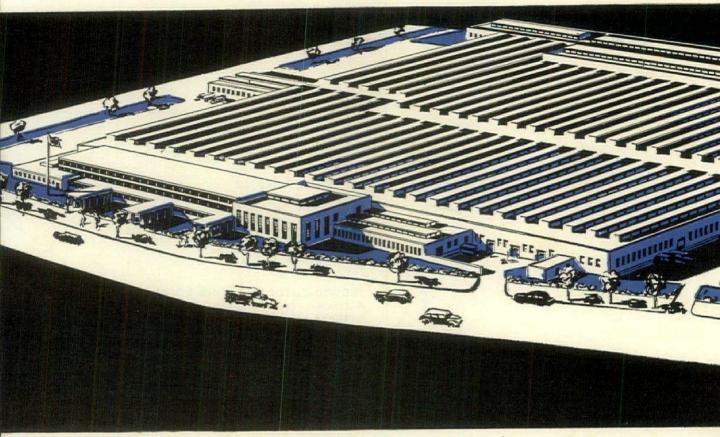
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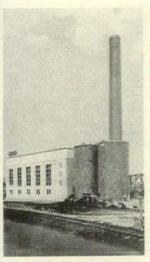
VOLUME 81, NUMBER 6

JANUARY: Design and construction of modern industrial buildings ... Postwar Building Techniques, Materials and Equipment . . . Look Magazine offices . . . two more LIFE-FORUM House Ideas . . . Planning with You . . . Houses.

# 'A MIRACLE OF



U.S. Postal Concentration Center in Long Island City, New York, Alfred Hopkins & Associates, New York, Architects & Engineers



Heating Plant with 150 foot stack for Postal Concentration Center

This new Postal Concentration Center in New York City is described as "A Miracle of Construction" by Col. Edgar W. Garbisch, N. Y. District Engineer of N. Y. District Office, U. S. Army Engineers.

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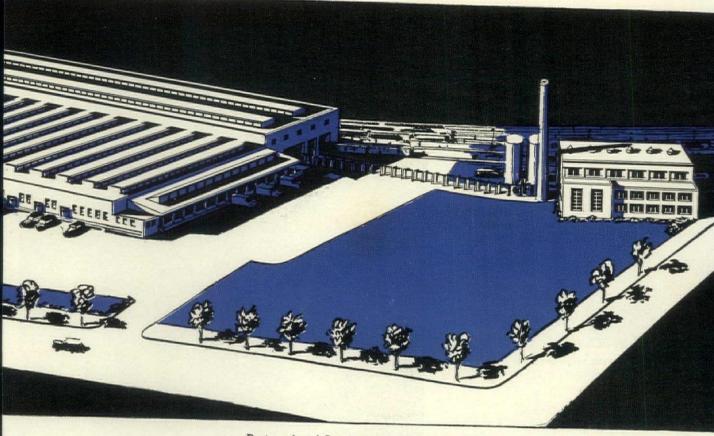
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ohn A. Johnson Contracting Corp. 5001 Second Avenue Corporation (Heavy Equipment Organization

# FORUM OF EVENTS



Prefabricated spans supported by pontoons create a floating causeway to reach off-shore piers in deep water.



Ships are unloaded at concrete piers set parallel to shore line. These are linked together by short spans of roadway.

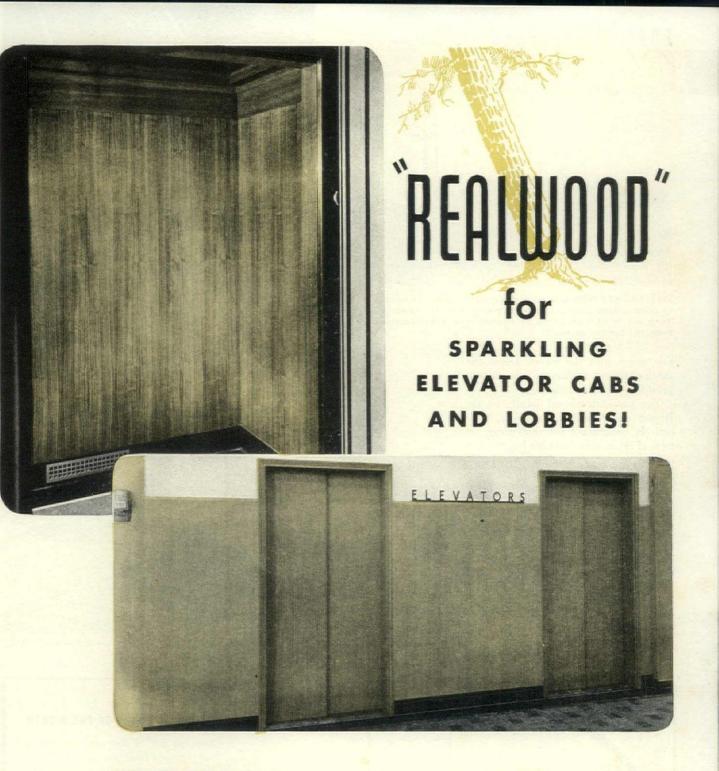


Photos: British Combine

AERIAL VIEW OF A PORTABLE HARBOR ON ONE NORMANDY BEACHEAD

Portable, prefabricated harbors are the Allies' newest weapon in the vital battle of supply.

From the arm chair generals at home came simultaneous expressions of incredulity and apprehension when Allied troops dashed across northern France after the initial breakout from the Normandy peninsula. How the Army ever managed to establish and maintain their miraculous system of supply was long a guarded secret. When the veil of censorship finally lifted, the answer turned out to be prefabricated harbors, made in England and floated across the Channel. Assembled in three days under the muzzles of the German guns and the unbelieving stares of the French populace, floating causeways 3,300 ft. long now stretch between the shore and big concrete piers anchored in the deep water. On these, 20,000 tons of supplies are unloaded daily. Beyond, an incongruous chain of sunken caissons and merchant vessels form a sturdy sea wall. Still further seaward long steel breakwaters, anchored in a curving (Continued on page 6)



FOR the severe service the interior of your elevator cabs and your elevator lobbies must take, nothing is more modern, handsome or resistant to moisture, wear, and staining than a Formica laminated plastic sheet in which the actual veneer of fine wood has been introduced.

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### FORUM OF EVENTS (Continued from page 4)

Photos: British Combine

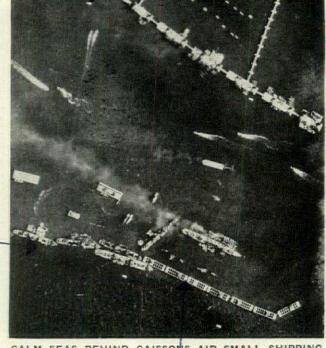


Sunken Liberty ships and other merchant vessels are used in combination with caissons to create a stout seawall. They are in turn protected by floating steel breakwaters anchored further seaward.

row, move with the waves, lessen the shock of the sea against the caissons and provide a leeward anchorage.

The ports, developed jointly by the British and American engineers, were entirely constructed before delivery. A total of three were installed but the one on the American beachead was badly mauled by a channel storm. It has subsequently been repaired and put back into service. The unloading piers were towed from England in 400 ft. lengths. Navy Seabees armed with wrenches rode these sea trains on their four day crossing. They slept as best they could in tents on the steel roadways, perpetually on the lookout for bolts loosened by the heavy seas.

Perhaps the most interesting phase in the construction was the molding of the (Continued on page 172)

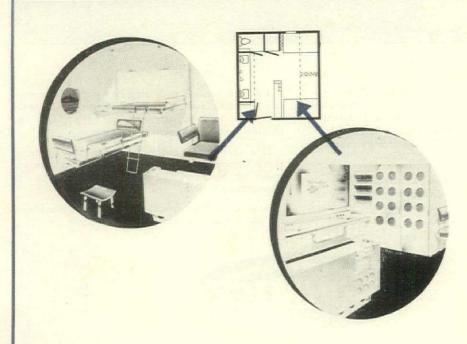


CALM SEAS BEHIND CAISSONS AID SMALL SHIPPING





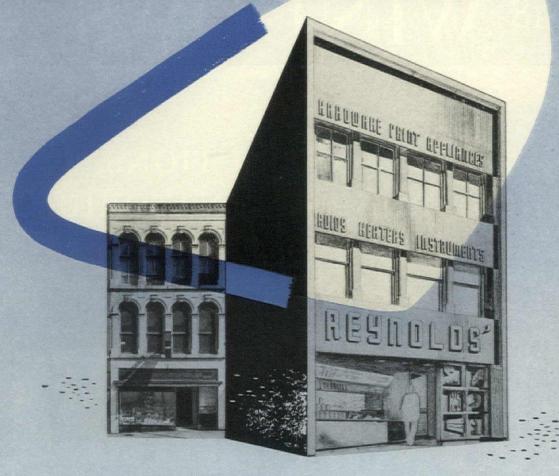
CAISSON AFLOAT (LEFT) AND AFTER SINKING OFF FRENCH COAST (RIGHT)



#### POSTWAR DESIGN OF THE MONTH

Anticipating the day when steamship travel comes back into its own, Peter Muller-Munk recently designed this Victory Cabin. His staggered arrangement of four beds neatly avoids the usual prison cell tiers. The two lower bunks convert into sofas during the day, the upper ones fold into the wall. Two curtains divide the cabin. All fittings, doors, etc., are of stainless steel. Since the plan calls for occupancy of a rather small space by four people, it seems doubtful that the cabin is intended for the great business tycoons of tomorrow. Nevertheless, each unit is thoughtfully equipped with ship-to-ship and shipto-shore telephones.

# NEW KAWNEER PROGRAM-



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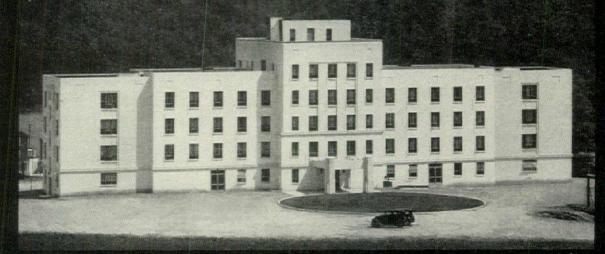
Write today for further data on the Kawneer Program. Address The Kawneer Company, 212 Front Street, Niles, Michigan.



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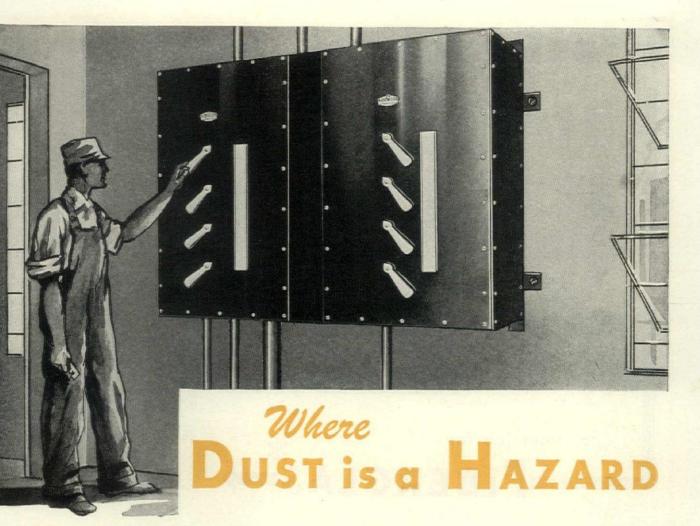
The special advantages of Hope's Steel Windows contribute alike to plans for distinguished architectural style and to the ever-present considerations of utility, convenience and mechanical reliability.

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These panelboards have a solid steel front plate, gasketed all around, and secured with screws to an extra wide box flange. They are further rendered dust-tight with welded hubs for conduit outlets, welded box corners, and handle bushings riveted directly to the steel cover plate. External mounting brackets are provided, to maintain the dust-tight construction.

The circuits are externally operated by a

mechanism of new ® design. The handles operate through dust-tight bushings, and engage the regular handles of the circuit breakers inside the cabinet. ON and OFF positions are indicated on the front of the cabinet.

® Dust-tight Panelboards are of the circuit breaker type. Capacities of Power Panels: 15 to 600 amperes, 250 volts AC or DC, and 600 volts AC. Lighting Panels, standard or narrow column type, equipped with ® Type AC Thermag or ® Dublbrak Circuit Breakers (or other types of ranch-circuit circuit breakers). Available with 4 to 42 circuits, 50 amperes or less, for 3 wire, single phase, or 4 wire, 3 phase mains, with lugs only, or main breaker.

#### Write for Bulletin 67

which contains descriptions, sizes, capacities, wiring diagrams, prices and suggested specifications... Frank Adam Electric Company, Box 357, St. Louis 3, Mo.

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Cold-room insulation must be odorless—and it should not absorb odors. Fiberglas is glass—glass fibers that have no odor, absorb no odors in service. Furthermore, both the binder and the asphalt enclosure are odorless under cold conditions.

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The asphalt facing of Fiberglas AE Board gives it the rigidity and strength needed for easy handling and installation and also helps to provide a more efficient vapor barrier which is so important in cold storage installations.

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3. Type PF Pipe Insulation—offers a convenient, efficient method of insulating brine pipes and other cold lines when installed as specified. Available in 3-foot sections for all standard pipe sizes up to 30" diameter.

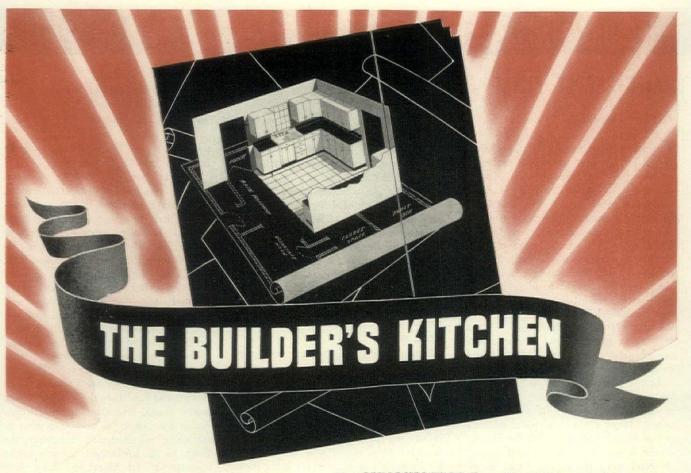
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# PRODUCTS AND PRACTICE

# WATER SUPPLY PIPING must surpass prewar installations to carry the high loads in postwar homes.

This article was prepared in collaboration with Norman J. Radder, Secretary, Plumbing and Heating Industries Bureau.

The kind of plumbing installations being discussed for postwar houses makes it evident that improved piping will be necessary to insure capacity for increased water demands. The public has been told repeatedly about the wonderful new developments in store for the house of the future, but in most cases the practical means of serving improved equipment has been ignored. Although the concealed part of the plumbing system-pipes and fittings-hasn't the glamour of the visible part, the fixtures in even the best of postwar houses will not be able to provide good service unless piping gets more attention than it did in most prewar homes.

In the past no part of the plumbing system has caused so many complaints as inadequate hot and cold water supply pipes. There are an enormous number of two-story houses in which the faucets on the second floor deliver only a dribble of water when the laundry tubs in the basement are in use or when water is drawn at the sink or used to sprinkle the lawn. This typical situation is quite unnecessary since the requirements of

good piping are simple, well known and attainable at very slight extra cost. Piping must first of all be of good quality. Second, it must be adequate. This is largely a matter of sizing. Then it must be designed and installed so that it will operate as quietly as possible.

Before going into the matter of sizing and installation it is necessary to take a look at the plumbing in the house of the future to get a clear picture of probable water requirements, location of fixtures and other underlying factors.

#### MORE WATER

Whatever form the postwar house may take, there is one obvious fact: water requirements will be greater because there will be more fixtures. The trend toward an increased number of bathroom fixtures which was in full swing before the war, has not halted, but indeed has been accelerated. In addition to the widely desired extra bath, most people now want and expect a supplementary lavatory. It has been suggested that even the one-story house needs a room equipped with two fixtures near

the front of the house where it will be readily accessible for guests.

Postwar plans, too, call for more fixtures in the basement or utility room, whichever is provided. Basement plumbing is likely to take the form of a bathroom with showers near the recreation room. The utility room, unless it is convenient to the lavatory or basement bath, should also be equipped with a water closet, although the wash basin can be omitted since space may be limited and laundry tubs can serve for hand washing.

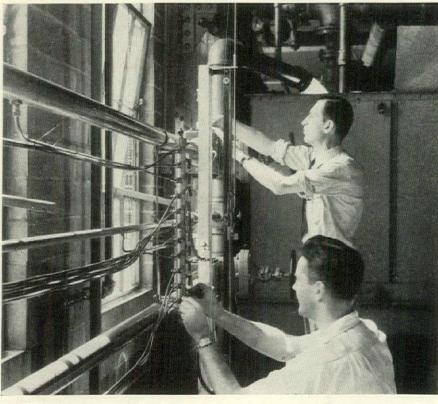
Other equipment which will create a greater demand for water are electric dishwashers, new automatic clothes washers, air conditioning apparatus, automatic lawn sprinklers, more lawn faucets and faucets in the garage. Wider use of dental lavatories in the postwar era is also likely to add somewhat to the water requirements. Similarly, the bidet, as its advantages become better understood and Americans drop their puritanical prejudices against this useful fixture, is likely to find greater acceptance in bathrooms of the future.

No less significant than the trend toward additional equipment is the discussion now going on about new arrangements of bathrooms and new layouts which will increase the over-all usefulness of the fixtures without involving additional plumbing equipment. The family bathroom shown in this issue (see p. 123) is only one of a number of arrangements in which the lavatory, water closet and bath are separated so that these fixtures may be used by two or three persons simultaneously with complete privacy.

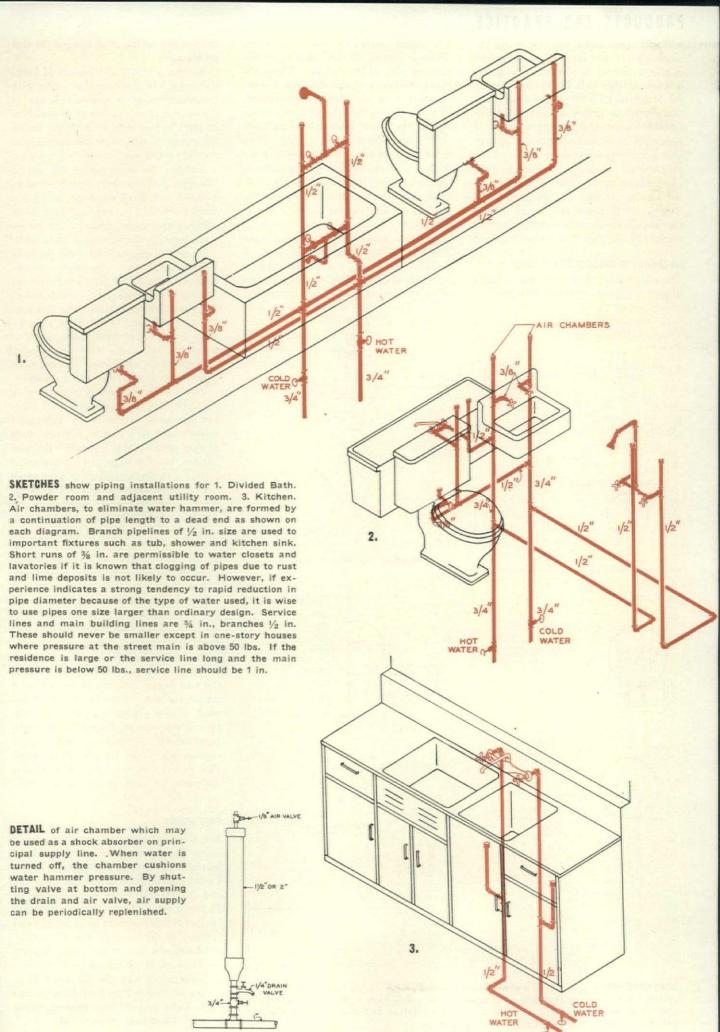
Another idea that is being talked about these days is the installation of lavatories in bedrooms. These fixtures can easily be installed so that they are suitable to boudoir surroundings and have the distinct advantage of relieving a considerable volume of bathroom traffic. The In-Line Bath (see Arch Forum, Nov. '44) carries this idea even farther, including in separate concealed compartments along the wall a shower and water closet in addition to the lavatory. Thus the entire business of dressing can take place in the bedroom.

It begins to look as if the new ideas in plumbing, at least in the years immediately following victory, will not consist of radical innovations in fixtures, but rather in new arrangements that

(Continued on page 14)



ENGINEERS measure friction loss in pipe at the lowa Institute of Hydraulic Research at the University of Iowa. Under the direction of F. M. Dawson, dean of the college of engineering, this test set-up is the basis of extensive and accurate research on pipe sizing and installation.



#### PRODUCTS AND PRACTICE

will add to the usefulness of existing fixtures. All these innovations have, of course, a distinct bearing on piping, inasmuch as they call for more water or for a different layout of pipelines than that found in prewar homes. In addition the water heating equipment will have to be comparably expanded to provide for increased postwar needs. Like the amount of piping, water heating equipment must be sized on the basis of the number of baths in the house, the number of showers, number of rooms, the income level of the family, and the number of children and servants if any.

#### HAZARDS OF INADEQUATE PIPING

The importance of good piping is highlighted when one considers the many disadvantages caused by undersized pipes. There is first of all the lessening of the serviceability of the fixtures. There are many variations of this deficiency, some of which have already been mentioned. In some second floor bathrooms, for instance, the water closet tanks will not refill when a lawn faucet is open. Then there is the house with inadequate lines to the sill cocks so that the gardener is frustrated by a hose which splashes at his feet instead of providing a powerful stream, merely because someone else is using water inside the house.

The inconvenience is bad enough. The hazards are even more serious. A familiar one is the starving of showers with consequent danger of scalding when other equipment is used simultaneously.

Inadequate piping is at the root of this problem.

Another is the health hazard of backsiphonage. Inadequate pipe sizing with consequent drop in pressure is one of the more common causes of reverse flow in pipe lines which, when other conditions prevail, will cause the pollution of the pure water supply with waste water.

Another disadvantage of the inadequately piped plumbing system—that is, a system with small-size pipe, valves and fittings—is that it is noisy. Less noise occurs when water flows through larger pipes because the velocity is reduced.

Since the diameter of pipe tends to decrease with age, pipe that was adequate when installed may, after a period of years, be entirely too small due to the formation of scale and lime deposits. With 80 per cent of the people in the U. S. living in relatively hard water or scale-forming areas, this progressive decrease in pipe diameter is a real problem for the majority of the population.

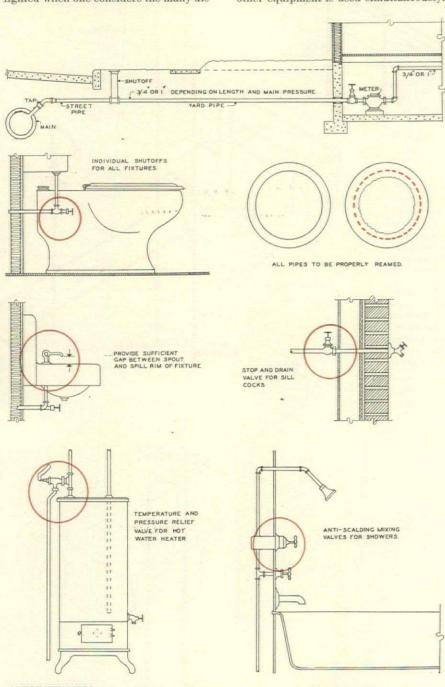
The significant fact to remember in planning new installations is that pipes are concealed behind walls and under floors where they can be replaced only at very considerable expense. In comparison, the cost of pipe of adequate size installed in the first place is very small—a price differential in a typical small house of less than \$10 between ½ in. and 1 in. pipe with corresponding valves and fittings.

In view of the importance of good piping, it is rather odd that plumbing codes do not prescribe piping standards. The answer is that the subject of pipe sizing is relatively new. Until a few years ago there was little definite information backed up by laboratory tests that could be recommended to plumbing inspectors. Fortunately, considerable basic research work was under way before the war began and has been continued during the war years. The result of this work is that piping is no longer a hitor-miss proposition. Provisions have now been drawn up covering water supply piping-specifically for plumbing codes. Few existing houses have piping that is adequate or safe according to these standards.

#### PIPE SIZING

Much of the basic research work on pipe sizing has been carried on at the Iowa Institute of Hydraulic Research at the University of Iowa under the direction of F. M. Dawson, dean of the College of Engineering. Dawson was formerly head of the department of hydraulic and sanitary engineering at the University of Wisconsin where he began his research work in plumbing.

Cooperating with the National Association of Master Plumbers, Dawson and A. A. Kalinske have been experimenting (Continued on page 144)



ADEQUATE PIPES and valves are necessary for the proper functioning of a plumbing system. Correct sizing and reaming of pipes insures ample flow. Valves of various types prevent water hammer and scalding, control temperature and pressure in the water heater, and allow draining of pipes when necessary.

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Public acceptance of the superior qualities of Cotton Insulation is rapidly advancing it to a position among the leaders in the insulation field. First commercially produced in 1940, the phenomenal rise of Cotton Insulation has taken place despite rigid curtailment of new construction made necessary by wartime restrictions and priorities.

To the alert architect, the observing builder, and the sales-minded retail dealer, this outstanding record will have great significance. In terms of the average home alone, it means that hundreds of thousands of homes have been insulated with this new and amazing material.

And Cotton Insulation is astonishingly efficient. With from 20% to 25% less bulk and with from 70% to 75% less load weight per thousand square feet of area, it exceeds all technical requirements for approved insulation. It transfers less heat per inch of thickness than any other insulation commercially available.

Fire insurance rates are not changed by Cotton Insulation—it is included in standard specifications of FHA and FPHA. Produced in strict accordance with specifications prescribed by the U. S. Department of Agriculture, it is tested, approved and certified by government inspectors at each plant.

No wonder, then, that the entire building industry is seeking more information on Cotton Insulation and is planning for its use in the postwar period. To new construction and the modernization of existing buildings, Cotton Insulation is bringing a new standard of quality and performance.

For more detailed information and a full account of government tests of this amazing product, write to-NATIONAL COTTON COUNCIL, Box 18, Memphis 1, Tenn., for the booklet "Cotton Insulation."



#### CONSIDER LOAD WEIGHT

Per thousand square feet installed. Cotton Insulation weighs no more than 220 pounds, as contrasted with the loading of up to 3,000 pounds for some other insulating materials. In bulk area it requires a three-inch thickness—equivalent insulating materials, to give an equal value, require up to four inches.



# CONSIDER FIRE AND VERMIN RESISTANCE

Cotton Insulation will not take fire when subjected to a 1600° F. flame from a blowtorch for a period of 20 minutes—only chars. It convincingly denies all traditional ideas that cotton is inflammable. Cotton insulation is a repellent to vermin and has never been found to harbor household pests.



CONSIDER

INSTALLATION

Cotton insulation is installed without triring effort—simply unroll it like a rug. Light in weight, it handles easily and no special equipment is required. No abrasives to scratch skin or injure workmen. No dust or

flying particles accompany its installation and it is free from waste in storage, transportation, or on the

#### CONSIDER PERMANENCE

Match these qualities with other products. Natural waxes of pure cotton retained in processing shed destructive effects of moisture—socked, frozen, thawed and dried in laboratory tests, it shows no loss of resiliency or insulating properties. Cotton Insulation can outlive the building it insulates, yet contributes to its life.

# NATIONAL COTTON COUNCIL OF AMERICA

COTTON INSULATION ASSOCIATION

FOR OFFICIAL GOVERNMENT TESTS WRITE NATIONAL COTTON COUNCIL, BOX 18, MEMPHIS, TENNESSEE

STEEL



Republic -

STEELS AND

# HE WORLD'S BASIC ENGINEERING MATERIAL

# for any type of Structure



Design and erect whatever type of structure you will—if it is to be permanent and if it must carry a load heavier than that of lowoccupancy residences, you'll probably employ STEEL as the basic engineering

aterial, even though some other material may predominate.

FEEL is recognized the world over today for its safety, ficiency and economy—for its fidelity in performing acording to established engineering data.

TEEL has proved its dependability by a long record of rvice. STEEL has demonstrated its versatility. And STEEL as provided a combination of desirable qualities found no other material.

STEEL is strong, tough, stiff, safe.

- is high in strength-to-weight ratio permitting reduction in bulk saving space.
- -will not warp or shrink.
- —will not absorb moisture.
- is fireproof, vermin proof, splinter proof.
- resists heat and cold, wear, corrosion, oxidation.
- -is sanitary and clean.
- 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.
- is adaptable to prefabrication and machine production.
- is inherently long in life with little need for maintenance.
- —is low in cost per year of service life.
- is available in a wider range of forms than probably any other material.

esign with STEEL—for both functional and decorative polications. When wartime demands for steel no longer old priority and restrictions are lifted from building,

epublic again will be ready with the ost complete line of steels and steel oducts made by a single manufacturer.



#### SEE SWEET'S FILE

or write us for detailed information on these Republic Steel Building Products:



Pipe—Steel, Copper-Bearing Steel, Toncan Iron
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Enduro Stainless Steel
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Steel Shingles . . . Steel Siding
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Wire Nails . . . Metal Lath
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# STEEL PRODUCTS

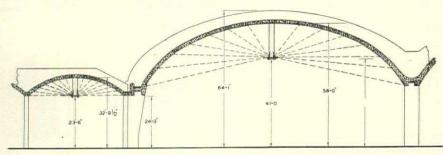
# BUILDING REPORTER

EXTERIOR OF HUGE ASSEMBLY PLANT



#### UNIQUE INDIRECT LIGHTING SYSTEM illustrates industrial illumination trends.

A combination of Westinghouse incandescent and 3 K.W. mercury vapor units, has proved a practicable and economical means of illumination in the huge Budd assembly plant at Bustleton, Pa. Never before has indirect lighting for an industrial plant been attempted on such a scale. The installation, with energy consumption averaging approximately 6 w. per sq. ft., provides light over the entire 24 acres of the assembly area. This huge structure, made of steel reinforced concrete, has two sections each approximately 135 ft. by 1,800 ft., and six sections each approximately 50 ft. by 1,800 ft. Each section has a vaulted roof with skylights. The curvature of the ceiling acts as a natural reflector and the lighting is hung from catwalks suspended from the center of the ceiling of each bay. Problems such as reflected glare, closer proximity to the lighting system by some workers than others, shadows, poor diffusion and costly maintenance have been solved by this method of installation. Electric service for the plant is furnished at 66,000 v. and is stepped down at the main substation to 13,200 v. The 750 K.V.A. transformers in eight substations in the assembly building step down the potential to 460 v. whence it is distributed by a 3-phase bus through



INDIRECT LIGHTING HUNG FROM CATWALKS IS REFLECTED BY CURVED CEILING



6-200 amp., 3-pole air circuit breakers to a section of the catwalk where it is split into several lighting circuits. The lighting circuits feed 12 lighting units which are electrically connected in pairs. The lead wires to a pair carry through a fused safety switch thence directly to the incandescent units and through a two-lamp ballast to the reflector in the case of the mercury fixtures. The reflectors for both the mercury and incandescent lamps-similar in appearance-are mounted on either side of the catwalk. The mercury reflectors hold one 3,000 w. lamp and the incandescent reflectors are equipped with 4 sockets so wired that 120 v. incandescent lamps burning in series operate directly on the 460 v. distribution system. In the high bays 751 w. lamps are used, and in the low bays 501 w. lamps. The concrete ceiling is painted a matte white which has a reflectivity of about 65 per cent. Average illumination throughout the plant is approximately 30 foot candles. This is a depreciation in utilization of about 20 per cent and is noteworthy for an indirect lighting system in an industrial plant. Postwar application of paint will result in better reflection factors and when relamping and repainting are put on schedule, maintained utilization will be higher.

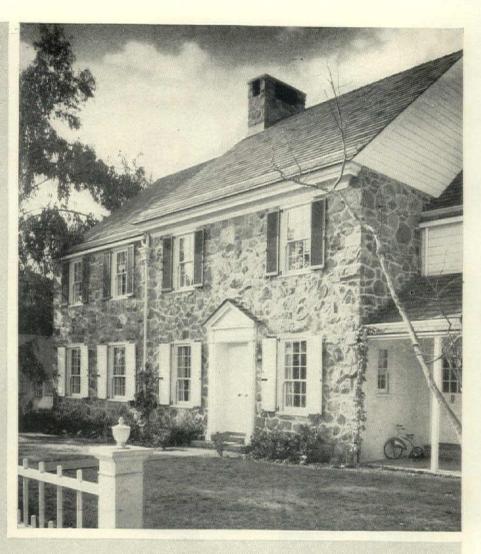
(New Products appear on page 144)

# WARMTH

...expressed in stone and

in living-com-

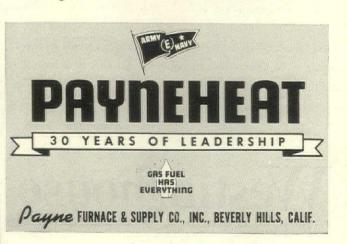
fort



RESIDENCE OF DR. STANLEY CHAMBERS BEVERLY HILLS, CALIFORNIA

The stone-mason's art and the modern science of heating join forces to give this house appealing warmth... in both exterior design and interior comfort. \* A home of enduring charm!

Architect Gerard Colcord and builder W. C. Warmington collaborated to assure the owner's



lifetime satisfaction by specifying PAYNEHEAT, engineered to meet exacting requirements.

#### And now ...

#### Payne ZONE-CONDITIONING

Successor to old-fashioned central heating! A progressive development of the time-tested PAYNE "Unit" system . . . controlled by zones or rooms.

Write for new booklet.

For 30 years, the name, PAYNE has stood for advanced design, precision construction and enduring quality in gas heating. PAYNE leadership will continue when we complete our war job.

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by old standards yes... but not today

Even when kerosene lamps were employed widely, they were not considered efficient. They were used simply because there was nothing better.

This has been true of many other items that go into the making of industrial plants . . . office buildings . . . theatres . . . department stores. Architects, consulting engineers and all other building professionals have sought continuously for better and still better materials, methods and ways of serving their clients.

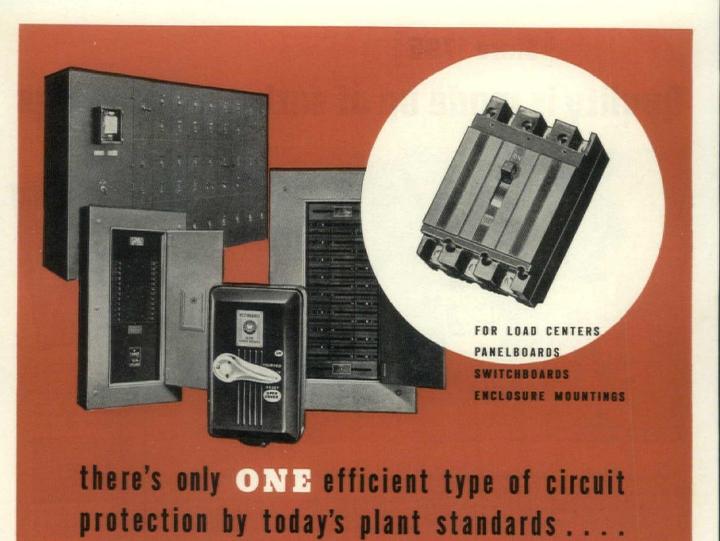
In keeping with this spirit has been the ever-growing demand for better protection of electrical circuits. For this job, the progressive building professional wants the same high degree of quality, efficiency and modernness as in the rest of the equipment for today's and tomorrow's buildings and factories.

The answer to this demand is the "De-ion" (fuseless) Circuit Breaker. For electrical circuits (115, 220, 440 and 550-volt classes), it assures the best protection and the lowest lifetime cost of any protective device. Reasons why are given on the opposite page.

J-60566-A



Westinghouse
PLANTS IN 25 CITIES ... OFFICES EVERYWHERE



"DE-ION" (fuseless) CIRCUIT BREAKERS

# here's why...

More positive protection for circuits and machines. "De-ion" Breakers give accurately calibrated, *automatic* protection against severe everloads and short circuits... the same protection that safeguards vital equipment on our modern battleships.

keeps machines on the job. No unnecessary time out—"De-ion" Breakers do not interrupt production on harmless momentary overloads. When breaker does operate, service can be restored simply by closing the breaker. Nothing to replace or repair—no idle time lost waiting for special maintenance attention.

Greater safety. Completely molded insulated enclosures are positively sealed to protect workers and maintain calibration. Circuit breakers cannot be blocked with coins, nails, or other foreign articles.

Lower costs—"De-ion" (fuseless) Circuit Breakers have a lower lifetime cost. Nothing is destroyed or requires replacement when breaker operates.

Ask your Westinghouse representative for facts and figures. Westinghouse Electric & Mfg. Co., P. O. Box 868, Pittsburgh 30, Pa.

# "DE-ION" (fuseless) CIRCUIT BREAKERS



# || Since 1795 ||

# Quality is made up of such a lot of things



That is why BIRD
has developed
CONTROLLED PRODUCTION
for all building materials

TAKE A CLOSE LOOK at that picture above. It shows not only a better building product, but a better method of application... a whole roof-building story made possible by Bird's exclusive method of Controlled Production.

For Bird Paroid is unlike most Smooth-Surface Roll Roofings. Consider the surface first...it's coated with a special Asbestine Talc. This bright gray talc stays bright, and completely covers the water-proofing beneath. Flat and flaky, it effectively deflects the damaging ultra-violet rays of the hottest tropical sun. The size, quality and character of this talc were determined and rigidly checked by Controlled Production.

Beneath this special talc is a base built from the finest dry felt, produced in Bird's own felt plant. This felt is thoroughly saturated with waterproofing asphalt to well exceed Underwriters' Laboratory specifications. The saturated base is then given an extra heavy coating of waterproof asphalt. And every step in this complicated process is carried

forward through completely Controlled Production.

But Bird wasn't satisfied with just a better product. The best roofing is only as good as its application. So Bird developed a wind-and-weatherproof application — the Double Lock method ... first with nails, safely concealed by an overlapping course, and then with Bird's exclusive Quick-Set cement, produced in Bird's own plant. This cement is so tough, so binding that the joints become even stronger than the material itself.

Few, indeed, of the many big-name corporations that use Bird Paroid roofing realize the endless attention to details that alone has made this splendid product possible. But from the jungles of Brazil to the distant Philippines, reports all prove that Paroid stands up, when ordinary roll roofings deteriorate under extremes of sun and weather. Again Controlled Production can be credited with another quality product that has made the name of Bird famous for 150 years wherever Better Building Materials are specified.

Other examples of



BIRD MASTER-BILT Shingle—rich in texture and color, thick butts for extra protection.



BIRD TRI-TAB HEX Shingle—colorful, draftfree—wind-resistant.



BIRD INSULATED SID-ING, in many attractive brick tones.

FOR HOMES



ASPHALT SHINGLES - INSULATED SIDINGS
INSULATION BOARDS - FLOOR COVERINGS
WALLBOARDS - BUILDING PAPERS

Men who know the best know

BIRD

FOR INDUSTRY

RUBBERLIKE FLOOR RUNNERS • INDEX
PRESSBOARDS • SHIPPING CONTAINERS
SHOE CARTONS • BUILT-UP ROOFS
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Bird & Son, inc. · East Walpole, Mass. · New York · Shreveport, La. · Chicago, Ill.



# ... This is the house that Gas



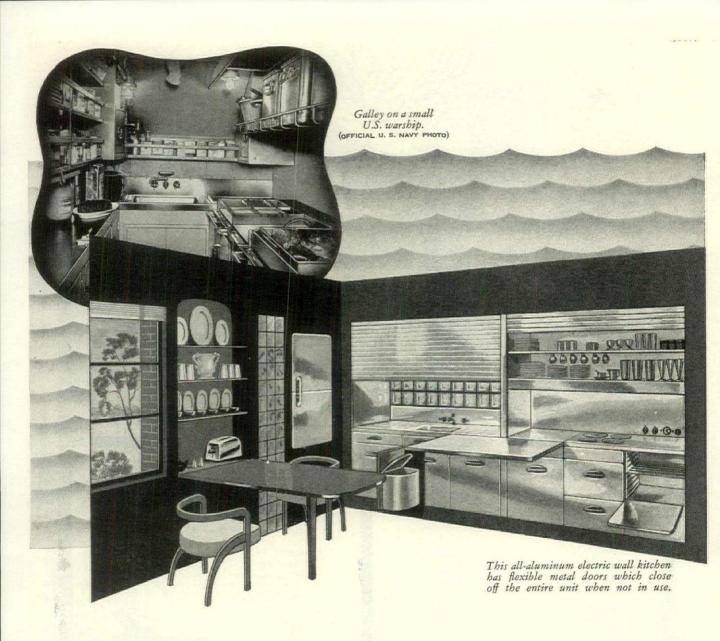
runs!

MANY OF THE MOST STRIKING ADVANCES that can be offered in post-war homes of all prices are now being perfected in the laboratories of the Gas industry. Today the public is being told about these new improvements, as well as about the established advantages of Gas, in a broad program of national advertising. As part of your thinking and planning, we suggest that you consult your local Gas company for latest information on Gas service and Gas appliances!

AMERICAN GAS ASSOCIATION



THE MAGIC FLAME THAT WILL BRIGHTEN YOUR FUTURE



# **Everything Shipshape**

Smart, compact and shipshape as the galley of a modern warship is the inviting, space-saving pre-fabricated kitchen unit for small dwellings, portrayed above. Defoe presents this design as one of many that postwar America may expect from the pre-fabricated housing industry. The goal of this industry will be to improve living standards and provide widespread employment. Today, Defoe's only job is to build dependable fighting ships for the Navy. But after Victory, the experience, skill and ability required by this exacting work will be devoted to building quality products for peacetime America. Our postwar work will reflect the same heart and pride we put into our present crucial job.

DEFOE SHIPBUILDING COMPANY,

BAY CITY, MICHIGAN

Four White Star Renewal Citations now decorate the Navy "E" Award won by Defoe workers.

BACK THE ATTACK
-BUY WAR BONDS



SHIPS FOR VICTORY SERVANTS FOR PEACE



# For Merry Cash Register Music Inside . . .

# Plan to use Stainless Steel Inside and Out!

#### MERITS OF ALLEGHENY METAL

- \* Unaffected by any food or fruit acids.
- \* No staining, no tarnishing, no off-tastes.
- Lustrous, handsome, sanitary.
- \* Easy to form, weld, machine.
- ★ Lowest maintenance and depreciation costs.

HERE'S really a double consideration involved here. First, Allegheny Metal has the sort of bright attractiveness and modern appeal that draws people-makes for increased store traffic and sales. Second, it has the permanence, the ease of cleaning and lack of need for constant refinishing, that keeps maintenance and depreciation costs at an absolute minimum.

You have a two-fold prospect: that of taking in more money-and over the long run, of being able to keep more of what you make. In any business that depends on the public's selectivity-and especially where food or beverages enter the picture-the judicious use of Allegheny Metal on exteriors, and for interior decoration and equipment, presents strong arguments for quality and sanitation on the one hand and greater profits on the other. Take advantage of them in your planning. Allegheny Ludlum Steel Corporation, Brackenridge, Pa.

Allegheny Metal is also handled and stocked by all Joseph T. Ryerson & Son, Inc. warehouses.



# ALLEGHENY METAL

The Time-Tested Stainless Steel

THE NAME TODAY FOR THE NEEDS OF TOMORROW

# BOOKS

Bulldozers Come First . . . The Scholar and the Future of the Research Library . . . Great Britain's Building Studies



an airfield (above).

Photo: Courtesy U. S. Army Corps of Engineers

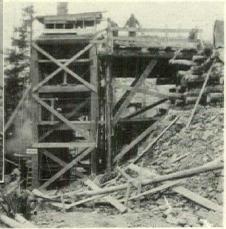


Photos: Engineering News-Record



Construction base for the fortification of two dominating mountain tops is perched 500 ft. above the sea.

Three long-neck cranes are used to erect the first prefabricated arch for a new airplane hangar somewhere in Greenland.

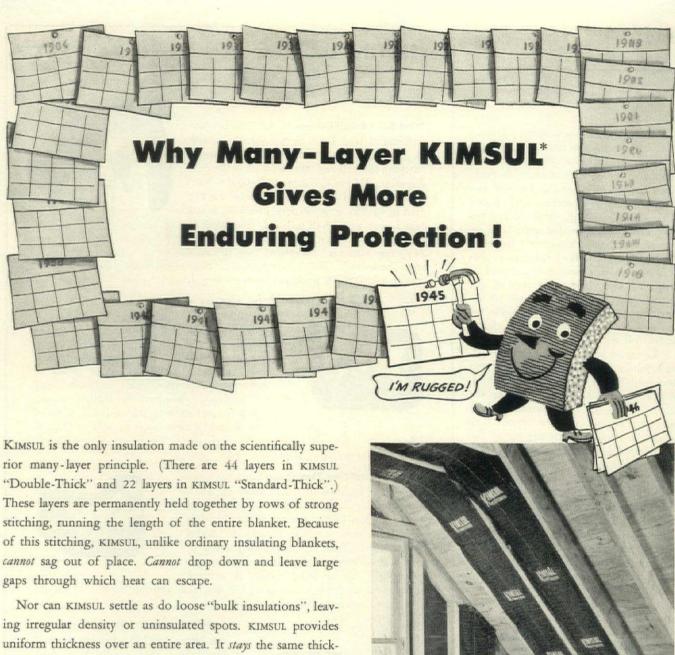


BULLDOZERS COME FIRST. By Waldo G. Bowman, Nathan A. Bowers, Archie N. Carter, Edward J. Cleary and Harold W. Richardson. McGraw-Hill Book Co., Inc., New York. 278 pp. Illustrated. 6 x 9. \$2.50.

A record of American war construction in all foreign theaters by war correspondents of the Engineering News-Record, this book sets forth the herculean accomplishments of our civilian and Army engineers and Navy Seabees. Since before Pearl Harbor these men have prepared the way for the gigantic offensive now in full swing. While the home front was still occupied in stepping up war production to its all-time high, American engineers all over the world were building the roads and bridges and dredging the harbors through which the Allied war supplies were destined to flow in ever increasing quantity. Later, with the offensive under way, it was the engineers who blazed the way for one lightning assault after the other. Now, in many theaters they are rebuilding liberated areas, reinforcing and maintaining the taut supply lines behind our advancing armies.

Certainly no war has ever been fought under more diverse conditions. Our fronts extend from the humid jungles of Burma to the arctic tundra. Bulldozers may come first as weapons but wherever they go they are preceded by the resourcefulness and ingenious planning of American engineers. It is the story of how this variety of challenges was quickly and successfully overcome, that constitutes the most interesting part of the book. However, not all the credit can be or is claimed by the Americans. The work of the Royal Engineers has been magnificient and is not neglected in the authors' accounts. One of the most interesting examples of British engineering skill was the development of a sinking bridge for use in the Middle East. It is nothing more than a lift bridge in reverse since the span is lowered under water instead of being raised above it to let tall-masted ships pass. The object of the design is economy. In this case, the towers built were only about 30 ft. high, including an allowance for the span to be lowered 20 ft. below water level. Nevertheless, when raised, the bridge carries a standard guage railway and a motor road.

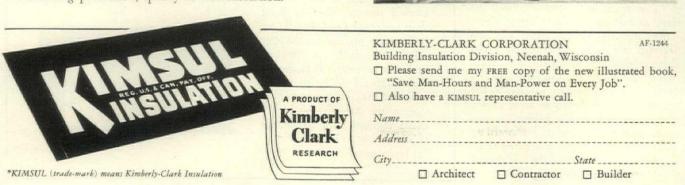
Many familiar objects turn up, converted to startling new uses: timber barracks in Egypt are none other than erstwhile CCC buildings from home; the girders for a long bridge in the Persian



ness. It stays in place. Even extreme vibration cannot cause it to sift, sag, or settle once the blanket is properly fastened.

The material from which KIMSUL is made - wood fibre impregnated with asphalt-is an extremely durable insulation substance. Permanent moisture-resistance is provided by the asphalt. However, a chemical treatment makes this insulation resistant to mold and fungus growth. And KIMSUL offers no subsistence to insects or vermin.

For lasting protection, specify KIMSUL Insulation.



desert were well seasoned by many years of service as part of New York's old 3rd Ave. El.

The formidable engineering problems that have faced our men are unfortunately underplayed in colorless and unemphatic prose. Even though the technical aspects are presented easily and with a minimum of professional jargon, little of the spirit of adventure and triumph over obstacles that must have accompanied these achievements has been captured. Surely, the engineers of this war can provide narrative material as inspiring and vigorous as that of our pioneer ancestors. An example of the exciting subject matter contrasted to the authors' bland understatement is shown in the following episode:

"The most interesting as well as difficult job in this group of projects was the fortfying of two peaks on a wild, rough island in the bay. Access up the deep, timber-covered mountain slope was the critical problem here. The mountain rises precipitously out of the sea without a break at the shoreline that might provide a landing spot from which

to attack the job.

"Blasting out a toe-hold in the shoreline cliffs was the first step for the contractor. A barge loaded with portable air compressors was shoved against the rocky bluff. The workmen, standing on the barge gunwale and roped into place bored holes in the rock face with handheld drills for the first round of dynamite shots. Here the mythical sky hooks would have been a blessing, for Alaskan waters are seldom quiet and how these men ever drilled that rock face from a surging, bucking barge is a mystery to all, even themselves . . . The mountain breaks into a saddle between the two peaks 500 ft. above the sea. Here wa the logical base for construction operations, for from the saddle the two sitecould be reached by steep roads. To get to the saddle with all the equipment and supplies needed for the job was the next problem. The slope from the bay to the saddle averaged 45 degrees (half straight up), but in some places was much steeper.

"Two small diesel bulldozers made the first assault against this steep slope. They literally bulled their way up through the trees, zigzaging back and forth in slashing out a switchback trail. When the going got too tough, cables from the rear end power winches on the tractors were anchored to trees above, and by reeling in the cables the machines dragged themselves backward up the hill. Fuel, oil and water had to be carried by hand to fuel the bulldozers.

(Continued on page 176)

## IN THE FORUM

When Col. Ed. Garbisch was an All-America football star at West Point he had the unique title of "roving" center because he was always carrying the ball and, may we add, in the right direction. He put this same technique to work on construction of the Army Postal Sorting Station (p. 85) which experts predicted would take a year and a half to build. Smacking interference on every side, Garbisch had the 14½ acre structure completed just 105 days



after the kickoff. The station opened in time to catch the Christmas mail, speeding 80,000,000 packages to overseas G.I.'s.



Oscar Stonorov and Louis I. Kahn ride only one hobby, their white charger Reform out of Dismal Condition by Data Sheet. A simple premise—that project tenants should enjoy their homes—has turned these architects into amateur sociologists. They gather reams of Significant Information which magically turns into gardens, community recreation rooms, workshops and nursery schools. All of these ideas, found in their latest project at Coates-

ville (p. 109), have paid off; tenants really like to live there. Maybe Stonorov and Kahn aren't amateurs after all.

Before architect Oren Thomas went into the army he designed his own all-season house (p. 132) with movable interior and exterior walls to insure comfort both summer and winter. The shift from such supreme luxury to drafty barracks may have disheartened Thomas at first, but before long he was reversing even the army's way of doing things. A startled



but pleased air force is now using his special collapsible hangar which fits neatly into an airplane as well as vice versa.



Antonin Raymond, designer of the Carson house (p. 136) thought he had found Shangri-La on his farm near New Hope, Pa. where he combined engineering, designing and serious Jersey cattle raising. Pearl Harbor upset this fine balance, however, surprising Raymond with a flood of military jobs. He was forced to set

up an architectural assembly line in New York manned by 90 draftsmen. Of his bucolic existence, only the cows remain, placidly chewing their cuds untouched by daily headlines.

Like many a streamliner by day, when Morris Ketchum repairs to his Long Island acreage, he has to turn a big brass key in a big brass lock to let

himself through the old front door under the fan light. Where he found inspiration for the slick 3-Passenger Bath (p. 123) remains a mystery. Perhaps his collaborator Jedd Reisner, sunning on his penthouse terrace caught the modern touch. Or could it have been Ketchum's sublimated reaction to Long Island plumbing primeval?





# Helpful suggestions on the "Storefront of Tomorrow"

ARCHITECTS, contractors and sign manufacturers have a real opportunity in the bright new storefronts that will be erected after the war.

A good storefront must attract people. One example is illustrated above. Note its clean, fresh, graceful lines—the absence of "gingerbread" and the high advertising value of the *integrated* or built-in sign.

#### Materials Important

This attractive storefront uses durable materials that can be kept new-looking with the least time and effort. The panels are glossy, colorful, easy-toclean porcelain enamel on a base of ARMCO Enameling Iron. The trim and contrasting ornamental motifs are polished ARMCO Stainless Steel.

The sign itself can be Armco Galvanized Painterp, smoothly and durably painted — or it can be porcelain enamel, stainless steel or an interesting combination of both. For instance, you could use letters of stainless steel with porcelain enamel insets and tubing mounted in the channels.

#### Interesting Possibilities

If a silhouette effect is desired, letters can be non-illuminated — or illumina-

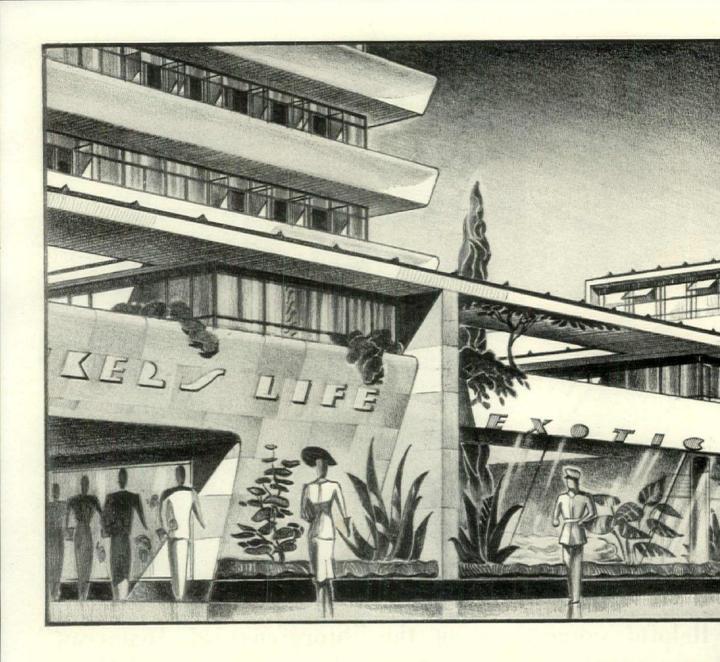
tion can be supplied behind the letters and at the base. Another possibility is to conceal the tubing and reflect the light upward, silhouetting the letters in this way. Tubing could be any color, for harmony, or to achieve the most arresting color effect.

Why not clip out this page for your file of post-war ideas? The American Rolling Mill Company, 2401 Curtis Street, Middletown, Ohio.

Help finish the fight with War Bonds



Special Purpose Sheet Steels FOR TOMORROW'S BUILDINGS



# DESIGNING POST-WAR OFFICE

Then by all means write for your free copy of the Mesker Brothers Book of Windows for Office Buildings. Not at all like the customary "catalog", this book is at architectural clearing house of new window treatments, ideas and improvements of moder designs. Written in the language of architects, it is illustrated by a well known architect and is filled with useful pencil renderings of inestimable value in the designing of postwar office buildings.

This book is yours for the asking. But since paper shortage limits quantities, requests wi be filled in the order they are received. So reserve your copy TODAY, by mailing the coupon now. There is no obligation.







These stanzas were written under fire, "Somewhere in Italy," by Major Earl J. Rice, Field Artillery, United States Army, on leave from the Engineering Department of the Johnson Service Company.

#### REFLECTIONS FROM THE FRONT

Do production problems bother you And schedules get you sore? Your muscles ache; you think you're thru, And the boss asks you for more!

And, at the end of daily grind, Are there some provocations? A crowded bus or car, you find, To reach your destinations?

Now dwell a while with me, old friend, To banish all your woe. By censor's grace, to you I'll send A word from G.I. Joe.

I've seen our boys up in the line, In several foreign lands, With weapons that were super fine— Produced by skillful hands.

And every time we send a shell To knock off "Jerry's" dome, We thank the Lord—and very well— For production lines back home.

For "Jerry" has some things to pour— Bullets, shells, and flak. But thru your efforts, we have more That we can hand him back! MEN at the Front need more than munitions to win decisively. And it is up to every one of us to meet these needs, every hour of every day. In this way, Victory will be ours ... sooner.

Whether employed in a war plant or not, each of us—at work or at play—is an important part of a production line; each building morale wherever he is.

An encouraging word, a pat on the back, no complaints about wartime inconveniences, a letter to a soldier, the purchase of more war bonds...these are the important things that give our fighters greater stamina for the knock-out blow.

Johnson Service Company, in addition to its normal activity of manufacturing and installing temperature control equipment, much of which goes into war plants, is proud to be making a variety of special items necessary to the war effort.



# JOHNSON



Automatic

TEMPERATURE AND AIR CONDITIONING Control

JOHNSON SERVICE COMPANY, MILWAUKEE 2, WISCONSIN . DIRECT BRANCHES IN ALL PRINCIPAL CITIES

SERVING

AMERICAN HOME OWNERS

SINCE 1871 –

PREPARED TO RENDER

GREATER SERVICE

WHEN VICTORY IS WON





BUY ANOTHER WAR BOND TODAY!

# ROUND OAK

HEATING EQUIPMENT WEST KITCHEN APPLIANCES
ROUND OAK COMPANY - DOWAGIAC, MICHIGAN

# LETTERS

The memorial debate continues . . . Prefab barn for a navy cow . . . Charm in modern architecture . . . New Zealand Enterprise . . . A letter from India.

#### MORE ON MEMORIALS

Forum:

To what shall we build memorials? To the death of fascism? That is still years away. To the dead soldiers, to the people burned in the ovens of Lublin? Until fascism is gone the construction of monuments to these would be blasphemy. If some architects and library poets wish to be piling up marble we can charge such activity to national efflorescence-but these goings on will have little relation to a long struggle which is anti-Nazi and supranational in its fundamental purposes.

ALAN MATHER

Detroit, Mich.

#### Forum:

What distresses me is the tendency of neighborhood people, out of emotion leaving no room for thought, to put up memorials immediately. Servicemen's parents and friends on the west side of this city have already dedicated a permanent memorial. An equally patriotic and well-intentioned group on the north side, having quickly collected \$5,000, are now going after \$25,000 for a monument to veterans from that neighborhood. It will result in a clutter of memorials failing to meet either Mr. Maginnis' or Mr. MacLeish's admirable

Compromises are rarely satisfactory, yet I think it would be better if the nation's mushrooming Memorial Committees allotted a portion of their funds toward area (county or state, say) war memorials and used the bulk for commemorative structures usefully related to the life of the neighborhood or village. CHARLES D. BONSTED

Syracuse, N. Y.

#### Forum:

. . . Mr. MacLeish has stated there is a need for various types of memorials in terms of community effectiveness. That is all well and good but it is a statement which should be elaborated in order to be helpful.

In summarizing the memorial situation as it has developed to date, it seems to me that the following points are true:

- The most effective memorials of the impressive, non-useful type are national memorials.
  - 2. There is a grave danger of mixing

up memorials for dead heroes with those for political figures, educators, inventors, artists and others.

- 3. The most useless and atrocious types of memorials developed have been the so-called ornamental monstrosities erected in small towns and in some towns not so small.
- 4. There is serious doubt as to whether it is possible to keep alive the memory of the heroes of a given conflict much beyond the memory of their surviving comrades, especially if we continue to pile war on war.

Some suggestions for developing a thoughtful memorial program:

1. Appoint a national committee of architects, artists and statesmen to develop a beautiful, impressive national monument for all of the dead heroes of this nation who gave their lives in this national emergency.

2. Work with the various state postwar planning commissions or other planning bodies to ascertain the needs of individual communities for useful structures such as civic auditoriums, libraries and hospitals, which might be erected to memorialize the deeds of those who not only died for their country but also those who were wounded or who survived while making many other sacrifices in her defense.

... Incidentally, it should be pointed out that there could hardly be a more lasting, living memorial to those who sacrificed or were sacrificed during a war than the construction of a free public library building, for a public library is used by more individuals (not periodically but constantly) than any other public structure. Furthermore, the contact of citizens with the library is for their own benefit in their own daily lives. After all, our fighters are defending their freedom of access to the thoughts of others, whether those thoughts be written or spoken.

RUSSELL J. SCHUNK, Chairman American Library Association Toledo, Ohio

#### Forum:

. . . For the past two years I have been somewhat active in urging that small libraries be opened as "Veterans' Memorial Libraries" in locations among our 35,000,000 people who at the present time have no library facilities whatever. These small libraries could be modestly

equipped to start with and that foundation built upon and improved as state support and the generosity of citizens would allow. As a beginning the 30 to 40 million books now in the various military camps could be apportioned to these Veterans' Memorial Libraries.

If the personal enthusiasm of those associated with the project is any indication, the idea will be sure to spread all

over our country.

Another encouraging sign, with a farreaching influence it is difficult to estimate, is the practice of relatives and friends of our soldier dead placing a book or books in local libraries in remembrance of their heroes. As the practice grows, doubtless many donors will repeat their gifts in succeeding years, all this a boon to struggling, quite inadequately financed libraries. . . .

JOSEPH CLOUTER

Watertown, Mass.

#### TRAFFICKING WITH SENTIMENT?

Forum:

. . . We are impressed when Mr. Maginnis refers to the abstract symbolism of the simple shaft which memorializes Washington, and of the temple which holds Lincoln in our remembrance. Likewise, we are impressed when he so effectually notes that utility and remembrance, as functions of a memorial, are mutually exclusive. But at this point he forces the realist to rationalize. He surely raises grave questions in the minds of architects whose daily stint brings them to the market place, rubbing elbows with the common run of society to whom they owe service as well as esthetic leadership.

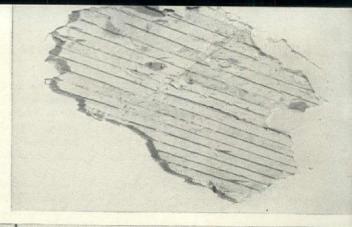
. . . What to do when friends, neighbors, clients, seek professional advice on these matters is a question which the realist in the daily professional routine is called upon to answer. Must he say he will have no part in the designing of a center for wholesale habitation, of a hospital, a library, a chapel,

a public building?

Trafficking with the memorial idea is a condition which must be faced, not ignored, even though it has its sordid facets. Merchants and craftsmen in marble and granite may be eager proponents of the shaft and temple, florists may eulogize the wreath as the most appropriate memorial, nurserymen may

(Continued on page 36)

# THISor THIS-





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UPSON

PACEMAKER IN CRACKPROOF PANELS

(Continued from page 34)

promote groves and grand avenues of remembrance, and all may be charged with bargaining and insincerity, although the memorial result of their efforts may be highly spiritual and utterly without utility.

There are likewise the humanitarians who think and live in terms of the church, the hospital; the civic spirits who see the public building and the civic center as the nucleus of all that is good; the intellectuals whose circles of thought revolve about schools, libraries and cultural centers; the social-minded who dream of community centers, parks, playgrounds and recreation facilities. They all have, in a manner of speaking, a stock-in-trade with which they hope to implement the community memorial sentiment. May not they, too, be charged with bargaining, if not with insincerity?

To all these questions raised in the mind of the realist there is at least a partially satisfying answer in the observation of Mr. MacLeish which applies to any memorial, be it the strictly "spiritual" type or the purely useful type, or even a possible "spirito-utilitarian" combination. He writes that the community "must choose for itself, the kind of memorial which will touch its daily life-touch it in a way that the memorial will become a part of its life and of its consciousness." Conceivably, no community interest should be denied its opportunity to influence or to help shape that sentiment. To give lovely and meaningful expression to the public sentiment, once it has taken form is then the rightful duty of the architect. . . .

The story is told of a Scottish village whose citizens memorialized its heroes by building a cairn in the village, fashioned of 142 stones, brought from the nearby countryside. Each stone represented the life of a fellow-citizen who had failed to return from the wars. That was indeed a memorial of high spiritual significance, growing from the sentiments of the citizens themselves. The story does not tell, but it would be a happy coincidence if the color and texture of the stones, the shape of the pile, and the craftsmanship with which it was constructed made it a lovely thing for the village to look upon. Surely its value as a memorial would be none the less if it were used as a symbol of dedication, to point the way or mark the entrance to a park or a playground, whose usefulness would affect the lives. as well as the emotions, of the generations to come, and become indeed a living memorial. . . .

Howard Dwight Smith

Ohio State University Columbus, Ohio

#### HARMONY

Forum:

... Lately I have been eagerly looking through The Forum copies, expecting to find homes that would suit the average American but instead of finding homes, I saw just buildings without taste or harmony.

Nowhere is the importance of definite designed beauty more significant than in housing.

We can look back to the harmony of the houses of the past and see the late Colonials, so attractive with their simple lines and modest decorations. Of course, we are not limited to Colonials. To any type of architecture we can add a few rambling lines and make our houses not just shelters but fresh and exciting for our individual needs.

O. L. LOIKREC

New Orleans, La.

Forum:

I've been studying the October number with great interest and wish to express to you my sincere admiration of the immense amount of hard intelligent conscientious work it represents.

While it is a pity that more is not done these days to teach and develop charm in architecture, our society as constituted here in America does not demand it as it has in days past. In the meantime, you place before the designers a wealth of new means and materials that is truly inspiring. The designers are far behind. They don't know how to strike a complete chord on the eye muscles as a musician does in the ear. Dennian Ross of Harvard elucidated the principle in his book, "A Theory of Pure Design". He said, "Order for the sake of harmony and in the hope of beauty". But alas! he didn't know how to apply his theories to architecture.

It is high time that some one should show us how to superimpose them on functionalism.

Welles Bosworth

Locust Valley, N. Y.

We agree with reader Bosworth that contemporary architecture in many instances would be greatly enhanced by the indefinable quality of charm. However, by the very definition of functionalism this quality cannot be superimposed on a method of building, but must grow out of it. Nor can modern building seek harmony by retreating to another period for inspiration, as suggested by reader Loikrec. We feel confident that in the future more and more contemporary designs will display a harmony growing directly from the needs of the 20th century.

#### "BABE'S" BARN

Forum:

I'm in charge of the Headquarters Squadron Carpentry and Paint shops here. One day I got ordered to design a barn for one cow and two dozen hens and allow for future expansion! I'm a mechanical engineer, not a farmer, but I got some advice on the size of a normal Ayrshire cow, and drew up the plans. I decided it would be a good chance to do some experimenting with prefabrication (I intend to get into the field when the war is over). The men laid down the plumbing, poured the concrete deck, and then made up the panels I had designed. One morning we loaded them onto a flat



bed trailer and hauled them to the site right past the Commodore while he was eating breakfast. The result is as photographed several days later when "Babe" arrived—probably the first cow ever within hundreds of miles of here. P.S. The one rooster is the only con-

tented male here!

JOHN B. THRELFALL, U.S.N.R.

c/o Fleet Post Office, San Francisco

#### INFORMATION PLEASE

Forum:

A number of Americans and New Zealanders now in the services will establish in New Zealand architectural, engineering, town planning and construction services, an importing, exporting, sales and service firm, and an investment trust. We are an experienced group of architects, engineers, and executives.

It should be pointed out to American firms that the problem of selling to New Zealand is not difficult since New Zealanders like American products. The problem is what will New Zealand sell to the United States to pay for such purchases? We would appreciate an answer on this. Reply to:

Lt. Commdr. Gordon Ross (sc) usnr USS Fremont,

c/o F. P. O., San Francisco, Calif.

(Continued on page 164)

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.

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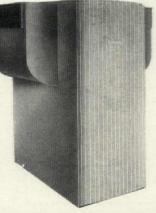
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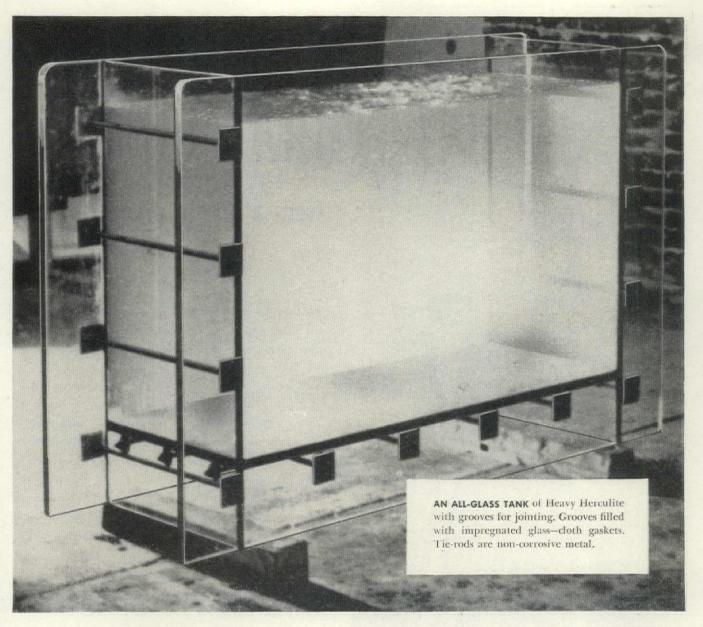
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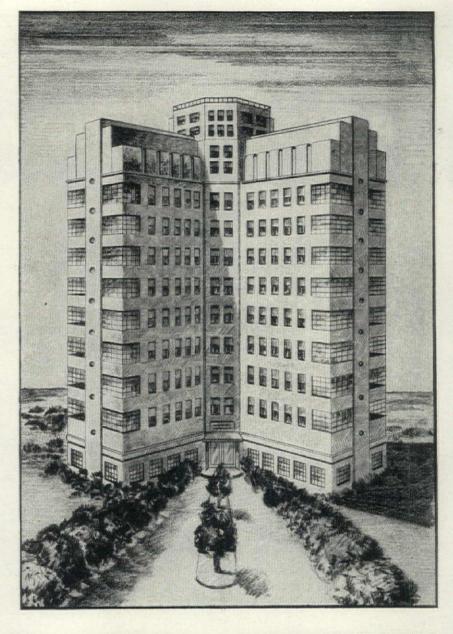
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# PLAN

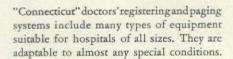
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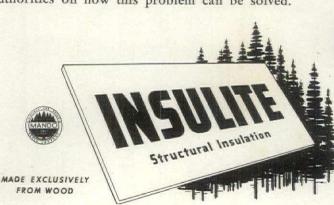
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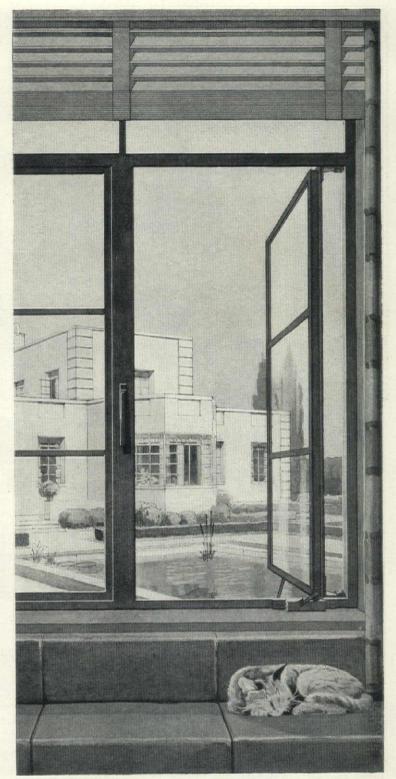


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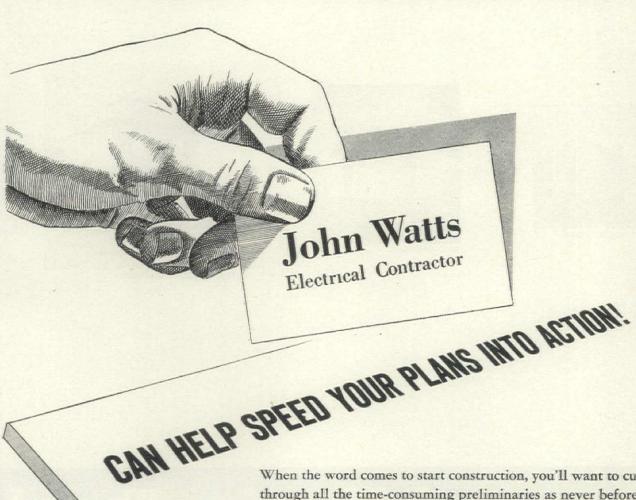
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It is increasingly obvious that a great many newly built houses will capture the buyer's attention with built-in electrical equipment.

Most leaders of this new trend in construction see the "all-electric" home as an adequately wired house, completely equipped with electric refrigerator, range, dishwasher, automatic heating, and other electric appliances. Many contractors are planning to include laundry equipment as well.

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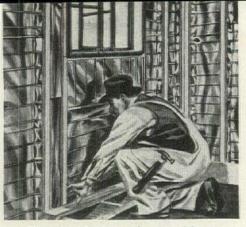
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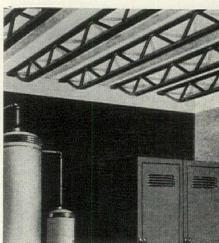
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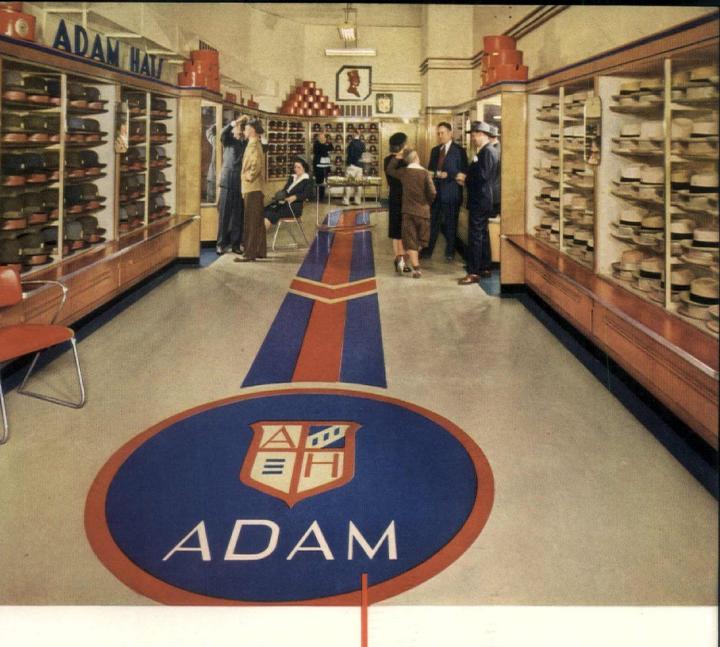
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# Here's the modern, long-wearing floor

# for busy shopping centers . . .

Management, salesmen, and customers all appreciate the long wear, the cleanliness, the resilience, the ease-under-foot, and the attractive appearance of this cleverly designed Nairn Linoleum floor in the Adam Hat Store in Dallas. Colorful, readily "personalized" or decorated for any desired effect, Nairn Linoleum offers most intriguing possibilities to the architect or designer. And its well-proved wear-resistant qualities insure long, trouble-free, and economical service, even in areas of heaviest traffic. A handbook on linoleum specifications has been prepared for your use. May we send you your copy? CONGOLEUM-NAIRN INC., KEARNY, N. J.

For modern floors and walls

## NAIRN LINOLEUM

easy to maintain, colorful, permanent, resilient



Insulux 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!

Architect — George Fred Keck, Chicago, Ill.

GLASS BLOCK

For technical data, specifications, and installation details, see our section in Sweet's Architectural Catalog, or write: Insulux Products Division, Dept. 109, Owens-Illinois Glass Company, Toledo, Ohio.



# WHAT KIND OF HEATING EQUIPMENT?

**Every architect** engaged in planning homes has probably got a question mark in front of heating equipment. So many miracles are promised. There's a feeling in some places that the matter can hang in the air until the supreme moment arrives and the go-ahead signal is given.

Maybe it's smart to be in that delicate, eye-on-what-the-future-may-bring position.

But indecision may nip your hand suddenly when the client seeks quick action. For, the number of jobs in similar stage of progress may be startling!

There will be improvements in heating equipment. There will be new economies, new conveniences, new efficiencies. Most of these are in the works now.

Toridheet Oil Burners, Oil Heaters, Oil Burner Boilers and Air-Conditioners; Toridheet Gas Heaters and Coal Heaters will be shipped in package units ready for installing. They will feature completeness, ease of installation and economy in service. Modern and smart in appearance, sound and durable in construction. Engineered with a long heating background—planned with a definite vision of tomorrow's homes.

# TORIDHEET DIVISION

CLEVELAND STEEL PRODUCTS CORP. . CLEVELAND 2, OHIO

Oil Burners • Air Conditioning Units • Oil-Burner Boilers
Coal and Gas Furnaces • Water Heaters

# Daylight ENGINEERING - for MORE

What is a child's attitude toward his school? Is he restless because he contrasts the gloom of his classroom with the pleasantness of outdoor sunshine?

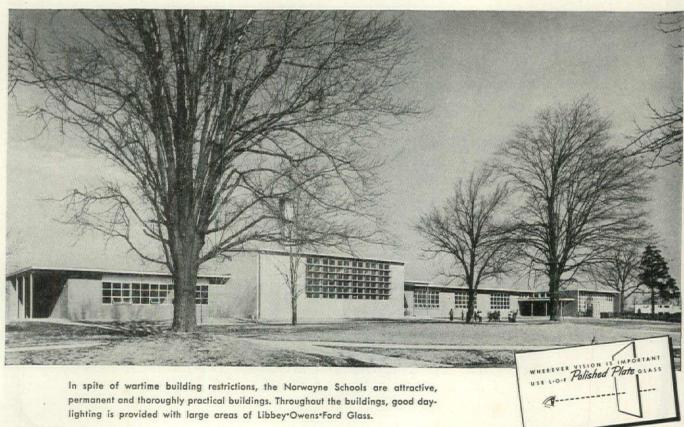
Or does he enjoy a bright, cheerful class-room—as in the Norwayne Schools, at Wayne, Michigan? Architect H. Augustus O'Dell, speaking of the good daylighting in these schools, reports: "The modern educator wants proper school lighting, both natural and artificial. Windows, therefore, should be as continuous as possible and near the ceiling. Overwide mullions or piers between windows create dark spots which emphasize the light from the windows and produce glare. This, in general, was the principle of window design. The south and southeast Kindergarten and Day Care walls were made all glass, because

such a room is more pleasant and provides ample illumination."

Although the Norwayne Schools were not specially designed for solar heating, Mr. O'Dell advises that solar input was beneficial, and that even rooms farthest from the central heating equipment required less furnace heat —even on gray, cold days.

Where large glass areas present a problem of heat loss, many architects are using Thermopane, the new factory-built insulating unit. Thermopane enables you to get both daylight and full visibility through an insulated area. For complete information about this double-glass windowpane, including technical data sheets by Don Graf, Technical Editor of Pencil Points, write to Libbey Owens Ford Glass Co., 9124 Nicholas Building, Toledo 3, Ohio.

O'Dell, Hewlett & Luckenbach, Detroit, Architects.



\*Copyright 1944, Libbey-Owens-Ford Glass Co., Toledo, O.

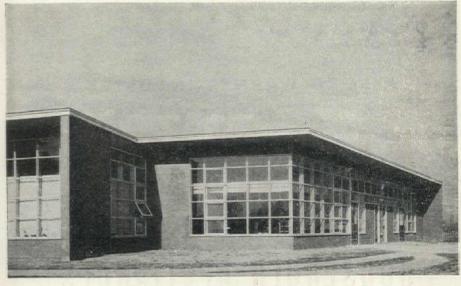
## PRACTICAL, MORE LIVABLE SCHOOLROOMS



The large glazed area in this classroom assures good daylighting—and assures, as well, a pleasant "outdoor feel" that is an effective antidote to boredom.



A roof overhang shades the large windows from the high summer sun—allows direct sunlight to enter only when the sun is well below its zenith.





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a Great Name in GLASS

# Successful Architects and Builders Know That NORGE HOUSEHOLD APPLIANCES

Help Assure Client Satisfaction

Two- and three-story multiple-type dwelling units, in variously styled buildings, using 1,750 Norge Rollator refrigerators.

NORGE DIVISION . BORG-WARNER CORP. . DETROIT 26, MICH.

A BORG-WARNER INDUSTRY

# NORGE HOUSEHOLD APPLIANCES

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### PARKFAIRFAX

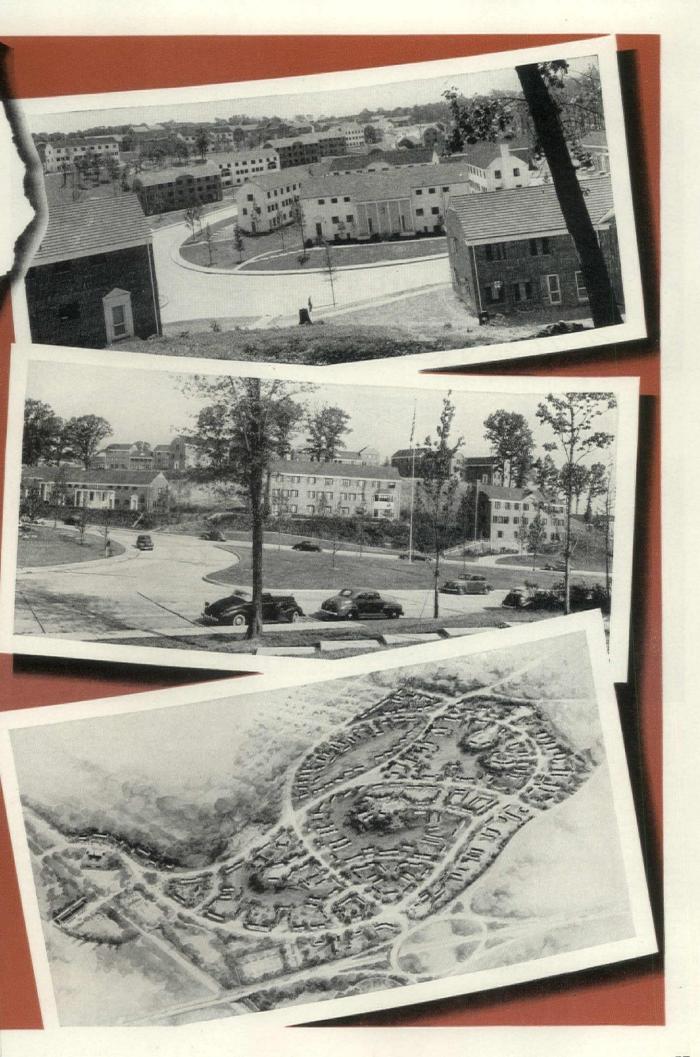
Alexandria Apartments
Housing Project
Alexandria, Virginia

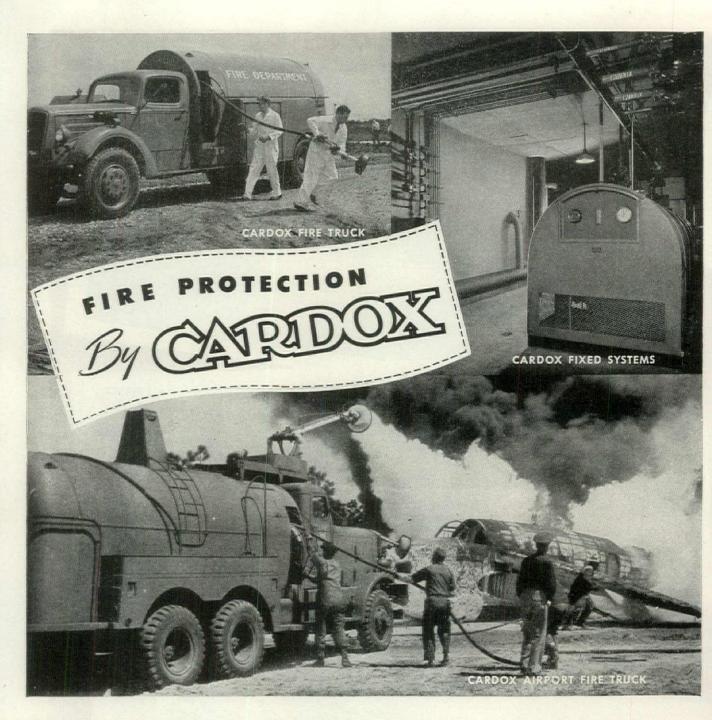
Architect
Leonard Schultze & Associates

Builder Starrett Brothers & Eken, Inc.

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Metropolitan Life Insurance
Company

"U. S. Home Builders—Be sure to see our Exhibit at the National Builders' Exposition and Annual Convention, Hotel Sherman, January 15-18, 1944."





In and around America's vital war plants . . . on our big and busy military airfields . . . fire protection is provided by Cardox Fire Extinguishing Systems, Fire Trucks and Airport Fire Trucks.

Each is a highly specialized fire extinguishing tool . . . exactingly engineered to do a specific job quicker and more effectively than it has been done before. But all Cardox Systems and Mobile Units have one outstanding characteristic in common: Cardox Engineering in the application and control of carbon dioxide, stored at 0°F. and 300 p.s.i. in a single Storage Unit containing from ¼ to 125 tons of fire-destroying Cardox CO<sub>2</sub>.

For Cardox has given the recognized

For Cardox has given the recognized advantages of carbon dioxide a new and broader scope of fire extinguishing performance. Because of this, these advantages can be applied equally well to small or very large fires through mass application of Cardox CO<sub>2</sub>, released in pounds or tons.

The efficiency of Cardox Systems and Mobile Units in giving fast-acting, non-damaging carbon dioxide enhanced extinguishing performance is made possible by Cardox methods of control and application that give Cardox CO<sub>2</sub>: (1) Uniform extinguishing characteristics regardless of plant or atmospheric temperatures; (2) Availability in ample quantity for uninterrupted protection and mass application at high rate; (3) High CO<sub>2</sub> "snow" yield for increased cooling effect; (4) Effective projection through relatively great distances.

On the basis of this performance Cardox has been given many of the toughest fire protection assignments—all over the country. Find out how through practical cooperation Cardox and its engineering staff can assist you to make your planned fire protection more effective. Write on company letterhead for Bulletin 612

## CARDOX CORPORATION BELL BUILDING - CHICAGO 1, ILLINOIS

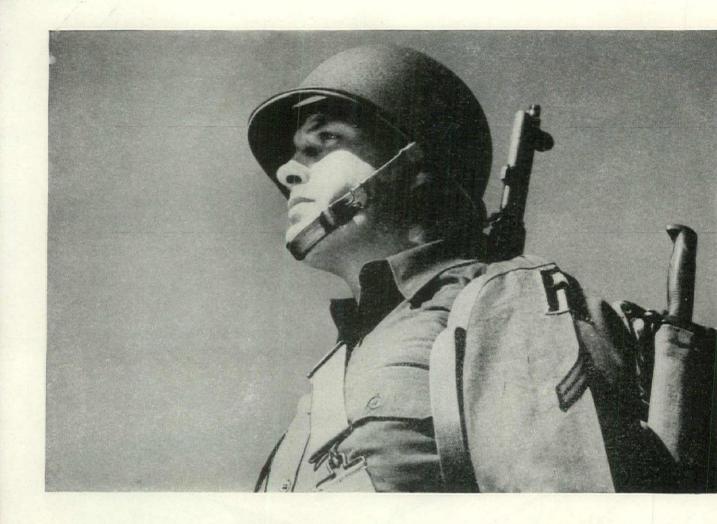
District Offices in New York • Boston • Washington
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# NEW DESIGN FOR LIVING BOHN engineers, engaged entirely on war work, foresee great changes in post-war homes of the future. Wider use of light alloys will make possible greater beauty, simplified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

BOHN ALUMINUM AND BRASS CORPORATION, DETROIT, MICHIGAN GENERAL OFFICES-LAFAYETTE BUILDING

Designers and Fabricators-ALUMINUM . MAGNESIUM . BRASS . AIRCRAFT-TYPE BEARINGS



## Johnny won't be buying "junk" when he comes marching home

JOHNNY'S flown in sleek wood gliders with weatherproof plywood wings. He's crossed streams in tough, lightweight, molded plywood boats. He's lived out of durable wood trunk-lockers and supply chests. He's used wood camp furniture, played on wood pianos that withstand the world's worst climates.

He's seen wood products at their best.

And he won't be satisfied with anything less when he builds and furnishes a home of his own.

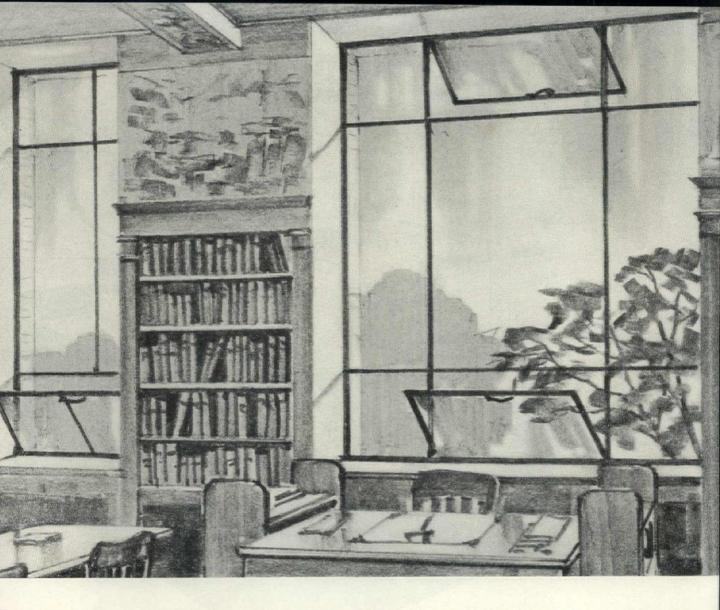
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Glues for Industry

If you're not sure how you can specify wood products glued for durability up to Johnny's standard, you had better mail this coupon now.

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Gentlemen:		
I'll be spec	ifying the following	peacetime wood product
involving the	gluing of these mate	erials:
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Please send	literature describing	
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Please send every possible	exposure of these pr	



# What to Expect in windows for tomorrow's schools

You'll be in line with the trend to better daylighting when you specify Fenestra Steel Windows for your postwar schools. Their narrow steel frames and muntins permit more glass per window openinghence, more daylight. And those larger glass areas afford better see-through vision, to make classrooms more enjoyable.

The choice of Fenestra Steel Windows assures good ventilation . . . with open-out vents that draw out stale air and serve as canopies over openings . . . with open-in vents that deflect drafts upward and

shed water to outside. Fenestra Windows always open easily, for the steel vents swing-not slide. And they can't warp, swell or bind.

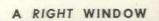
Increased fire safety, safer washing, superior weather-tightness, greater beauty, lower cost-these are other advantages that Fenestra Windows can bring to your postwar school.

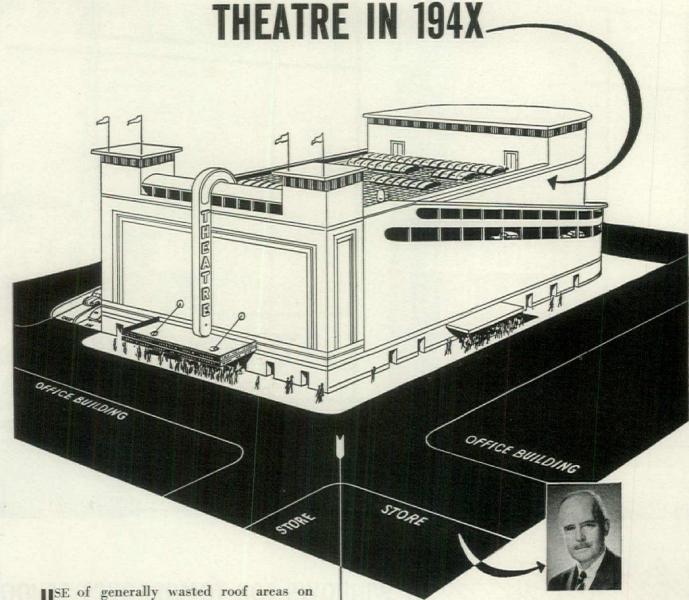
If you wish to receive advance information on new steel windows as they are developed, we will gladly put your name on our mailing list for this material. Write to Detroit Steel Products Company, AF-12, 2252 East Grand Boulevard,

Detroit 11, Michigan. (Pacific

Coast Plant, Oakland, California.)

FOR EVERY PURPOSE





USE of generally wasted roof areas on downtown theatres to provide convenient and economical parking areas is suggested in this postwar project by J. Floyd Yewell, prominent New York City architect.

Mr. Yewell has designed this theatre with a two-story, two-way auto ramp which circles three sides of the building to lead up to the roof. Theatre patrons can alight at the ground level and enter through the main lobby, or they can accompany the driver to the rooftop parking area. Additional box offices are provided so that people entering from the roof can take elevators down to any desired floor level.

Structural difficulties are avoided by making the ramps an integral part of the building, and the space under them is used to provide store and restaurant facilities.

In the development of postwar building techniques and designs, Barrett Specification Roofs will have an increasingly important part. These famous coal-tar pitch and felt roofs, which offer the maximum in dependable waterproofing and weather proofing protection, meet the basic requirements of the trend toward greater utilization of roof areas. We will be glad to consider with you any roof problems which your own postwar planning may develop, and to extend to you the benefit of our 90 years of successful roofing experience.

#### THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y.

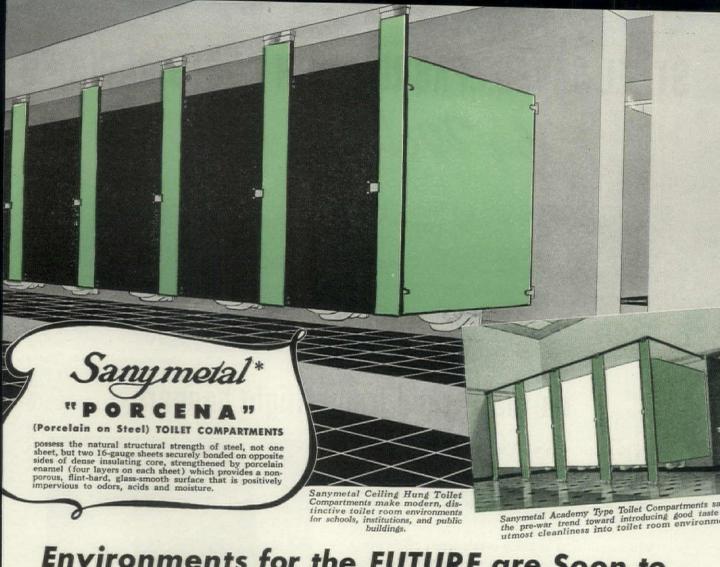
2800 So. Sacramento Ave. Chicago 23, III. Birmingham Alabama

In Canada: The Barrett Company, Ltd. 5551 St. Hubert Street, Montreal, Que.

This theatre development is the tenth in a series of designs by outstanding American architects devoted to functional planning in roof architecture. You are invited to write for reprints of the complete series for your files.



\* Reg. U. S. Pat. O



## Environments for the FUTURE are Soon to Become Those of the PRESENT

• A persistent public ever seeking a higher standard of conveniences, and inspired by promises of a bright future will dictate the environmental treatments for tomorrow's structures. A pre-war trend toward combining utilitarian with aesthetic treatment in toilet rooms for schools, public buildings, and factories has its full development yet before it. Architects, engineers, builders, and manufacturers who will participate in this unfolding stage of progress will be those who interpret this irrepressible urge and prepare to satisfy it. Material and equipment that are likely to result in obsolete environments are to be avoided in the plans and specifications you prepare today for tomorrow's buildings.

Great strides have been achieved in the development of toilet room environments in keeping with the other environmental treatments of a building. Toilet compartments usually dominate a toilet room, influencing the toilet room environment. Toilet compartments for buildings of the future 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- and rust-proof and resists the corroding parture.

of ordinary acids. The glistening porcelain finish can be wiped clean as easily as any glass-smooth surface.

Sanymetal Porcena Toilet Compartments will be made in several strikingly new designs and colors in two different types of construction. A strictly modern development, Sanymetal Ceiling Hung Toilet Compartments create an element of refinement and promote a high standard of order and cleanliness. The usual standing types of toilet compartments make distinctive toilet room environments. 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 vicinity (see "Partitions" in your phone book for local representative) for further information about planning suitable toilet room environments for modern school, commercial, industrial and institutional types of buildings. For complete information on toilet room environments, refer to Sanymetal Catalog 17/12 in Sweet's Architectural File for 1944.



# STEEL SAVED...FABRICATION COSTS REDUCED

by Welding



Photo courtesy of Ingalls Iron Works Co.

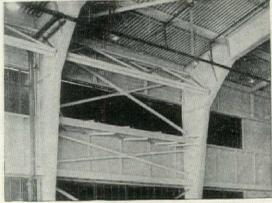
# on these rigid frame flight hangars

WELDING was used in the fabrication of these rigid-frame structures for Glenn L. Martin Co. because of its recognized adaptability to this type of design, and because of its savings in critical steel and fabrication costs.

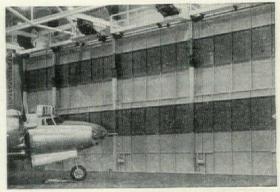
Welding in steel building construction offers many advantages in design, as well as reduction of fabrication costs. Especially in rigid frame structures, welding best provides the desired continuity of members because of the strength, rigidity, and simplicity of welded joints.

By permitting the use of lighter structural members and by reducing the amount of connection material needed, structural welding often effects savings in steel amounting to as much as 24%. Fabrication costs are reduced by eliminating the hole-punching that is required for riveting and by reducing shop-handling of heavy pieces.

Architects, designers and structural engineers who are now working on postwar structural plans are invited to call on Air Reduction's engineers for assistance on welding design problems. Write to Department AF, at the New York address.



Steel was saved and fabricating costs were reduced by using welding to join webs of the rigid-frame legs and knees directly to flange plates, to attach flange cover plates and flat-bar web-stiffeners, and to connect lattice bars and unglest or bards of states.



Welded construction of the Flight Hangar Doors effected considerable savings in weight, saved steel and costs.

\* BUY UNITED STATES WAR BONDS \*



## AIR REDUCTION

General Offices: 60 EAST 42nd STREET, NEW YORK 17, N. Y.
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WELDWOOD ADDS

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THE HOMES YOU DESIGN

Peace will bring a new and better American Home . . . and your clients know it.

Sustained educational advertising has emphasized the progress in design and construction . . . the vast improvements in materials.

In their post-war homes your clients want post-war design . . . the improved methods and materials available to them.

They're not expecting mechanical marvels, but indications are that they will demand increased comfort and convenience . . . more

More and more, Weldwood is helping architects achieve the results their clients demand.

And modern architects take advantage of

the structural and decorative superiority of Weldwood whenever possible.

They know that Weldwood brings to a modest home the durability and beauty formerly enjoyed only in a mansion.

They know, too, that their clients will appreciate the increased purchasing investment value that Weldwood gives a building dollar.

They know that a Weldwood home is delightfully livable . . . that comfort and convenience are "built in" features. That the durable beauty of Weldwood-paneled walls appeals to everyone.

You'll find that clients appreciate . . . and will buy . . . the comfort, utility and charm that you can design into their homes with

Weldwood.



Plastics and Wood Welded for Good

Waterproof Weldwood, so marked, is bonded with phenol formaldebyde synthetic resin. Other types of water-resistant Weldwood are manufactured with extended urea resins and other approved bonding agents.

#### THE MENGEL FLUSH DOOR

Strength and Beauty . . . to match your Weldwood walls.



## WELDWOOD

Weldwood Plywood and Plywood Products are manufactured and marketed by

UNITED STATES PLYWOOD CORPORATION THE MENGEL COMPANY

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Louisville, Ky. Distributing units in Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, High Point, Los Angeles, Newark, New York, Oakland, Philadelphia, Rochester, San Francisco, Seattle. Also U.S.-Mengel Plywoods, Inc. distributing units at Atlanta, Jacksonville, Louisville, New Orleans. Send inquiries to nearest point.

#### HERE'S WHY YOUR CUSTOMERS WILL WANT WELDWOOD:

#### STRUCTURAL ADVANTAGES

Dri-wall construction cuts building time as much as six weeks . . . eliminates dangers of warping, swelling and cracking in sash and woodwork due to the tons of water in plaster walls. All standard grades of Douglas Fir plywood are made in Weldwood's giant West Coast plants.

#### DECORATIVE FEATURES

Weldwood . . . in genuine mahogany, walnut, oak, knotty pine, figured gum, birch and Weldtex (striated Weldwood) . . achieves the warmth and beauty of wood-paneled rooms at unbelievably low cost. Modern streamlined production has made this possible.

Inexpensive Weldwood Utility Panels, with satin-smooth hardwood faces, provide ideal wall surfaces for paper or paint...never show checking or grain-

#### ECONOMY

Final results balanced against investment show Weldwood Plywood construction to give far more value per dollar than old-fashioned materials.

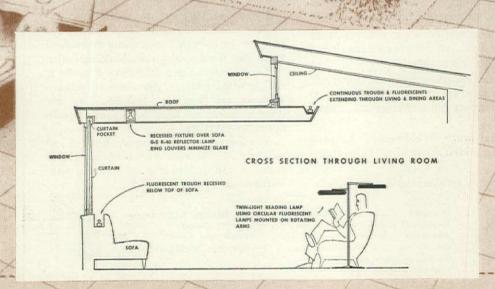
Because Weldwood can be installed rapidly . . . inside and out . . . building time is cut down, with resultant savings in labor cost.

#### DURABILITY

Weldwood Plywood Panels are crack-proof and are guaranteed for the life of the building. Weldwood walls are permanent walls, requir-ing no upkeep.

DECEMBER 1944 65

# lighting was a second of the s



GE MAZDA LAMPS

GENERAL EELECTRIC

# FOR TOMORROW'S HOME



With the belief that new ideas can be helpful and stimulating, GENERAL ELECTRIC brings you another in its series of postwar lighting perspectives by leading architects and designers. Here G-E brings you a different view of home lighting by designer G. McStay Jackson, Chicago.

"Let's make lighting effects practical," says Mr. Jackson.

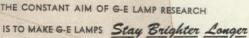
"For lighting the postwar home, why not combine pleasing beauty and practical help for eyes?

"In sketching our ideas on lighting for the various rooms of a moderate-priced postwar home, that is exactly what we have tried to do. We have provided the kind of lighting which we felt was appropriate to serve the needs of the home-owner.

"For instance, in the living room, we suggest several applications of fluorescent lighting, using built-in prefabricated fixtures for overall light, with concealed spotlights in the ceiling over the couch for reading light. A two-armed portable lamp using the new circular fluorescent lamps could provide light for close work in easy chairs.

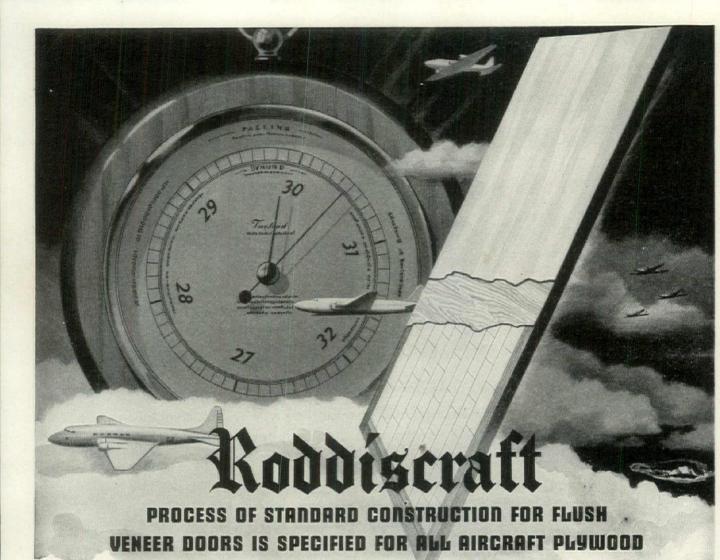
"A similar lighting approach to other rooms will truly create a home for better, happier living."

A colorful new booklet, "Lighting planned to serve" reveals designer Jackson's decidedly helpful ideas on home lighting for tomorrow. For your copy, write General Electric Company, Dept. 166-AF 12, Nela Park, Cleveland 12, Ohio.



Near the General Electric radio programs: "'The G-E All-Girl Orchestra", Sunday 10 p.m. EWT, NBC;"The World Today"news, every weekday 6:45 p.m. EWT, CBS.





THE RODDISCRAFT process of flush veneer door construction, introduced by Roddis ten years ago, is now specified by army and navy aeronautical engineers for all aircraft plywood. Permanently waterproof, fungiproof, and inert to chemical activity, the Roddiscraft process, applied either to doors or aircraft plywood, insures durability - immunity to climate and weather.

Roddis' half-century of leadership in the manufacture of doors has extended to aircraft plywood. The reason - no compromise with quality - uniformity craftsmanship - know-how. The process is no longer exclusive, but - the Guarantee Bond with which Roddis unqualifiedly backs each door made according to its standard construction, is an exclusive Roddiscraft feature.

### Roddiscraft

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Marshfield, Wisconsin 4601 W. State St., Milwaukee 8, Wis. 515 W. 36th St., New York City 18, New York 727 N. Cherry St., San Antonio, Texas

DEALERS IN ALL PRINCIPAL CITIES

### FROM TIMBER TRACT TO BUILDING SITE -

It's Roddis All the Way

Roddis owns many years' supply of timber, does its own logging, sawing, cuts veneer in the largest hardwood plywood plant in the world — containing the largest hot-plate presses in the world, where 50 years of craftsmanship and know-how with wood, are applied in the manufacture of doors, wainscoting, and complete Door Units.

# Roddiscraft

Roddis Lumber & Veneer Co.

#### PERMANENTLY WATERPROOF

Roddis construction fuses core, crossbanding, and veneer into a single unit—is absolutely waterproof.

#### FIRE-RESISTANT

Independent tests prove Roddiscraft solid-core flush veneer doors have high inherent resistance to fire.

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Roddiscraft solid-core flush veneer doors offer much greater resistance to the passage of sound than hollowcore doors.

#### PERMANENTLY IDENTIFIED

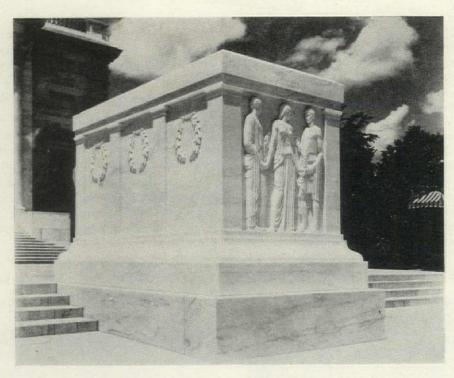
The Roddiscraft red-white-and blue dowel - permanently establishes identity and responsibility.

#### UNQUALIFIEDLY GUARANTEED

All Roddiscraft doors, made in accordance with Roddiscraft standard construction, carry the Guarantee Bond.

# TOMB OF THE UNKNOWN SOLDIER





Tomb of the Unknown Soldier, National Cemetery, Arlington, Va., Lorimer Rich, Architect Thomas Hudson Jones, Sculptor

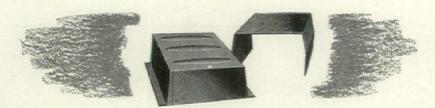
A World-Famous Memorial in

### MARBLE

Designed in a spirit of simplicity, The Tomb of the Unknown Soldier in Yule Colorado Marble is a rare example of classic beauty, dignity and reverent expression. For memorials of the present war both Vermont and Colorado Marbles with their superior qualities of texture, color and marking offer the finest media to both architects and sculptors.

# VERMONT MARBLE COMPANY PROCTOR VERMONT

# HOW THIS SMALL STEELFORM EFFECT



HE very building itself is testimony to the inscription over its stately portals -"The salvation of the state is watchfulness in the citizen." For the Nebraska state fathers, ever watchful of economies, created this monumental masterpiece at substantial savings to the tax payer. Some of the most important economies were made possible by the Meyer Steelform, produced exclusively by Ceco.

Ceco introduced this dynamic engineering concept in reinforced concrete construction just 31 years ago. Today, because of its inherent advantages over other concrete joist forms, over 200,000,000 square feet of concrete joist floors have been built with Meyer Steelforms. This because the Meyer Steelform provides three distinct construction economies:

- 1. Direct savings in concrete and steel;
- 2. Direct savings in supporting formwork;
- 3. Direct savings in number of forms used, for the Meyer removable form can be used over and over on a nominal rental basis.

Yes, for builders using reinforced concrete construction, Meyer Steelforms and Ceco construction products do a better, more economical job, through better engineering.

#### CECO STEEL PRODUCTS CORPORATION · General Offices · Omaha, Nebraska

Manufacturing Division . 5701 W 26th St., Chicago, Ill.



Eliminates extra framework . . With the Meyer Steelform you use a simple open wood centering, that can be removed and re-used with the Meyer Steelforms from one floor to the next.



Gain time and efficiency. . The placing of re-inforcing bars and concrete goes faster when you use Meyer Steelforms, and their solid rigidity eliminates leakages, insures accurate execution of structural design.

Complete list of Caco engineered products for reinforced concrete construction includes: Meyer flange type steelforms, Meyer adjustable type steelforms, reinforcing bars, column spirals, welded fabric, bar chairs, spacers and accessories, column clamps and adjustable steel shores.

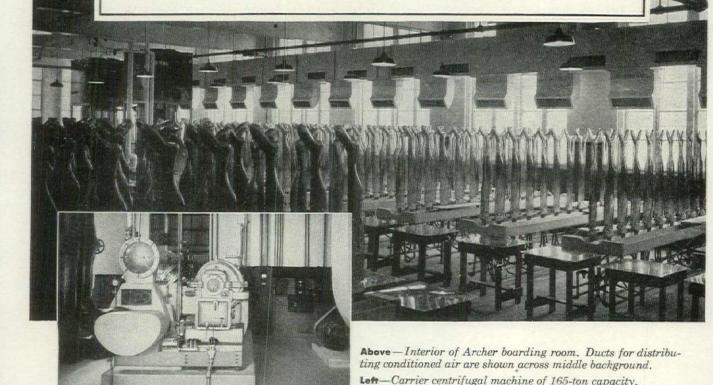


ENGINEERING MAKES THE BIG DIFFERENCE IN



# AIR CONDITIONING in Archer Hosiery Mills

An Interesting Example of Tomorrow's Thinking in Operation Today



ONE OF THE first hosiery mills in the country to be completely air conditioned, the Archer Hosiery Mills, Columbus, Georgia, is a present-day model of postwar operational efficiency.

Close temperature and humidity control is of the utmost importance in hosiery mills because the yarns from which stockings are woven are extremely susceptible to fluctuations in these conditions.

The atmospheric extremes maintained at the Archer Mills are those of 80°F and 55% humidity in the knitting room and 85°F and 45% humidity in the process room, where the stocking leg is sewed and the foot attached. In the finishing room, where the hosiery is received for inspection and packing, similar conditions prevail—made necessary by the requirements for sensitive atmospheric control.

Additional advantages are increased output—greater conservation of materials—more effective utilization of power—elimination of hot weather fatigue among personnel and reduction of employee absenteeism.

The air conditioning equipment making these benefits possible consists of one Carrier centrifugal machine of 165-ton capacity and two 50-ton Carrier refrigeration machines, serving an area of approximately 623,000 cubic feet. "Freon" safe re-

frigerants are employed.

Because of the contribution it makes to greater comfort and better production, air conditioning promises an unprecedented industrial development in the postwar years ahead. If you have a postwar plan under consideration, be sure to include air conditioning. It is no longer a luxury, but a vital part of the industrial planning of tomorrow. Kinetic Chemicals, Inc., 10th and Market Streets, Wilmington, Delaware.

"Freon" safe refrigerants are widely used in heavy-duty refrigeration and air conditioning systems





# DON'T LET IT BECOME A (TAX) Collector's Item

Look around the business district of almost any city and you will see buildings that are plainly earmarked as items for the tax collector's records. That is, they will never be able to survive postwar competition without a thorough job of modernization. When it comes to the modernization of any multiple-story structure, one of the best places to start is the lobby. That of

course, includes Elevator entrances - which in any lobby are the focal point of interest.

When you come to the problem of elevator entrance design and construction, come to Dahlstrom. We've been manufacturing them now for 40 years and we believe sincerely that we can help considerably. Our Design and Technical Staffs are ready to cooperate.

Illustrated above: Dahlstrom first floor elevator entrances in United Carbon Building, Charleston, W. Va. Martens and Son. Architects



# DAHLSTROM

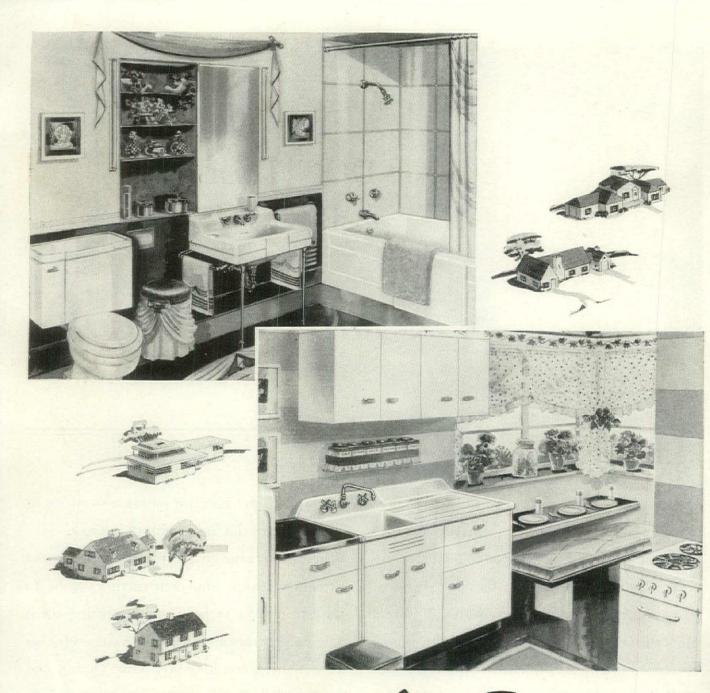
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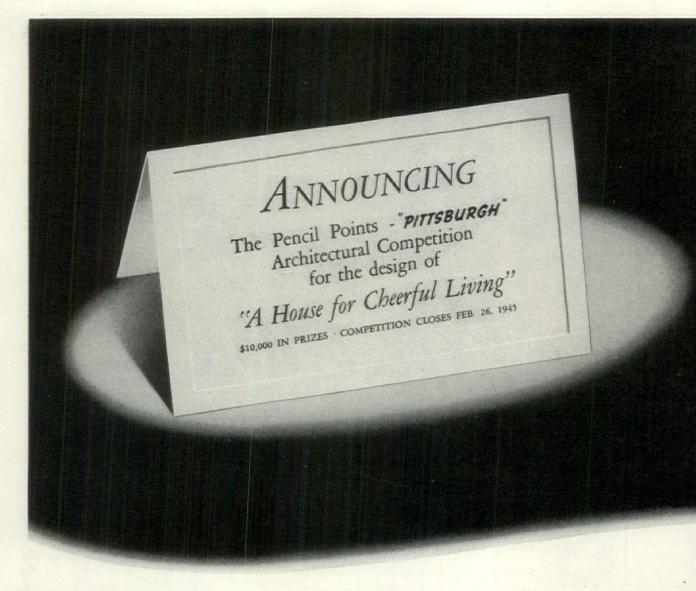


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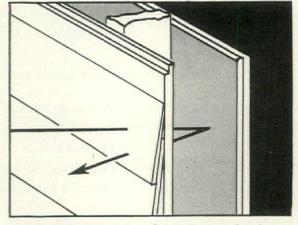
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## THE MONTH IN BUILDING ... NEWS

Most new Congressmen pro federal housing (page 80) . . . Will vets' loans mean reslumming the U. S.? (page 83) . . . Where to cut house costs (page 84) . . . Cleveland to rebuild fire disaster area (page 84) . . . Many cities ready for public works (page 154).

#### 194X BUILDING GALLOPS

Few cities could tell the same building story in November. Detroit blinked at the first week on record when not a single building permit was issued. But Chicago was twice as busy building houses as it had been a year ago. By month's end Chattanooga, clamoring for relief from a painful housing pinch, had got none of the first nonwar housing allotment, but in Miami builders found enough materials to start a boom in remodeling—until WPB's compliance division called a halt.

But if the month's building pace was pretty much a matter of where you clocked it, the pace of postwar planning was at last a gallop from coast to coast. That many a city was briskly stowing away building dollars (see page 154) was good news. But even better was the news that building enterprise is getting solidly back of urban redevelopment. Three building men in Seattle were at work on a multi-million dollar redevelopment program for distressed areas in the city's core, betting that the next legislature would approve a bill for private condemnation. Detroit was looking at figures offered by Communities Redevelopment Corp., New York, which proposed to finance a \$50,000,000 rebuilding job in two of the city's blighted areas, sell the six-story apartment properties to Detroit over a 30-year period. In Milwaukee Negro citizens were already busy cleaning up one blighted neighborhood. By mid-month the Milwaukee group was ready to rent its first 10-unit apartment building, with more to follow-all initiated, owned, occupied and managed by Negroes.

The lot-buying boom extended even to islands—in which the Puget Sound area reported brisk trading. Sears-Roebuck took an option on a Portland, Me. block and Pittsburgh reported that a prewar golf course would be a postwar subdivision. In Chicago land options were rapidly becoming as old-fashioned as second mortgages; one builder laid cash

on the line for 4,000 lots. New York institutional owners took advantage of the boom trading temper to unload a dozen more mid-town landmarks. Rumors flew that temporary war houses not needed and not wanted in the U. S. might be shipped to war-devastated areas in Europe. New York's Park Commissioner Robert Moses was, as usual, enjoying a fight and, as usual, apparently about to win it. If the Board of Estimate acts as anticipated, new zoning amendments will become law which, the opposition claimed, will "put a park in every back yard."

The National Housing Administrator asked building lobbyists a question to end all questioning on the small (10 per cent) public housing allotment that is part of the first nonwar program: "You know that you cannot build for the families who would be taken care of in these publicly financed units. Are you asking me to ignore the needs of such families—including returning veterans, dependents of veterans, and other Americans who happen to be the victims of low incomes?"

NHA's study of housing costs pointed to what may eventually be a larger answer to John Blandford's question: basic product improvement that will stretch the housing dollar. Buckminster Fuller was ready with his own solution. The first model of an aluminum, steel, rubber, and plastics Dymaxion house will soon be finished by a Wichita plant, may soon be turned out in volume by war-prosperous Beech aircraft.

#### 3,000 NONWAR HOUSES

First nonwar housing allotments were made last month by the National Housing Agency (see Arch. Forum, Nov., '44). They amounted to less than many builders, and many would-be buyers, had hoped. But all signs were that NHA would by January hit an allotment stride of 10,000 units a month, up the rate thereafter.

Washington, D. C. got 1,000 houses (Continued on page 82)







Huber, Ohio



Starkey, Minn.



Douglas, III.



Taylor, Ida.





## CONGRESSIONAL FRESHMEN TAKE THE FLOOR

Everybody knows what the President thinks about housing. Everybody knows what veteran Senator Robert Wagner, father of the federal slum clearance program, thinks about housing. Everybody knows that Senator Elbert Thomas has steered many a piece of housing legislation through Congress, and that Representative Fritz Lanham was the first to understand the urgency of the war housing job. Everybody knows where these men will stand when important postwar housing legislation is on the docket.

But there will be many new faces in the 79th Con-

gress. What these men think about housebuilding will have vast influence on government teamwork, or the lack of it, in this vital sector of U. S. business enterprise. The FORUM, therefore, last month sampled opinion of the new Congressmen on housebuilding matters on which they may soon have to vote, found most of them concerned with the industry's part in postwar recovery. Here is what they are thinking about slum clearance, low-cost housing, veterans' loans, mortgage insurance, the National Housing Agency, war housing disposal.

Senator H. Alexander Smith, Republican, New Jersey: "I feel we must eliminate as many bureaucracies as possible in the federal government. The government should give all possible consideration and encouragement (I emphasize encouragement) to privately owned industries and private funds to aid in the development of slum clearance projects. But where private or state funds cannot handle the problem, I favor federal aid in conjunction with state supervision and regulation.

"I think my attitude can be summed up by saying that I feel many social advances made under the present Administration have been good and should be maintained. Nevertheless I am opposed to the New Deal philosophy which tends to develop federal bureaucracies for work which should be accomplished by the individual states and by private enterprise within those states. I shall work diligently toward this objective."

Representative George B. Schwabe, Republican, Oklahoma: "I have seen some abuses which have led me to believe that I would not favor the National Housing Agency permanently. I am inclined to believe that all government activities in connection with housing should be discontinued at the earliest possible date and independent contractors and builders be permitted to provide adequate housing for our people. A thorough investigation, I candidly believe, will disclose waste, extravagance and graft in many of these operations.'

Senator Miles Myers, Democrat, Pennsylvania: "I consider it an obligation of the federal government to assist state and local governments in providing housing for people whose incomes are so low that their needs cannot be met by private industry.

"Care should be taken so there is no dumping of federal war housing and at the same time ultimate disposition should not be postponed so long that the locality suffers by reason of the property not paying its share of taxes."

Senator John Moses, Democrat, North Dakota: "I favor a program providing long-term low-interest loans for home purchase, not only to servicemen but to all persons desiring them. Such a program not only permits lower-income families to put down substantial roots in the soil of America and affords happier family life, but it will also be of immense value to the nation in stimulating postwar business and providing postwar employment."

Senator Glenn H. Taylor, Democrat, Idaho: "Where private enterprise fails it will be necessary for the government to sponsor projects to provide housing. The American people must be housed and slum clearance is not the type of project in which business has shown or is likely to show interest. Business is operating to make money. Lacking the power to condemn and often not in a position to tackle the longtime over-all administration of such an activity, private enterprise probably will not be

able to accomplish much slum clear-

"The projects, however, should be self-liquidating. There is no reason why housing projects should cost the government money, although it may take a long time for repayment as in the case of reclamation projects. Interest rates probably should be made still lower. Soldiers will have to be taken care of with low cost housing if normal housing developments do not fill their needs and certainly they should be given every advantage of low interest rates."

Senator J. William Fulbright, Democrat, Arkansas: "Where federal public war housing units are located near universities, they might profitably be used to house veterans going to school under the G. I. benefits program."

Representative Chase Going Woodhouse, Democrat, Connecticut: "Federally-subsidized slum clearance and low-cost housing will, without question, continue to be necessary. I should hope that great emphasis would be placed on local public housing authorities and that the federal government would continue to do general planning, research, and grant financial aid. Strong state housing acts would be a great help.

"The National Housing Agency would seem to be the answer in bringing together the various agencies connected with housing. I hope that in the not too distant future, it will be possible to have a thorough study and realignment of our federal organization. Under such a new

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Fulbright, Ark.

McDonough, Calif.

Woodhouse, Conn.

Moses, N. D.

Smith, N. J.

Hickenlooper, la.

functional organization, housing might be placed elsewhere.

"I should very much like to see more research on new methods of construction and on the application of mass production techniques to building; also, studies of the possibility of developing means whereby labor in the building trades may have an adequate annual wage. We should have lower labor costs and more even labor earnings.

"Permanent war housing built as a unit should be converted to use as lowcost housing and so continue to be administered as a unit. Where the housing project is a group of small homes, it might well be sold to tenants provided they were employed in an industry where they were likely to be more or less permanent."

Senator Wayne L. Morse, Republican, Oregon: "I am very much in favor of slum clearance and of encouraging American families to own their own homes. However, I want to see as much of it developed under private contractors as possible. I have no doubt that some federally subsidized plan for loans will have to be arranged, but I am not ready to commit myself on details until I know more about the facts.

"Most of the so-called permanent war housing, federally built, which I have observed should, in my judgment, be demolished. However, it is quite possible that I have not seen any of the better housing projects. Wherever federal property is sold I think it should be sold on the open market, but under a sale policy which will prevent flooding the market in a manner which will stifle postwar job-creating projects.

"I am very much of the opinion that our housing program must be developed

from the standpoint of local and regional needs, and therefore the policies on which it is based should be developed and administered in the area in which the houses and other building projects are to be constructed. This means that there should be a maximum use of local architects, building contractors, and all other private enterprise businesses which have an interest in any building program."

Senator Brien McMahon, Democrat, Connecticut: "I think that the Federal Public Housing Authority should give more attention to the local viewpoint when building public low-cost housing. In Bridgeport when the Success Park project was built, I understand engineers were sent up who weren't acquainted with local weather conditions. They didn't realize the severity of some of our winters and as result didn't sink the pipes for the utilities deep enough. The first severe freezing spell resulted in freezing and stopping of almost all utilities. Had these engineers consulted with local experts this probably would have been avoided."

Representative Helen Gahagan Douglas, Democrat, Galifornia: "Federal public housing policy should be such that cities can use common sense in choosing sites. It should not be necessary at all times to pick sites in industrial sections where land values are too high."

Senator Homer E. Capehart, Republican, Indiana: "I do not believe the U. S. Housing Authority program should be revived. The government might aid in slum clearance by assisting private enterprise to do the job in the form of guaranteed financing and/or subsidies. This would be cheaper in cost to the taxpayer and the low income tenant,

and would cost much less. It would also take public housing out of politics.

"My present opinion is that National Housing Agency be continued, in limited fashion. I would make every effort to keep it from entering the field of federal housing activities and confine it to assisting private enterprise in doing the job.

"Permanent war housing should be sold to the tenant or to others for individual occupancy, and certainly should not be converted into public housing or sold to individuals for re-sale. I oppose the government being in the real estate business in any form."

Representative Emily Taft Douglas, Democrat, Illinois: "Government has to step in for those who can't afford good housing by private enterprise. However, I am hopeful that plans can be worked out whereby private enterprise can gradually take over more of the low-cost housing market."

Senator Bourke B. Hickenlooper, Republican, lowa: "I do not favor federal slum clearance on the basis on which it heretofore has operated because it has not placed a sufficient degree of responsibility upon the individual and has had too much federal paternalism. Without doubt slum clearance is a progressive and worthy public activity. The federal government has a responsibility to stimulate and guide these activities as an over-all proposition but local responsibility-state, municipal and individual should be emphasized.

"I do not favor continuance of the National Housing Agency in its present form and with its present policies. Federal housing activities should be focused more on the principle of guidance

(Continued on page 158)

Morse, Ore.



McMahon, Conn.



Capehart, Ind.



Acme



Schwabe, Okla.

Press Assoc.

Myers, Pa.





Douglas, Calif.

## NFWS

(Continued from page 79)

to sell at a ceiling price of \$6,000; 1,000 to rent at a maximum of \$60 per month. All are earmarked for Negro occupancy.

Richmond, Va. got 125 houses to sell at a \$7,500 ceiling; 125 to rent for \$65; 250, earmarked for Negroes, to rent for \$27.50.

Albuquerque, N. M. got 100 houses to sell at \$6,000 and 100 to rent at \$50.

Syracuse, N. Y. got 100 houses to sell at \$7,500; 125 to rent at \$62.50.

Trenton, N. J. got 25 houses to sell or rent at the builder's option. Maximum sales price is \$5,000; maximum rent, \$45.

Worcester, Mass. got 100 houses to sell at \$7,500: 70 to rent at \$60.

#### VET'S HOME LOAN PROGRAM ROLLS

The biggest news about the veterans' home loan program was that it was underway at last. First borrower was a veteran of both World War I and II-Captain Miles Myers who got a government guaranty on a loan to buy a home in Washington, D. C. Honors as first mortgagee under the veterans' program went to Washington's First Federal Savings and Loan Association.

By month's end more than a million application forms, guaranty certificates, and a half-dozen other forms were in the hands of lending institutions, most of whom already had stacks of letters from would-be borrowers. The Veterans Administration had opened regional offices in New York, Chicago, San Francisco, would soon open more.

Any ex-G. I. Joe may now go to any local lender and apply for a home loan. If the lender thinks ex-G. I. Joe may be a good risk, he asks him to fill out a form for certification of eligibility, which is sent to the nearest VA office. VA checks to make sure that no guaranty for the maximum \$2,000 has yet been issued to the veteran. Meantime, the lender collects data for a credit report. VA returns certification of the veteran's eligibility, naming an approved appraiser, who must value the property. The lender has appraisal made, returns the loan application. If VA approves, back comes a guaranty.

The borrower may take his choice of two loan plans (ARCH. FORUM, Aug., Nov., '44). Under the Act's Sec. 501 he may apply for a mortgage covering full purchase price, get a VA guaranty not exceeding \$2,000 or not more than 50 per cent. He might, for example,



The home lending provisions of the G. I. Bill of Rights follow what I believe to be the well-chosen procedure of encouraging existing lending institutions to make the loans to veterans rather than having the money lent direct by the government. All will agree that credit should be available to the veterans and that it should be available on terms consistent with the purpose of making home owners out of as many veterans as possible.

No Duplication. The use of many thousands of existing lending institutions for the greatest home lending program of all time is the more efficient way to do the job. It would be absurd to have an entirely new government bureau spring up in every county seat in the nation to take applications, process them, send them to a headquarters to be okayed, assign an appraiser, gather the necessary papers together to send along with the loan application. All of these things can be done just as speedily, just as fairly to the borrower, just as correctly by a savings and loan association, a savings bank or any other lender.

No Political Credit. The use of experienced, non - government institutions minimizes the dangers of pressures, preferences or what you might call political credit. The more these transactions can be conducted on their merits between the veteran residents and business people in the same community, with appropriate standards and review of the initial transaction for protection of the government and veteran borrower, the smaller the possibility for political preferences or any of the weaknesses which have been observed in past nationwide direct government lending operations.

Local Lending Flexibility. The veteran is better off dealing with local experienced lenders, the people he knows and from whom his parents probably themselves have borrowed money. The necessity of red tape, of a hidebound set of rules and regulations which have to be followed in every locality, regardless of the lending practices and habits which have grown up in that area, is inherent in

G. I. BLESSING

By MORTON BODFISH, executive vice president, U. S. Savings & Loan League, who believes every necessary safeguard is in the veterans' home loan program.

> a nationwide, direct federal government lending system. The flexibility of a local lending institution, responsible only to its board of directors, local men who understand local ways and local property values, is enormous and in the main that flexibility reacts in the borrower's favor.

> I am convinced that the local lending institution has a greater stake in the veterans' making a wise choice of a house and getting the size of loan he will be able to carry conveniently and safely than anybody else can be except the veteran-borrower himself. I think the veteran will find the experienced, local lender a good big brother in advice and in cooperation.

> Less Credit Strain. Present provisions of the Act present the best possible way of giving special consideration to the veterans of World War II with the least strain on the government credit. We estimate that the volume of home loans made under Title III will be from \$5 billion to \$10 billion. To make such loans direct, the government would have to go out and raise the money, and it would probably pay around 2 to 21/2 per cent at least for such long-term money. Existing lending institutions have adequate funds, billions of dollars which savers have already invested with them, ready to carry on this program. The only cost to the government, aside from its gift of the first year's interest on the insured portion of the loan, will be the processing cost for initial approval of the loans, and whatever at some future date it has to pay out on the guarantee. This latter sum will be only a small fraction of the amount insured if the standards established by Congress in the original legislation are carefully adhered to by both the lending institutions and VA, as I am confident they will be.

> Aside from the above long-term concerns, the present program can get started quickly. Literally tens of thousands of experienced individuals in the real estate, appraisal and credit fields are available, ready to cooperate in originating, expediting and servicing the loan applications of qualified veterans.

G. I. BLAST

By CHARLES ABRAMS, author, "Revolution in Land," who fears veterans unable to afford homes will be sold them, finds many loopholes in the loan plan.

Housing provisions of the GI Bill of Rights and VA's regulations leave the door wide open for schemers to cash in on the veteran's bounty. What began as a sincere plan to help the veteran buy a home may end up in foreclosure and disillusionment.

Enforced Ownership. The bill capitalizes on the urge to own a home. No provision is made for those who can only rent, none for the veterans from the slums. The veteran who needs a home most will be excluded from the Act's benefits.

The Two Year Limitation. Ten to twelve million veterans will have to decide within two years after discharge or war's end whether they will buy or forever be barred. If only one-third decide to buy, the sudden demand for dwellings, when added to the pent-up civilian demand, may not only zoom building costs, defeating the plan's aim, but precipitate the whole inflationary spiral.

Standards. Neither bill nor regulation impose standards and VA's attitude is that Congress, in failing to impose them, meant to authorize houses below minimal FHA requirements, low enough as these now are. The reslumming of America is in the offing. With all the talk about rebuilding our cities, we are inviting the worst orgy of jerry-building in our history.

Interest Rates. Under Sec. 501, lenders can charge no more than 4 per cent although the mortgage is guaranteed only in part. It is hoped that institutions will lend at 4 per cent with only a partial guarantee of principal, when they can get an FHA loan at 41/2 per cent. Either (1) the billions insured at 41/2 per cent up to now have included subsidies to banks, or (2) no money will be forthcoming at the 4 per cent rate, or (3) house cost will be inflated, or charges imposed bringing interest rate nearer the effective rate building and loan associations charge.

Loopholes for Chicane. Instead of designating its own appraisers as FHA does, VA's regulations provide for local appraisers from an approved list. Since local appraisers are not too unsympathetic to the builders and

lenders in their localities, valuations may be adjusted upward to the circumstances of the case, other hidden charges imposed. Appraisals may be simply the transposition of psychic equities into vested illusions.

Administration. What may be the biggest federal housing program yet initiated has been turned over to a Veterans' Administration lacking the equipment of the National Housing Agency constituents, which have had 12 years' experience in housing and supervised \$20,000,000,000 of expenditures.

Recommendations. To avoid what may eventually be a disaster for the country as well as for the veteran, the veterans' organizations might weigh the merits of the following:

- An over-all housing program should be set up to care for the needs of veterans of all categories, renters as well as owners, poor as well as rich.
- ▶ Benefits should be available to the veteran for at least ten years after discharge.
- Homes of at least minimum FHA standards in adequately planned communities should be required.
- With proper planning and standards, the amortization period might be extended to at least 32 years. This, with the reduced interest rate, would assure a much lower carrying charge, reach more veterans.
- ▶ The bill should be administered through NHA or its constituent agencies. By reducing its own exorbitant rates to 4 per cent or less, FHA can then be less vulnerable to the charge that its rates are unjustifiable.
- Provision should be made for the hiring of government rather than local private appraisers.
- Second mortgage financing provided should be eliminated and loans made by single mortgage.
- A more adequate grace period should be allowed veterans who buy homes and are later unable to meet payments.
- No deficiency judgments should be permitted against veterans.

borrow \$6,000; of this, VA would guarantee \$2,000. Under Sec. 505 he may apply for two mortgages, with FHA insuring the first. The second mortgage may not exceed 20 per cent of purchase price or \$2,000 and will be VA guaranteed. Under this plan, a veteran planning to pay \$6,000 for a house would borrow \$4,800 under FHA insurance and \$1,200 under the VA guaranty. In both cases, the VA guaranteed loan acts as down payment—the veteran will need no cash to become a home owner.

Lenders noted hopefully that the Reconstruction Finance Corp. showed signs of putting its fiscal weight back of the secondary loan under the Sec. 505 plan. Operating hitch in the secondary loan scheme is that few lenders of any size are set up to make such loans, and many are prohibited from making them under state banking laws. The RFC Mortgage Co. has the power to buy such paper and can go far to bolster the whole program by providing a market for secondary loans. Massachusett's Governor Leverett Saltonstall, soon to go to the Senate, efficiently settled the banking law problem for his state. Under his war powers, the Governor decreed that institutions regulated by the state may lend up to the legal amount plus the amount VA-guaranteed.

FHA sent its field offices formal notification to regard VA guarantees as cash in processing applications for mortgage insurance, adding a few pointed words about the "non-biased appraisal" that would be assured the veteran under the FHA system.

The U. S. Savings and Loan League and the National Association of Real Estate Boards, which thinks its appraiser members will probably stand high on VA's approved list, beamed as the program got underway. The American Bankers Association and the Mortgage Bankers Association still looked more than a little askance. A good many housing experts (see Charles Abrams, left) still viewed with alarm. Congressmen, too, had a notion (see pages 80-81) to tinker with the veterans' benefit Act. But the Congressional committee leaders who steer veterans' legislation had decided to watch and wait. VA will have a chance to try its hand before the present law is thrown open for amendments.

#### KEY TO HOUSE COST REDUCTION

In one of the most factual and work-manlike pieces of research yet to emerge from a federal housing office, R. Harold Denton of the National Housing Agency's technical division has documented a little-known and largely undocumented fact: the structural shell of a house represents the biggest single item in the cost of home ownership.

## NEWS

Economist Denton reports that 60 per cent of the total cost of an average single family dwelling is represented by the structural enclosure, including the foundation, roof, floors and walls. Dissecting the cost structure of a typical \$5,000 house, Denton finds that a \$1,000 reduction in construction costs would cut monthly payments by 16.4 per cent. In no other major cost item would a 20 per cent reduction cut monthly payments by more than 5.4 per cent. (See detailed figures below.)

NHA believes that most of the new materials and methods introduced in house construction in recent years have "improved the quality of houses only by increasing their cost, and that low costs have been made possible only by reducing the size and quality of houses."

Only about 12 per cent of all U. S. families can afford to pay for improved housing quality. In 1941 (a high income year) 82 per cent of all U. S. families had an income of less than \$3,000, could afford to pay not more than \$6,000 for a house. Forty-one per cent had incomes of less than \$1,500, could earmark not more than \$3,000 for home purchase, or \$30 for monthly rent.

How far housebuilding is out of gear with its market can easily be measured by the Federal Housing Administration's insurance records. In 1940-41, 94 per cent of all Title II mortgages covered housing which nearly half (41 per cent) of the nation's families could not afford. Although one-fourth of the nation's families earned less than \$1,000 in 1941, only 1 per cent of the houses insured under Title II were within their means.

NHA's analysis of housing costs is intended to deflate some of the airy optimism that a lengthened amortization period or a streamlined distribution system can in themselves prove panaceas for the problem of home ownership. The study focuses interest in cost reduction where NHA believes it can be most effectively made: in the structural shell of the house. Many building men will share NHA's confidence that an integrated, well-financed technical research program can go far to discover new and less costly structural materials. A bill (S. 2046) sponsored by Senator Robert Wagner and Senator Harley Kilgore that would provide federal funds for such a housing research program will come before the next Congress (Arch. Forum, Oct. '44).

#### WHERE THE HOUSING DOLLAR GOES AND HOW IT CAN GO FARTHER

#### COST OF HOUSE AND LAND

(Each item expressed as per cent of total cost of house and land)

Cost of Materials at Site:	Manu- facture	Cost of Distr'n	Cost of Transp'n	bined Profits	ered Price
Lumber Masonry Concrete and mortar Plaster, lath and wallboard Insulation Roofing Flooring Millwork Paint Finish hardware Plumbing Heating Electrical Miscellaneous	4. 19 2. 17 1. 70 1. 31 0. 11 0. 62 1. 35 2. 88 0. 29 3. 63 0. 29 3. 63 0. 39 0. 49	4.64 0.73 0.86 1.54 0.06 0.32 1.02 3.10 0.34 0.29 0.90 0.30 0.40	1.42 0.30 0.33 0.46 0.03 0.10 0.24 0.38 0.04 0.03 0.35 0.09 0.05	1.60 0.25 0.44 0.96 0.04 0.21 0.34 1.00 0.15 0.10 0.60 0.14 0.13	11.85 3.45 3.33 4.27 0.24 1.25 7.36 1.41 0.71 5.48 1.42 0.98 1.00
All materials	20.90	14.80	3.90	6.10	45.70
Cost of Site Construction Labor					. 29.50
Contractor's and Subcontractors' O	verhead ar	nd Profit			. 12.30
Total Cost of House					. 87.50
Value of Unimproved Land (includi	ng profit	on land)			. 7.00
Cost of Land Improvements (include					
CAPITAL COST					. 100.00

#### MONTHLY COST TO OWN (Assumed cost of house and land is \$5,000)

Downpayment (90% mortgage) Closing fees and commissions		\$500 100	
Total cash payments	******	\$600	
Monthly cost for:.	First 25 years	Next 15 years	Average for 40 years
Interest (5%) Amortization (25 years) Loss of interest on cash payments (3%) Taxes (2½%) Hazard insurance (2/10 of 1%) Maintenance (\$100 per annum)	\$11.31 15.00 1.50 10.42 .83 8.33	\$1.50 10.42 .83 8.33	
Total monthly cost	\$47.39	\$21.08	\$37.52

#### EFFECT ON MONTHLY COST OF REDUCTIONS IN VARIOUS ITEMS

Monthly costs of housing can be cut by reducing any one of the following major items: interest, amortization, taxes, maintenance, or cost of house and land. The relative effect on monthly costs of a 20% reduction in each of these items separately, with all other items remaining unchanged, is shown below.

Reduction in monthly cost

Major item and 20% reduction in each	First 25 years	Next 15 years	Average for 40 years
Interest (from 5% to 4%)	5.4% 4.5%* 4.4%	9.9%	4.3% -6.5% 5.6%
Maintenance (from \$100 to \$80 per annum) Capital Cost (from \$5,000 to \$4,000)	3.5% 16.4%	7.9%	4.4% 15.4%

\* Represents savings per month over 311/4 years, term of loan in this case.

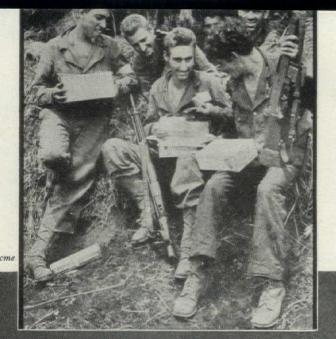
#### COURAGE FOR REBUILDING?

When the East Ohio Gas Co. fire spread over 24 acres crowded with factories, stores, 50-year-old frame houses, Cleveland got a lesson in urban land use tragically underlined by 200 deaths, 150 homeless families, property damage of \$7,000,000. Nobody yet knew what caused the explosion of liquid gas stored in mammoth spherical tanks at the East Ohio plant. But most Clevelanders were convinced, not only that liquid gas storage within city limits should be outlawed, but also that the area should not be rebuilt as a random jumble of factories and homes.

Like a block-buster, the destructive fire had proposed a problem in rebuilding from the ground up. Cleveland has an opportunity coveted by many another planning conscious city: to make basic new decisions about land use in a whole neighborhood. Would Cleveland take up the challenge?

The fire had laid bare a tangle of conflicting interests from which few city neighborhoods are free. Industry, long located next to the switch track that cuts through the area, showed signs of fighting any rezoning for residential use. There were good reasons for be-

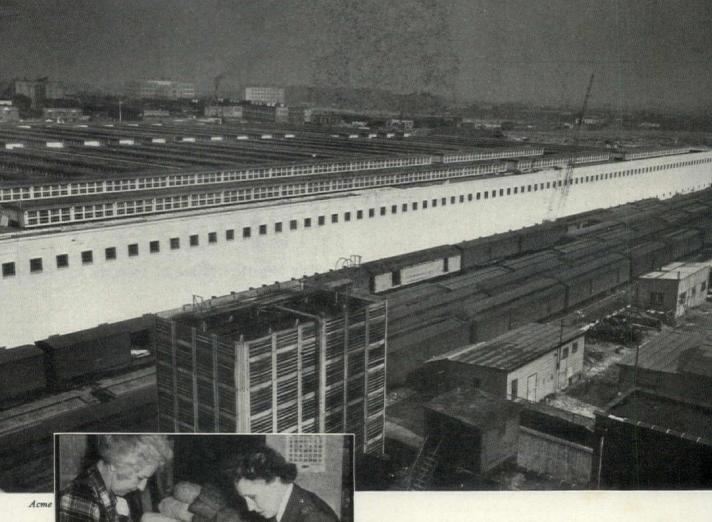
(Continued on page 152)



# ARMY POST OFFICE

New York Port of Embarkation speeds the Army's Christmas mail to battle zones from a mammoth sorting station completed in  $3\frac{1}{2}$  months.

Photos: Ben Schnall



Architect-Engineers:

ALFRED HOPKINS & ASSOCIATES

General Contractors for superstructure:

JOHN A. JOHNSON CONTRACTING CORP.

Supervision of construction:

NEW YORK CORPS OF ENGINEERS



CONNECTED WITH THE PENNSYLVANIA RAILROAD BY SPURS, THE GIGANTIC STRUCTURE HAS EXCELLENT FACILITY

#### Erected in 106 days, this 141 acre building is the world's largest structure of concrete and cinder b

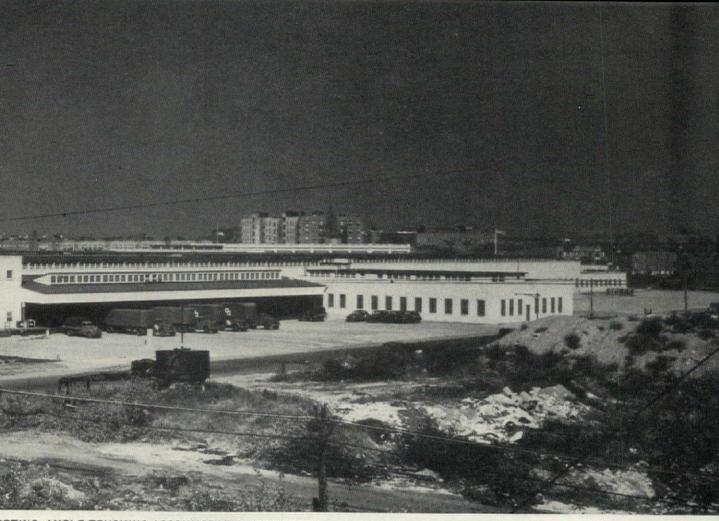
Eleven war fronts served by the New York Port of Embarkation will get Christmas packages on time this year, in spite of a volume of mail three times that of last year. Farsighted U. S. Army and Post Office authorities have perfected a method which will take care of more than 50 million parcels on the assembly line principle. This operation has been made possible by the erection of a mammoth sorting station in Long Island City on the site of the old Madison Square Garden Boxing Arena. Containing 630,000 sq. ft. of floor space, the structure was built in the incredibly short space of  $3\frac{1}{2}$  months, including the time spent in the preparation of plans.

Chosen because of its convenient railroad facilities, the site lies along Northern Boulevard, adjacent to the Pennsylvania Railroad yards. A separate grading contract took care of the leveling and filling of the old arena, which had been formed by excavating a bowl and piling the material in an embankment around the sides. Over 80,000 cu. ft. of fill were used to bring it up to grade level.

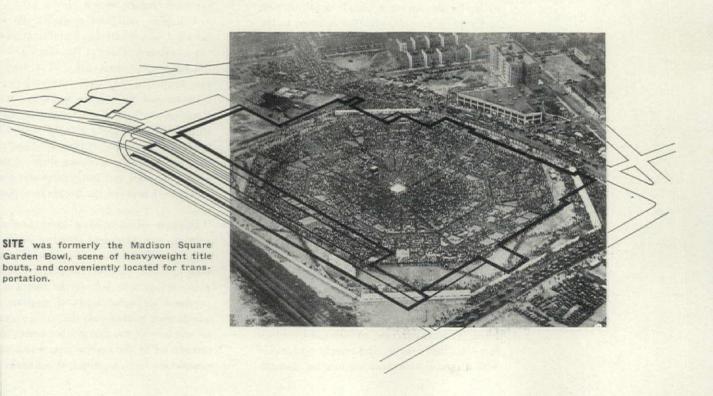
While site preparations were going on, the

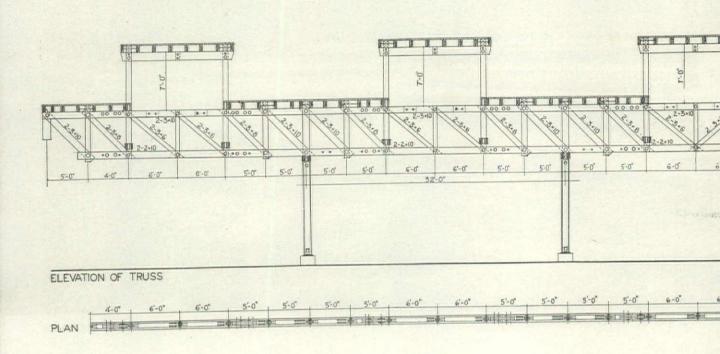
architects drew up foundation plans, were completed in ten days. So closely the operations dovetailed that work of superstructure itself was able to proceed the middle of June, and the completed and detail drawings were ready within 25 after work was begun.

Two prime difficulties confronted the tects and the U. S. Army Engineers. Fit ensure rapid progress and beneficial pancy by September 1 for Christmas operations, a simple construction syst preferably using prefabrication methodsrequired. Second, non-critical materia large quantities were called for. The desi solved both problems by using prefabri timber roof trusses with bolts and split connectors, pre-cast load bearing cor walls, gypsum plank roofing and a cor floor with a resilient asphalt surface. records were broken by the unique con tion methods, by split-second timing of ations and organization of the job on the and by the commendable teamwork of tects, contractors and army engineers.



PRTING. AMPLE TRUCKING ACCOMMODATION PROVIDES AN ADDITIONAL METHOD OF RUSHING GIFTS TO OVERSEAS G.I.'S





#### Simplified by the use of a grid and module system, the structure was also partly prefabricated on the

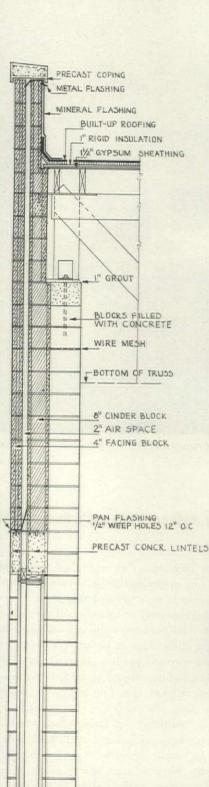
Construction of the huge building was made easier by employing a simple gridiron plan and a 16 ft. module, with the columns in the work areas 16 ft. apart in one direction and 32 ft. in the other. Interior load bearing fire walls divide the sorting area into spaces 160 by 120 ft. The total length of the building is 976 ft., and the over-all width 619 ft. In such a vast space, the standard 32 by 16 ft. bays simplified both design and construction. All major structural divisions including exterior walls, posts, fire walls and bearing walls, are located on the grid lines. A typical truss could therefore be used in almost any situation and for a variety of purposes.

The structure rises over a reinforced concrete floor, designed to be independent of the rest of the building by using mastic joints wherever it meets wall or post foundations. Exterior walls are of cavity construction, and are built of two thicknesses of pre-cast block, separated by a 2 in. air-space. The 8 in. inside block is cinder-concrete, and the outside block is a 4 in., buff-colored sand-cement type, made with a special air-entraining mix for strength

and durability. Interior fire walls are curfaced cinder-concrete block.

A lumber mill and assembly plant installed on the site for prefabrication timber trusses. Made of Douglas Fir, five tinuous trusses span each 160 ft. bay, are supported by four intermediate columns and by bearing walls at each Roof monitors and wood columns we corporated and erected with the trusses operation by crawler cranes. Construtine was saved by handling these section a complete unit and using carpenter cranail rafters between the trusses to support of.

Gypsum plank roofing saves lumber provides a light-weight covering which sulated with felt board and topped with built-up roof surface. During construction plank tracks were laid on the roof and carriages delivered loads of gypsum which were hoisted onto the roof by crain example of the many labor-saving distributed by the contractors, which excompletion 10 days ahead of schedule.



1/2" MASTIC JOINT

WATERPROOF FELT

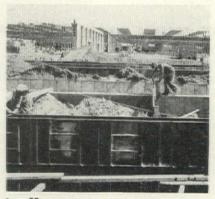
TYPICAL WALL



May 16 saw filling of bowl commenced. Photo shows completed grading operation.



June 1 marked the beginning of reinforced concrete foundation wall construction.



June 27 last forms on foundation walls removed. Operations dovetailed at this point.



July 15 monitors were ready for roofing. Trucks still had clear passage underneath.



May 26 land was ready for footings. Pileand soil-supported work began same day.



June 12 superstructure started. Photo shows the cavity type exterior block wall.

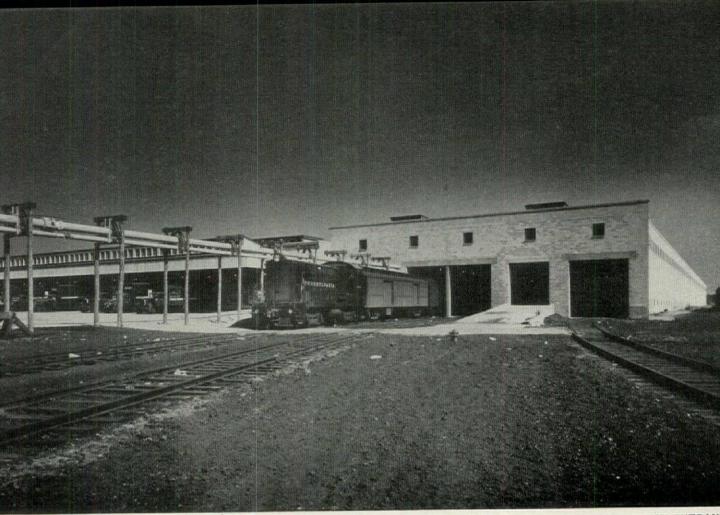


July 2 prefabricated truss sections including framing for monitors were erected.



September I job was ready for "beneficial occupancy." Army moved in same day.

TION OF



INCOMING MAIL ARRIVES BY TRAIN OR POST OFFICE TRUCK AT SIDINGS AND UNLOADING PLATFORMS AT WEST ENTRAN

#### Eight thousand civilian employes process incoming mail by assembly line methods for army's final check

Sorting operations consist mainly of fanning out the packages to get all the mail for one unit into one bag. The design of the building was considerably influenced by this sorting process, but it nevertheless has considerable flexibility for possible postwar use as storage or warehouse space. The flow of mail follows the floor plan with great consistency. Post Office trucks deliver the mail at the unloading platform on the west side; alternatively, railroad cars bring it to the covered siding on the south side of the building. From these two points it is transferred by electric "mule" to the four great work areas, in which civilian employes sort and bag the mail according to key numbers used for security reasons. This process brings the bags up to the north end of the building, from whence the "mules" transfer them through fireproof doors to the Army's portion of the building. Here the bags are checked and marked for their final destination, an operation which is geared to the constantly changing addresses of our mobile army. Code labels are used throughout.

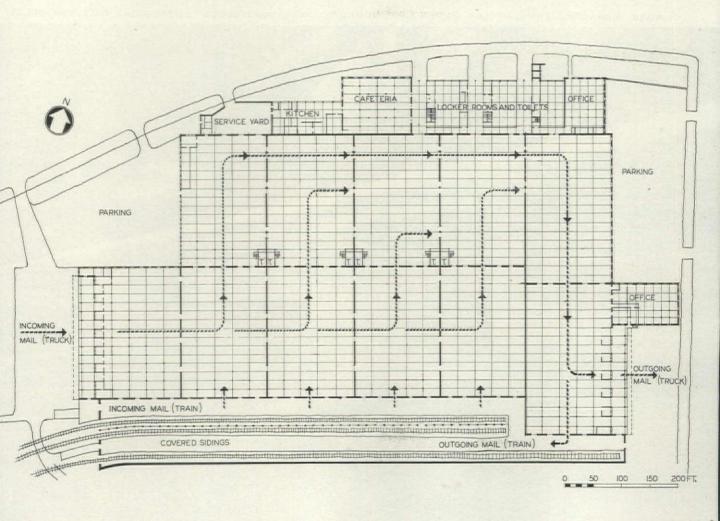
Three railroad spurs were built as part of

the building. Two are Post Office tra Before designing this part of the structure architects were assured that no steam tr would be used for deliveries. If the siding been designed for steam it would have h completely different layout. For electric tr enclosure was possible and the train shed come an integral part of the building in w fifty railroad cars can be accommodate one time. Similarly the electric mules el nate additional ventilation which would been necessary had gas trucks been used. it is, employes are kept comfortable by miles of ventilating ducts which circu warm air in winter and fresh conditioned in summer. Steam is transmitted from separate boiler house to various heating u throughout the building.

The work of sorting is lighted by the monitors, which were designed to admit maximum amount of daylight and by 3 fluorescent lighting fixtures containing tubes arranged in banks of four. Altogethe building contains about 75 miles of elewiring.



LOSED SIDINGS VENTILATED BY LONG ROWS OF WINDOWS MAKE HANDLING POSSIBLE REGARDLESS OF WEATHER





ARROW SHOWS AIR INTAKE UNDER ROOF MONITOR WHICH PROVIDES VENTILATION AS WELL AS DAYTIME ILLUMIN





Wers in monitors draw 47,000 cu. r per hour into the structure in and circulate air heated by steam power plant in winter.



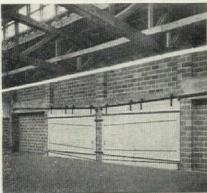
Unloading mail at railroad siding onto wheeled racks for transfer to work areas.



Racks are hitched to electric "mules" and hauled in series to civilian sorting rooms.



In work areas mail is kept moving from south to north end of building's great bays.



Fire doors between the four main work areas operate automatically to check blaze.



Wheeled racks loaded with processed mail are routed to secret army checking area.



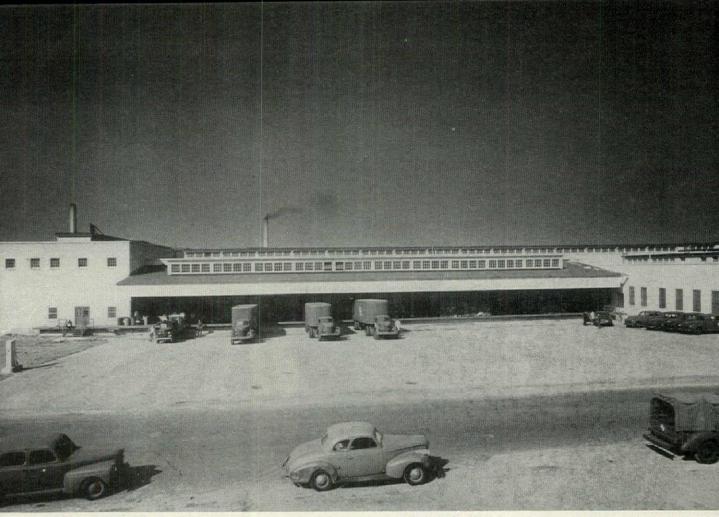
Code labels are tied to each bag by army personnel in the final sorting operation.



Doors lead to ramp on loading platform where mail is finally checked by label.



Army trucks take processed mail from east loading platform to secret destination.



AMPLE PARKING AND TRUCKING SPACE AT EAST END OF BUILDING HELPS ARMY LOAD MAIL SPEEDILY FOR DESTINAT

#### Troops who dispatch overseas mail are stationed nearby, take meals in high-ceilinged Post Office cafete

Outgoing mail may be picked up by train or army truck at the car siding or at the east loading platform, which is adjacent to the army section of the post office. From here it is routed directly to ships, or, in the case of some mail going to railroad cars, to other ports of embarkation. Last-minute checking at the loading platform enables new labels to be substituted if a company has just changed its headquarters. Approximately 2,300 men work in the army section of the building.

Along the north front are located kitchens, cafeteria, men's and women's locker rooms, and offices for the civilian Postmaster. The cafeteria and kitchen are a separate concession with its own delivery yard, operated by a civilian bidder. The locker rooms and toilets are part of the entrance section, and the majority of the women's lockers are located on the floor above the main doors, reached by stairways just inside the entrances. It is on this front that the building has received most of its "architectural" treatment; elsewhere, however, there is even more architectural

interest, in the long lines of windows monitors, and in the skilful handling of tremendous lengths of walls and beams. use of standard units such as window fra in series of a hundred or so at a time lends entirely new scale to a familiar technique building and presents a visual effect of usual interest.

The entire construction project was unthe direction of Col. Edgar W. Garbisch, Itrict Engineer, New York District, Corps Engineers. In preparing the design the NYOR Postmaster, the New York Port Po Officer and engineers of the Pennsylvania R road were consulted. Separate lump sum of tracts were let for each of the main operation order to expedite construction:

Grading: Charles F. Vachris, Inc., Brook N. Y. \$30,390

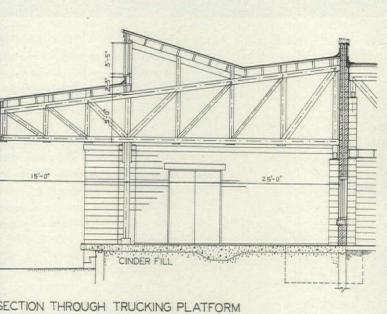
Foundations: Cayuga Construction Co New York, N. Y. \$199,775

Superstructure: John A. Johnson Contract Corp., Brooklyn, N. Y. \$2,335,916

(Continued on page 166)



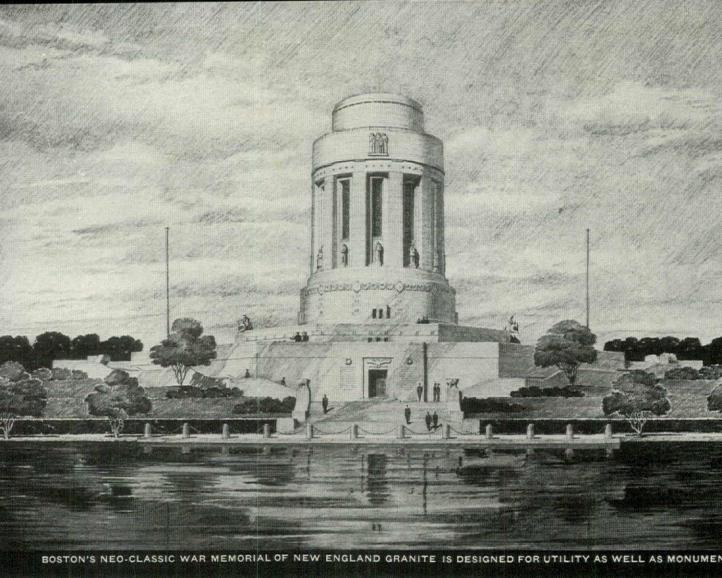
DING PLATFORM IS COVERED AGAINST WEATHER, HAS CONTINUOUS SKYLIGHT FOR ADDITIONAL ILLUMINATION



Employes' entrances are located on north side. Windows on second floor light women's locker rooms.



Cafeteria is tall block on left flanked by lower kitchen block and delivery yard.





U.S.A. Most ambitious American morial project for World War that proposed by the architectirm of Maginnis and Walsh, will tower 108 feet above the of its plaza at the northern en Boston's Fenway. A basement of ber will contain a memorial lib and historical museum.

In spite of the sincerity appare the design, the wrath of critics inevitably descend on it, princip because the memorial does no far enough in expressing a purp As a monument, the project is particularly meaningful; neither it offer the usefulness of many pretentious but more practical gestions. If this approach is to typical of the trend in memorial World War II, "most of them probably continue as in the po be condemned, on esthetic or tional grounds, by the few. Who the many will find them appear tokens of remembrance has st be determined.

# WAR MEMORIALS

In all of the United Nations people are turning their thoughts toward commemorating the sacrifices which will have made victory possible. The question of what constitutes a suitable memorial is being raised on all sides. Much philosophical discussion has already appeared in the press and magazines. The FORUM published in its September issue discussions by Archibald MacLeish, Librarian of Congress, and Charles D. Maginnis, former president of The American Institute of Architects, and in this issue presents a number of proposed memorials which illustrate the basis of the present controversy.

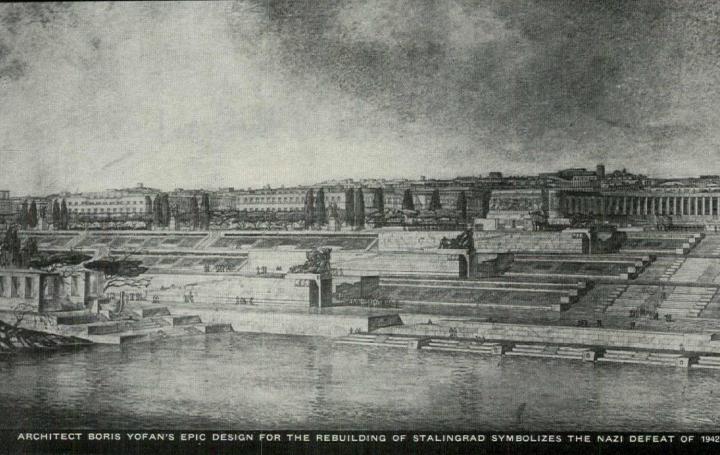
In England and Russia—countries which, unlike our own, have been physically ravaged by war—ways are being found to keep the spirit of the new memorials in conformity with national temperament and taste. The theme proposed for England combines traditional reverence for the past, dramatized by war ruins, with the native delight in gardens—an endowment so redolent with association and custom that few Englishmen will pass such shrines without a surge of feeling.

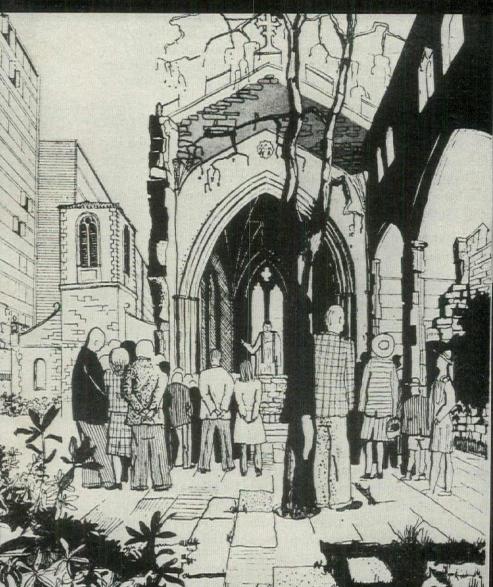
The Russian solution is more grandiose. The enormous volume of large-scale reconstruction needed in the USSR allows greater employment of the historical monument, of huge stadia, of the heroic memorial and of architecture of noble proportions. All this has meaning for the Russian citizens, who have a pride in their past, in their vast national growth and in their part in the war. Such civic projects can symbolize all three achievements.

That these ideas have attracted wide support in the countries of their origin points a moral for the United States, which has a memorial problem peculiarly its own. Unlike most of the Old World, we have no blitzed churches, no cities razed by siege. Thus inspiration cannot always be drawn from the face of the land, as in the countries of our allies. Yet we have made our own great sacrifices and we must commemorate them appropriately. Even if one may hope that the idea of a monument befitting the conquests of a Roman emperor will seem inappropriate to commemorate the valor of our American fighting men, there still remains the problem of what to do in place of such anachronisms.

Memorials acquire significance only through the ideas and associations they convey. Thus, some monuments are comparatively uninteresting architecturally and yet are undeniably great memorials. The Washington monument is a plain marble shaft but it achieves nobility of expression. A cairn of stones in a Scottish village, as Charles Maginnis has pointed out, becomes a hallowed shrine for those who know that each stone represents the life a soldier gave for his native soil. The first is a national symbol, the other a local expression, yet perhaps in the difference lies a clue to an approach. Instead of letting ourselves be diverted by prolonged discussion of the merits of usefulness in memorials, we might well devote some thought to the question of their appropriateness. This should make

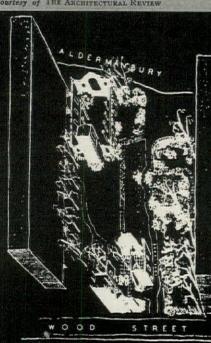
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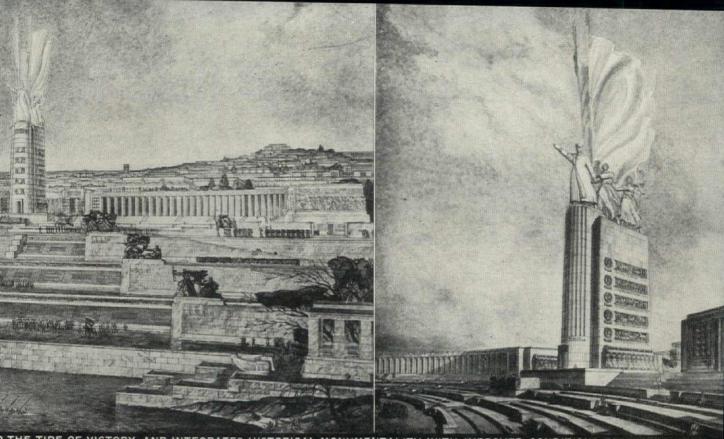


GREAT BRITAIN's most-applau suggestion for memorials is : ported by those who insist on so thing more utilitarian than a bro statue and more evocative the gymnasium. Notables like l Keynes, Sir Kenneth Clark and known architect H. S. Goodl Rendel approved the suggestion bomb-damaged City churches w are impossible to restore should turned into gardens of rest.

Courtesy of THE ARCHITECTURAL REVIEW



APPROPRIATE REALISM AND GRAVITY, RUINED CHURCHES, TRANSFORMED INTO GARDENS FOR MEDITATION, WILL I

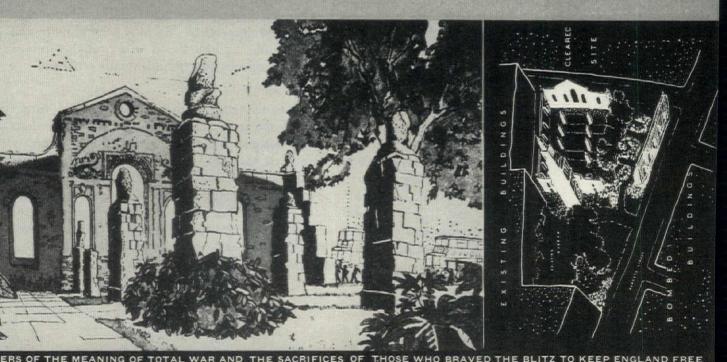


THE TIDE OF VICTORY, AND INTEGRATES HISTORICAL MONUMENTALITY WITH IMPROVED CONDITIONS FOR URBAN LIFE

illustrations on the left are and it's impression of the ruins of St. an's and St. Mary. The altar of alban's still stands in the virtually amaged apse and it is proposed old lunch-hour open air services. City workers in this historic spot. sketches below are of Christ rch, Newgate Street, whose ten columns on their sturdy piers and become objects of sculptural test against the open sky.

U.S.S.R. Typical Russian answer to the memorial question is the reconstruction of Stalingrad, a city which has become a national shrine. It has been prepared on an heroic scale by architects Yofan, Shchusev and Alabian, who have replanned the city in accordance with the latest principles of civic design. Bisecting railroads are being moved to the western edge of the town to provide ideal conditions for replanning.

The redesigned river front, seen in the sketches above, is a vast, flamboyant memorial in the form of a park 40 km long, which descends to the Volga at many points to provide boating and bathing facilities. In the central portion a huge sculptural group depicts Stalin leading the Russian people to victory. Although in an early stage, it is apparent that the memorial will probably be the most colossal of modern times.



the issue easier to resolve in any given case. The question whether a memorial is to be in the form of a statue or a swimming pool must eventually depend on its congruity in meaning, situation, purpose and design. There are places and conditions which could make both unsuitable, and others which may, conceivably, demand them.

Viewed in this light, a village memorial is less likely to masquerade as a small scale version of a national shrine. The two are poles apart. It may be

difficult, if not impossible, to design a national shrine which could be used by our millions. On the other hand, it seems logical to presume that a useful function is not beyond the scope of a community memorial. An art gallery, a stadium, a library or a park, will find it difficult to take the place of an inspired symbolic memorial in the national scene. For this thesis, our Washington, Lincoln

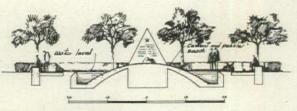
and Arlington memorials are sufficient justification. But in another place and on another scale, the useful memorial may be perfectly justified. In the small New England town or in a California seaport, the war may have had a local significance which can be brought out in some community project with which familiarity need not breed contempt. The first example on this page—a memorial pool set in a park—and the second, a memorial playfield and community center in Florida, are illustrations of this idea. Community memorials are most successful if they have local associations and local handling. This allows for their appraisal by the people concerned, and if the project becomes truly a community affair—a small park, a library, a nursery—it can involve more people in its execution than the commissioning of a bronze figure or a sculptured

urn from an artist who has never seen the locality.

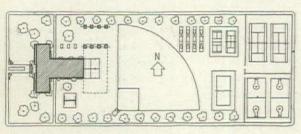
Useful or ornamental, all memorials must wear the mantle of appropriateness which is so often lacking. There is no doubt that the memorials for this war will have to pass more critical judgment than have any in the past. The issues of the conflict and the hope of a lasting peace are very clearly imprinted on the minds of the American public. There is a hopeful attitude toward the postwar

period which should be symbolized in the memorialization of our heroes—"This time they shall not have died in vain." The best memorials should be solemn, yet imbued with the sense of better things to come from the deeds of these dead—a confident note of serenity and aspiration for a "brave, new world." Designers will face a new problem in attempting to incorporate these intangibles in symbolic form. The imagery displayed in the Russian memorials—the sense of confidence and pride—may be easier to convey in that country, where there are fewer inhibitions about ornament and decoration. We have tended more and more to avoid the use of ornament in our buildings and will probably follow suit with our memorials, although the tendency to symbolize with ornament has not yet lost favor in all circles.

The problem is thus resolved into the attempt to express spiritual values without resorting to the banalities of the past. This in itself is a tremendous challenge. The modern architect and designer has the opportunity here to create entirely new forms which can symbolize the mood of the people. If he cannot meet this challenge, we shall be forced inevitably to make our choice the useful and less symbolic form, perhaps unmarked by any special emotional or spiritual values. But if he can boldly face the need for interpretation of the effects of war's sacrifice and express this by creating great memorials, well suited to place and purpose, the response will be gratifying and profound. It will be proof that architecture and design are in close touch with the American public and that they can express the highest culture of our own times as surely as they have in great periods of the past.



Designed for a park in Cheltenham, Pa., by architect Edward A. Wigham, this monument is separated from the public by a circular, ornamental pool.



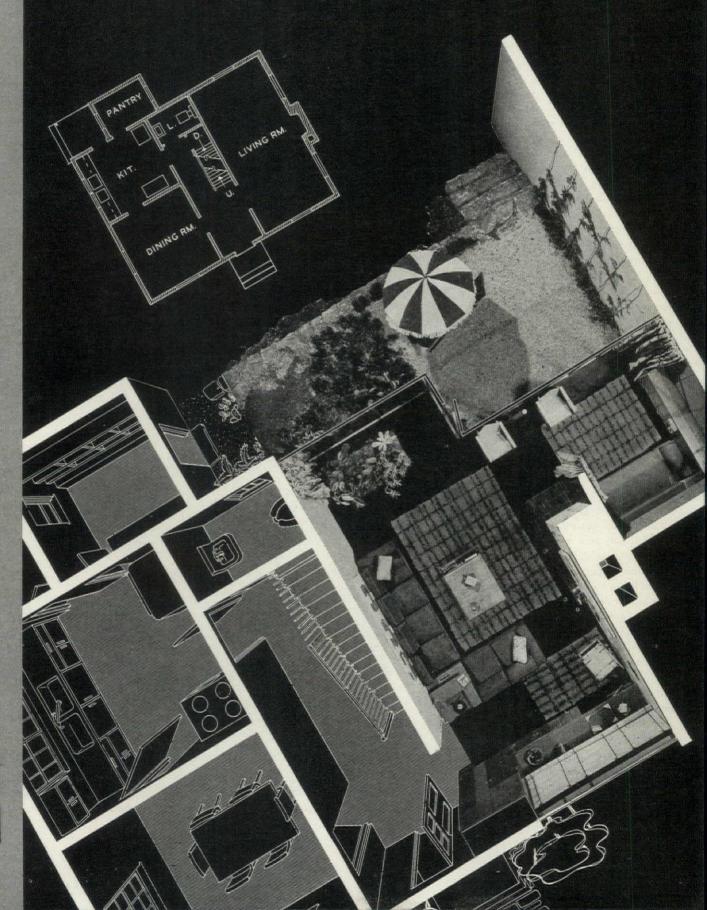
The youngsters are to take ever this Memorial Youth Center, proposed by the Coral Gables War Memorial Association in Florida, and to be built shortly.



A sunken garden designed by architect W. H. Deacy won first prize in a competition sponsored by the Vermont Marble Co. and the Barre Granite Association.

# INDOOR-OUTDOOR LIVING ROOM

Superimposed on the typical center-hall Colonial house, this modern living room revitalizes an outworn design through liberal use of glass, built-in work and storage compartments and a planned furniture arrangement.



The familiar center-hall Colonial mold which has fashioned thousands of American homes is almost a national institution. Unlike the hot dog, it seldom satisfies. The living room in particular, with its inadequate windows, too-small fireplace and stilted furniture arrangement, has neither the charm of its Colonial ancestor nor any functional connection with contemporary family life. Fortunately, as this scheme so adequately demonstrates, turning one of these characterless rooms into a useful and gracious living space is neither difficult nor inordinately expensive, and requires only the application of design talent and imagination.

This redesign extends well beyond mere redecoration, since it is based on the demands of modern family life. Structural changes are fairly extensive, but important to the proper functioning of the room. First, a relation between the outdoors and indoors has been established by a lavish use of glass. Replacing the entire rear wall with glazed panels makes the garden a part of the house itself. At the opposite end of the room, a new front window provides excellent light for a built-in desk and storage unit which culminates in a muchneeded coat closet near the door.

The rugged individualism which crops up in even the most harmonious family group prompted the second structural change-addition of a small side alcove by knocking out a portion of the outside wall. Equipped with built-in desk, bookshelves and couch, this "quiet corner" is a refuge for those who wish to read, study or rest, but could not otherwise escape the radio or bridge game in the living room proper. It also furnishes sleeping accommodations for overnight guests and can be used as an emergency sick room, conveniently situated for serving the patient. Although shielded only by a curtain, the alcove receives a minimum of noise, since its walls are of sound absorbent insulating cork and the opposite living room wall is of acoustical plaster which does not reflect sound. The outer wall of the "quiet corner" is extended into the garden, giving a feeling of increased space to the small cubicle, and acting as a screen for the glassed-in living room.

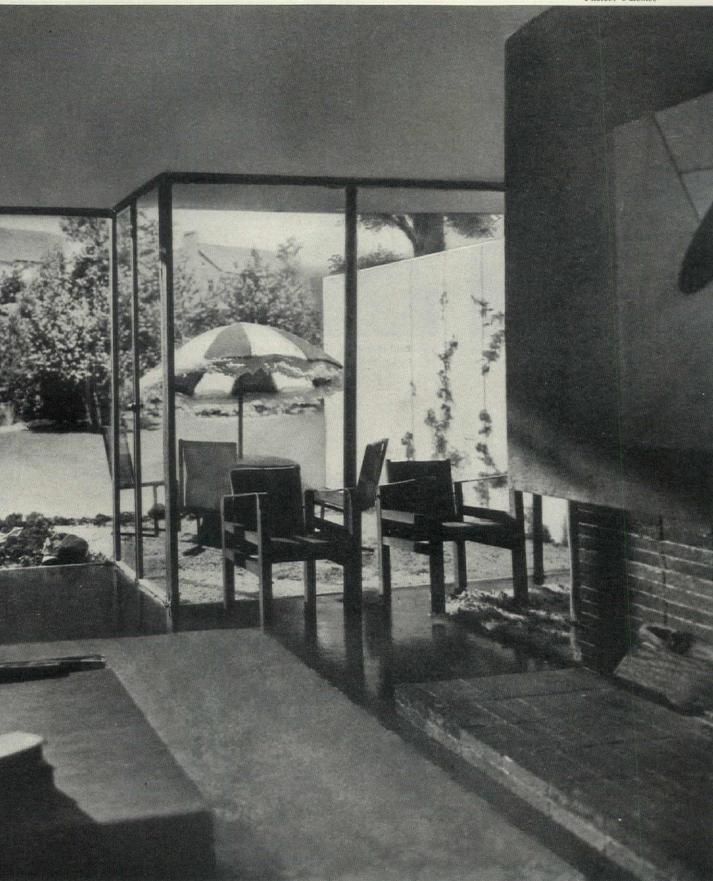
This change also permits enlargement of the former undersized fireplace, with a cantilevered, open corner so that the fire can be seen from the side as well as the front. This design is repeated in an L-shaped sofa, and sets the mood for a modern treatment of other furnishings. By carefully relating accessories to structure, the architects have created a room that is harmonious besides being sufficiently flexible to serve a variety of activities.



DOORS OPENING TO THE TERRACE ARE PLACED IN A SETBACK AT R

er", creates a spacious interior shielded from neighbors by a garden wall.

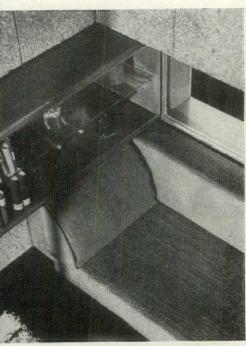
Photos: Palombo



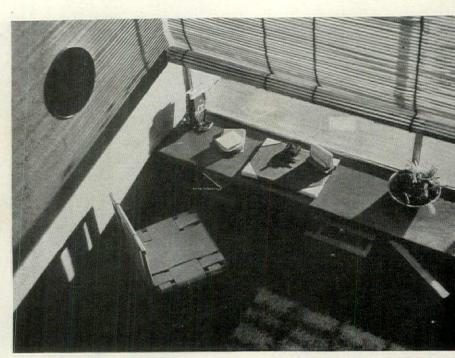
ES TO THE MAIN WINDOW WALL, ALLOWING CONVENIENT TRAFFIC FLOW AND AN UNOBSTRUCTED VIEW OF GARDEN

# INTE FORUM House Ideas Indoor-outdoor Living ROOM

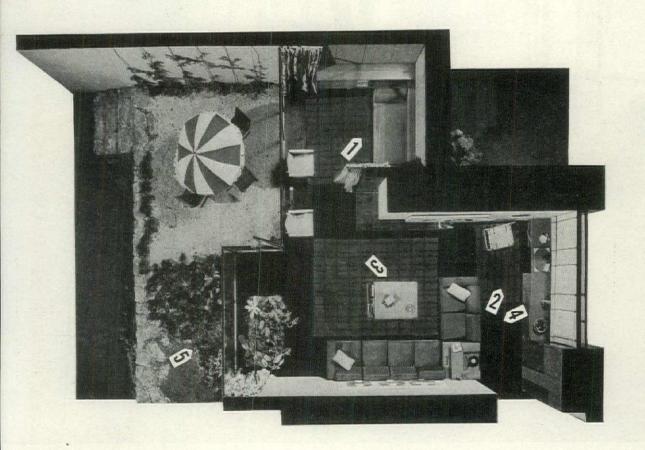
#### Built-in, preplanned furniture and equipm



Alcove corner has couch and overhanging bookshelf lighted by a narrow window.

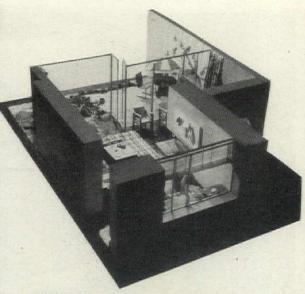


Built-in unit at front of house contains desk and convenient drawers and cupboa Radio loudspeaker is located in fireplace wall for best reception at couch opposite



# INDOOR-OUTDOOR LIVING ROOM 4

## Atmospheric lighting in Thomas Palom



**Model** is only 36 in. long, but every detail—books, paintings, even ashtrays—are accurately scaled.



SUN STREAMS THROUGH TINY WINDOW

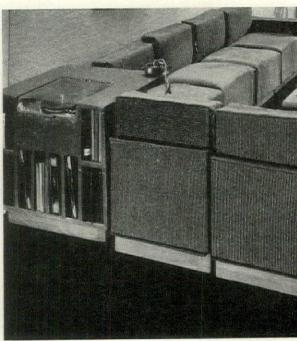


PALOMBO MADE THIS PICTURE BY REMOVING ONE WALL OF THE MOI

# des privacy for study, reading or resting without sacrificing open design.



L-shaped sofa is composed of separate units which can be arranged less formally to suit the occasion. An ample coat closet is built in near entrance door.



Record player, with removable glass top and storage for albums, fits neatly into couch corner.



tographs makes Ruth Hornbostel's small-scale model look like a full-sized room.

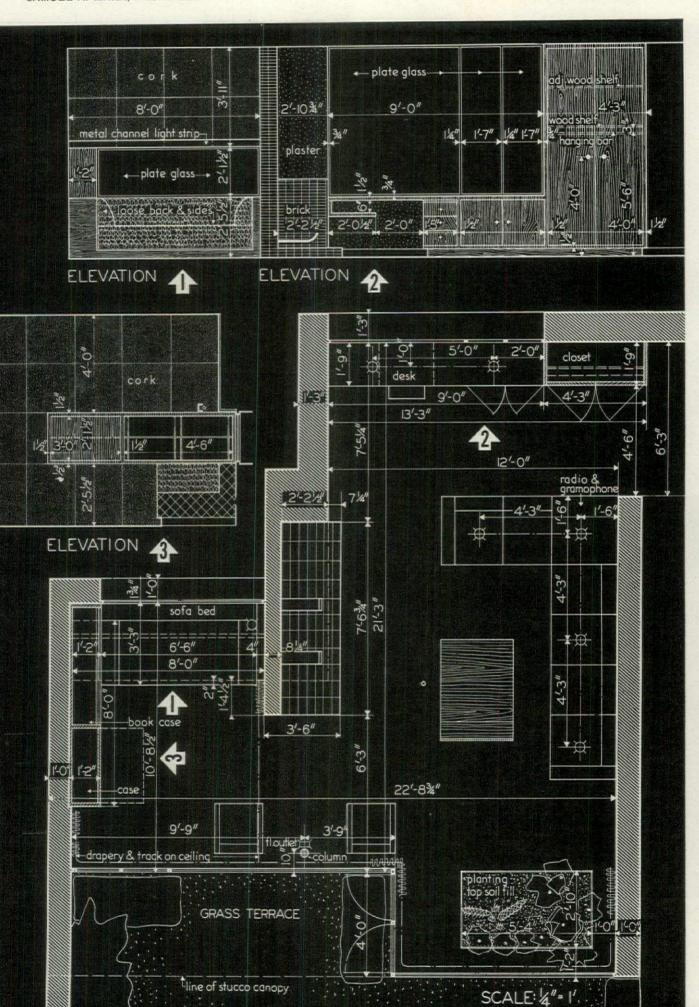


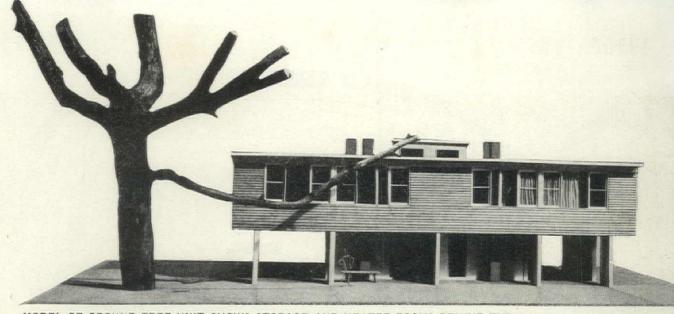
PLACING HIS CAMERA LENS INSIDE THE "ROOM." PHOTO-MURAL OUTSIDE WINDOW ADDS TO REALISTIC EFFECT

### INDOOR-OUTDOOR LIVING ROOM

SAMUEL A. MARX, ARCHITECT

DESIGN DATA 25.





MODEL OF GROUND-FREE UNIT SHOWS STORAGE AND HEATER ROOMS BEHIND THE SHELTERED TERRACE. Courtesy Museum of Modern Art

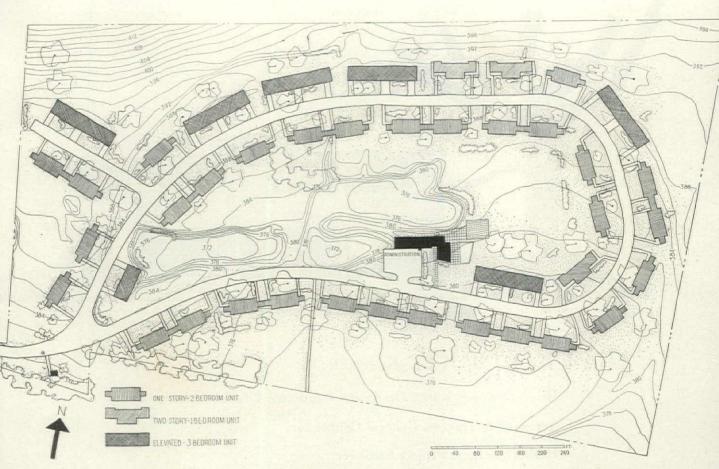
### CARVER COURT, Coatesville, Pa.

Howe-Stonorov-Kahn, Designers. Stonorov & Kahn, Architects.

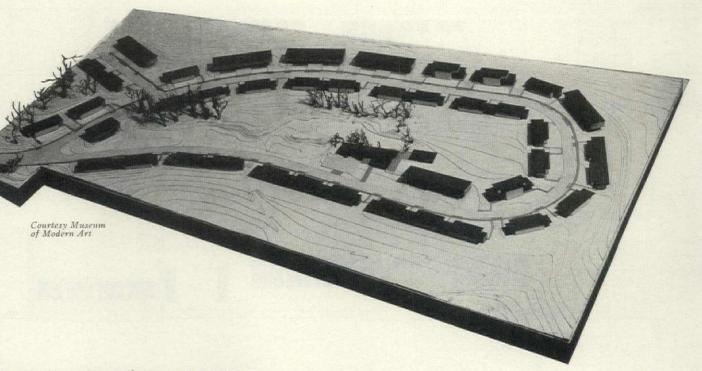
Azzarone & Travers, General Contractor.

Herbert Yergey, Project Engineer.

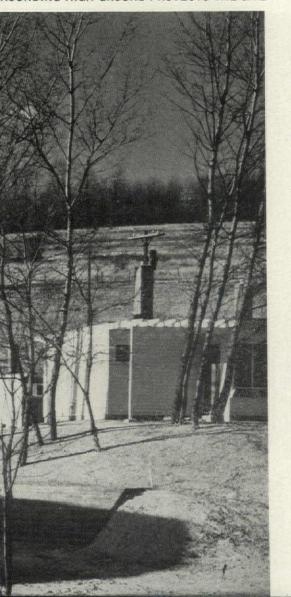








ROUNDING HIGH GROUND PROTECTS THE SITE

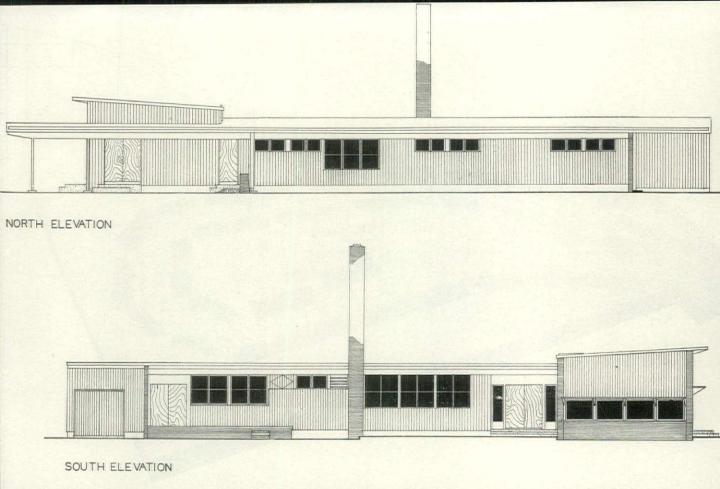


# Arrangement of the dwelling units in a double loop follows the property's shallow bowl shape.

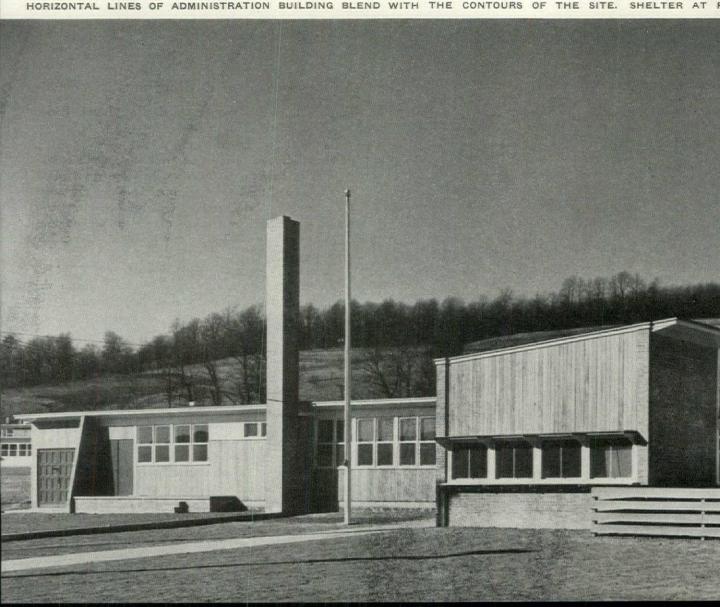
Fitted to the site of a former race track, the plot plan follows the natural contour of the terrain which slopes gently down to the center of the interior green area. Higher ground on the perimeter of the site and a simple building arrangement do much to create the impression of a well integrated development. The grounds are lightly wooded with mature shade trees.

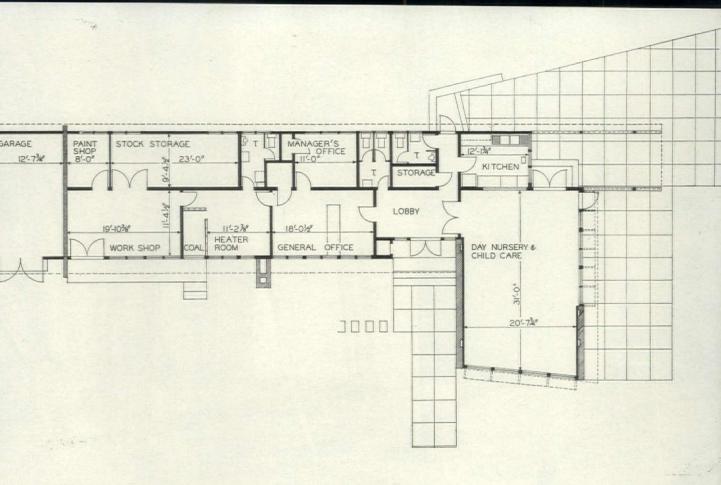
Carver Court was completed in the early part of 1944 as a permanent public housing project for 100 Negro war workers and their families, most of them employes of a nearby steel mill. The site borders on a slum district and is only a mile from the heart of Coatesville. Shopping facilities are within reasonable walking distance. There are also churches and schools nearby and it has recently been arranged to extend the city school system to provide an individual building for the project.

Three types of dwelling units are included of which the most unusual is an elevated, three-bedroom apartment with carport, heater room and sheltered terrace at ground level. Other types are two-story, four-family houses and one-story, individual dwellings. At approximately the center of the project and near the most densely wooded section is an L-shaped administration and community building providing a social center for adults and a tenant-sponsored nursery school.



HORIZONTAL LINES OF ADMINISTRATION BUILDING BLEND WITH THE CONTOURS OF THE SITE. SHELTER AT I





S THE CHILDREN'S SHOWER AND WADING POOL



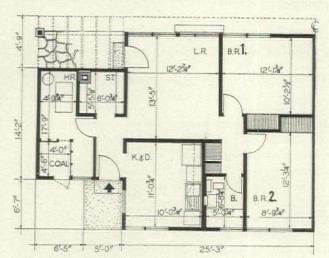
In keeping with the project's scale, its administration building is small, compact and flexible.

Administration and maintenance are the two most important factors in the plan of the community building. Only two rooms—the workshop and the nursery with its adjoining kitchen, are specifically intended for tenant use. Maintenance. toilet and cooking facilities are ranged along the north wall leaving the more pleasant exposures for the general offices and public rooms. The western portion of the building which houses a workshop, paint room and storage room has an individual entrance large enough to accommodate bulky pieces of furniture, etc. The nursery, which also serves as a community center after working hours, has high windows to the east and a ribbon strip oriented due south. At the right a fenced-in plot serves as an outdoor play area.

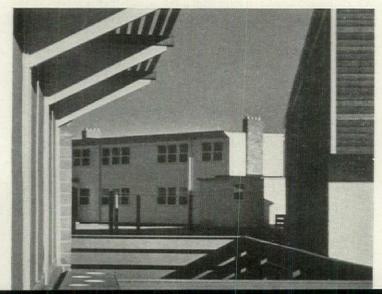
Like the rest of the project, the architecture of the administration building has a distinguishing quality of crisp cleanliness. Aside from the straightforward design and detailing, the choice of materials was largely responsible for this effect. The exterior of the administration building is of brick and vertical siding. Dwelling units are mostly clapboard painted white. Those raised on concrete walls are stained brown and have white trim. The scale and variety of the structural forms, the contrast of materials and the gentle land contours give the project a thoroughly pleasant, intimate atmosphere.

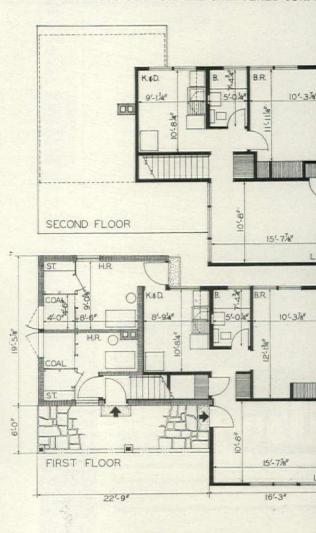


ONE-STORY HOUSE HAS DOOR AT ANGLE TO STREET. NATURAL VERTICAL SIDING IS USED ON THE SHELTERED SURF

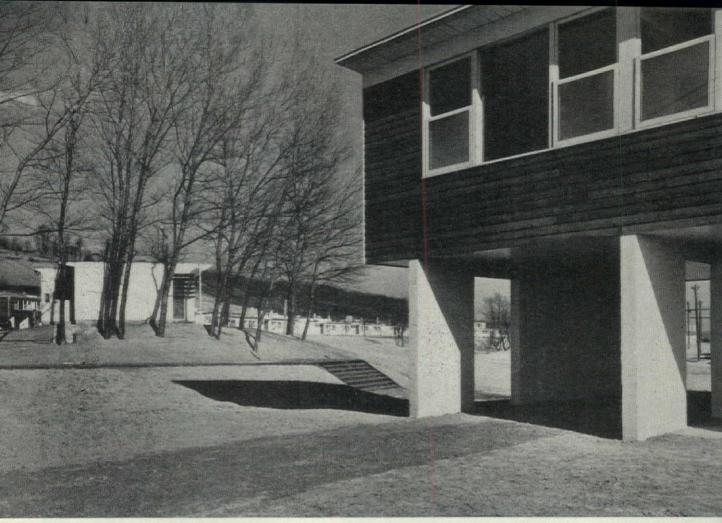


TWO-STORY UNITS ARE FEWEST AND LEAST ATTRACTIVE

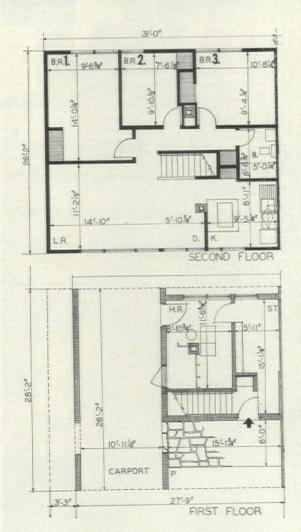




THE ARCHITECTURAL FORUM



NSVERSE CONCRETE WALLS OF GROUND-FREE UNIT FORM A CARPORT OPEN AT BOTH ENDS FOR EASY ACCESS



Three distinct building types add to the character and variety of the project's architecture.

Of the project's 29 buildings, 19 are one-story, two-family units with two bedrooms. Seven are of the elevated, three bedroom type. The remaining three are two-story buildings each containing four one-bedroom apartments.

In plan all the units are spacious and have generous windows. With the exception of the four-family apartment buildings, all service is handled through the front entrance which, unfortunately, is not always located in immediate proximity to the kitchen. The entrance stair in the elevated apartment terminates almost in the middle of the living room. The typical kitchen is large and has linoleum flooring. It is equipped with a washtub, china cabinets and a coal range for cooking. All bedrooms have open closets. Only the two smaller unit types have individual storage rooms. One has garage space.

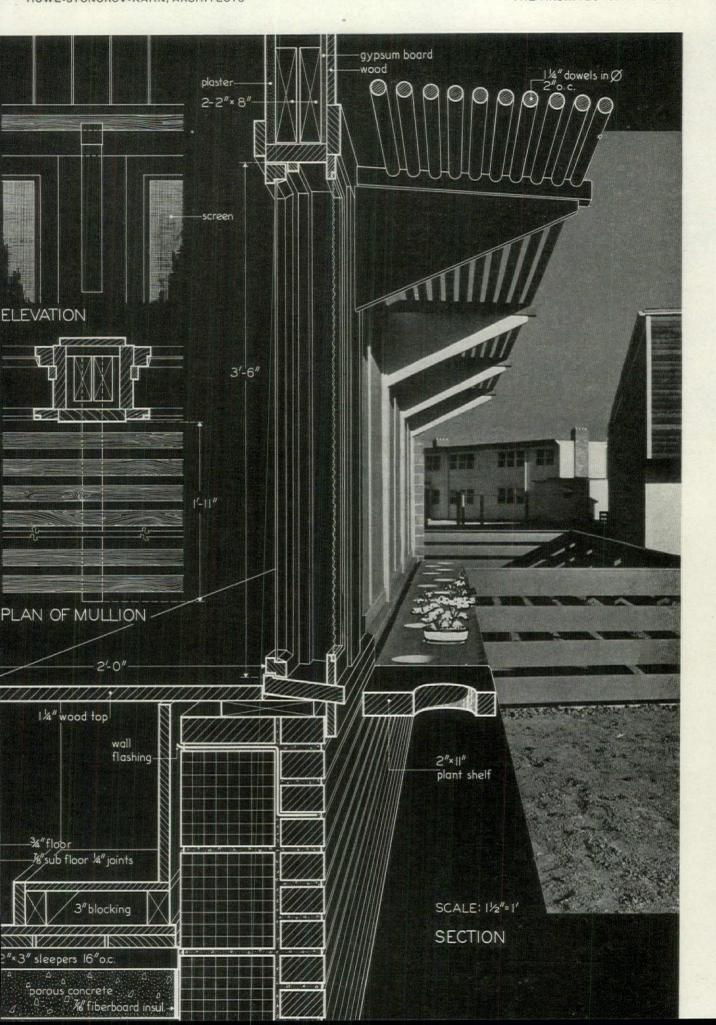
The design of the ground-free apartment is based on such European precedents as the early Le Corbusier houses on posts. This unit definitely contributes variety and interest to the building pattern, and has several tenant advantages not provided in the other units: sheltered outdoor living space, a carport, and wood rather than concrete floors. To the benefit of the builder, it requires only shallow foundations and automatically takes care of minor differences in grade and drainage problems.

### SUNSHADE, PLANT SHELF

HOWE-STONOROV-KAHN, ARCHITECTS

DESIGN DATA 26.

THE ARCHITECTURAL FORUM



PLANNING WITH YOU. On the following pages John Hersey, Russian correspondent for Architec-TURAL FORUM, presents a vivid and astute report on Leningrad's postwar city plans and the men and theories behind them. Heroic in scale and monumental in concept, the various reconstruction projects are strangely reminiscent of the London County Council's much-criticized plans for rebuilding the "City." Like their British counterpart, the proposed new building groups are pretentious and stereotyped (similar to our own official Washington). Standards of land usage, open street patterns and generous parks, on the other hand, will come much closer to the western idea of what a new country, in which land and utilities are publicly owned, can do to improve the modern city. Strong tradition and intense local pride are accepted as the most important factors governing the design.

St. Petersburg about 1800. Courtesy N. Y. Public Library



## THE RECONSTRUCTION OF LENINGRAD

By John Hersey, FORUM correspondent for Russia

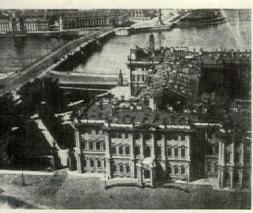
Russian architects and city planners have set themselves a guiding principle for reconstruction. It is: those who rebuild Russian cities must make a positive factor of destruction. They must take advantage of ruin to make damaged places more beautiful and more comfortable than they were before the war. Leningrad, which was in most ways Russia's most beautiful city before the war, is an interesting place to see this principle at work.

Although Leningrad was not nearly as badly hurt as some other Russian cities, such as Stalingrad and Smolensk, it did have its share of damage. During the siege the city sustained 150,000 artillery hits of calibres varying from six to sixteen inches. Housing was lost for 700,000 out of a total preseige population of 3,150,000-about 25 per cent of living quarters.

To make a positive factor of this damage Leningrad's architects are faced with quite a challenge, because Leningrad was a very lovely city and a museum of Russian history and architecture. The war has given the Russian people a renewed sense of their history, so that the places where Peter the Great and Catherine the Great lived, the theater where Nijinski danced, the square where the Decembrists revolted in 1825, even the factory where Kalinin worked-all take on a beauty which has something to do with emotion. But



One out of four houses were destroyed. Russian architects feel this destruction must be made a "positive factor" in city planning.



Winter Palace, once the residence of Tsars, is a fine example of Russian baroque.



Proposed plan for St. Petersburg by the French architect, Leblond—1717.



Leningrad's canals reflect a myriad of styles and add greatly to its scenic beauty.



City's main thoroughfare, the Nevsky Prospect, is flanked by large, formal edifices.

these places mostly have an esthetic as well as an intrinsic beauty. The city is monumental. Many of the bigger streets are rightly called "prospects," because at the far end of each there stands a wonderful sight—the Admiralty spire or Saint Isaac's Dome of Peter and Paul Fortress. The city was built according to plan and has a distinct personality. It also has a decorative amount of water. The Neva River and its many canals, spanned by 407 bridges, have given Leningrad the name, "the northern Venice."

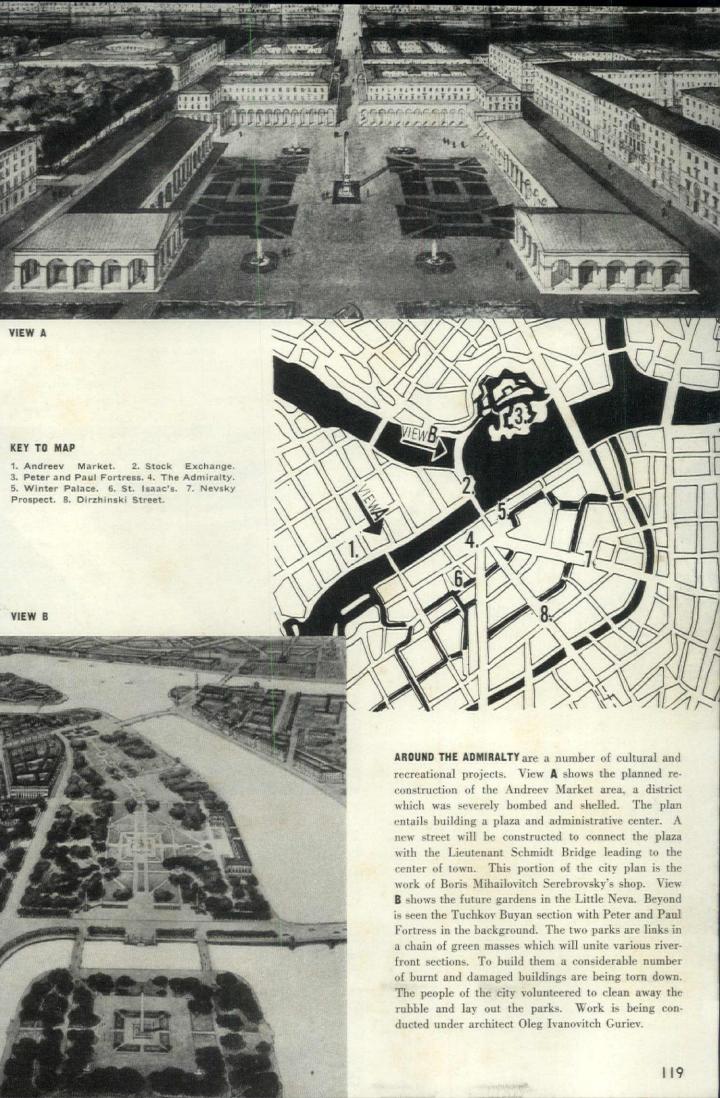
Soviet architects are not in the least abashed by the problem of trying to give this gem new facets. In fact they determined to improve the city some years ago. In 1935 they adopted a basic plan for the replanning and rebuilding of Leningrad, and in the four years before the war they actually began the work. When the war broke out the work had to be dropped. Materials grew scarce. The entire building industry turned to constructing defenses. When the Germans arrived the very districts of the city where new developments were taking shape became the front lines. For two and a half years the Germans were close enough to hear trolley bells in the outskirts. But in March, 1942, while they were still attacking and at a time when it was by no means certain that the enemy would not eventually capture the city, Leningrad's architects received orders to plan the reconstruction. They say now that they were glad to get these orders. Leningrad's chief architect, Nicolai Barfolomeitch Baranov, says "This was no dilletante's game. The plan was tackled seriously because we were convinced that the Germans would be thrown back. At that time working on the plan had psychiatric value because the people who suffered most from the siege were the ones like us architects who usually worked with our minds. Planning took our minds away from our stomachs."

#### A CITY RECAST

The plan they evolved is an ambitious one. The city will be just about doubled in size. There will not however be a proportionate increase in the population. The prewar population was 3,150,000 and the plan is not to allow more than 3,500,000. Baranov blames the great density of population in the center of town to private ownership of real estate before the revolution. In any case, future building will limit the density to 200 persons per acre and when the plan is completed the density for the whole city will average 240 persons per acre. Before the war Leningrad had a comparatively small green area, and under the reconstruction plan this will be increased several times over. Several large parks will be set aside in both the new and old parts of town. The largest, which will run along the south shore of the Gulf of Finland, will contain 600 acres. Expansion to the south will provide residential areas along the pleasant gulf, will eliminate the natural error whereby the naval city of Leningrad grew inland and cut itself off from the sea, and will not be subject, as are the northern reaches of the city, to the Neva River's autumn floods.

#### BASIS FOR REBUILDING

The architects adopted certain basic rules for reconstruction. They will not rebuild ruined buildings but will tear down the remains and build anew. They will clear out buildings which stand inside city blocks to give inner air spaces. They will not rebuild large apartments running up to ten and eleven rooms, but will replace them with apartments of three and four rooms, so that in future one rather than three or four families will live in each apartment. They will not replace mansard floors which used to be built on top of buildings to give more room. They will forbid the rebuilding of half-cellar apartments. As far as design is concerned, nothing must violate the city's personality, nothing must mar the general plan. The organization by which this plan and these rules will be carried out is headed up by the Leningrad Administration for Architectural Affairs, presided over by Chief Architect Baranov. This is a large central planning office with jurisdiction over both the central plan and specific parts of it. Under it there is a "project department" which has the direction of a whole group of drafting shops.





#### KEY TO MAP

- 1. Vassilevsky Island. 2. Petrovsky Island. 3. Finland Station.
- Smolny district.
   Oktinsky Bridge.
   Suvorov Prospect.
   Nevsky Prospect.
   Dirzhinski Street.



VIEW C



OTHER SECTIONS will be opened up by a number of ambitious projects. View A shows the future green area between Finland Station and the Neva. The embankment will be widened and a boulevard built along the water's edge. Several nearby streets, now sealed off, will be breached for freer circulation. The station will be given a new facade. View B shows the new Oktinsky Prospect which cuts through from the Oktinsky Bridge (lower left) to the heart of the business section and serves to shorten and straighten mid-town transportation. Demolition for the Prospect has been completed and construction work will soon begin. View C shows the new plaza and square at an important intersection along the Suvorov Prospect designed in the shop of architect Igor Ivanovitch Fomin. Here the uniform building height is particularly noticable. This regulation is intended to emphasize the monuments and famous spired buildings such as the Admiralty and St. Isaac's.

Each of these shops is run by one of the city's leading architects and each one takes charge of a single section of the city. The architect in charge of each shop handles details of the buildings in his district plus local elaborations of the general plan.

Since the master plan calls for some arbitrary shifting of population and buildings, the chief architect has the authority to reassign the location of shops and people. These reassignments must be approved by the city soviet, but since the chief architect is a member of the city soviet executive committee, he rarely runs into much trouble on his decisions. Nor does Moscow interfere much with his and the city's plans. The central plans and really basic questions must be referred to a state council under the All Union Committee of Architectural Affairs, which amounts to a commissariat for architecture. But on the whole the city enjoys considerable autonomy.

#### THE CHIEF ARCHITECT

Nicolai Barfolomeitch Baranov is a remarkable man. He was appointed Chief Architect of Leningrad in 1938 when he was only 29 and worked out the city plan which was adopted in 1935. He stayed in Leningrad throughout the siege designing the city's defense works and directing technical camouflage.

Considering the fact that Leningrad has not been out from under the siege for so very long Baranov and his organization have already accomplished a surprising amount. Work is quite far along on a new city park of 100 acres right in the center of town and the civil population is contributing their "rest day" to labor on the park on Sundays. Work has begun on the reconstruction of Suvorov Prospect which will be made twice as wide as before. A new highway across the Oktinsky Bridge will be finished by the end of the year. The whole district around Finland station is being broken up into new squares and streets. Dirzhinski Street, leading from the Admiralty, is being carried out through the bombed areas. The entire Kirov section of town is being torn up and replanned, and the park there is being doubled in size.

Of future plans not yet put into execution the most important are a riverside drive which will run along the Neva and will clear out a "historically erroneous" mess of warehouses which sprang up between the monastery and the river; a new square in the Smolny district; a new approach to the incredible mosque which Peter the Great built to show the world that Russia embraced all faiths; and a new square at Baltic Station.

Since housing was an acute problem even before the war, Baranov and his architects are now planning a large construction program for small homes. Baranov is afraid that Leningrad will not be able to replace its lost building space fast enough to take care of the returning evacues and he feels that America's experience in building small homes will stand him in good stead. He anticipates houses built of gypsum, some with brick walls and prefabricated parts, and some of building blocks made of pressed wood. However, Baranov does not feel that the prefabricated type of house would fit into the spirit of Leningrad's architecture and such as are used will all be in the suburbs.

Leningrad will have no part of temporary housing because Baranov and his colleagues feel that temporary buildings tend to become permanent and they would ruin the looks of Leningrad, an atypical city in this respect because of its "strict architectural and historical discipline."

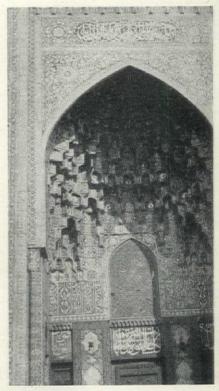
The Leningrad architects are unanimously agreed that skyscrapers or anything approaching them will never be allowed in their city, even though they are sure that modern construction techniques would not prevent their being built on the swampy terrain. Their reason is esthetic. The average level of the buildings in the city is fairly even, except that public buildings are larger and dominate their groups. The building which is almost the seal of the city, the Admiralty, has a spire 217 ft. high, which can be seen along prospects and boulevards for two or three miles. Any tall buildings along the main thoroughfare, the Nevsky Prospect, would ruin the long-range effect of the Admiralty. Saint Isaac's Cathedral, which is 360 ft. high, has,



Vasileostrov Palace of Culture is one of the best prewar examples of modern Russian architecture



Worker's city in the Narvsky district is considered a highly successful attempt at large scale public housing.



Peter the Great built Leningrad's famous and fabulous Mosque.



Slender tower of the Admiralty is famed Leningrad landmark.



St. Isaac's dome majestically dominates view from prospect



A limited supply of THE ARCHITEC-TURAL 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.

THE ARCHITECTURAL FORUM
19 West 44th St., New York 18, N. Y.

Baranov feels, greater impact than any skyscraper in a setting of skyscrapers possibly could. The city has plenty of room to expand, he says, so why go up? On the subject of design, Baranov is both dogmatic and interesting. Retrospectively he says that the Bauhaus group had much influence on Russian architecture in the thirties and he feels that the influence was harmful and bad. For example he feels that Magnitogorsk, which is a Bauhaus city to a large extent, is esthetically depressing. He calls Bauhaus an architecture without principle and he is very glad that it has been driven out of the land. Wright and Corbusier, between whom, oddly enough, he does not differentiate, utterly depersonalize architecture, he feels. If they were to dominate, then Moscow, Leningrad, Paris, Washington and New York would all look exactly alike. Those two do represent a just protest against tradition, he says, but he does not think the result lives up to the protest itself. Above all, he says, contemporary architecture must respond to national and local characteristics, to climates, to the habits and life of peoples. It is absurd, he says, to apply a theory of flat roofs to snowy Leningrad or a theory of expanses of glass to hot Baku—as has been the case of one Corbusier-type building, which is an absolute oven. So far as his nearest adventurous neighbor in architecture, Eliel Saarinen, is concerned, Baranov has nothing but contempt. He says, "Apparently Saarinen has forgotten that he lives in a northern country, and has gone off into some interplanetary abstraction, an attitude that even American conservatives would scarcely endorse."

#### ESTHETIC CRITERIA

Baranov admires only two cities in the world—Paris and Washington. What he likes is not only the individual buildings, but also the general plan. He likes in those cities what he feels Leningrad has, a heroic effect. Pierre Cot was recently in Leningrad, and he delighted Baranov by telling him that he thought Leningrad a more beautiful city than Paris. The squares and boulevards are more impressive, Cot said, and unfortunately the Seine is not the Neva. Cot didn't say that Leningrad was more majestic and therefore colder, and that Paris squares were more intimate. In Washington he admires the way the area from the Capitol along the Mall to the Lincoln Memorial makes one grand unit, and he particularly admires the amount of greenery in the city. His liking of those two cities is probably a key to what he thinks Russia should have.

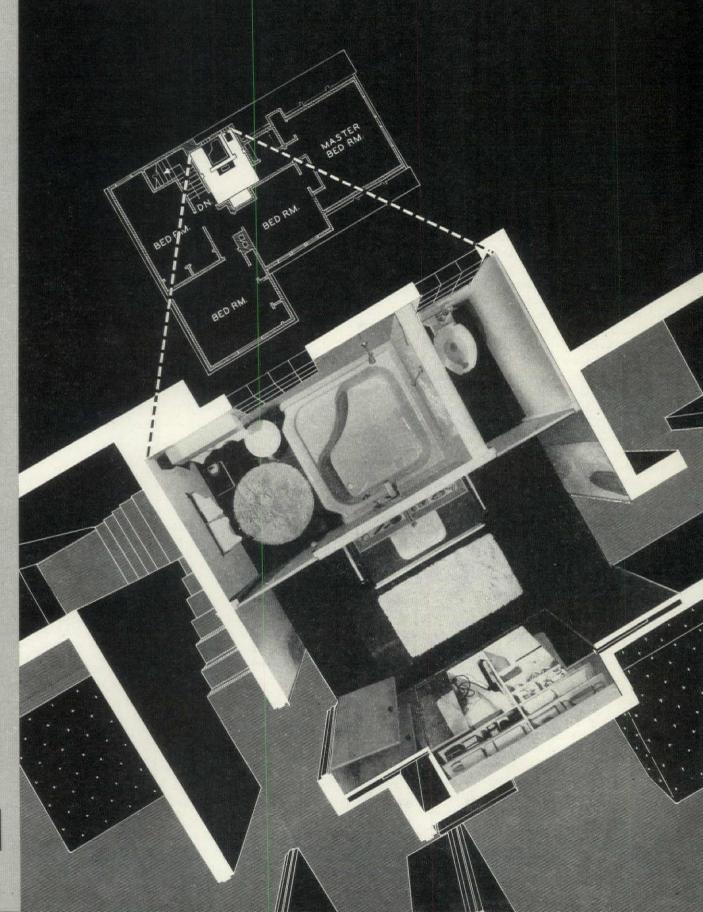
Russian style and design, Baranov feels, should be in the spirit of Russia's past, both ancient and immediate—but should not be a hollow imitation of that past. Leningrad's Palace Square is a perfect example of how different styles can be blended to achieve this spirit: the Winter Palace is Russian baroque, the general staff building is Russian empire, and the Admiralty is Russian classical, yet they all blend into a unified whole. What must be found, Baranov said, is some Russian postwar style that will fit this unity.

If Leningrad is to be satisfied, this Russian postwar style cannot be rigid for all Russia. Baranov says, "Leningrad must be set aside." So, for that matter, must any Russian city. The important thing is the city's personality. Leningrad's architects are not satisfied that they have yet found a worthy contemporary style. Probably their most successful attempt so far is the reconstruction of the Volodarski district, designed by architects I. Fomin and Levinson. They have designed a new highway a half kilometer long there, and in the buildings they have combined the principles of modern city planning, modern design and traditional spirit in what Baranov and his colleagues consider a most pleasing manner.

All this will probably give a pretty good sense of what to hope for from Russia's postwar architecture. The primary drive so far as planning is concerned, is to give the people more room and air and light. The great desire so far as design is concerned is to be worthy of Russia's past. "What we must find," says Nicolai Barfolomeitch Baranov, "is a style that is heroic and glorious enough to be worthy of Leningrad's heroic and glorious defense."

# 3-PASSENGER BATH

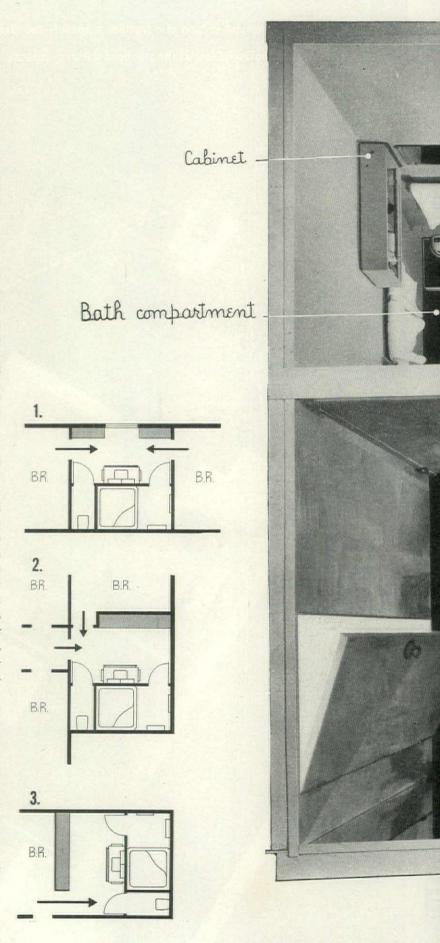
A new and highly successful version of a familiar proposal—the divided, family bath. Separated in three compartments, it multiplies the usefulness of the standard fixtures, increases comfort and privacy.



Occupying about twice as much space as a standard bathroom, this subdivided arrangement multiplies by three the functioning capacity of the conventional layout without increasing the number of fixtures or complexity of the plumbing required. Bath and toilet compartments open into a lavatory-ante-room which also serves for dressing and contains greater-than-average storage space. This division of the bath into three separate spaces solves many of the problems of the more familiar two-unit scheme while increasing still further the usefulness of the fixtures.

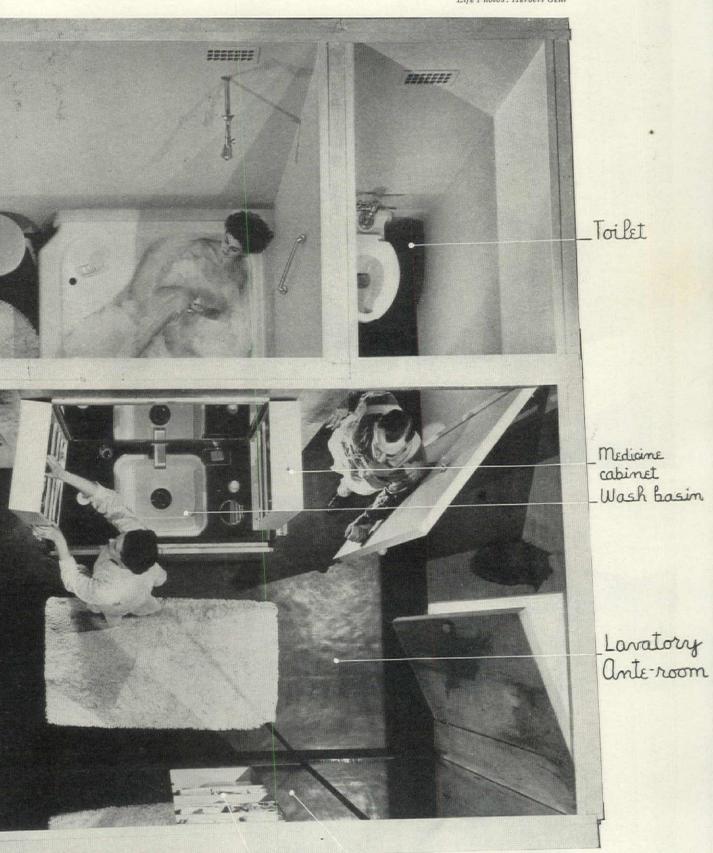
The 3-Passenger bath can be installed in an almost indefinite number of positions in relation to different house plans. For this reason it is as practical for remodeling as for new construction. On page 123 it is shown applied to the plan of a remodeled house which the FORUM published in 1938. Here, it acts as a true "family bath," serving four bedrooms. The lavatory unit functions as both dressing and ante-room for the master bedroom, while the door opening on the stair hall is easily accessible to the three other bedrooms. Sketch plans at right show (1) the 3-Passenger bath located against an outside wall and connecting two bedrooms. A portion of the closet wall facing the washstand has been omitted to provide for an existing window. In sketch 2, the end closet section has been omitted and both doors located in one corner. This solution is particularly desirable when the bath adjoins one bedroom and must also be reached from the hall. Sketch 3 illustrates the use of the 3-Passenger bath as an integral part of a double bedroom intended for the exclusive use of its occupants. In this case the row of closets can be treated as a partition or, built to lower height, as a piece of furniture. Not illustrated, but equally feasible, are still other arrangements in which the compartments are aligned, with the lavatory-ante-room in the center.

The arrangement works equally well whether actually serving two or more bedrooms or used as a bath-dressing room for a couple, giving a feeling of luxury not found in the conventional bath. The materials used in the mock-up add to this impression. Lavatory-ante-room walls are of natural plywood, closet doors are sliding mirror panels. Floors throughout are covered with linoleum. Illumination is provided by lamps concealed behind a translucent plastic ceiling which diffuses a strong, even light. Since the 3-Passenger bath is designed on a 2 ft. module, standard 4 ft. panel materials of all types may be used.



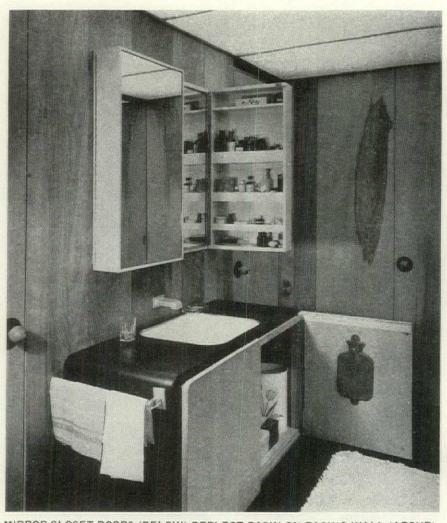
### e-fixture bath into compartments permits the simultaneous use of all fixtures.

Life Photos: Herbert Gehr

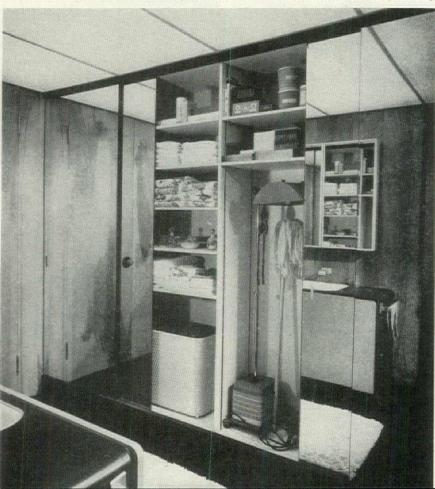


\_Sliding mirror doors \_Supply closet

### Generous lavatory-ante-room contains



MIRROR CLOSET DOORS (BELOW) REFLECT BASIN ON FACING WALL (ABOVE)





Pedal controls located in washstand base reg

2

Sliding glass doors conceal deep, roomy sto closets recessed in wall opposite the washst

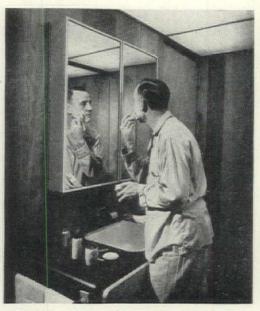


THE ARCHITECTURAL FORUM

## ple storage space for drugs, linens, accessories and supplies.



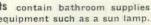
ntains a large storage cabinet tems and cleaning equipment.



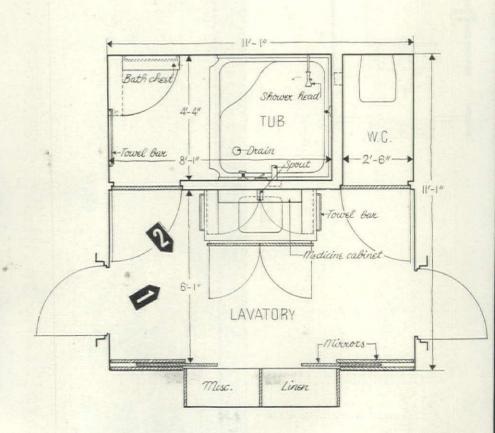
Oversize medicine cabinet applied to wall brings the mirror close to face for good shaving vision.



Shelved doors of the medicine cabinet, when open, reveal a second mirror flush with wall.







### Bath compartment has special accessories to increase efficiency of small spa



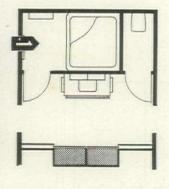
Hinged cabinet has a shelved door which prevents the inside mirror from steaming up.



Cabinet open holds toilet articles. Placed low, it is within easy reach from a sitting position.



Mixing valve can be conven reached from the dressing s



Square tub, courtesy Kohler of Kohler

Û



# HOUSES GARDEN COURT, WILLIAM WILSON WURSTER, ARCHITECT

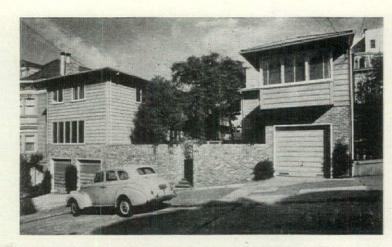


GARAGE WITH PROJECTING BEDROOM ABOVE SCREENS SOUTH SIDE OF





#### HOUSES IN SAN FRANCISCO, CALIF. Individuality and convenience make attractive partners in a



LANDSCAPED GARDEN SEPARATES HOUSES AND IMPROVES OUTLOOK FROM NARROW UNITS







ned rental project which proved a financial success in spite of high land cost.



To protect their own residence from the threat of a proposed apartment building, the owners of this small rental development bought the land and built three compact horizontal houses around pleasant garden courts. These modest redwood homes attracted immediate attention. Completed before the present shortage, over 80 applications from prospective tenants were received the first day they were open for inspection.

The two houses on the lower side are attached, but have separate entrance and service facilities and small private gardens. On the upper floor each has a roof deck; otherwise they are conventional in plan. The unit farthest back from the road has a maid's room and three bathrooms, unusual in a house of its size and type.

The house on the upper level is planned more freely and has a unusually pleasant living-dining arrangement opening onto the garden. The attraction of garden planning, plus the advantage of a convenient location and the scarcity of small, well-planned modern houses, explains the satisfaction of the tenants, who pay \$125 per month for the smaller houses, and \$150 for the larger one. For the former, the cost per sq. ft. was \$5.50, for the latter, \$6.00.

CONSTRUCTION OUTLINE: FOUNDATION: Concrete. STRUCTURE: Exterior walls—redwood siding, building paper, 15 lb. felt, studs, plaster with sand finish stucco. Floors—oak. ROOF—composition shingles. Deck — mineral surfaced roofing. SOUND INSULATION — rockwool. SHEET METAL WORK—galvanized iron. WINDOWS: Sash—wood. Glass—single strength, quality B; obscure in stair hall. FLOOR COVERINGS: Kitchen — linoleum. Bathrooms — tile. PAINTS — Samuel Cabot, Inc. ELECTRICAL INSTALLATION: Wiring—knob and tube. Switches—General Electric Co. BATHROOM EQUIPMENT—American Radiator - Standard Sanitary Corp. PLUMBING: Pipes — American Radiator - Standard Sanitary Corp. HEATING — warm air gas fired, Aladdin Heating Co.

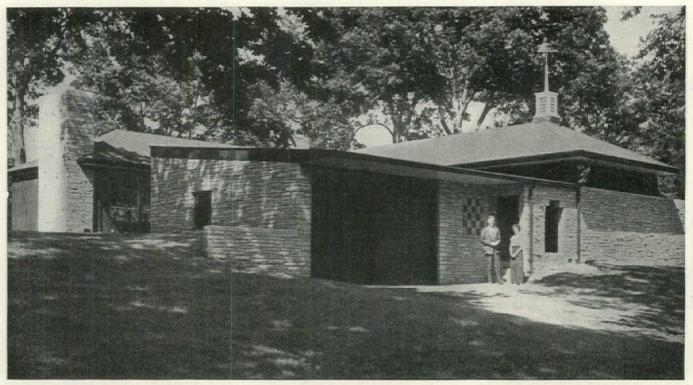
CONTRACTOR: Two-family house, J. HAROLD JOHNSON. One-family house, C. LINDBERG.



LIVING ROOM OF SINGLE HOUSE IS PLANNED FOR GOOD FURNITURE GROUPING



### HOUSE IN DES MOINES, IOWA. Architect Oren Thomas designed his all-s



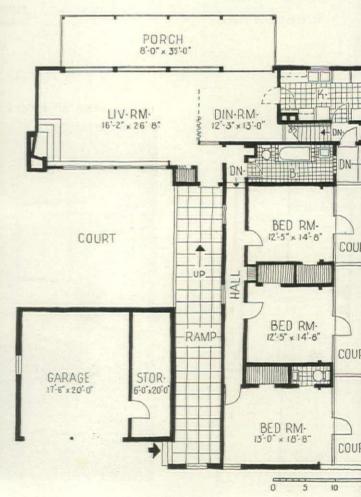
BETWEEN GARAGE AND BEDROOM WING RAMPED PASSAGE LEADS TO MAIN ENTRANCE. LIVING ROOM IS AT LEFT



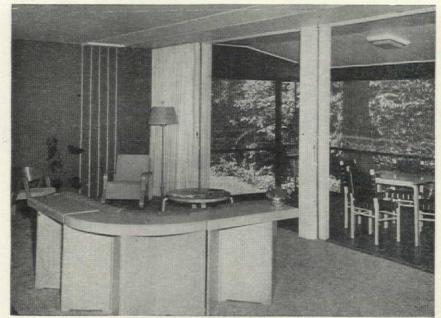
LIVING ROOM HAS SOUTH WINDOW, WALLS ARE BURLAP



GARAGE WALL PROTECTS THREE-SIDED GRASS COURT



e with movable interior and exterior walls to solve the problem of summer ventilation and winter comfort.



HOT WATER HEATING PANEL RUNS ACROSS LIVING ROOM CEILING



WINTER VIEW SHOWING CURTAINS DRAWN ACROSS OVERHEAD DOORS





BY MEANS OF OVERHEAD DOORS SCREENED BEDROOMS OPEN ON COURT

Standing on a wooded knoll in northwest Des Moines, this house is an attempt to design living space which changes with the weather. Except for the kitchen and bathroom, one outside wall of every room is movable. Outside screens protect the bedrooms when the overhead doors are up and on the side nearest the woods the living room has a continuous screened porch, which can be made part of the interior space in summer. Between the living and dining areas a sliding screen of white leatherette can be used as a partition. In winter the overhead doors between the living room and the porch are covered by a curtain and light is provided by a 16 ft. window on the opposite wall. The doors for the bedrooms are partially glazed for winter light, although the adequacy of the ventilation at this season is questionable.

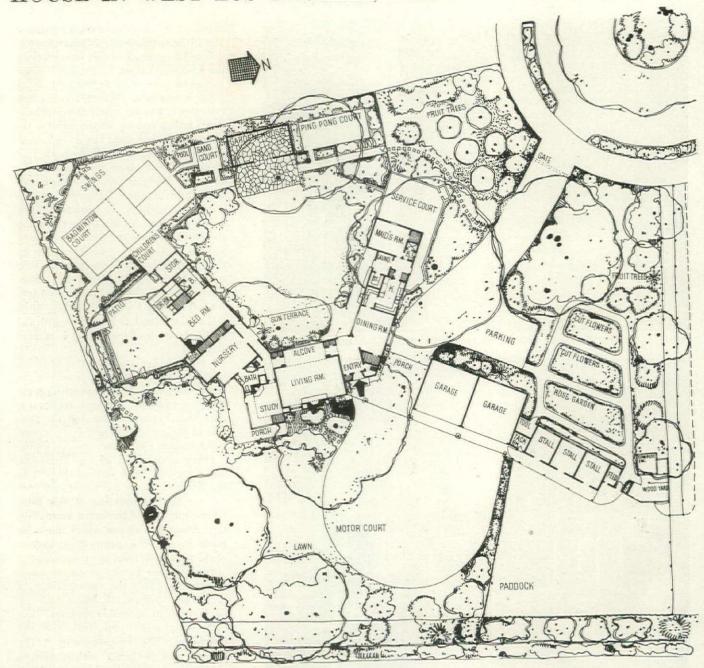
The plan, which is largely conditioned by the location of the garage is reminiscent of similar houses in California. Between the garage and the bedroom wing is a long covered approach to the main entrance. This limits the possibility of generous illumination for the narrow bedroom corridor, but the position of the garage allows for a pleasant court outside the living room windows.

Other courts lead off the bedrooms, and a louvred fence screens them from the street. Because the house is placed so near the property line at this point these courts are of minimum width (5½ ft). Another criticism which might be made is that the pantry-type kitchen could well have been more spacious.

Some of the furniture was architect designed, notably the curved divan in the living room which has a tabletop back made in moveable sections. The color schemes are pink, turquoise and chartreuse. The fireplace wall of the living room is faced with flamingo-colored burlap and bamboo trimmings. Nearly all lighting is fluorescent.

CONSTRUCTION OUTLINE: STRUCTURE: Exterior walls—corrugated metal facing, waterproof plywood and natural stone. Floors-concrete, ROOF-asphalt shingles. INSULATION - Johns - Manville. WIN-DOWS: Sash-steel, Truscon Steel Co. Glass-double strength, Pittsburgh Plate Glass Co. WALL COVERINGS: Living room - burlap; remainder - wallpaper. GARAGE DOORS - Overhead Door Co. HARDWARE-Sargent & Co. PLUMBING FIXTURES-Kohler Co. Vent and water pipes - A. M. Byers Co. KITCHEN EQUIPMENT: Ranges and refrigerator-General Electric Co. HEATING: Radiant ceiling and floor system. Boiler and oil burner-General Electric Co. Bathroom radiators-American Radiator Co.

CONTRACTOR: WILLIAM BEHM.
MORTGAGEE: POLK COUNTY BUILD-ING AND LOAN ASSOCIATION. HOUSE IN WEST LOS ANGELES, CALIF. The early California ranch h



LIVING ROOM IS MARKED BY TALL CHIMNEY. STUDY AND BEDROOMS EXTEND BEYOND, WHILE GARAGES ARE TO R

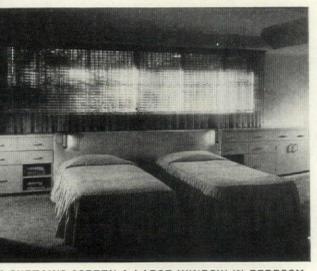


ired this small country estate designed by Cliff May including riding facilities and all modern comforts.





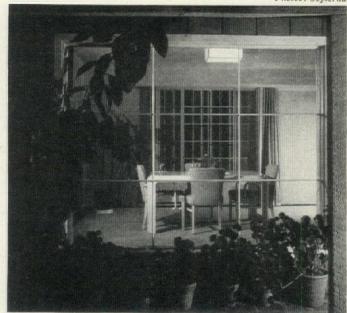
SED RAFTERS IN THE LIVING ROOM AID RANCH MOTIF



S CURTAINS SCREEN A LARGE WINDOW IN BEDROOM

ANCE PORCH IS JOINED TO GARAGE BY COVERED WAY





THE DINING ROOM IS CROSS-LIGHTED BY SQUARE WINDOWS

Planned as the first of 24 similar houses to be built on a 36-acre tract adjoining Sunset Boulevard, this house sets the style which will be adopted for the whole development. The designer's aim was to combine a simple traditional exterior with the latest in finishes and equipment, and to introduce labor-saving ideas in planning. The modern furniture was designed by Paul Frankl.

Recognizing that a limitation of the U-shaped plan is often to make a passageway of the living room, this part of the house was given an alcove, which provides a through connection without interrupting activities. Another alcove in the nursery was planned for sleeping space, to avoid conflict with daytime use of the room.

Around the master bedroom patio a high wall shades the south window. Heavy screen planting on the beautifully-landscaped lot helps to minimize noise from the boulevard. An underpass connects the stables and paddock with bridle trails winding through the grounds of a nearby country club. The cost of the house exclusive of land and improvements was \$25,000.

#### CONSTRUCTION OUTLINE

FOUNDATION: Concrete slab, Riverside Portland Cement Co. STRUCTURE: Exterior walls-stucco over 15 lb. felt, Sisalkraft Co. paper, studs; inside-Rocklath and plaster, U. S. Gypsum Co. Floors-oak, E. L. Bruce Co. ROOFhand split shakes, Cedarwood Timber Co. INSULATION: Attic ceiling-rockwool, Eagle-Picher Lead Co. PLACE: Damper-Superior Fireplace Co. SHEET METAL WORK: Flashing and ducts-galvanized iron, American Rolling Mill Co. WINDOWS: Sash-steel, Vimcar Steel Sash Co. Glass-single strength, quality B, Libbey-Owens-Ford Glass Co. KITCHEN EQUIPMENT: Range, refrigerator, dishwasher, disposal unit-General Electric Co. BATHROOM EQUIPMENT: American Radiator-Standard Sanitary Corp. and Mueller Co. Cabinets-Mirror Products Co. PLUMBING: Soil and branch pipes-cast iron. Vent pipes-lead and galvanized iron. HEATING: Two forced warm air units, Hammel Mfg. Co. Regulators -General Controls, Inc.

CONTRACTOR: CLIFF MAY.

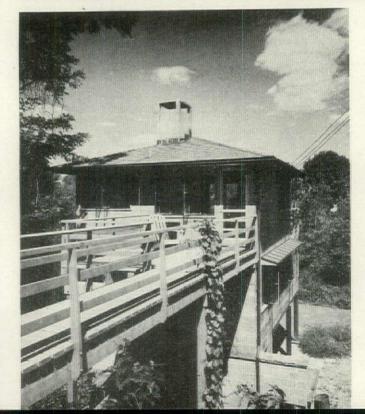
MORTGAGEE: PRUDENTIAL LENDING AGENCY.

## HOUSE IN NEW HOPE, PA. Designed for a young and active couple, the living room

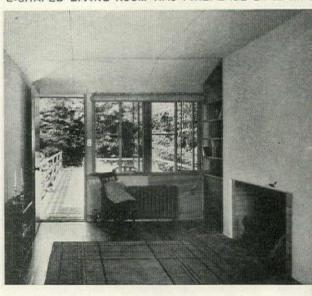
Photos: C. V. D. H



INDEPENDENT OF SLOPE, HOUSE IS TIED TO PATH BY BE

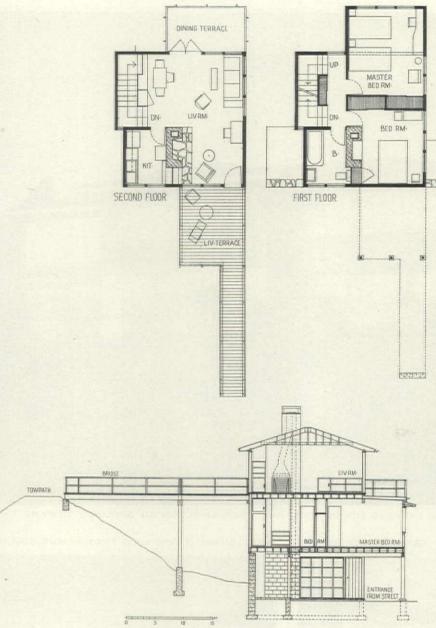


L-SHAPED LIVING ROOM HAS FIREPLACE BY MAIN I

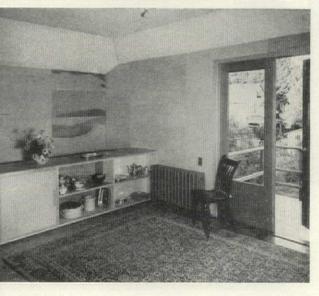


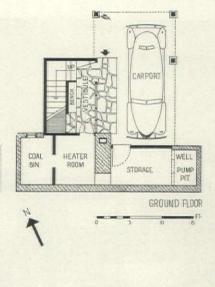
THE ARCHITECTURAL FORUM

all-wood house is connected with road level by two flights of stairs. Architect: Antonin Raymond.



NG AREA OPENS ONTO PORCH OVER RIVER VALLEY





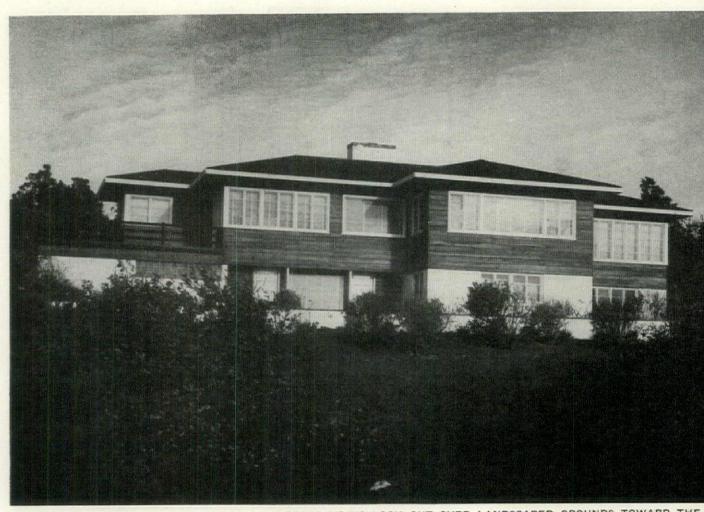
Raised above a river highway to obtain privacy and views, this low cost house has made the most of its peculiar site. With the least desirable living situation on the lower level, the ground floor was reserved for car entrance, vestibule, storage and heater rooms. Bedrooms and bath occupy the intermediate floor, with exposure to south and west. Living room space is located on the top floor. It has a sun porch and bridge which give access to a towpath leading to a nearby shopping center. On the north side of the living room a roof dining terrace looks across to the Delaware River a quarter of a mile away.

The vertical mass and plain walls of the north side turn away cold valley winds in winter and an experimental "one-pipe" heating system with ingenious control engineering takes care of the year-round aspect of living in the country.

Interiors reveal the low cost construction in their emphasis on simple and inexpensive finishes. Plywood walls, insulation board ceilings and pine wood floors are pleasant and adequate materials for the purpose. Combined with high-quality planning features the building cost of \$6,000 makes the emphasis on simplicity well worth while.

CONSTRUCTION OUTLINE: FOUNDATION: Concrete block. STRUCTURE: Exterior walls-gum Weldbord, U. S. Plywood Corp., studs, frame, Celotex Corp. Vaporseal sheathing and cypress board siding. Floors-pine. Ceilings-insulation board, Johns-Manville. ROOF-red cettar shingles. Decks-cement over planked decking. INSULA-TION: Outside walls-Vaporseal, Celotex Corp.; 2nd floor and roof-rockwool. FIREPLACE: Damper-H. W. Covert Co. SHEET METAL WORK: Flashing - copper; galvanized iron. WINDOWS: Sash-Fenestra steel, Detroit Steel Products Co. Glass-double strength. FLOOR COVERINGS: Kitchen and bathrooms-linoleum. WALL COVERINGS: Living room and hallsplywood. Bedrooms-plywood and plaster. HARD-WARE-Schlage Lock Co. ELECTRICAL FIX-TURES-Vision-aid Mazda, General Electric Co. HEATING: Special one-pipe steam system, R. W. Stem. Boiler and radiators-U. S. Radiator Corp.

### HOUSE IN FALMOUTH, MASS. Gunnar Peterson's compromise with modern results

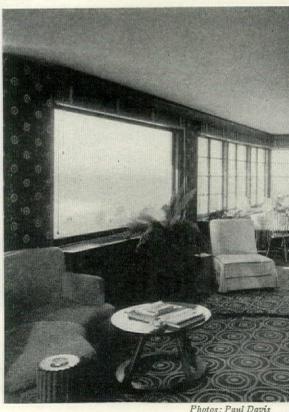


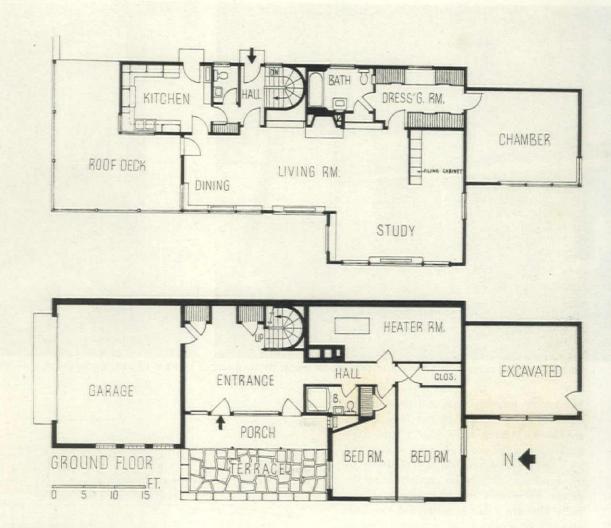
HORIZONTAL WINDOWS SET IN WALLS OF CYPRESS SIDING LOOK OUT OVER LANDSCAPED GROUNDS TOWARD THE

WORKING FUNCTION IS EMPHASIZED BY SERVICEABLE DESKS



FIXED GLASS IS FOR VIEW FROM LIVING END, WI





NG SPACE HAS MULLIONED WINDOWS



#### CONSTRUCTION OUTLINE:

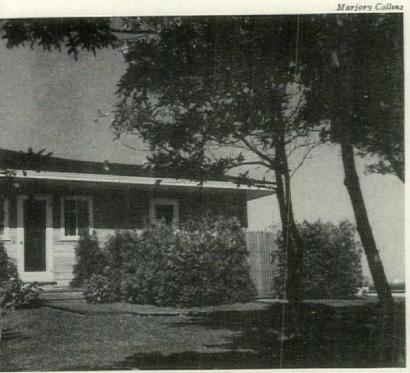
STRUCTURE: Exterior walls-studs, Celotex Corp. Vaporseal sheathing, cypress siding, Sheetrock, U.S. Gypsum Co. Floors -block flooring, E. L. Bruce Co. ROOFred cedar shingles. Deck-canvas. SHEET MEAL WORK: Flashing and leaders-16 oz. copper. Gutters-fir. INSULATION-Celotex Corp. and U. S. Gypsum Co. WIN-DOWS: Sash and screens-Andersen Corp. Glass-double strength, quality A and plate, Libbey-Owens-Ford Glass Co. WALL COVERINGS: Living room-pine sheathing and wallpaper. Bathrooms-Sanitas, Standard Coated Products Corp. DOORSpine, Rezo and birch veneer. Garage doors -Overhead Door Co. HARDWARE-Yale & Towne Mfg. Co. PAINTS-Pittsburgh Plate Glass Co. and Samuel Cabot, Inc. ELECTRICAL INSTALLATION: Wiring BX and conduit. Switches-Hart & Hege-Fixtures - Service Electric Co. KITCHEN EQUIPMENT: Range - Hotpoint, Edison General Electric Appliance Co., Inc. Refrigerator - Frigidaire Div., General Motors Sales Corp. BATHROOM EQUIPMENT - Crane Co. PLUMBING: Soil, waste pipes-cast iron. Vent pipesgalvanized steel. Hot and cold water pipes -copper tubing. HEATING: Forced hot water system. Boiler, radiators, grilles and valves-Crane Co. Regulator-Minneapolis -Honeywell Regulator Co. Water heater -Bell & Gossett Co.

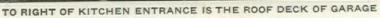
In the words of the architect, this house is "a transition from stark essentials to a tempered compromise." Avoiding the flat roof, which has proven a bone of contention on Cape Cod, he has nevertheless managed to lend a modern flavor to the elevations by using long windows, wide overhangs, and horizontal siding to follow the line of the ridge on which the house is built.

The plan is unusual in having the main entrance on the upper level, where a combination living-dining-work room (the owner is a journalist) extends for almost 50 ft. This comfortable living space is paneled in knotty pine, and has an open fireplace framed in copper and generous windows overlooking Buzzards Bay. Specially-constructed work-tables and cabinets were installed in the study.

The owners' bedroom, dressing room and bath are also upstairs, forming a continuous suite. At the other end of the house at this level are the kitchen and a roof deck, which is accessible from the living room. The operation of the household is thus more or less independent of the lower floor, a convenience for the owner and his wife, who usually live in the house throughout the winter.

### HOUSE IN FALMOUTH, MASS. Two-level planning provides outside access to all important rooms.



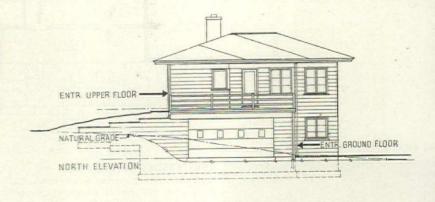




UPPER LEVEL ENTRANCE HAS STAIRS TO RIGHT

Much more formally decorated than the upstairs living room, the ground floor hall is used as an evening salon after a hard day's work. The walls are dark grey, contrasting with white and yellow leather upholstery on the furniture. It can be entered from the garage, the owners' custom in winter. Downstairs also are a heater room and two bedrooms, one of which has a special door to enable the family dog to air itself.

The kitchen door is hedged around to conceal a clothes line and garbage cans are contained in attractively finished wooden boxes.



LOWER LEVEL ENTRANCE GIVES ACCESS TO LOUNGE



FORMAL LOUNGE OPENS TO THE GARDEN AND TERRACE



Marjory Collins

## FLAMEPROOFING . . . LIGHT . . . AND MADONNA LILIES



Paine (left) and Marion Gough (right) are hot on the trail of flame-proofing processes for fabrics. They're getting the low-down from John F. Taylor, Sales Manager of the Flameproof Chemical Co., who agrees that fire-protection should be considered with beauty and convenience in planning tomorrow's homes.



2. Light is thrown on postwar living through the study of postwar lighting itself. House Beautiful Editor Frances T. Heard discusses lighting advances with Marshall D. Nutt (left), Sales Manager of Ivan T. Johnson Co., national distributors of Louverplas; and William F. Rooney, Supervisor of Lighting Products Styling for Sylvania Electric Products, Inc.



Getting down to earth about postwar gardening, House Beautiful Garden Editor Ralph Bailey analyzes the root growth of a Madonna Lily bulb with David Platt (left), Vice-President and General Manager of Max Schling Seedsmen, Inc., New York. House Beautiful knows that a colorful garden can be a delightful frame for the home of tomorrow.



Star-gazing has no place in House Beautiful's plans for postwar living. So House Beautiful Editors do constant legwork tracking down every lead about new products and developments. M. M. Miller, of Miller Metal Products (right), tells Editor Elizabeth Gordon about his company's blueprints for the future, while Designer Lurelle Guild smiles approval.

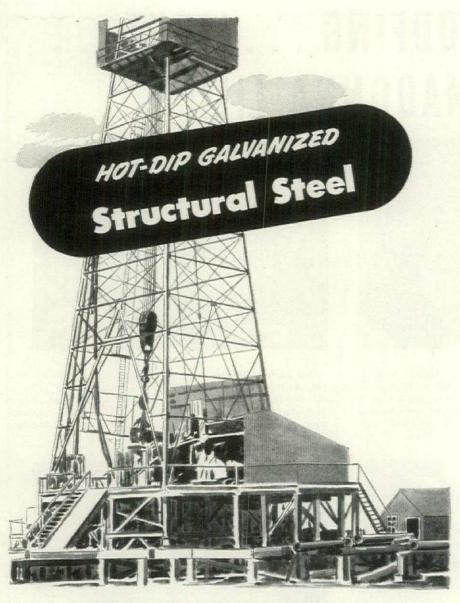
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#### DU PONT CZC

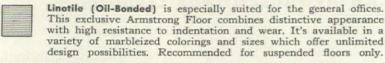
CHROMATED ZINC CHLORIDE

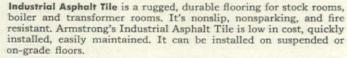
Makes Wood Resist Decay—Repel Termites—Retard Fire

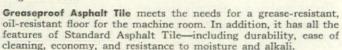
#### We offer these ideas on floors



Standard Asphalt Tile provides an attractive, easy-to-clean floor in a variety of colors for all display areas and rest rooms. Here's a low-cost floor that, in spite of heavy traffic, keeps its good looks for years. Armstrong's Asphalt Tile resists moisture and alkali and can be used on- or below-grade, as well as on suspended floors.

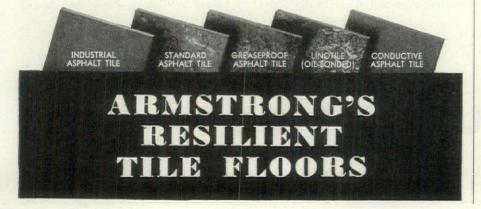






For full information about the complete line of Armstrong's Resilient Tile Floors, see Sweet's or write to Armstrong Cork Company, 2312 Duke St., Lancaster, Pa.





#### PRODUCTS AND PRACTICE

(Continued from page 14)

with supply piping and waste and vent piping as well as studying the design of plumbing fixtures, fittings, accessories and specialties.

Dawson and Kalinske have determined that the rate of flow at any particular instant must be known before a water piping system can be properly sized. To discover the total rate of flow in any reach of piping, the necessary flow at the various fixtures must be known. After intensive investigation it was concluded that the rate of flow to a fixture should be approximately two-thirds of the discharge capacity of the fixture.

A case in point is the average lavatory with a discharge rate of about 7½ gal. per minute. Dawson estimates that the maximum rate of flow to this fixture should not exceed 5 gal. per minute. Dawson has also determined proper rates of flow to other fixtures (see table) which can serve as a guide in pipe sizing.

#### Proper Rates of Flow, Gals. per Min.

7	To Fix- Each		
Fixture	ture	Faucet	
Single Basin Faucet	5.0	3.0	
Self-Closing Basin Faucet.	4.0	2.5	
Sink Faucet	7.5	4.5	
Bathtub Faucet	10.0	6.0	
Shower Bath	8.0	5.0	
Laundry Bib	8.0	5.0	
Ballcock to Closet		3.0	
Closet w. Flush Valve		15-40*	
Urinal w. Flush Valve		15.0	
Garden Hose		5.0	

\* Considerable variation is found in the design and type of water closets and urinals. Consideration should be given to the type used.

After individual rates of flow have been estimated it is a simple proposition to determine the probable rate of flow in a particular reach of piping. In branch lines going to individual fixtures the rate of flow will be equal to the flow to each fixture. In service lines, risers and main branches, however, the rate of flow will rarely be equal to the sum of the rates of flow of all connected fixtures. This is because the probability of every fixture in a large group being used at the same time is quite remote. It would be both poor engineering and poor economy to design the piping to take care of such a simultaneous flow.

There are, of course, other technical factors which influence pipe sizing. These are the pressure losses in pipes, valves and fittings. As water flows through a pipe, the pressure continually decreases along the pipe because of the loss of energy due to friction.

The pressure required to force water through faucets and stops on various plumbing fixtures is another important item to consider in the design of piping systems. In general, the cheap and

(Continued on page 146)

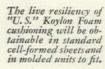


But there's more to the story than that.

Besides this wide range of conventional forms, "U. S." Koylon Foam will be available in yardage that the upholsterer can snip into shape for cushioning the most fancy free designs you care to originate. It's comfort..."cut to fit!"



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- \* What can calcium chloride do for winter concrete?
- \* How does it affect setting time? . . . strength? . . . early strength? . . . ultimate strength?
- \* Why does it permit reduction in water-cement ratio? . . . its effect on density? . . . waterproofing?
- \* What other practical advantages does calcium chloride offer in structural concrete? . . . paving concrete? . . . concrete products?

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LES CORPORATION, 40 Rector St., New York b. N. Y. booklet "Calcium Please send me A.I.A. Bulletin No. 38 and free 48. Page booklet "Calcium Chloride and Portland Cement."

#### PRODUCTS AND PRACTICE

(Continued from page 144)

poorly constructed faucet will require the largest pressure. Thus a saving in the cost of a faucet may necessitate the use of a larger pipe to get the proper rate of flow. Also, there is much greater pressure loss in globe valves than in gate valves. In general, the cheaper the valve the greater the pressure loss.

Since every fitting tends to obstruct the free flow of water and to increase the hazard of leaks the conscientious designer will seek to use the minimum number of pieces. In many cases it will be found that union ells and union tees will reduce the number of fittings and also tend to reduce the frictional resistance of the flow because of the use of fewer fittings.

Dawson particularly emphasizes the effect of pipe diameter on pressure loss. He says: "There are some who advocate the use of 3/8 in. and even 1/4 in. tubing to various fixtures, but long runs of these sizes have no place in a modern water supply system. Short fixture branches and connections, of course, may, if the pressure is high, be of 3/8 in. size."

#### Summary of Branch Sizes

		Rate of	
		Flow in	
	Branch	Gals. per	
	Size Min. to Each		
Fixtures	Inches	Faucet	
Lavatory	3/8	3.0	
Kitchen Sink	1/2	4.5	
Laundry Tub	1/2	5.0	
Bath Tub	1/2	6.0	
Water Closet Tank	3/8	3.0	
W.C. Flush Valve	3/4-1*	15-40	
Flush Valve for Urinal.	3/4-1	15.0	
Tank Supply for Urina	1 1/2	3.0	
Shower	1/2	5.0	
Sillcock	1/2	5.0	

\*There is considerable variation in design of flush-valve closets, and consideration should be given to the type used.

It must also be kept in mind that a pressure loss can be introduced by devices such as water softeners or by a meter that is smaller than the service line. For high standards of postwar piping it is therefore recommended that a 3/4 in. meter be used for a 3/4 in. line. In any case nothing less than a 5/8 in. meter should be used.

#### TAKING THE NOISE OUT OF PIPING

In addition to the correct sizing of pipes for efficient water supply, there is another important question in providing a properly functioning pipe system. This is the problem of noise. Two kinds are most frequently found in piping: the hammering noise due to the rapid closing of valves and faucets and the whistling noise caused by water flowing through valves and other restrictions at high speed.

(Continued on page 148)

## QUALITY

#### A REWARD OF VICTORY

The high pre-war reputation of LINOLITE fluorescent fixtures was won on the strength of quality.

Frink never built to a price. Rather, Frink engineered its products to fulfill exacting lighting needs with the utmost efficiency. As a result, LINOLITE became recognized as "the ultimate in fluorescent lighting" by architects, builders, electrical contractors.

With the coming of war, Frink's engineering and fabricating skills were diverted 100% to making vital parts for America's fighting machines. Thus, our reputation for precision work was carried on, but the production of LINOLITE necessarily ceased for the duration.

The time now approaches when quality can again be demanded in lighting and many other lines. The need for accepting substitutes grows less as Victory comes nearer. Soon you can again trust Frink for new, better-than-ever fluorescent fixtures . . . engineered for the advanced lighting of the post-war era.

## FRINK

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THE ULTIMATE IN FLUORESCENT LIGHTING

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LIGHTING SINCE 1857



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Patterned in 9-Inch Cross-Directional MARBLED SQUARES

Pabco gives each 9-inch Marbled Square individual graining, exquisite marbleizing and real depth of color! No two alike—and each is set cross-directional to add to beauty of the ensemble and artfully hide all seams! Designed in One Tone, Two Tones and Contrasting Tones!

Easy to Repair or Make Partition-Changes!

Any area or single 9-inch Marbled Square can be replaced if damaged or heavily worn without appearance of "patching."

Pabco Linoleum means less in upkeep and more in wear and underfoot comfort, too. Soil-Sealed to resist dirt, stains and scuffmarks. Super-Waxed to make for easier and less frequent—cleaning. Builtin quietness and resilience!

YOURS! Send for 24-page, full - color "Architectural Trends In Linoleum," Dept. 64, nearest Pabco office below.



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THE PARAFFINE COMPANIES - INC.
NEW YORK 16 - CHICAGO 54 - SAN FRANCISCO 19
Makers, also, of Pabco Mastipave, Grip-Dek and
Sani-Grip Floor Coverings



#### PRODUCTS AND PRACTICE

(Continued from page 146)

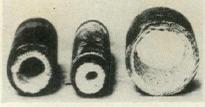
Whenever a valve or faucet is closed suddenly and the water flow shut off, an excess of pressure is produced. A shock wave is created at the valve and travels along the pipe until it reaches a large pipe or tank; it is then reflected and travels back to the valve as subnormal pressure. The sudden creation of this excess pressure causes pounding of the valve or faucet discs and vibrating of pipes, resulting in considerable noise.

If there are no loose valve parts and the pipes are rigidly anchored, the noise may not be pronounced. In this case, however, large water hammer pressures are created which may break pipes, cause leaky joints, and injure valves.

There are two general ways to prevent excessive water hammer pressure in piping. First, rapid closure of valves should be stopped. Second, some sort of relief device should be installed on the pipe line near the valves.

An air chamber prevents the water flowing in a pipe from being stopped too suddenly, even though the valve is closed instantly. However, the air gradually disappears through leakage or by dissolving in the water, and periodic replenishment of the supply is necessary if the chamber is to perform its function.

Various commercial devices have been developed in which the air is enclosed in a metal bellows or rubber bag, in order to prevent the loss of air. There are also on the market various types of spring-loaded relief devices.





Small pipes clog more quickly than large

The second cause of noise—high velocities in small pipes—occurs not in the straight pipe, but at bends and tees. This is because pressure is reduced in this region by high velocity flow around a small, sharp bend.

There is still another group of noises which seems to originate from the heater, even when no water is flowing. These are often due to poor circulation between the heater and the storage tank because pipes or coils are full of lime or rust, or were too small when installed. Also the heater may be so located with

(Continued on page 150)

## VENUS

ON A PENCIL

means

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OVER

VENUS on a drawing pencil gives confidence to draftsmen. They depend on its point strength and on its grading. For 38 years every VENUS DRAWING pencil has been accurately graded.

#### VENUS-VELVET PENCILS

The leading commercial pencil. Because its finely divided Colloidal lead is smooth. Because the Pressure-Proofing process makes strong points.

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Particular people use VENUS COPYING for its firm point and unusual writing quality. Its marks may be changed to ink simply by wetting.



#### VENUS COLORING PENCILS

Made with water-soluble colors. Just about the finest coloring pencil made. Thin leads. 32 different colors. A pencil you can lean against.

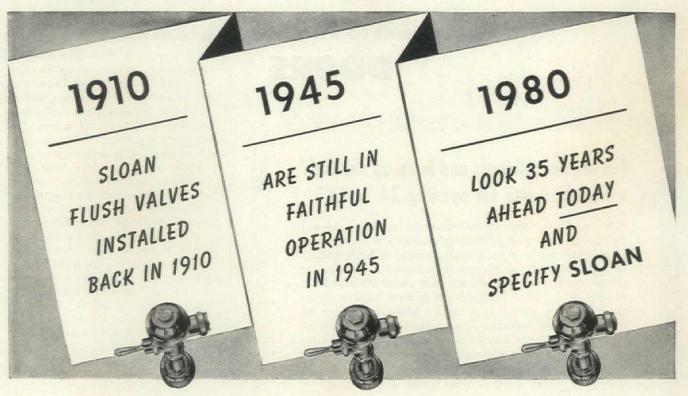
#### VENUS-UNIQUE PENCILS

Non-soluble colors and therefore good for jobs that involve working on damp or wet surfaces. Thin diameter lead. 24 distinctive colors.

#### AMERICAN PENCIL COMPANY, NEW YORK

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## Plan Now for 1980



### Specify Sloan Flush Valves for your Post-War Building . . .

plan wisely on Sloan's unequalled Record of Performance



Sloan Valve Company has been awarded the Army-Navy E three times for excellence in production.

Back in 1910 the Sloan Valve Company did not sell its Flush Valves on the premise that they would last for 35 years ('til 1945)—but hundreds of Sloan Flush Valves installed then are still in service today and are still as good as new. They practically refuse to wear out.

On this premise the Sloan Flush Valves you specify today for your post-war building will give the same dependable trouble-free service—plan now for 1980. When ordering flush valves specify SLOAN—the acknowledged leader by which all other flush valves are judged. Remember—there are more Sloan Flush Valves sold than all other makes combined.

Refer to Sloan's catalog No. 40 for complete roughing-in guidance and for information on the Flush Valves made famous by Sloan for more than a third of a century.

#### ORDER L-42 SCHEDULE V, AMENDED NOVEMBER 7, 1944

The latest revision to Order L-42, Schedule V, releases brass for the manufacture of Flush Valves—provided no additional labor is required in the conversion. Be assured that Sloan will manufacture all-brass Flush Valves under the conditions of this order just as soon as we are cleared by the War Labor Board and just as soon as we can secure delivery of the materials required.

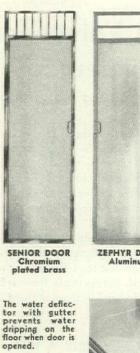
NOTE: Plating restrictions of Order L-42 remain unchanged.

SLOAN VALVE COMPANY, 4300 W. LAKE ST., CHICAGO

## GLASS

#### For shower cabinets and built-up showers Standard size for opening 24" x 72"

A better shower door at moderate cost has been achieved by Fiat through standardization on one size and volume production methods in manufacturing. A high quality of materials and construction is embodied in the Zephyr aluminum framed glass shower door and the Senior brass framed door. These products are of new importance to the plumbing jobber and master plumber because of the anticipated increased use of glass shower doors in postwar building. Practical features in design and construction developed through twenty-five years experience in building shower equipment are incorporated in these Fiat shower doors to make a high grade product of unusual values.







CONSTRUCTION DETAILS

SENIOR DOOR INSTALLED

1205 Roscoe St., Chicago 13, Illinois

21-45 Borden Ave., Long Island City I, N. Y. a 32 S. San Gabriel Blvd., Pasadena 8, Calif.

#### PRODUCTS AND PRACTICE

(Continued from page 148)

respect to the storage tank that the circulating head is insufficient. The heater should be as far below the top of the tank as convenient.

#### HOT WATER SUPPLY

Since there is a close correlation between the per capita consumption of het water and the standard of living, postwar demands for hot water are likely to go beyond the present per capita average of from 10 to 12 gal. a day. This increased requirement must be considered in planning postwar homes.

Three piping systems-direct, noncirculating and circulating - provide different layouts applicable to both small and large dwellings. The first makes use of small individual runs of tubing from a short basement manifold at the heater directly to each hot water faucet. This system has certain advantages particularly in small homes where low installation cost and minimum operating expense are primary factors.

The conventional non-circulating system is a better solution for larger houses. It is equipped with a main pipeline from the basement heater and with branch lines which extend from this pipe to the individual fixtures. The size of non-circulating systems is limited, however, because of the time required for hot water delivery to the more distant faucets. When the distance water must travel is too great, the delay in securing hot water becomes objectionable.

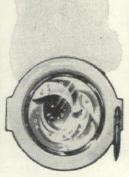
This situation may be solved by the circulating system. Here a loop of pipe is formed from heater to faucet and back again, and the water continually circulated through this loop. Thus hot water is always available without waiting. If this were applied throughout a city, millions of gallons of water would be saved each year-cold water ordinarily run away before hot water reaches the outlet. This is highly desirable, but objections have been raised as to the amount of fuel consumed with this system. Actually it is an open question whether much more fuel would be used than in a non-circulating system where the heat is wasted anyway by water cooling in the pipes after each use of the fixture. Which type of system would require the most fuel would depend on frequency of use: in the case of infrequently used fixtures a circulating system would obviously waste a good deal, but where the demand occurs at frequent intervals the difference might not be enough to be really important. Under this condition, which obtains in many installations, insulation of the pipes would afford a saving of heat loss which might make up the difference in fuel consumption.



## Fits Perfectly in Kitchen, Bathroom, Laundry



The Magic Click! Just put in dry clothes, set a dial, add soap and walk away. The Bendix, without any tending, fills itself, washes, rinses and damp dries—then cleans and empties itself, and shuts itself off! Saves soap and hot water.



Amazingly thoroughly gentle. Patented Tumble washing action lifts clothes through suds 60 times a minute.



He'll never have to come home to a "washday dinner" or a "washed out" wife. She'll have leisure even on washday. Time to do other household tasks. Time to have fun —time to play with Junior—time to just plain sit down and read!

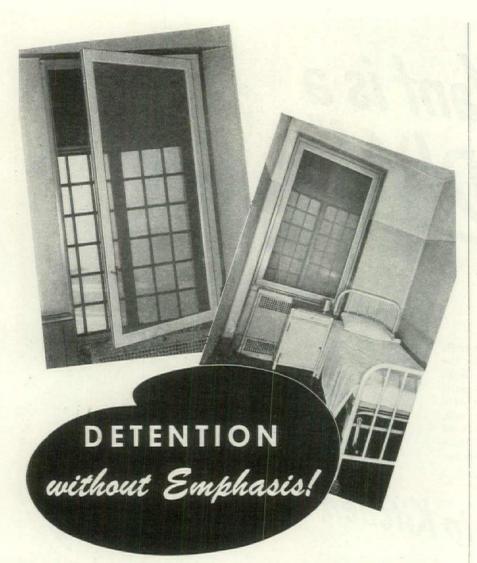


Tested Magic! The Bendix is in use in more than 300,000 homes. Takes only 4 square feet of floor space. Fits and serves perfectly in kitchen, bathroom, utility room or laundry. Look for your Bendix dealer's name in the classified section of your phone book, today!

## BENDIX automatic Home Laundry

Bendix Home Appliances, Inc., South Bend, Indiana

Pioneers and Perfectors of the Automatic "Washer"



In Chamberlin Safety-Detention Screens there's the strength and safety of steel with the normal room appearance and atmosphere that eliminate a prison-like environment, which might retard the patient's treatment.

Investigate these modern institutional screens for use in your present or postwar construction or remodeling. Get these advantages:

★ More homelike environment with safety

★ Insect-proof, with adequate light, ventilation

★ Unobtrusive, noiseless detention

★ Clean, litter-free grounds outside windows

\* Protection from outside criminal contacts

★ Tamper-proof construction—no glass breakage



#### MONTH IN BUILDING

(Continued from page 84)

lieving that the area is more suitable for industrial and commercial use than for residence. But most of the destroyed residential property had been individually owned and most of the occupants felt an integral part of a larger residential area adjoining—the biggest Slovenian community in the U. S.

Majority opinion in the neighborhood itself last month backed a compromise that would eliminate nuisance industries, cut down the area used by industry, increase the space used for residence, add parks and playgrounds. Some rebuilding funds are assured. The Red Cross will supply any difference between amount of insurance claims and the cost of rebuilding owner-occupied property. The City Council will undoubtedly approve the purchase of land for park space.

But, even if this compromise solution is adopted, the city has no direct mechanism for accomplishing an admittedly necessary redesign of the neighborhood to provide better lots and a safer street pattern. Existing ownership is split into several hundred 30 ft. lots. The city has no authority to buy this land and make it available for rebuilding according to a new use plan. Nor is there any assurance that present owners, many of them low-income families, will want to buy better or larger lots to rebuild.

John T. Howard, director of the City Planning Commission, has urged wellto-do citizens in the area to form a nonprofit corporation for rebuilding. Such a plan would be greatly aided by a bill to be introduced in the next state legislature, giving Ohio cities the power to acquire land and resell it to private corporations for redevelopment. New York City, which already has such power, debated last month whether it had the financial courage to put it into effect. City controller Joseph D. McGoldrick's proposal to invest \$20,000,000 in the purchase of eight blighted Brooklyn blocks (see Arch. Forum, Nov., '44) had stumbled on risk-timid Mayor Fiorello LaGuardia's opposition.

Planner Howard knows that a sound solution for the disaster area will call for civic courage. If it has this, Cleveland may point the way other U. S. cities may take in outlawing slums.

#### DAM BUILDING DOLLARS

Billions of construction dollars bulked back of President Roosevelt's proposal to harness the nation's waterways into seven great regional power developments, patterned after the Tennessee Valley Authority. Most ambitious program yet offered by an ambitious Ad-

(Continued on page 154)



Many outstanding buildings and thousands of better residences throughout the world reveal the streamlined distinction and finer artistic effects made possible by the use of SOSS INVISIBLE HINGES. These hinges are a significant mark of building progress. Definitely they are the modern hinge. A hinge, itself, is never sightly—it is strictly a thing of utility, not of ornamentation—therefore it should remain out of sight. These quiet,

smoothly operating Soss hinges are INVISIBLE HINGES. They permit the architect to carry out a selective motif without having unsightly, broken surfaces with which to contend. And the absence of any visible protruding metal allows separate parts to blend into each other like one piece . . . one unit.

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- —who constructs the power plants, public works, dams and power lines to supply factories with economic power and light to produce more products for finer living.
- —who constructs the facilities to supply homes with cheap electricity and water, to provide more conveniences to make people more comfortable, healthy and happy.
- —who constructs the great modern housing projects and apartments which permit the growing populations of our congested areas to live in healthy contentment.
- —who constructs the great office buildings, hotels, institutions and hospitals to provide facilities for an ever expanding social, business and political economy.
- —who takes full responsibility for any size or type of building project and completes it at a specified time and predetermined cost—under bond.

## THE GENERAL CONTRACTOR IS THE ONE, who, by becoming a member of the Associated General Contractors of America, Inc. subscribes to professional standards which put service to owners and governmental groups on its highest plane, and render the utmost in skill, integrity and responsibility to every client. His business, construction, is in normal times the largest single business in America, next to that of agriculture.



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Skill, Integrity and Responsibility in the Construction of Buildings, Highways, Railroads and Public Works

#### MONTH IN BUILDING

(Continued from page 152)

ministration, the President's plan would bring cheap electricity to every U. S. home, cheap power to every U. S. factory. It would mean nationwide flood control and soil conservation. It would mean irrigation for the big U. S. dustbowl and all arid farm lands. It would put millions of building men to work. It would also bring bitter opposition from every utility owner in the nation.

Mr. Roosevelt told a November press conference that he hoped for early Congressional action on the \$285 million St. Lawrence Seaway project, which would be second in the proposed national network of power authorities. The President said he also hoped that TVA, with most of its scheduled construction complete, could soon expand its operations to take in the Cumberland watershed.

Size of the building job called for by the President's power program can be gauged by TVA construction expenditures which, including power equipment installed and cost of land, have so far amounted to more than a half-billion dollars. TVA construction expenditure for the first full year, 1934, was \$9,000,000. Largest building year was 1942, when construction expenditure amounted to \$119,000,000.

#### PLANNING PROGRESS

The month brought much evidence that public works planning, too long tardy, was at last picking up speed. Federal Works Administrator Philip B. Fleming said that state and local governments have \$1 billion worth of public works plans already finished. But to meet need for public works and for construction employment in the first year of peace, the FWAdministrator thought cities and states will have to finish another \$21/2 billion worth of plans. The planners would obviously have to hump, but they will soon get a big boost from federal planning dollars, promised to state and local governments under the reconversion legislation that cleared Congress last September (see Arch. FORUM, Oct., '44).

States Will Help. Four states—California, Michigan, New Jersey and New York—are already helping local governments finance the preparation of plans and specifications for public works, the American Public Works Association reports. New York led the way in 1943 with a \$3,000,000 appropriation for planning aid. California this year appropriated \$10,000,000, of which \$7,000,000 will be used for plans and \$3,000,000 for site purchases. Michigan

(Continued on page 156)



## 

FORCED HOT WATER HEAT

for Real Heating Efficiency



Supply Quick Controlled Heat

THE owner of this forty-two room apartment building is surely enthusiastic about Thrush Zone Control Hot Water Heat. As the building was being completed, he collected \$1,000 in rentals only because he could rent some apartments before all were finished, since he could furnish heat to any one as needed without heating the untenanted part of the building. With Zone Control each family enjoys the degree of heat preferred and none must regulate his living habits to suit those of any other tenant. The total amount of fuel saved because of this flexibility pays a real dividend to the owner every year. Tell the apartment house operators of your community about Thrush Zone Control forced circulating hot water heat and you'll get the business. Ask your wholesaler about it or write Dept. H-12.

H. A. THRUSH & COMPANY . . . PERU, INDIANA



WOOD PRESERVATION, to be effective, calls for plenty of push to drive the preservative deep into the wood. Painting it on or dipping gives an illusion of adequacy, but it's a case of "only skin deep"—unable to handle the hard jobs expected of treated lumber.

PRESSURE TREATMENT is the basis on which all the woodpreserving industry's service records are built. Pressure treatment with Wolman Salts\* preservative produces Wolmanized Lumber\*—wood with ability to stand up on the toughest jobs. Its dependability has been proved by millions of feet, some in service nearly twenty years.

OUR PILOT PLANTS start with the pressure process as a must. Constant research there, in the laboratory, and in the field, is helping to make wood treatment even more effective. American Lumber & Treating Company, 1647 McCormick Building, Chicago 4, Illinois.

\*Registered Trade Marks



#### MONTH IN BUILDING

(Continued from page 154)

has a \$5,000,000 fund to pay one-half the cost of local planning. New Jersey set up a department of economic development to distribute its \$500,000 planning fund to local governments.

Cities at Work. Many cities have stowed away a good supply of building dollars, a November round-up from the Municipal Finance Officers Association shows. Houston, Tex. has made a five-year building plan calling for expenditure of \$31,000,000. There will be no increase in city taxes; part of the money will come from issuance of revenue bonds.

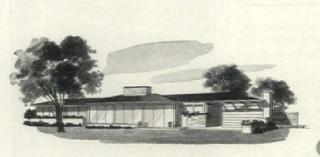
Redwood City, Cal. will soon issue \$360,000 in bonds, with other issues to follow, to finance a planning program already approved.

lowa Cities are creating an air network for the state with building, financing or planning underway in more than 40 cities. Bond issues authorized for acquisition of municipal airport sites have passed the \$1,500,000 mark. About \$6,000,000 worth of airport construction is already underway.

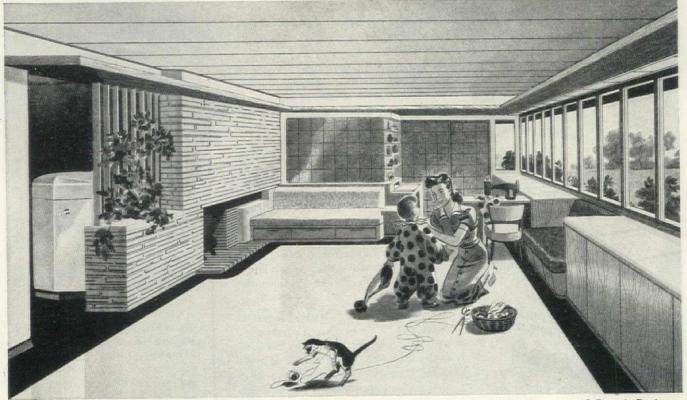
Burlingame, Calif. has plans ready for publicly owned and operated parking space in downtown congested areas. Cost of the improvements will be assessed to property owners in the district. Portland, Ore. now home to 137,000 immigrant war workers, is looking to a \$75,000,000 public works program to ease some of the jolts of reconversion. Portland voters have authorized \$24,-000,000 in bonds to help finance the program; state and federal aid is anticipated. The city has already sold a \$12,000,000 sewerage disposal bond issue at 1.5 per cent and will invest the money until materials and manpower are available.

San Diego has \$6,033,000 in cash and investments and plans for a library, sewer extensions, harbor developments.

Columbus, Ga. businessmen reached into their own pockets for \$52,500 to purchase land for a public project to house Negro war workers. The National Association of Housing Officials believes this to be the only case on record where local businessmen have made cash contributions to public housing. Under the funds available through the Federal Public Housing Authority, an inexpensive site outside the city proper had initially been chosen. Convinced that the war project should be keyed to plans for future redevelopment, Columbus businessmen gave enough additional money to buy a near-in site, now occupied by some of the city's worst housing.



## What! A Heating Dealer help the Architect?



Ranch House and Activities Room drawn for Timken Silent Automatic by Richard B. Pollman, noted Detroit Designer.

We've heard about architects helping heating dealers by carefully figuring heating requirements, specifying, and selling the owner on putting in the best heating equipment, then handing the heating dealer a contract to do the job.

It is not so common for heating dealers to give the architect real help. But aiding the architect is an established practice with Timken Dealers.

First, they help the architect select the type and size heating or air conditioning equipment best suited to the individual home. Second, they present heating plans and piping diagrams for architect's approval. Third, factory-trained mechanics install quality-built Timken Silent Automatic equipment which is backed by 20 years of home heating experience, and by more than 200,000 satisfied users. Last, and important to both architect and owner, Timken

Silent Automatic Dealers provide dependable service after every sale.

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Timken Dealers are accepting Reservation Orders now to insure earlier delivery of new and improved Timken Silent Automatic products when peacetime manufacturing is resumed.

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#### THE ARCO COMPANY

CLEVELAND, OHIO . LOS ANGELES, CAL.



#### MONTH IN BUILDING

(Continued from page 81)

and suggestion together with some coordination, and they should emphasize local responsibility and individual responsibility.

"The veteran's housing loan program is not satisfactory because it is too complicated and burdensome and there is too much administrative lost motion. It should be simplified.

"Public war housing units should be sold to occupying owners, who may not be tenants at the present time, at a reasonable value in order to encourage home ownership. They should not be sold in groups either to speculators or others who will use them as commercial rental properties."

Mepresentative Hugh DeLacy, Democrat, Washington: "For a constructive postwar job program which will permanently improve our nation, add to its total wealth, fortify the health of our citizens, and raise living standards for millions, few undertakings are superior to a federal low rent, low cost housing program.

"I am not particular about what agencies are involved or what they are called. I am sure that the problem is not one of subsidized housing. The chief aid from government is the use of its credit. On a long-term basis, housing units can and should be self-liquidating. They should set up amortization funds."

Representative Frank T. Starkey, Democrat, Minnesota: "I am in favor of slum clearance and low cost housing by the government, but the exact details of programs I would have to study out.

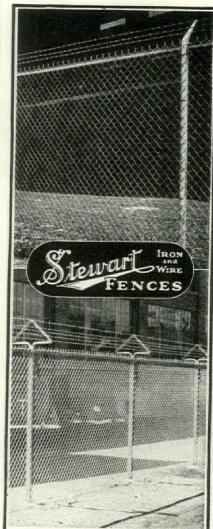
"I'd also have to study the veterans' home loan program more, but my offhand opinion is that we could do more for veterans along housing lines. I think probably the interest rates are too high.

"I would favor either conversion of permanent public war housing to low cost housing or selling to tenants, but not sale on the open market."

"Disposition of federal war units should be determined on the basis of what will serve the people best in each community. Stable industry with steady jobs will encourage home ownership. A less certain outlook will encourage other forms of tenancy."

Representative George H. Fallon, Democrat, Maryland: "I believe public housing administration should be controlled locally as far as practicable, rather than by centralized control in the national government. The only serious difficulty encountered in Baltimore resulted from the effort of federal officials to impose their judgment in a matter of site se-

(Continued on page 160)



Stewart Chain Link Wire Fence is available NOW for certain industrial use. Wherever fence is a requirement, it will be to your advantage to talk it over with our engineers. ¶ The top illustration shows Stewart style 3TH, arranged for three strands of barbed wire. Just above is shown Stewart style 5TH which has overhang for five strands of barbed wire and affords two-way protection. Write for catalog I-42 which contains complete specifications on all types of Stewart Industrial Fence and Entrance Gates. This catalog also contains information on Stewart wire specialties such as Steel Folding Gates; Wire Mesh Partitions; Wire Window Guards and many other products. ¶ You should also have a copy of Stewart Book of Designs D which will prove helpful wherever plain or highly ornamental iron fence is involved. Copy sent on request.

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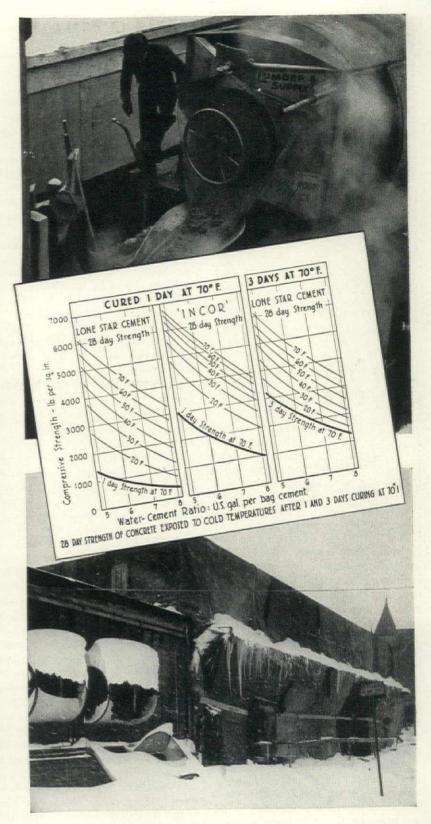
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\*Reg. U. S. Pat. Off.



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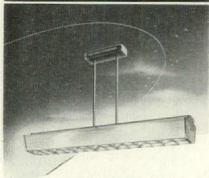
15 MODERN MILLS, 25-MILLION BARRELS ANNUAL CAPACITY . . . OFFICES: ALBANY . BIRMINGHAM

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17 Years' Outstanding Performance . . . 'INCOR' . . . America's FIRST High Early Strength Portland Cement

## THE NEW BEACON BY WAKEFIELD



#### . . BETTER LIGHT FOR OFFICE OR DRAFTING



Here's modern light for modernization, and for new construction, too. The BEACON is designed for high quality fluorescent

lighting at lower cost. This makes it especially good for lighting essential offices and 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.



F. W. WAKEFIELD BRASS COMPANY VERMILLION, OHIO

#### MONTH IN BUILDING

(Continued from page 158)

lection against the opinion of the Baltimore Housing Authority.

"So long as the federal government is concerned with public housing it would seem best that the full responsibility for its administration be focused in one agency, and I know of no reason to advocate any change from the National Housing Agency. Any dissatisfaction with its administration should involve a change in personnel rather than a change in the system."

Senator Warren G. Magnuson, Democrat, Washington: "I think the National Housing Agency and other federal housing activities should be consolidated into a Public Works Administration of which we still have the skeleton outline.

The Senator voted "yes" on a federal slum clearance program. "There is still a lot to be done in the East, although not so much out here."

Representative Albert M. Cole, Republican, Kansas: "I believe federal housing should be continued only where local businesses are unable properly to finance housing projects.

"I think the veterans' home loan program should be liberalized as to the amount of the guarantee. I think there is a definite possibility that too much red tape will discourage veterans and they will ignore the loan offers because of the difficulty of obtaining them.

"Permanent public war housing should be sold to tenants whenever possible. I do believe that the housing should be channeled into private ownership, but I wouldn't want to see large blocks of this real estate put on the market at one time. It would offer a chance for speculators to buy in at ridiculously low prices and make profits."

Representative Walter B. Huber, Democrat, Ohio: "Some effort must be made to eliminate slum districts. I am not prepared to say whether the former program should be revived or whether private capital should be encouraged to undertake their removal.

"Federally-built permanent war housing should be sold on the open market for the best price, but with safeguards to prevent selfish interests from exploiting the individual purchaser."

Representative Gordon L. McDonough, Republican, California: "I favor maintenance of the National Housing Agency until most of the heavy postwar demand has been satisfied.

"I don't think the veterans' housing loan program as now set up is adequate for all the needs of the veterans and I would recommend that it be amended along the lines of the veterans' home loan purchase act of California."



## Get this ANCHOR FENCE SPECIFICATIONS MANUAL for your A. I. A. File 14-K

THIS 44-page Reference Manual on Chain Link and Iron Picket fences and gates has been prepared especially for architects, engineers and others who have occasion to specify fence. Profusely illustrated with installation photographs and sectional drawings, it describes in detail the various heights, weights, structural features and applications of Anchor Fences. Included are sample specifications for fencing jobs.

Anchor Fences are made in all standard sizes and in a wide range of styles for every type of job: industrial, residential, or institutional. And Anchor's Nation-wide Erecting Service insures prompt, efficient installation anywhere in the United States.

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THE fine passenger and fast freight service with which the Detroit and Cleveland Navigation Co. links our busy Great Lakes ports was never more vital than it is today. Through the great heart of the nation's war production area, these long-popular vessels of the D. & C. fleet are serving as essential arteries of transport.

Newly remodeled by their forwardlooking owners, these ships are superbly fitted for their present task and the opportunity that post-war years will bring. In every appointment they reflect the highest standard of travel comfort and convenience.

Case is proud to have played a part in this modernization program. For the The Western States is one of the famous "D. & C." Liners recently refitted with new interiors, including washrooms equipped with Case plumbing fixtures.

Water closets feature a specially designed bowl with cleanout opening and brass plate, permitting ready access to trapway for removal of obstructions.

Western States, Eastern States, City of Cleveland III and City of Detroit III, Case plumbing fixtures of vitreous china were especially designed in cooperation with D. & C. engineers. Every requirement of long wear and sanitation, with a minimum of maintenance, is fulfilled in these fixtures.

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PLUMBING FIXTURES



IN HARDWARE "MUSTS"...

## Dependability

Will it work? Will it last? Is it authentic? Can I safely specify it? These questions, always important, will acquire even more significance in the postwar period when new designs, materials and techniques may be heavily publicized.

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The wide range of Corbin installations...from imposing, monumental buildings to modest, gracious homes...attest to thorough dependability of product that words alone can never convey.

For experienced counsel on the post-war projects on your boards may we suggest that you call in a Corbin specialist ... now!

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BEAUTY... for your after-the-war carpet installations will be found in new Bigelow patterns and colors.

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### SYLVANIA NEWS

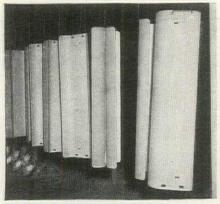
#### ARCHITECTURAL EDITION

DECEMBER

Published in the Interests of Better Sight and Sound

1944

#### Plastic Finish for Reflectors Proves Its Superiority



Sylvania reflectors coated with plastic finish emerging from part of curing process.

After extensive study of reflector coatings, Sylvania has standardized on a plastic finish of exceptional hardness, flexibility, and light-reflecting efficiency. This finish —not an ordinary paint—is produced by the polymerization, under a unique heat treatment, of different molecules to form a new chemical compound.

This plastic finish has proved far superior to paint in its resistance to moisture and corrosive vapors. It is more flexible than vitreous enamels, and withstands distortion and bending more successfully.

#### DID YOU KNOW...

That Sylvania Blacklight Lamps are used for applications as diversified as the illumination of fluorescent instrument dials on airplanes, and the sorting of textile yarns?

That Sylvania is the only manufacturer in the fluorescent lighting field to produce "Complete Packages of Light?" Sylvania lamps, fixtures, and accessories are all carefully engineered to operate together harmoniously and efficiently.

#### Sylvania Lamp Life Ratings Newly Defined for Longer Time-on Cycles

Permit Lower Operating Cost Estimates In Recommending Fluorescent Lighting

A more exact definition of the life ratings of Sylvania Fluorescent Lamps, based on a planned cycle of operation, indicates that architects, in recommending new installations of fluorescent lighting, can frequently point out to their clients the probability of considerably longer lamp life than would

#### GERMICIDAL LAMP DATA PUBLISHED

Information on Standard Germicidal Lamps is now available in Sylvania's recently issued Special Electronic Products Bulletin. Architects will find these lamps of interest from the standpoint of their applications in hotels, restaurants, hospitals, and schools to prevent the contamination of drinking glasses, dishes and silverware; and in manufacturing plants to prevent contamination of products. Sylvania engineers aid in the design of installations.

Architects interested in these lamps may obtain copies of the Special Electronic Products Bulletin from Sylvania.

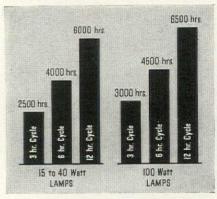


"It's that coal mining company again. Their office workers' efficiency went up so much since we recommended Sylvania Fluorescent, they want to know if we can suggest anything for the miners' CAPS!"

have been expected under previously published ratings. Hence preliminary estimates of over-all operating costs can be substantially reduced in many instances, thus placing Sylvania Fluorescent in a more favorable cost position.

#### BASIS OF RATINGS

Previous life ratings of Sylvania Fluorescent Lamps have been based on a 3-hour burning cycle. It is, of course, well known



Life ratings of Sylvania Fluorescent Lamps for 3-, 6-, and 12-hour cycles, when burned under specified test conditions.

that in many commercial and industrial installations the time-on cycle is considerable longer than 3 hours. Since the frequency of starting is an important factor in fluorescent lamp life, longer time-on cycles will be reflected in increased life.

For this reason, Sylvania has extended its lamp ratings to include the 6-hour and 12-hour cycles frequently encountered in practice. These ratings are shown in the accompanying graph.

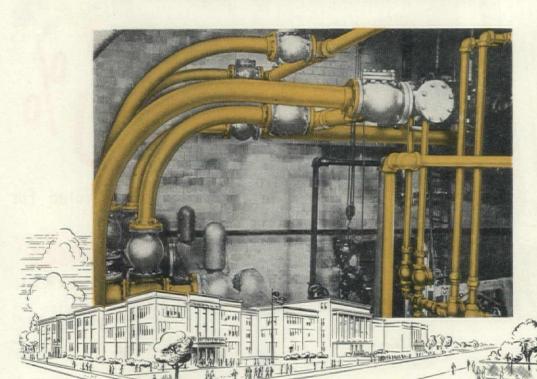
#### SYLVANIA ELECTRIC

#### PRODUCTS INC.

Salem, Massachusetts

MAKERS OF FLUORESCENT LAMPS, FIXTURES, ACCESSORIES, INCANDESCENT LAMPS, RADIO TUBES, CATHODE RAY TUBES, ELECTRONIC DEVICES

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VALVES



FITTINGS



FLANGES

Silbraz\* joints made with Walseal valves, fittings, and flanges assure the best service in brass or copper pipe lines. Wherever you see these modern threadless, silver-brazed joints, you can be sure that all joints are strong and leak-proof... and require neither maintenance nor repairs.

In this typical Silbraz installation in the boiler room of a large eastern college, copper and brass pipe lines have been made into "one-piece" lines by the use of Silbraz joints made with Walseal bronze valves and fittings. In many similar public edifices—and in countless other installations ranging from industrial plants to battleships—Silbraz joints and Walseal products have established beyond question their ability to fore-

stall piping trouble by withstanding shock, vibration and corrosion for as long as or longer than the pipe to which they are joined.

Easily installed with an oxyacetylene torch, Walseal valves, fittings and flanges are made with a ring of silver brazing alloy incorporated into each port. When heated with the torch, this alloy melts and flows out to form a fillet between the pipe and the fitting or valve, making a tight, leak-proof Silbraz joint that is stronger than the pipe itself.

For full information on Walseal products and Silbraz joints — as well as Walworth's complete line of valves and fittings — write on your letterhead for a free copy of Catalog 42.

\*Registered trade marks

MAKE IT A "ONE-PIECE PIPE LINE" WITH WALSEAL

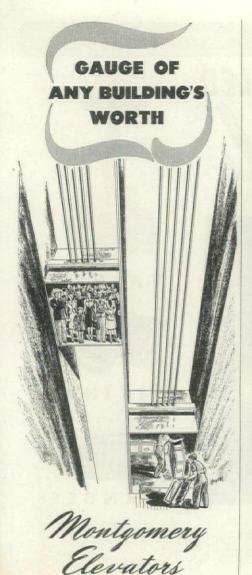


#### WALWORTH

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



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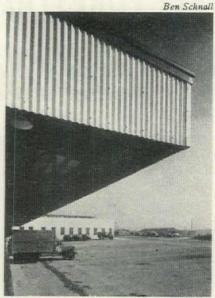
MONTGOMERY MANUFACTURES a complete line of passenger and freight elevators, electric dumbwaiters and special equipment for vertical transportation. If you are planning a specific project, Montgomery Elevator Company invites your elevator problems.



HOME OFFICE • Moline, Illinois Branch Offices and Agents in Principal Cities

#### ARMY POST OFFICE

(Continued from page 95)



OVERHANG COVERS TRUCK LOADING



#### CONSTRUCTION OUTLINE:

FOUNDATIONS: Concrete. STRUCTURE: Exterior walls-concrete block, rod wall anchors, isolated air space; inside-cinder block. Floors-concrete slab. Ceiling-exposed wood trusses and rafters. Cast stone, General Cast Stone Co., Inc. ROOF: 3-ply plank, insulation and 3-ply built-up, National Gypsum Co. and U. S. Gypsum Co. Roofing — Barrett Co. Barrett Spec. Roofing over 1" Bird Insulation Board. SHEET METAL WORK-galvanized iron. WINDOWS: Sash-wood. Glass-single and double strength. Glass blocks-Owens-Illinois Glass Co. STAIRS: Treads-abrasive, American Abrasive Metals Co. FLOOR COVERINGS: Work areas-Kompocrete, Kompolite Co. Offices-tile, David E. Kennedy, Inc. KITCHEN EQUIP-MENT-Arkay Co. DOORS AND TRIM-Empire Millwork Co. Garage doors-Overhead Door Co. and Peele Co. HARD-WARE-Yale & Towne Mfg. Co. Scales-Toledo Scale Co. ELECTRICAL FIX-TURES-The Miller Co. Fire alarm system-Acme Fire Alarm Co., Inc. . Flood lighting-Steeber Mfg. Co. PLUMBING: Fixtures-Crane Co. Soil pipes-steel and cast iron. Hot and cold water pipeswrought iron galvanized. HEATING steam system. Unit ventilators - Trane Co. Unit heater-Fedders Mfg. Co. Boiler -Combustion Engineering Co., Inc. Fans -B. F. Sturtevant & Co. Grilles-Tuttle & Bailey, Inc. Regulators-Minneapolis-Honeywell Regulator Co. Water heater-Patterson-Kelley Co., Inc.



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ELECTRIC RANGE Is Already





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I love the house—but why didn't you put in Electric Lights?"

Ever try to "sell" your wife on the hat that you like —instead of the one she wants? Well, it's just as hard to sell the modern woman away from the cleanliness, convenience, economy and safety of a modern electric range! Make no mistake-women want to cook electrically now-a-days!

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- · CHICAGO TRIBUNE
- HOUSEHOLD MAGAZINE
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NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION 155 East 44th Street, New York 17, New York



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#### A LETTER FROM INDIA

(Letters continued from page 36)

This description of India's architectural present and future was sent us by a designer now in the U.S. Army.

#### Forum:

India's architectural heritage is about as strange, complex, and diverse as her cultural and economic heritage. A major factor in this situation is the strain of second rate planners from "the old country" who were bent on making India a replica of their homeland and to hell with materials or a form to suit this country.

Recent building has been a "Bronx Moderne" or "Miami Plasterbuilt", for the "Modern" has been cheapest, and acceptable because the Germans, British and ourselves said so. Most sensitive Indians, and they are many, view these buildings with hate in their hearts, for they take them as a cultural imposition upon their land. They have their own school of painting, literature and dance, but no architecture. The most incongruous sight is the native man dressed in the dhoti and the lady in her flowing saree, in front of a bright glaring Ger-

manic structure. But this building is the "latest thing".

Where will India get her architects to rebuild her country? She needs her own blood stimulated as badly as we did until Louis Sullivan came along.

Postwar plans are scarcer here than back home, but there are a few projects that will start as soon as hostilities cease. The Government of India has proposed a National road building scheme (to take the brunt of unemployment) which pro-



India's "Bronx Moderne"

vides roads running north and south, east and west, and a network of secondary roads.

Several cities have planning commissions comparable to our own. Calcutta has an Improvement Trust that has operated for some 20 years on a plan of revenue from a tax on all rail travelers who enter the city from beyond a radius of 30 miles, and other revenues from shipping, real estate transactions, and jute production. This fund not only pays for planning but also is used in purchasing required land for new thoroughfares, paving etc. Ordinances are varied in different cities too, but don't seem to restrain the jerry-builder. The only city planned from scratch is New Delhi, and though it is better than anything in this part of the world, it embodies all the faults of the Grand Plan and confuses the traveler no end.

India not only wants an architectural cathartic but needs it. She knows that our type of machinery can speed up the long process of attaining a better standard of living, and she has our mistakes and successes for a guide. A standardization of mechanical parts of housing could easily be planned, and students could be exported from India, teachers and machinery imported to start the ball rolling. Whichever way India works out her political future, planners and architects will be needed by the thousands, and now is the time for development of schools, planning agencies and research groups. Then, the time having arrived when a plan is required there will be the required personnel to make plans and put them into execution. Fortunately. India's real architectural heredity lies in the future.

CPL. EDGAR A. TAFEL "Somewhere in India"

### "FUEL-SAVER" BOILERS AVAILABLE AGAIN



Typical Type C Installation.

FOR years "Fuel-Saver" Boilers Type C have met the requirements for low cost heating in office and apartment buildings, hotels, schools, theatres, industrial plants, etc.

Their design and construction makes them especially suitable for post-war heating requirements:

#### QUICK STEAMING

Due to rapid and positive internal water circulation.

#### MAXIMUM HEAT ABSORPTION

Due to effective distribution of heated gases.

#### EASE OF CLEANING

Due to accessibility of heating surfaces.

"FUEL-SAVER" Boilers have cut fuel costs in thousands of heating installations.

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Type C twin section—a heating boiler in halves. For installation where Type C one piece cannot be carried through existing passages.

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Every International Representative is a competent boiler man able to assist in solving heating problems.

> Write for bulletin describing Type C and Type KD boilers. See Sweet's Architectural File.



Halves of twin section boiler ready for bolting.



Type KD knocked-down for shipment.



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POWER BOILERS TYPES CR, FR, LFR, LFS





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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 pinpoint 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 lavers of felt. Result: freedom from blister problems . . . no air bubbles to expand and lift the felt from below.

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## RUBEROID PERFORATED AIR-VENT FELT

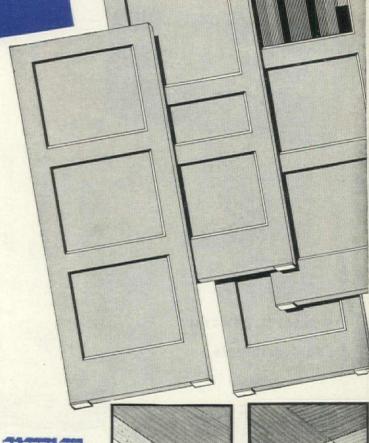
In places where people congregate... an absolute necessity HARRISON FOUILHOUX & ABRAMOVITZ From the past achievements of Air Conditioning, it is to see the future it will be called the tree to say that in and more people, as of the times to contribute the life of the people, as of the to contribute the life of the people, as of the to contribute the life of the people, as of the times to commercial and industrial achievements of the commercial and industrial achievements of the commercial and industrial achievements. In places where people congregate, such as been recognizgrowth and in the after war compestores, restaurants, and in patronize places where
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In places where people congregate, such as been recognized where
growth and in places where
growth and it is a pleasant atmosphere has thus been created. Similarly in places where of employees will be attracted at work, a better by better working conditions. In the industrial field for the processing of some and Air and chemicals, precision, to mention extremely desirable.

In struments of precision, constitution in the instruments of precision, and chemicals, precision, to mention extremely desirable. come. When one considers that Air Conditioning will be such in the or in our pusiness and industrial life as all heve of factor in our life, s plans in a great majority of the post our everyday of his plans upon to design in the post make it part will be called upon to design in the post make it part will be called upon to design in the post make period. war period. J. Andre Foulthoux This message is presented by Carrier Corporation, Syracuse, New York, as a contribution to the information on air conditioning in post-war architecture.

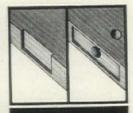
# Modern 3-Panel Douglas Fir Doors Offer Attractive Layouts for Every Building Purpose for Every Building Purpose

- Attractive, durable, smartly-designed Douglas Fir Interior Doors feature basic 3-panel layouts which are ideally adaptable to all types of building-designs in keeping with present-day interior treatment.
- · These fine doors now offer the added advantages of a new FACTRI-FIT line. To your client, this means faster construction, a better fitting, better hanging door, and the elimination of unsatisfactory on-the-job cutting.
- · You'll find that Douglas Fir Doors are suitable for every door specificationon today's essential jobs and on ALL building tomorrow.





FACTRI-FIT doors are pre-fit at the mill. trimmed to exact size. ready to hang without sawing or fitting.



FACTRI-FIT doors may be ordered completely machined at your option —gained, bored or mor-

#### PRECISION-BUILT DOUGLAS FIR DOORS

A new line, available at slight additional cost-a cost more than offset by savings on the





FACTRI-FIT doors are scuff-stripped to protect the precision-cut corners during handling and ship-

## **Douglas Fir**

FIR DOOR INSTITUTE

Tacoma 2, Washington

Remember! NATURE MAKES Durable

Durable Douglas Fix Doors are made from all-heartwood vertical-grain soft. old-growth Douglas Fir

Write for catalog showing complete series of Douglas Fir Interior Doors, Tru-Fit Entrance Doors, and new specialty items.

Douglas Fir Doors are now avaiiable only for essential building. They'll be ready for general use again when war needs lessen.

#### FORUM OF EVENTS

(Continued from page 6)

concrete caissons in the mud of the lower Thames. This was accomplished by digging out forms hundreds of feet long and pouring in cement to create huge, hollow concrete blocks. Much of the work was done in darkness during air raid alerts. When the cement had set, dams holding back the river were opened, floating the caissons. Eventually the river became so congested that it was necessary to tow them about the channel during the dark hours of the night. Finally, because of

their conspicuousness, the seacocks were opened and they were almost entirely submerged. On D-day the water was pumped out, the caissons floated and towed to France where they were again sunk to form the harbor wall.

Used in combination with the caissons was a venerable fleet of battle-damaged war and merchant ships. Among them were worn out Liberty ships and the veteran British battlewagon Centurion. Loaded with cargoes of stone, the ships were sunk by detonating explosive charges in the hulls. This was done with such care and skill, however, that they can be repaired, floated and moved at any time.

If anyone can be more awestruck by the scale, ingenuity and efficiency of this engineering feat than the American public, is it perhaps the Germans. The prefabricated ports are still operating to full capacity and, despite the speed with which the Cherbourg harbor was repaired, two of them can even now accommodate an equal tonnage.

#### VISUAL LEARNING

To eliminate the chalk dust, time and labor required for old fashioned blackboard demonstration this oblique reflector was devised for use in an English school. It makes posible the indefinite use of previously prepared charts and is



Math through the looking glass

particularly valuable in the teaching of mathematics where a large number of visual examples are required. Since a single mirror is used it is necessary for the charts to be drawn up in reverse but with two mirrors this handicap could be easily overcome.

The originator of the reflector has erected it as a sort of canopy over the professor's desk in a rather amateurish way since the trellis work which supports it on either side would interfere with the vision of any pupil not sitting directly in front of the desk. There is no reason, however, why a strip of mirror furred out at an angle from the wall should not be a practical and time saving device in any classroom.

#### BRAZILIAN PLYWOOD FOR EXPORT

John T. Jones, representative and importer, Caixa Postal 1538. Sao Paulo, Brazil, is seeking an American outlet for plywood as soon as shipping space is available. Among the many unusual Brazilian woods that have been utilized is Parana pine. All plywoods are manufactured with water-proof and heat resistant glue. Samples of this and other woods are at present available on request.



IN KITCHEN, game room, bath, laundry — wherever greasy odors, smoke or steam originate — your postwar house will need "spot" ventilation.

Blo-Fan is installed in the ceiling — the logical place for a ventilator. It has the volume of a breeze fan plus the power of a blower, a combination that has proved to be most effective in unwanted air riddance. The Blo-Fan picks up the soiled air at the source and whisks it away before it can smudge walls, discolor furnishings and draperies.

Better health — fewer cleaning bills — greater satisfaction — are assured when you specify Blo-Fans.

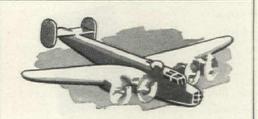
See Catalog in Sweet's or Write for Details

PRYNE & CO., INC.

1245 E. 33rd St. LOS ANGELES, 54

BRANCHES (TO BE SAN FRANCISCO . SEATTLE . CHICAGO . NEW YORK





TODAY—The Army and Navy use KIMPREG for bomber floors and doors, packing cases, luggage, hutments, parachute folding tables.

TOMORROW—KIMPREG will be used in construction of prefabricated houses, refrigerator car linings, table tops, piano and radio cases, etc.

Among the users of KIMPREG are: Buffelen Lumber & Manufacturing Company; Olympic Plywood Company; Washington Veneer Company; all of whom are currently producing a Douglas Fir Plywood surfaced with KIMPREG. This product is sold under the trade name of Inderon.



Out of a wartime test tube comes the new and greatly needed KIMPREG!\* Not a plywood—not a conventional plastic laminate—KIMPREG is a remarkable surfacing material for bonding to the base plywood in conventional plywood hot presses. When applied to plywood, the finished product is more durable—has a higher flexural strength than ordinary plywood—offers resistance to vapor permeability, abrasion, decay. Application of KIMPREG assures moisture-resistance, easy washability. This new plastic surfacing material will make your product scuff-proof—it won't stain—the finish will wear better than paint.

In the post-war world KIMPREG will open new fields for the use of plywood. It may offer new opportunities for your product. It may well represent important savings of money and material to you. So be ready to take advantage of the tested KIMPREG plastic surfacing for plywoods when conversion to a peacetime economy comes. Write for FREE booklet today.

\*KIMPREG (Trade-Mark) means Kimberly-Clark Plastic Surfacing Material

War Products Division Kimberly-Clark Corporation, Neenah, V		F-1244
Please send me FREE KIMPREG book.		
Name of Co.	Att. of:	
Line of Business		
Address		
City	State	



### Anyhow, Christmas comes but once a year!

SPEAKING of embarrassing moments
—Bill Bjones' greeting to his Yuletide guests is awkward, to say the least.

It isn't at all funny to Mary either—while little Oswald is having a very merry Christmas, as you can see. And "Barkus" isn't helping the cause at all.

But this is likely to happen in any home that is inadequately wired—that does not have at least one duplex convenience outlet for every 12 feet of unbroken wall space.

Long loose wires and temporary connections are more than a source of embarrassment to home owners, too.

They endanger the safety of the family and the home, as well. They cut down the efficiency of lighting and electrical appliances. And they waste electricity.

To help you make certain that the wiring in the homes you design or build after the war is brought up to 194X standards, the Westinghouse Better Homes Department offers you free technical advice on this important subject.

Refer your problems relating to home wiring, selection and installation of electrical equipment, location of convenience and lighting outlets and lighting controls, modern circuit protection, etc., to our housing specialists. You will receive authoritative information, promptly.



If you haven't already sent for your free copy of the new book, "Electrical Living in 194X"... which illustrates the proper wiring of every room in the modern home and the correct location of convenience outlets, switches, etc.... we suggest you do so now!

Write: Better Homes Department (AF-124)
Westinghouse Electric & Manufacturing
Company, Pittsburgh, 30, Pennsylvania.

Westinghouse
Plants in 25 Cities Offices Everywhere

TUNE IN John Charles Thomas, Sunday 2:30, EWT, NBC . . . Ted Malone, Monday, Wednesday, Friday 10:15 pm, EWT, Blue Network

# HOW TO KEEP SANTA CLAUS OUT OF YOUR POST-WAR HOME!

... but do you WANT to?



LIVING ROOM SETTING FROM GROSFELD HOUSE, CHICAGO

The sense of satisfaction—and the hard-money savings—that can come from owning your own home are the "Santa Claus" everyone believes in! But if you don't care about that, all you have to do to keep this "Santa Claus" away, is to build a home with a skimpy chimney!

Then you'll be able to burn only the most expensive kinds of heating fuels—fuels whose cost may go even higher in the years ahead.

To safeguard yourself against this—make sure your home has an *adequate* chimney—one that's *big* enough to handle *all* kinds of fuel equally well. Big enough, for in-

stance, to provide sufficient draft for burning Bituminous Coal—which is the *cheapest* home-heating fuel available. That's why 4 out of every 7 homes in the United States rely on it for steady, dependable heat. And nowadays it's also an *automatic* fuel and the one that gives the most uniform heat, when used with a modern coal-stoker!

Your architect or builder will tell you that a chimney which is adequate for burning Bituminous Coal is also efficient for burning any other fuel you ever might choose. Talk it over with him—it will pay you to do so!

letting you burn the *cheapest* of all home-heating fuels—Bituminous Coal—the one fuel that will *always* be inexpensive because America has a 3,000-year supply!

A BIG CHIMNEY plays Santa Claus by

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)

(Continued from page 36)

"Next the contractor built a cableoperated narrow-guage railroad from the wharf to the saddle. Workmen clinging to the mountainside swamped out the right of way... Somehow the rails were strung out and bolted together, spiked to the ties, and the track shored up over the rough spots to form a crude, but usable railroad ... A small gas engine hoist was dragged to the top, and operation of the world's dizziest incline began." While in detail the book is eminently accurate, the writing is never more imaginative or fiery than this. As a record it is excellent, but given a little more drama and zest, it could also have been one of the great war stories. On the latter score, it misses sadly.

Most of the large, widely publicized engineering feats such as the Alcan Highway and the Canol oil development are included but of greater interest are the more obscure projects. Among them, individual accomplishments of the Army engineers in the Middle East and the Seabees in the South Pacific receive relatively glowing accounts.

Oddly enough, the book ends with a lengthy section on the past and present development of South America. Somehow the jump from the combat zones to the peaceful progress of our southern neighbors seems startling and out of place. Without it nothing would have been lost.

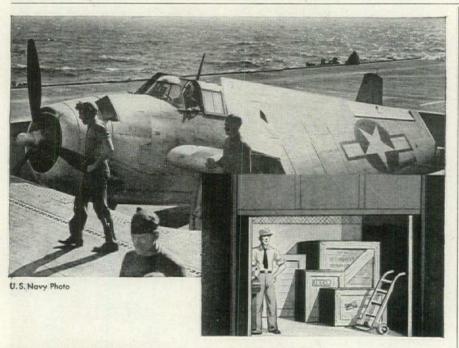
As a global survey of the work of our fighting engineers, the book is adequate. From a publicity viewpoint, they have been sadly neglected and it does bring them a little overdue attention. However, there is no good reason why the trail-blazers of our war effort should not receive a warmer and more personalized tribute.

THE SCHOLAR and the Future of the Research Library. By Fremont Rider. The Hadham Press, New York. 236 pp. 6½ x 9½. \$4.

Come the millenium, according to Mr. Rider, research will still be traveling the course of the snowball in perpetual expansion, for as long as the world produces scholars and scientists it will remain a thriving field. New research foundations will be established. Libraries will be doubled and tripled in size and someone is going to have to design them. The indexing, cataloguing and cross-reference of research material is in itself a highly complex procedure, but this organization work affects more than anything else the physical aspect of the library and offices. Mr. Rider as librarian of Weslevan University speaks with authority on the subject and throws in his heart to boot. His thesis is that the best solution for efficiency, economy and inter-library cooperation is the use of micro-photography for indexing and cross-referencing. He approaches the subject more from the academic than from the design angle but if any architect has his eye on an unsheltered bequest of books or maps the perusal of Mr. Rider's study will give him a running start in the grouping and classification of material.

POSTWAR BUILDING STUDIES. By The Institution of Mechanical Engineers. Ministry of Works, London. 6 x 934. 6d. to 2/ ea.

So far eleven pamphlets have been published in this series of reports which is actually England's postwar building standards. However, they are not official publications in that the government does not necessarily sponsor or accept the views expressed. While the reports are interesting as a comparison to American building standards, they are neither revolutionary or detailed enough to warrant objective reading. Among those so far published are The Painting of Building, Gas Installations, Steel Structures, Mechanical Installations, Electrical Installations and Non-Ferrous Metals.



# MOVING MEN AND MATERIAL TOMORROW

On many aircraft carriers Sedgwick airplane elevators lift and lower fighting planes. These elevators, with capacities of more than 85,000 pounds, operate under the most adverse conditions. They have to be tough. Yet they must be precise... delicately balanced to line up flush with the lips of the flight deck—always.

Wartime research, engineering and manufacturing experience plus more-than-50 years' experience designing, manufacturing and installing elevators and dumb waiters will result in many improvements in Sedgwick's peacetime products.

When material is available and peacetime manufacturing is resumed, Sedgwick will make Electric Elevators—for freight, hospital, residence and sidewalk service; and stair-travelors. Electric Dumb Waiters —traction type and Roto-Waiters. Hand Power Elevators—for freight, hospital, invalid and sidewalk service. And a complete line of Hand Power Dumb Waiters.

If you are confronted by perplexing lifting and lowering problems—present or postwar—tell us about them. Our engineers will be happy to help work out the solution and show you how Sedgwick Electric and Hand Power Elevators and Dumb Waiters move men and material better and faster—at reduced cost.

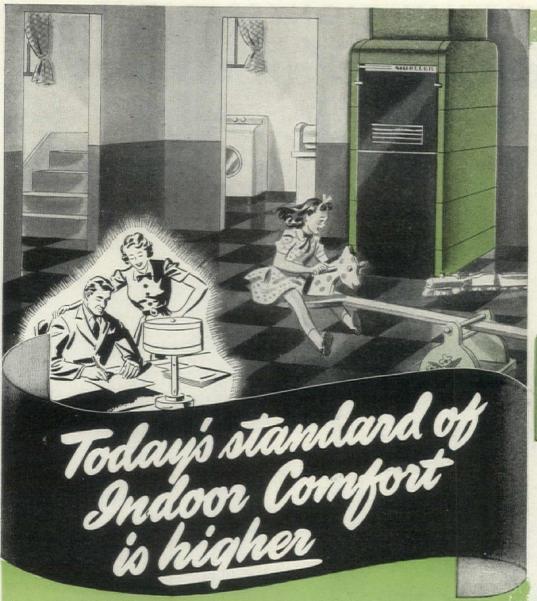
We would like to reserve your copy of our new booklet "Standard Specifications of Sedgwick Elevators and Dumb Waiters." Write on your company letterhead—tell us how many you want—and we will make certain you receive your copy or copies as soon as they come off the press.

Sedqwick MACHINE WORKS, INC.

140 WEST 15th STREET NEW YORK 11, N. Y.

Since 1893 designers and manufacturers of specialized lifting equipment

ELEVATORS • HOISTS • ROTO-WAITERS • MATERIALS HANDLING EQUIPMENT



# be sure of satisfying your post-war client with a MUELL

WINTER AIR CONDITIONER

The American public has raised its sights -in this matter as in many others. When he moves his family into the new home which you have planned for him, your client expects complete satisfaction on this all-important point. It pays to allocate as much of the building budget as is necessary to secure true indoor comfort -with a Mueller Winter Air Conditioner.

It also pays you to deal with a reputable source, able to supply furnaces and winter air conditioners for homes of every type, size, and price range (old or new) . . . specifically designed for the fuel of your choice.

Mueller's 87-year record of progres-

sive design and dependable performance is your assurance that your homes will be known for their high standards of indoor comfort from efficient, economical heating systems. Specify "Mueller Winter Air Conditioner"-with confidence that results consistently back up your judgment. Write for bulletins. L. J. Mueller Furnace Co., 2001 West Oklahoma Ave., Milwaukee 7, Wisconsin.



Mueller equipment includes gas-fired winter air conditioners, gravity furnaces, and boilers for steam or hot water



Just the right size and type for any home, in the complete Mueller oilfired line.



Complete selection

of coal-fired winter air conditioners and gravity furnaces, including special stoker-fired model.



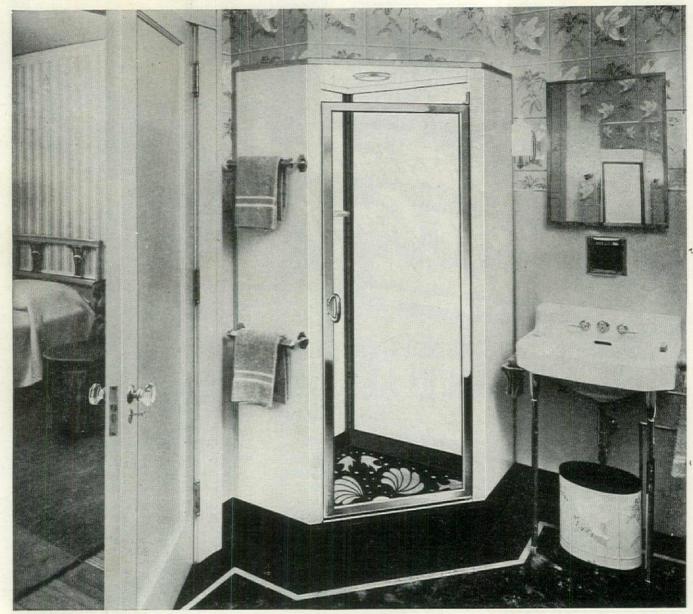
# WEISWAY PIONEERED THE Modern Trend in Bathrooms

When the first Weisway Cabinet Shower was presented in 1922 the idea of a complete and self-contained bath in a 3-foot square or less, was utterly new. Since then this space economy, as well as Weisway's exclusive features and structural details, which adapted these leakproof cabinet showers to modern building techniques, have given a big boost to the growing demand for more baths in homes of every size and price class.

War emergency has given further striking proof of Weis-

way adaptability. Besides, thousands are learning to prefer the cleanliness and healthfulness of shower bathing. It all adds up to unprecedented demand for Weisways when production for civilians is again unrestricted.

Weisway will be ready, with a complete range of models, all reflecting our experience in modern design, accurate prefabrication, and the use of most suitable and highest quality materials for each particular purpose. Henry Weis Mfg. Co., Inc., 1202 Oak Street, Elkhart, Indiana. (Est. 1876.)



Weisway Cabinet showers



# You Can Select Exactly What You Need From the World's Largest Line of Heating—Cooling—Air Conditioning—Air Handling Equipment From This One All-Inclusive Catalog

For that postwar building project you now have on the drawing boards, Trane provides a revolutionary new Products Catalog. Its 84 pages present a complete array of heating, cooling and air handling products. Products that will be ready the moment war restrictions are removed. Products that can be specified now. Products from the most complete line of its kind in the industry.

Before the new catalog was printed, Trane Engineers condensed capacity information—streamlined roughing-in dimensions—boiled down selection data to an absolute minimum—provided just enough tables, charts and details to correctly select the products illustrated.

You can specify the heating, cooling and air handling equipment for any postwar project. Everything that is required—the illustration of the product—the information to select the product—is contained in this one complete catalog.

Shortages and other wartime conditions make it necessary to restrict the distribution of this new catalog to those directly concerned with the selection, purchase and installation of heating, cooling, air handling and air conditioning equipment. Architects, engineers, contractors, industrial executives and maintenance engineers—in requesting your copy of the Trane Postwar Products Bulletin—please use your regular letterhead and say, "Send me my copy of PB290."



THE TRANE COMPANY LA CROSSE, WISCONSIN

TRANE COMPANY OF CANADA, LTD., TORONTO

AIR CONDITIONING . . HEAT TRANSFER . . AIR HANDLING EQUIPMENT

DECEMBER 1944

### BUILDING REPORTER

(Continued from page 18)

SELF-LOCKING NUT will not jam.

Features: This new self-locking nut eliminates current difficulties in precision fastening as well as the need for accessories such as cotter pins and wiring, now used to keep the nut in place. Made of all metal, it does not jam the threads in fastening, and has full and undisturbed threads throughout the length of the nut. Tests have proved that the new nut is strong and will withstand high heat temperatures, oil or any other

element that might affect proper functioning. It will maintain its locking features regardless of the number of times it is screwed on and off, and the selflocking principle will not injure the thread of either the bolt or the nut. It will be available shortly in standard sizes.

Manufacturer: Dzus Fastener Co., Inc., Babylon, N. Y.

### FLOORING is self bonding.

Name: Stonoleum.

Features: Stonoleum, a flooring which feels like rubber, can be laid over old concrete, cement, wood or composition without the use of adhesives or separate bonding agents. A unique colloidal composition gives it greater resistance, not only to direct impact and load, but also to vibration, abrasion and to continuous traffic. Stonoleum is a particularly suitable flooring in plants where manufacturing necessitates periodic shifting of equipment because of its self-healing characteristic. Small holes, such as those left when machines are moved, disappear under traffic. Stonoleum is also an excellent patch material. Floors laid Saturday are ready for use Monday. A plant handyman can apply the material using ordinary leveling tools.

Manufacturer: Continental Asbestos Refining Corp., 1 Madison Ave., New York, N. Y.

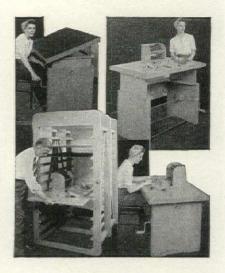


• Every mile gained by our armed forces brings us that much closer to peace. But our worst error today would be a "war is over" attitude and a slump in our war effort.

So, much as The F. H. Lawson Co. would like to be making metal bathroom cabinets again, our productive effort remains almost entirely devoted to the requirements of Uncle Sam. And you'll agree that the needs of our armed forces still have a priority that nothing but total victory can alter.

We continue to turn out the finest wooden cabinets on the market today. Yes, we mean Warwoods! Carrying the F. H. Lawson name—backed by our full guarantee—the Warwood is a cabinet of which we are genuinely proud. And priced right for your resale markup.

THE F. H. LAWSON COMPANY
Cincinnati 4, Ohio



### WORK TABLE with 12 tops.

Name: Rightop Work Table.

Features: As many as 12 jobs can be kept going "on the board" at one time with the Rightop Work Table whose interchangeable tops can be raised and tilted to the desired height or angle. When not in use tops slide into the holding rack until needed again, so that work on one top need not be dismantled and replaced. Height is adjusted by turning the crank and the operator has only to tilt the top to the required angle. Hence, one table with 12 tops, of suitable areas, offers the equivalent of a dozen work tables for one operator.

Manufacturer: Voss Machinery Co. A 2882 W. Liberty Ave., Pittsburgh, Pa.

SYNTHETIC RESIN used with low-pressure lamination offers larger plastic articles. Features: This new synthetic resin when used in a low pressure lamination process practically eliminates size as a restrictive factor in postwar plastics. To produce a product with this new resin the postwar fabricator will need only to make a textile coat, fitting the outer or inner dimensions of a mold. Impregnated

(Continued on page 184)

BATHROOM

CABINETS

arch rib Quonset Hut and its big brother, the Familiar sight at American military bases all over the world is the U.S. Navy 20'x 56' steel 40'x100' arch rib warehouse, both made by Stran-Steel and shipped ready for quick assembly in the field. No other material can match the efficiency of Stran-Steel framing on this vital assignment. I The opportunities for adapting Stran-Steel's efficiency and design to Manufacturer of the U. S. Navy's

wider latitude in design-opens up promise construction in the future are limitless. Stran-Steel's war-learned experience will be of high usefulness to architects and engineers. Investigate Stran-Steel nailable joists and members for a permanent, fire-safe framing system for homes, apartments and light industrial buildings, Stran-Steel's flexibility in use affords of better construction methods tomorrow.

DIVISION OF

# GREAT LAKES STE

PENOBSCOT BUILDING, DETROIT 26, MICHIGAN

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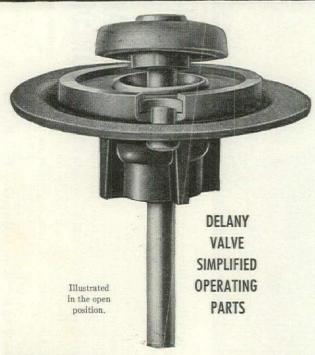
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Famous Quonset Hut

# ONLY 6 OPERATING PARTS

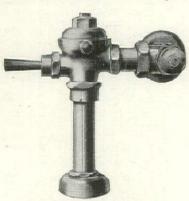


# SIMPLICITY is vital in time of war - less material - less assembly - less maintenance.

The six SIMPLE operating parts illustrated above do the work of upwards of a dozen in the average valve.

The SIMPLICITY of the Coyne & Delany Flush Valve was readily recognized and developed an instant acceptance in all types of war construction.

The SIMPLICITY of the changes made in the Victory model and from tests of the materials substituted, we are convinced that we have added to the high efficient performance record of the Coyne & Delany peacetime valve.

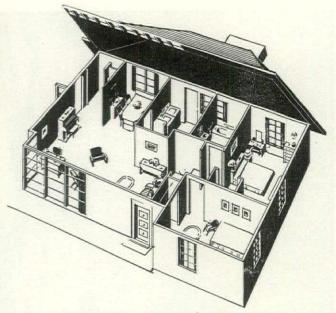


DELANY FLUSH VALVE
equipped with No. 50
DELANY VACUUM BREAKER

This SIMPLICITY concretely has lowered the operation cost on all projects where our valves are installed as all non-critical parts are interchangeable with the previous essential metal parts.

Flash! — Delany flush valves are now made in all brass for civilian use.





Designed for Post-War Comfort . . .

### Our Post-War PREFABRICATED House

Our planning for a post-war prefabricated house has been along the lines of maximum comfort and livability at the lowest possible cost. It has anticipated bringing to the building field all the production economies of prefabrication, learned in our long experience with every type of home building, and particularly all the new short cuts developed during the time we have been building thousands of prefabricated barracks, tropical hospitals, and other units for our government during the course of the war.

The sketch above is the prefabricated house we plan to offer as soon as production changes from war work to home building. Note the convenient arrangement of rooms, picture your customer's furniture in this smartly styled home that you can merchandise with profit at low monthly payments.

If you haven't made your request for our packaged merchandising plan for this prefabricated house, send it in now, for information will be mailed as soon as available in the order in which inquiries have been received.

BUY WAR BONDS FOR VICTORY





# STANLEY



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

			SWEET'S
The Stanley V	Vorks,		
Magic Britain	, Connect	end full	infor- ors for al Use.
( ) Comm	ercial	***************************************	***********
Firm Nan	ne	******************	
Street		State	***************************************

Stanley Magic Doors . . . Open at Approach . . . Close After Passage . . . Completely Automatic . . . Add Modern Attractiveness to Older Buildings . . . Keep Occupancy and Rental Rates Up!

Improvement Number One for you to suggest to office building owners who fear a fading tenant list is the installation of Stanley Magic Doors. Many owners have found that this one feature provides a smartness and convenience that gives new life to leases.

The attractiveness of Stanley Magic Doors is matched by their ease of installation and their dependability of operation. Actuated by a beam of light, operated by a simple compressor installation, they pay dividends far out of proportion to their initial cost.

There's scarcely a downtown business building, built or under consideration, that cannot be improved by these modern doors – Banks – Stores – Hotels – Restaurants – Theaters – Hospitals. Stanley will cooperate with you in preparing plans and specifications. Fill out and mail the coupon now.

# STANLEY MAGIC DOO'RS

REQUIRE NO HAND TO OPEN

City

### BUILDING REPORTER

(Continued from page 180)

with the resin, this will then be slipped onto or into the mold and cured. Heavy machinery is not needed and existing three-dimensional items may be used as forms or molds. Bright colored fabrics showing through the transparent plastic are another possibility of the new resin. Present output is limited to military usage, but prospective postwar uses include curved wall panels, furniture, machine housings, full-size radio and television cabinets and a host of other objects.

Manufacturer: Monsanto Chemical Co., St. Louis, 4, Mo.

PRINTER has double reproduction advantages.

Name: BW-Copyflex Model 2 Continuous Printer.

Features: This printer makes it possible to duplicate drawing, typing, printing and illustration as well as to make BW Prints, thus providing complete reproduction facilities for any type of industry or business. With the use of Copyflex materials, the continuous printer exposes the subject to be copied. Prints are then developed in trays and dried in a simple drier. Original material with

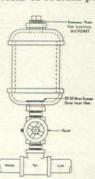
copy on both sides can be reproduced on either or both sides. With the flip of a switch, the Model 2 becomes a BW Printer for exposing black and white prints. Compactly designed, this printer fits in desk top space and exposes roll stock or cut sheets up to 24 in. wide at a speed of 5 to 30 in. per minute.

Manufacturer: Charles Bruning Co., Inc., Chicago, Ill.



**CHEMICAL** prevents scale, corrosion and iron stains in household water systems. *Name*: Micromet.

Features: Micromet, a slowly soluble form of sodium phosphate glass derived



from food-grade phosphoric a c i d, can be applied in small quantities to household water systems and is extremely effective in preventing scale, controlling corrosion and eliminating "red water." Micromet forms a thin film over the

interior of the whole water system, resisting the attack of oxygen on the metal, thus controlling corrosion and eliminating red water. Micromet dissolves the carbonate particles and keeps them in suspension throughout the system. rendering them inactive and preventing scale. The original feeder charge of Micromet in an average household system is about a pound. In cold water monthly refills of about 1/4 lb. are necessary. Micromet fed to the cold water line just after it enters the house protects the whole system. If protection of the water heater alone is required, the feeder is placed on the cold water inlet pipe to the storage tank. A simple feeder for a household system can be made from regular galvanized or black iron fittings as illustrated. For the container nipple, any of the following sizes of pipe may be used for holding 1 lb. of the chemical: 1½"x10", 2"x8", 2½"x6", 3"x4".

Manufacturer: Calgon, Inc., Hagan

Manufacturer: Calgon, Inc., Hagar Bldg., Pittsburgh 30, Pa.

(Continued on page 188)



# Those ARCHES are WOOD—and LAUCKS GLUE

For large floor areas free of supports and high, unobstructed and graceful ceilings, architects have learned to turn to the glued-laminated arch.

And makers of glued-laminated structural members have learned to turn to I. F. Laucks, Inc., world's largest glue manufacturers, for the glue and the gluing information for achieving the surest and best results.

Here is another spectacular example of wood and glue at work together in the giant cafeteria at Boeing Aircraft Co., Seattle. Each of the ten arches has an individual span of 92' 4" with a center rise of 28' 3½". The beauty of the finished arches was enhanced by staining, varnishing and adding a small Swedish geometric pattern in blue and gold.

These arches were built by Timber Structures, Inc., which company has consumed tons of Lauxein 888-P in making these and hundreds of other arches and beams for hangars, auditoriums, warehouses, gymnasiums, and farm buildings, etc.

For more information in the use of glues in arches and beams, plywood or dry built walls, or in any kind of building construction,—wire, write or phone

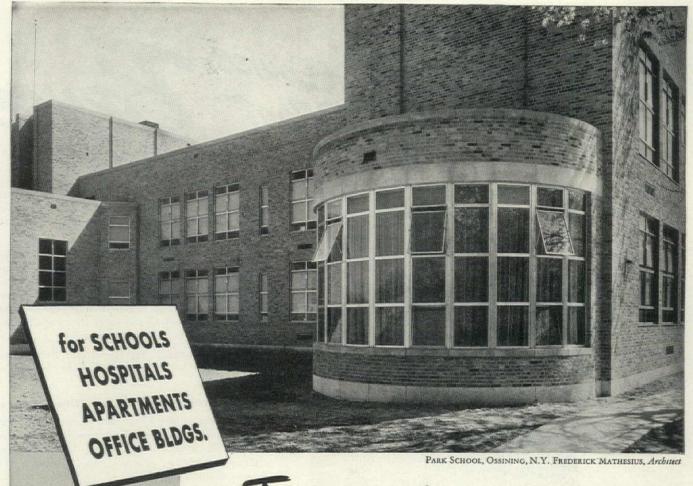
### I. F. LAUCKS, Inc.

A Subsidiary of Monsanto Chemical Company

LAUXITE RESIN LAUXEIN GLUES

SEATTLE (4)—911 Western Avenue; LOS ANGELES (1)—859 East 60th Street. Factories: Seattle, Los Angeles, Portsmouth, Va., Lockport, N. Y. In Canada, address: Laucks, Ltd., Granville Island, Vancouver, B. C., or Laucks, Ltd., Eastern, Stanbridge, Quebec.

CONSULT LAUCKS



# Tomorrowi WINDOWS will be ALUMINUM!

Tomorrow more schools, hospitals, apartments and office buildings than ever will have aluminum windows.

Smart-looking aluminum windows by General Bronze will help keep your new building "modern" looking for years to come. Their neutral color blends harmoniously with any building material. Their weather-tightness, ease-of-operation and low maintenance costs are sure to be appreciated by your most exacting clients.

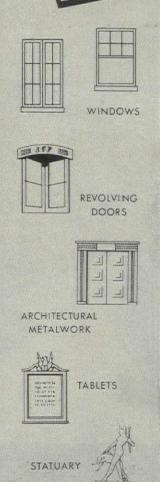
Before your present plans get too far along, we suggest that you investigate General Bronze's line of aluminum windows. As the largest producer of non-ferrous windows before the war—and with newly enlarged facilities available after the war, General Bronze will be in a position to give you the finest in windows—either aluminum or bronze—double hung, casement, or projected—at prices that will make them a "must" for every building. For complete information on General Bronze products consult Sweet's or write for the name of our nearest representative.

# GENERAL BRONZE

34-19 TENTH STREET

LONG ISLAND CITY, N. Y.







E. L. BRUCE CO. . WORLD'S LARGEST MAKER OF HARDWOOD FLOORS

# STREAMLINE FLOORS!"

out dirt, and develops a natural beauty never attained in the hardwood floors of the past.

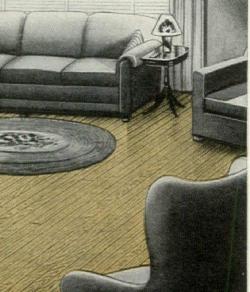
### Tested and Ready

Bruce Streamline Floors avoid building delays because they can be walked on the minute they are laid—and cost no more, frequently less, than ordinary floors.

The outstanding superiority of Bruce Streamline Floors has been clearly proved in thousands of homes. They are ready for your postwar needs. Make a thorough investigation of this great improvement in hardwood floors by writing for literature today.

E. L. BRUCE CO., MEMPHIS 1, TENN.





Americas Most Beautiful Floors

### BUILDING REPORTER

(Continued from page 184)

ALUMINUM LADDER for industrial use.

Name: Type "F".

Features: Made of Duralumin, an aluminum alloy, the new Type F ladder is lightweight, strong, easy to handle, will not sliver and has high resistance to corrosion which renders it practically indestructible. It is non-magnetic, non-sparking and non-toxic. The rails are of channel construction and have rounded tops. Side plates of the rungs are riveted onto the inside of the channel.

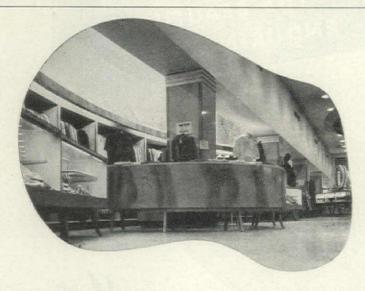
each rung is welded into the outside, and the rungs are internally expanded on both sides of the side plates to assure rigidity. Double pronged steel feet are regular equipment, but safety shoes and insulated boots are possible accessories. Type F ladders are available in various lengths and in single wall, or 2 and 3 section extensions.

Manufacturer: Duo-Safety Ladder Corp., Oshkosh, Wis.

CONNECTOR STRIP for sheet metal.

Name: Sheetlock strip.

Features: Sheetlock strip can be used wherever sheets of metal are joined and



# INDIVIDUALITY

Those among your clients who are merchants can reflect their individuality in the interiors of their shops and stores, and still enjoy economies resulting from the mass production of equipment.

We believe that our National Economy has reached a point where clients cannot justify the cost of custom made things.

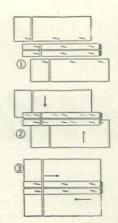


Conversely, we know that as manufacturers we must so style our product that it is acceptable to the architect and his client.

# GRAND RAPIDS STORE EQUIPMENT CO.

Main Offices and Factories, Grand Rapids, Michigan—Portland, Oregon and Los Angeles, California Offices and Showrooms, New York, Chicago, Pittsburgh, Memphis

Representatives in Principal Cities — Consult Phone Book



its simplicity will prove a great labor saver in assembly for knock down shipments. It is a double channel with indented louvers or notches. spaced uniformly at a 12° angle along the sides of the strip. Protruded louvers are made along the edge of the sheets, spaced and angled

to correspond with the strip (Fig. 1). The sheets are then pushed into the channel and slid parallel to the strip until the louvers engage, forming a wedged lock as shown in Fig 3. To disconnect, the process is reversed. The strip comes flat for straight connections and in angle for corner connections. It will be useful on furnace casings, ducts, shower cabinets, water heater jackets, lockers, metal shelving, casings, cabinets, etc.

Manufacturer: The Sheetlock Co., 4529 N. Clark St., Chicago, Ill.



HOME FREEZER for postwar use.

Name: Coolerator Home Freezer.

Features: The Coolerator Home Freezer will be available immediately postwar in a practical 8 cu. ft. size, moderately priced and economical to operate. It will provide special compartments for freezing foods and others for storing them. The special insulation principles involve little defrosting, estimated at once a year. Convenient top openings and easy reach baskets inside are features of the streamlined design. The farm freezer model (illustrated) differs only in that it has a 16 cu. ft. capacity. Manufacturer: The Coolerator Co., Duluth, Minn.

PIPE provides adequate drainage around foundation walls.

Name: Robinson Vitrified Clay Skip-Pipe.

Features: The new and unique construction of Robinson Vitrified Clay Skip-Pipe provides proper outside drainage around foundation walls, eliminating one of the chief causes of wet base-

(Continued on page 192)



After all, what is the most important thing in any building designed for human habitation? There is only one answer; it is the plumbing or heating piping system, or both. The building may be the last word in modern design with beautiful and modern bathroom and kitchen fixtures, but they are utterly useless if the arteries which supply them with hot and cold water are defective and unreliable. The build-

The informed prospective buyer or tenant of tomorrow will ask a lot of searching questions about plumbing and heating piping systems. He has become "piping conscious" and "rust conscious" too. He will demand a piping system that will not corrode and one that will offer the greatest possible

If you agree that a reliable, rust-proof piping system is a vitally important item in promoting comfort and liveability in the home, why not make a leader of it for post-war building? It can be a most effective sales argument to sell

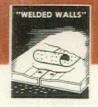
> A plumbing or heating system of STREAMLINE Copper Pipe and Fittings, installed under normal conditions means efficient, trouble-free performance without repair bills, year after year, for the life of the building.

> Investigate STREAMLINE now, and plan on using it either for remodeling or new, post-war construction. Send for catalog ... it gives you the complete story.

PORT HURON, MICHIG

# 1

that "might have been"



# EETROCK Fireproof WALL AND CEILING PANELS









Written in letters of flame for all to see . . . are Fire's casualty lists of destruction-the toll of tinder-wall construction. These are tragedies you read about.

But there's another list you seldom see-of fires that are held in checkdisastrous fires that might have been!

Here's No News That's Good Newsto thousands who use Sheetrock\*, the fireproof wallboard. File after file is full of letters that tell a story of fire held at bay until help arrives and building occupants can get away. Sheetrockmade from gypsum that cannot burn -acts as a fire-armor that protects the framework over which it is applied.

You have beauty in the big processed panels, too. Beveled edge treatment creates a panelled effect-or sweeping, unbroken surfaces are provided by Perf-A-Tape\* joint concealing system.

Sheetrock will take any form of decoration or may be purchased already decorated in pastel shades or woodgrain effects. With Sheetrock, there is no waiting. Wood trim may be applied immediately.

For over twenty years, Sheetrock has proved its usefulness on more walls and ceilings than any other gypsum wallboard in the world-a record that makes you certain to get the best when you say "Sheetrock."

\*Trademarks Reg. U. S. Pat. Off.

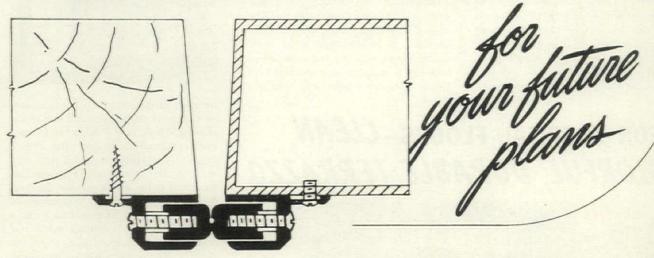


STATES GYPSUM UNITED

Manufacturers of Building and Industrial Products Since 1901

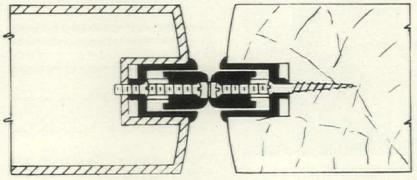
GYPSUM . LIME . STEEL . INSULATION . ROOFING . PAINT

# \* MICHAELS PRODUCTS



Type "A" shown above may be applied to either wood or hollow-metal bevel doors. Or as a stop bead, or at bottom of doors.

# adjustable Astragals



Type "E" Mortise Astragal may be applied to bull-nose hollow-metal or wood double doors, or at bottom of doors.

### MICHAELS PRODUCTS:

Fixtures for Banks and Offices
Welded Bronze Doors
Elevator Doors
Elevator Enclosures
Check Desks (standing and wall)
Lamp Standards
Marquise
Tablets and Signs
Name Plates
Railings (cast and wrought)
Building Directories
Bulletin Boards
Stamped and Cast Radiator Grilles
Grilles and Wickets

and Offices onze Doors Push Bars
Wire Work
Enclosures and wall)
Standards Extruded Thresholds
Extruded Thresholds
Extruded Casements
Store Front Sash
Exhibit Cases
Parking Meters
d wrought)
Directories d wrought
Directories ard Fronze Double Hung Windows
Bronze Casement Windows
Bronze Markers and Plaques
Wrought Iron Lighting Fixtures

Michaels Adjustable Astragals of extruded bronze or nickel are designed to compensate for expansion or contraction of doors and to keep them closed as tightly as possible. They prevent draughts, air currents and help to keep out dirt and dust. Michaels Astragals are simple, practical, rugged, easily installed and adjusted, and are available in several styles for any type of door. Send for literature which contains complete details and specifications.



THE MICHAELS ART BRONZE CO., Inc., COVINGTON, KENTUCKY

Manufacturers since 1870 of many products in Bronze, Aluminum and other Metals

### BUILDING REPORTER

(Continued from page 188)

ments. These pipes prevent seepage in two ways. Water collects in the cradle which is the top of the pipe, and is discharged into the pipe through fixed slots at each joint. Water also enters the pipe through open joints maintained by an arrangement of lugs in the bell of the pipe. Silt does not accumulate because the pipe is held in alignment by the arrangement of the lugs. Skip-Pipe is easy to connect with full round pipe and fittings, and when flowing at capacity

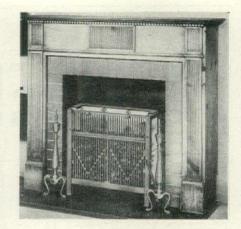
permits faster discharge than full-round pipe of corresponding size. Material cost for a dwelling approximately 30 x 40 ft. is under \$30.

Manufacturer: The Robinson Clay Product Co., Akron, Ohio.

FIREPLACE GRATE has vertical firebed.

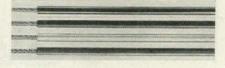
Name: Verti-Grate.

Features: A new heating principle, a grate with a vertical firebed which gives from 3 to 8 times more heat from the fireplace, is incorporated in the Verti-Grate. Requiring only two refuelings in 24 hours to maintain day and night continuous heat all season with hard coal,



the grate enables the fireplace to replace furnace heat at the start and end of the heating season, and reduces the furnace fuel consumption during the season proper. The grate has a sturdily constructed cast iron frame with ceramic back and sides which radiate the heat directly into the room. It is equipped with top doors for easy refueling and a rocker shaker for cleaning ashes but there are no mechanical parts to get out of order. The new grate burns hard coal, bituminous coal, briquettes and coke with equally good results. Dimensions: 213/4 in. high, 241/8 in wide and 63/8 in. deep.

Manufacturer: Centre Brass Works, Inc., 2323 Haviland Ave., New York 61, N. Y.



INSULATED LEAD WIRE for use in fluorescent lamp ballasts.

Name: Deltabeston Flamenol Lead Wire.

Features: This new Deltabeston Flamenol thermoplastic insulated lead wire is approved by the Underwriters' Laboratories for use in lighting fixtures wherever 600 v. service is required The wire insulation is superaging and is resistant to flame, oils, acids and alkalies. The wire itself is mechanically strong and flexible, will not rupture when bent, is free stripping, easy to splice and terminate. It is available in solid and stranded conductors, sizes 16 and 18 AWG in brilliant colors, including white, black, red and green.

Manufacturer: General Electric Co., 570 Lexington Ave., New York, N. Y.

AIR DUCT is non-collapsible.

Name: Ventube.

Features: Ventube is a sleeve or tube of selected impregnated fabrics, either regular or fire resistant with a tempered steel helical spring inside. This new type of portable air duct is flexible and the maximum air flow opening is main-

(Continued on page 196)

# FOR HOSPITAL FLOORS-CLEAN, COLORFUL, DURABLE TERRAZZO



Terrazzo floor made with Atlas White portland cement in Duke Hospital, Duke University, Durham, N. C. Horace Trumbaur, architect; Atlantic Marble and Tile Co., Charlotte, N. C., terrazzo contractor.

In Floors of fine Terrazzo made with Atlas White portland cement, architects find that atmosphere of dignity, rest and quiet, combined with durability and strict cleanliness, which hospitals require. Terrazzo floors in entrances, reception rooms, offices, corridors, wards and other rooms have the durability and fire safety of concrete, plus ease of cleaning and unfading beauty.

The beauty of Terrazzo lies in its limitless latitude for design, and in the unfading clarity of its coloring. For faithful reproduction of colors and design, insist on a matrix of Atlas White cement to set off the colors of the marble aggregates to best advantage. In the matrix, whether tinted or in its natural white, lie the blending or contrasting overtones which assure the clear, true colors of fine Terrazzo.

For further information, see Sweet's Architectural File, 1944, Section 13-5, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., New York 17, N.Y.

The matrix is as important as the marble chips



# ATLAS WHITE CEMENT

for FINE TERRAZZO



for the finest ... and the modest

# HOMES OF TOMORROW ... Modine convectors

In designing his own home, what is the architect's choice of heating? When the architect is as nationally prominent as Raymond J. Ashton, his choice—Modine Convection Heating — is indeed significant.

For the most modern homes of tomorrow, Modine Copper Convectors are the selection of leading architects everywhere.

Modern smartness, with simplicity and symmetry of line, give Modines distinctive but unobtrusive beauty. Modine spacesaving compactness provides greater freedom in arranging furniture and drapes; combines convenience with building economy.

With Modine Copper Convectors there's a gentle, constant, healthful circulation of warmed air by natural convection. No intense radiated heat. No gusty blowers. No connecting ducts. No motors. No moving parts.

Complete comfort—and with it the greater flexibility, close automatic control, lower operating cost and longer life that only Modine Copper Convectors on a hot water or steam system can assure.

And all at a new low cost...to meet even the modest home owner's budget... and to permit the speculative builder to give small homes greater rentability and salability. Detailed specifications available now.

MODINE MANUFACTURING COMPANY, 1736 RACINE STREET, RACINE, WISCONSIN

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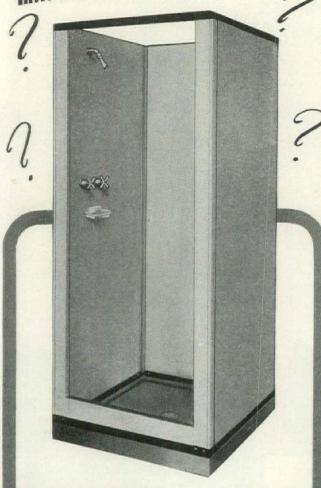
Look in your phone book for Modine representative's name —"Where To Buy It" section.



How Will the Increasing

Demand for "Shower Bathing"

Influence Your New Building Plans?



# Bathe-Rite SHOWER CABINETS

TODAY'S QUALITY STANDARD

With over 100,000 Bathe-Rite Shower Cabinets already in use in homes and military bases all over the world, the popularity of shower bathing is more than a trend. It's a growing demand-factor to be considered in every new-home plan and specification.

BATHE-RITE SHOWER CABINETS have set the quality standard today in prefabricated shower facilities. By any standard of comparison they prove the finest that can be built today. And you may depend on Bathe-Rite designers and engineers to offer you the kind of showers that will fit into your proudest plans for future building.

We invite your inquiry, suggestions and comments.

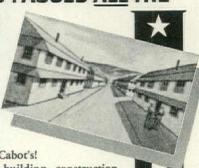
# MILWAUKEE STAMPING CO.

827-S SOUTH 72nd STREET . MILWAUKEE 14, WIS.

# Do You Know. WHICH STAIN HAS PASSED ALL THE

WARTIME TESTS

?



THE answer is Cabot's!
In wartime, when building construction must be rushed, the outstanding quality of Cabot's famous shingle stains stands out just as in peacetime! Many fast war jobs have proved that Cabot's Stains are quicker and easier to apply—give maximum protection with no waste of raw materials—do not peel or blister when used on green lumber.

FREE BOOKLET, "STAINED HOUSES"—contains complete information and illustrations. Write for your copy and color card today. Samuel Cabot, Inc., 1276 Oliver Bldg., Boston 9, Mass.

# Cabot's

# SHINGLE STAINS

Creosote

Heavy-Bodied



CONVENIENT HOSE SPRAY WIDE, FLAT BACK LEDGE EXCLUSIVE ROUND BOWL

INTEGRAL SOAP DISH

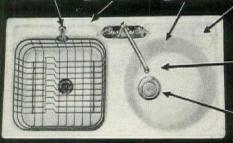
SWING SPOUT

FAUCET

LIFT-OUT,

CUP-TYPE

STRAINER

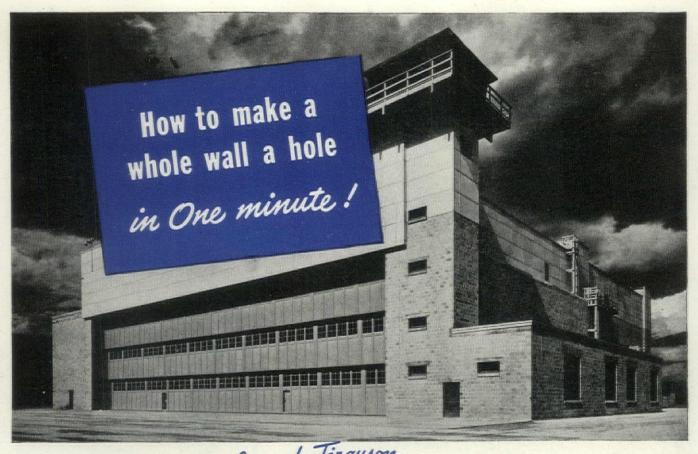


# The POSTWAR SINK with the Features Women Really Want

Every one of the work-saving sink features women want most is built into the new EBCO Dishwashing Sink—including the famous, exclusive round compartment. Every detail is designed for efficiency and convenience. Installation is easy and economical too! The wide, flat rim makes it easy to provide a permanently watertight installation, and fixtures are mounted flat on the wide back ledge to eliminate in-the-wall piping! Write for full details on tomorrow's favorite sink—the EBCO Dishwashing Sink!

The EBCO

MANUFACTURING CO. 401 W. Town St., Columbus 8, Ohio



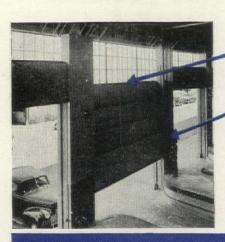
# Robertson Vertical Lift Door

Sometime you may need to engineer a wall that vanishes in sixty seconds...that stores itself away out of sight and mind.

That's the Robertson Vertical Lift Door. It is engineered in any size, any number of leaves and in harmony with any architecture.

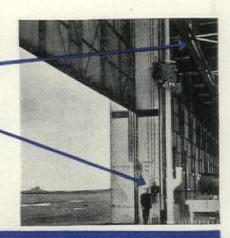
The entire door stores itself directly above the door opening. Not one inch need it take from ceiling work space, from floor or from building approach. It is fully counterbalanced, rises at the press of a button, stops instantly at any point on the way up, or down. The door shown, opens in one minute and 10 seconds.

The originators of this door, formerly known as Firguson, are now with Robertson. Robertson engineers will co-operate in adapting the door to your requirements. A Robertson representative can give full information. For Vertical Lift Door literature, write H. H. Robertson Company.



# QUICK FACTS

- Any height. Any width. Can be opened in seconds.
   Maximum floor and ceiling area of building retained: overhead equipment—lights, monorail, cranes, etc.—can come up to door.
- Not obstructed by sand or snowdrifts.
- Fully counterbalanced: electrically or manually operated. All leaves reach peak at same time. May be stopped at any point, saving heat. Safety devices available to halt descent if door touches an object.
- Door may be divided into independent sections, still leaving an unobstructed opening.
- Lowest leaf can conform to ground slope.
- Skin may be of various materials to suit architectural design: fenestration, sliding pilot doors, heat and sound insulation available.



H. H. ROBERTSON CO.

2403 Farmers Bank Building, Pittsburgh, Penna.





World-Wide Bullding Service

### BUILDING REPORTER

(Continued from page 192)

tained whether the duct is bent sharply or the system is blowing or sucking air. The new duct weighs only half as much as the earlier non-collapsible Ventube, and shipbuilders who have tested the new product report it is more efficient, more flexible, lighter in weight, and less easily damaged by rough handling than ordinary types of tubing. The covering on the new Ventube is impregnated with an abrasion-resistant compound that is water resistant and impermeable to air.

The fabric is also highly resistant to heat, moisture, mildew and dry rot. It can be patched like an automobile inner tube in case of burns or cuts. This ventilating duct was designed for auxiliary ventilation in ship construction but is suitable for other industrial uses such as building and maintenance of vats, tanks, boilers and for rapidly changing the air in work rooms or drying rooms. Manufacturer: E. I. duPont de Nemours & Co., Inc., Wilmington 98, Del.

FLUX for tinning cast iron.

Name: Airco Hi-Bond.

Features: Hi-Bond Flux is designed to promote uniformly successful tinning of cast iron prior to brazing. It does not take the place of the regular flux used for the actual brazing operation, but its manufacturer claims that Airco Hi-Bond overcomes the usual tinning difficulties caused by the graphitic nature of cast iron. It is particularly successful with cast iron of high carbon and silicon content or low combined carbon analysis. This flux may be applied as a water-mixed paste or as a powder sprinkled on a surface which has already been heated to the required temperature. Available in one lb. glass containers.

Manufacturer: Air Reduction Sales Co., 60 East 42nd St., New York 17, N. Y.

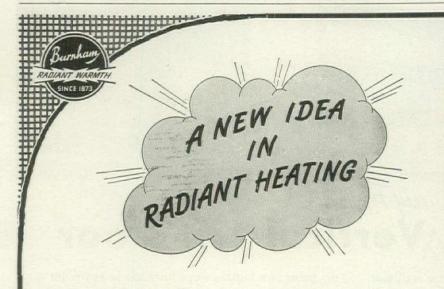


FROZEN FOOD DISPLAY CASE designed for convenient access.

Features: This open, self-service merchandising display fixture for frozen foods offers a view of the entire stock. Making a selection does not require opening doors, unnecessary hunting or handling. The cabinet, 8 ft. long, 82 in. high, and 30 in. deep, has a fluorescentlighted, frosted-glass sign calling attention to the department, and a similarly lighted panel board listing the merchandise. A mirror under the panel board reflects the merchandise display. Easily accessible, but hidden back of the panel board, is a waterproof plywood night cover which closes the open sales compartment and reduces the running time of the machine. The open sales compartment accommodates 250 average - size frozen food packages and the lower part of the case, accessible through three doors, provides 17 cu. ft. of storage space. The front of the cabinet is vitreous porcelain, the sales panel is synthetic enamel and the light hood is vitreous porcelain and frosted glass. The cabinet operates with a 1 h.p. air-cooled machine which should have a capacity of 3200 BTU's at a suction temperature of minus 25°. In a 90° room, 16 to 18 hrs. running time a day will give proper performance.

Manufacturer: Tyler Fixture Corp.. Niles, Mich.

(Technical Literature, page 200)



DESPITE the fact that the major portion of our efforts the past few years has been devoted to War Work, we MADE time to develop improved and new ideas in connection with Heating Equipment.

In the near future we expect to announce an entirely new and different heat distributing unit which will place Radiant Heating (which is already accepted as the finest type of heating) so far ahead of other types of heating that it cannot be considered other than in a class by itself.

It will produce comfort you never dreamed possible.

It will be out of the way and practically invisible.

It will maintain more comfortable lower room temperatures.

It will be located where the greatest heat loss takes place.

It will last as long or longer than the building in which it is installed.

It will be easy to install.

Its cost will be very nominal. Watch for future announcements.

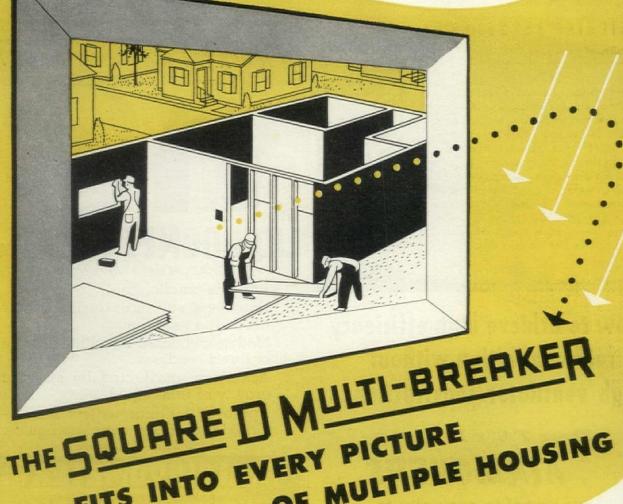
# Burnham Boiler Corporation

Irvington, New York—Dept. J Zanesville, Ohio—Dept. J



Export Department
50 Church St., New York 7, N. Y.

Season's Greetings



# FITS INTO EVERY PICTURE OF MULTIPLE HOUSING

### large units—small units—prefabricated or otherwise

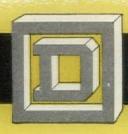
HETHER it's a small group of cottages or a planned community, complete from homes to schools, stores and churches, there is a Square D Multi-breaker installation to fit the picture . . . exactly.

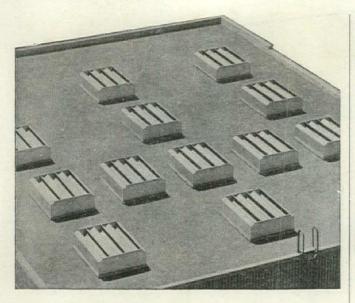
The annoyance of changing fuses simply isn't in keeping with tomorrow's scheme of things-especially since Multibreaker convenience and protection costs little more than the fusible equipment it replaces-often actually less.

Your nearby Square D Field Engineer will be glad to work with you in arriving at the best electrical specifications for any project you are planning.



The Multi-breaker eliminates fuses completely. When a short circuit or dangerous overload occurs, the circuit is cut off automatically. A simple movement of the shockproof lever restores current after the cause of the overload has been removed. There are no delays-nothing to replace.





How to achieve high efficiency in roof ventilation without high ventilator construction...

These 7'6"x 10'

# **AIRMOVERS**

are equal in capacity to 74-inch round ventilators

Here's capacity that surprises you, appearance that pleases you - Swartwout's revolutionary new AIRMOVER, efficient gravity flow roof ventilator that's only 32 inches high. Spot them wherever you need direct heat and fume removal, just as you've used conventional round type ventilators. Low and flat-no "top heavy" appearance.

For general ventilation, AIRMOVER in continuous runs can cover as much roof as necessary.

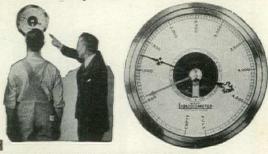
Swartwout's experience with many war plant installations has refined the technique of manufacturing and installing this latest Natural type roof ventilation.

> Ask for installation examples and details of the AIRMOVER.

THE SWARTWOUT COMPANY 18511 Euclid Avenue, Cleveland 12, Ohio



### ACCURATE LIQUID LEVEL INFORMATION AT A GLANCE, WHEN YOU WANT IT-



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.

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State of New York \{\} Ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Vernon Hitchcock, who, having been duly sworn according to law, deposes and says that he is the Business Manager of THE ARCHITECTURAL FORUM and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editors, and business manager are: Publisher, Time Incorporated, Time & Life Building, Rockefeller Center, New York 20, N. Y.; Editor, Howard Myers, 19 West 44 Street, New York 18, N. Y.; Managing Editors, George Nelson and Henry Wright, 19 West 44 Street, New York 18, N. Y.; Business Manager, Vernon Hitchcock, 19 West 44 Street, New York 18, N. Y.

2. That the owner is: Time Incorporated, Time & Life Building, Rockefeller Center, New York 20, N. Y., that the names and addresses of stockhelders owning or holding one per cent or more of total amount of stock are: Brown Brothers, Harriman & Co., 59 Wall Street, New York 5, N. Y.; William V. Griffin, 140 Cedar Street, New York 6, N. Y.; Louise H. Ingalls, 10723 East Blvd., Cleveland, Ohio; Irving Trust Company, as Trustees (Benefit of Elizabeth Busch Pool), 1 Wall Street, New York 5, N. Y.; Robert L. Johnson, Temple University, Philadelphia, Penna.; Margaret Zerbe Larsen, Time & Life Building, New York 20, N. Y.; Roy E. Larsen, Time & Life Building, New York 5, N. Y.; Roy E. Larsen, Time & Life Building, New York 5, N. Y.; That the known bondholders, mortgages, and other security holders ewning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the known bondholders, mortgagees, and other security holders and security holders,

are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders, who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this afflant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) Vernon Hitchcock

(Signed) Vernon Hitchcock, Business Manager.

Sworn to and subscribed before me this 25th day of September, 1944.
SALLIE A. HARRINGTON

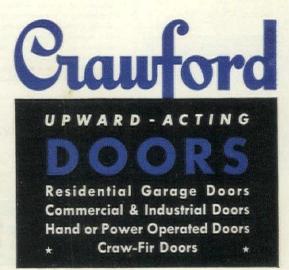
(My commission expires Mar. 30, 1946)



When motoring comes back into its own the volume business will naturally gravitate to those places where the motorist finds the maximum of convenience and service. In this, as all experienced service station operators know, the public is largely guided by appearance. That means there will be many brand new service set-ups—and many more where existing buildings will undergo "face-lifting" operations.

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### TECHNICAL LITERATURE

AIR CONDITIONING. Air Conservation Engineering, 120 pp., 8½x11. Price \$2.00. This volume offers a comprehensive treatise on the principles and applications of air conservation, which is the purification and recovery of used air in the and applications of air conservation, which is the purification and recovery of used air in the interest of air-conditioning economy. The nature of air-entrained impurities, dust, smoke, fumes, vapors and gases, and their elemination are dealt with extensively. The principle of sorption and its application, vital to adequate air purification, is presented in non-technical language. The value of air recovery for protection against contaminated air intakes, for the abatement of polluted exhaust air nuisances, and for the control of air purity in connection with industrial hygiene as well as in food, medicinal and other processing operations, is explained and illustrated by numerous typical examples. One section contains a comprehensive reference data section, comprising tables of ventilation requirements, territorial climatic conditions, outdoor air heating and refrigeration loads, properties of gases and vapors and their safe concentration, psychrometric charts and data. Also included is a catalog section containing descriptions, illustrations, and installation instructions for Dorex air recovery equipment. W. B. Connor Engineering Corp., 114 East 32nd St., New York, N. Y.

LIGHTING. Lighting for Hotels, 8½x11. This portfolio, first in a series of planning discussions on postwar lighting, contains a booklet devoted to the subject, and five drawings by Chester B. Price showing possible lighting effects. Published to stimulate thinking and planning now about postwar lighting problems, it offers many ideas which can be incorporated into any hotel. It discusses a more dramatic appeal for lobbies and living quarters and makes suggestions for the various rooms. Practical hints and miscellaneous information on such subjects as Functionalism vs. Decoration, glare, indirect lighting, distribution of light,

and the four requirements of good lighting are included. Renderings which show a typical lobby, cocktail bar, ballroom, marquee and dining room are well executed, and have attached sectional drawings of the lighting system. A. Ward Hendrickson & Co., Inc., 337 Adams St., Brooklyn 1, N. Y.

INSULATION. Instructions for Insulating Your Home, 11 pp. 9x6½. This concise booklet offers complete information on Kimsul Insulation in the home—how to estimate size and quantity needed for the various insulation jobs, and how to install it. Attractive diagrams illustrate the procedures. Also included is information on the tools needed, how to measure and cut the insulation, an explanation of technical terms, and advantages of Kimsul. Kimberly-Clark Corp., Neenah, Wis.

ABRASIVE BLADES. Here are Modern, Time-Saving Ways of Solving Old Problems and New With Felker Di-Met Rimlock Diamond Abrasive Blades, 6 pp., 8½x11. This pamphlet illustrates the diverse applications Felker Di-Met Rimlocks meet in the construction industry. Met Rimlocks meet in the construction industry. How the metal blades cut through concrete, cement-asbestos, composition materials, glass, tiles, etc. is illustrated and described. Advantages of the Di-Met Rimlocks over other abrasive wheels are listed and a discussion of Di-Met Cut-Off machines for use with the abrasive wheel is included. Felker Mfg. Co., 1128 Border Ave., Torrance, Cal.

PLASTICS. Polyethylene Resins—Forms, Properties, Fabrication Procedures, Uses, 12 pp., 8½x11. This brochure illustrates and describes the forms, properties, fabrication procedures and uses of the Polyethylene group of thermoplastic materials. Included are interesting data tables which present graphic summaries of the plasticity, electrical properties, and thermal expansion of this resin. Plastics Div., Carbide & Carbon Chemicals Corp., 30 E. 42nd St., New York 17, N. Y.

PAINT. Productive Coloration by Sonneborn, 6 pp., 85%x11½. How color and reflective qualities of Sonneborn paints can increase efficiency, safety and output in industry is the subject of this folder. Discussions are included on what productive coloration can do for greater safety and increased output, and how to achieve good paint selection and good light reflection. Colored photographs compare a typical machine tool and surroundings painted the same dull color with a machine and surroundings painted in full productive coloration. A chart gives several recommended paint combinations for industrial plants, together with reflectance values. L. Sonneborn Sons, Inc., 88 Lexington Avc., New York 16, N. Y.

VACUUM CLEANING. General Information, on Vacuum Cleaning, Descriptive Bulletin No. 131, Section 1, 8 pp., 8½x11. This bulletin on Stationary Vacuum Cleaning outlines the various components of the equipment, gives new uses and valuable application data. Its purpose is to indicate the correct procedure in construction and arrangement of a vacuum cleaning system. Typical piping in systems for industrial plants and schools is illustrated by layouts. Many photographs show the various pieces of equipment in operation. The Spencer Turbine Co., Hartford 6, Conn.

AIRPORT PRODUCTS. Robertson Products for Airport Buildings, 16 pp., 8½x11. This catalog describes and illustrates Robertson Galbestos Metal, Protected Metal, Hangar doors, Q-Floors, Q-Panels, Q-Decks, Fire-resistive partitions, Skylights, Ventilators and protective coatings for use in the construction of airports. Available forms, uses and erection of roofing and siding materials; construction, ease of operation and design of the vertical lift door; the dual purpose and ease of construction with Q-floors, Q-panels and Q-decks are a few of the subjects covered in this booklet. Photographs illustrate many buildings utilizing these products under construction as well as finished projects in which Robertson products were used. H. H. Robertson Co., Farmers Bank Building, Pittsburgh, Pa. burgh, Pa.

PLASTICS STOCK MOLDS. Inadvertently omitted from last month's issue was the price (\$5.00) of the booklet *Plastics Stock Molds*, published by Modern Plastics Magazine.

### REQUEST FOR LITERATURE

National Housing Admr., 212 Belmont Bldg., 805 Government St., Victoria, B.C. would like to receive for reference files, catalogs, and technical literature dealing with architectural and constructional works, also specialties for timber, wall boards, insulation, sash and doors and electrical, heating and plumbing materials.



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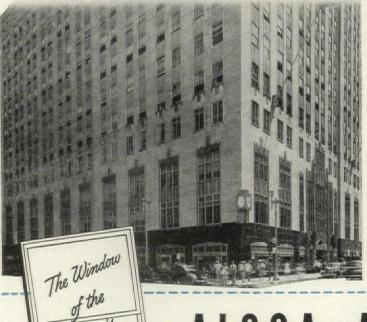


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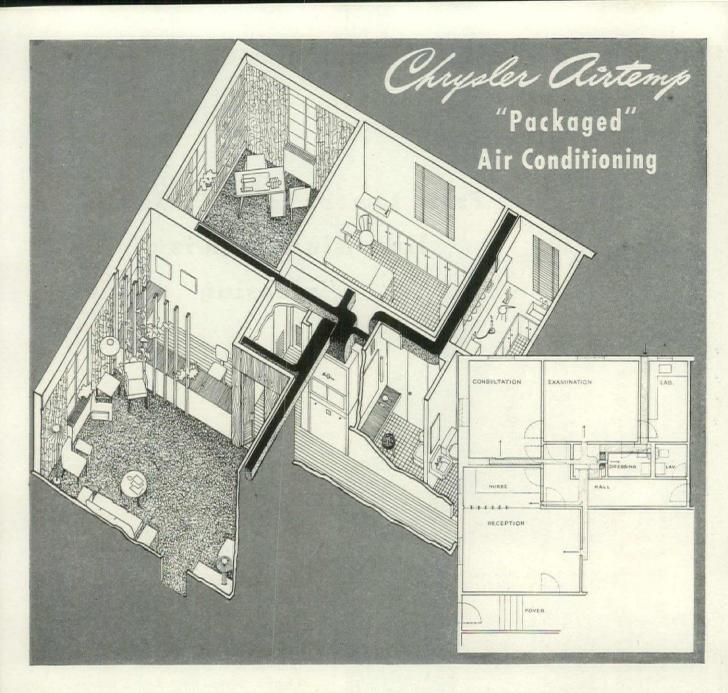
Fine in appearance and easy to keep looking that way; therefore, low on upkeep. These facts help account for the widespread use of Alcoa Aluminum architecturally before the war. They help account, too, for the eagerness of architects "to get going with aluminum" in their postwar designs.

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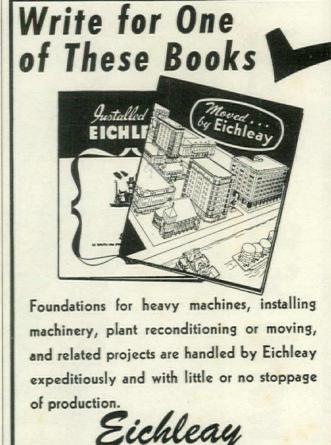
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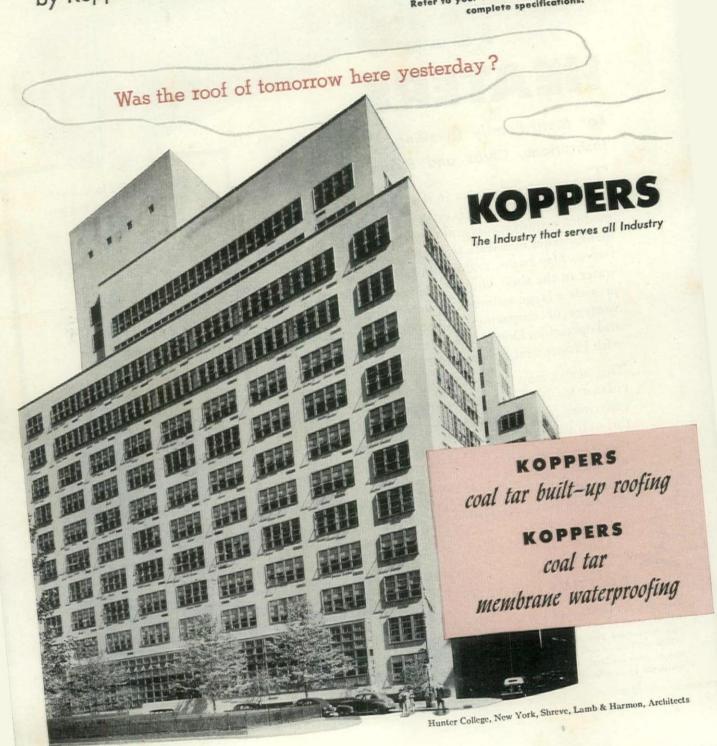
made a generation ago

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If you measure time in terms of Koppers roofs, "Tomorrow," was here yesterday. For the roofing materials that were tops in grandfather's day, are being specified by designers today and will be specified during the years to come.

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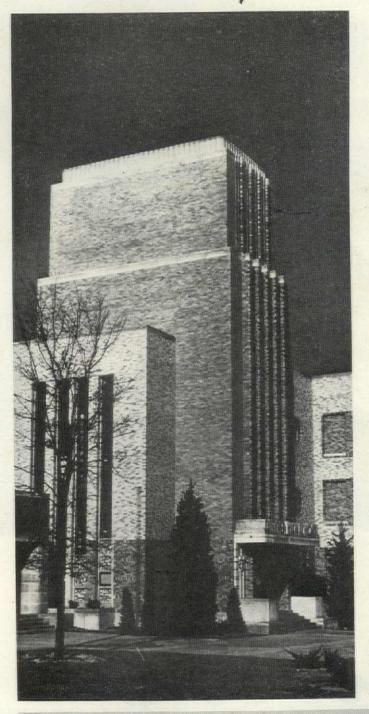
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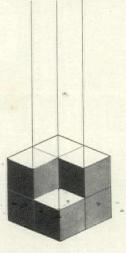






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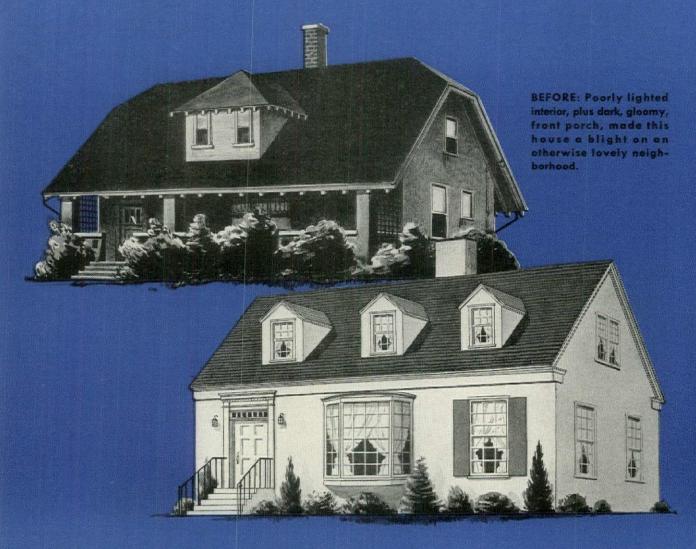
More than a year ago, manufacturers of clay products throughout the country accepted the 4-inch modular unit. These manufacturers believe that modular-designed clay masonry is a genuine contribution to the simplification and economy of building.

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BRICK AND TILE

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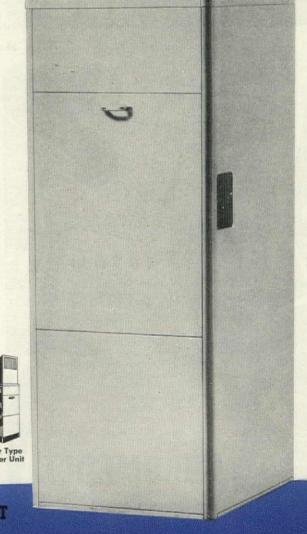


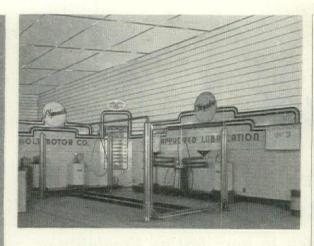
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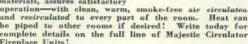


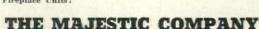
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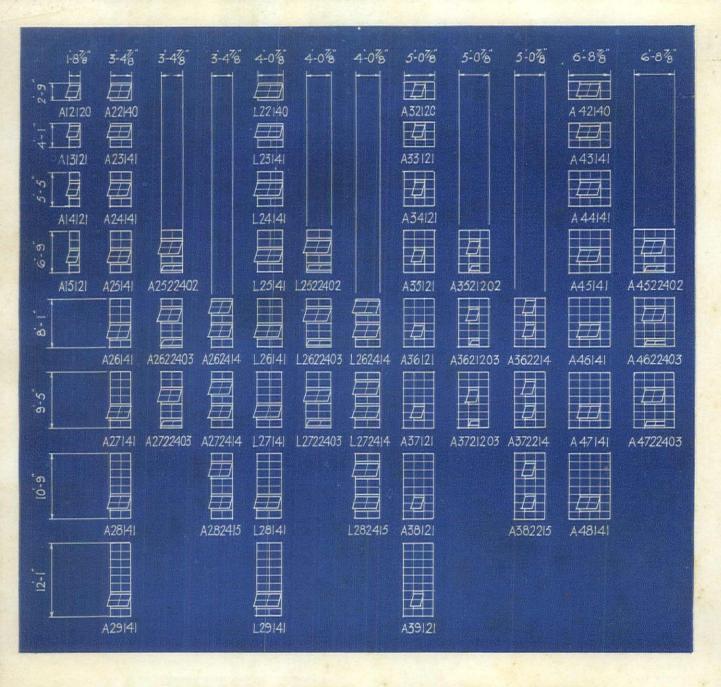
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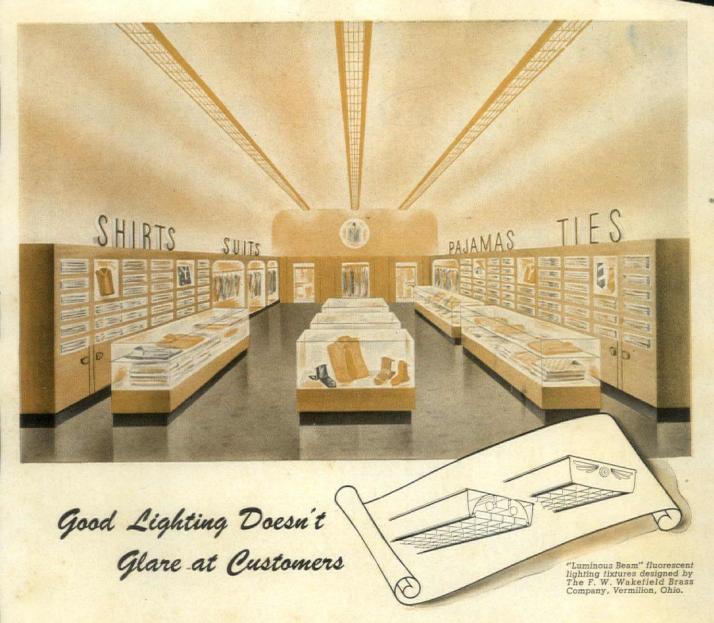
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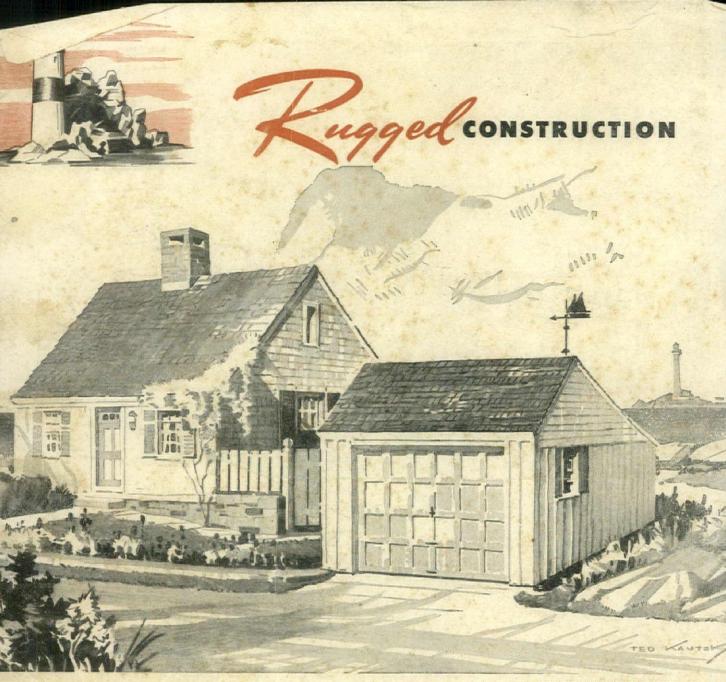
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