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# THE ARCHITECTURAL ORIGINAL

JANUARY 1945

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### FOR ROOF CONSTRUCTION

From roof deck to insulation finished roofing, there's a Celotex product especially developed for every step. Each material was created to work perfectly with the other to produce an ideal, trouble-free roof.

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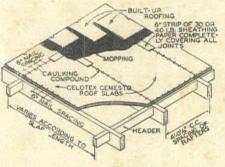
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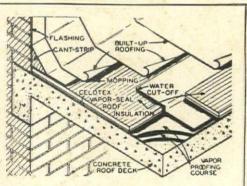
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Consultants, Miles L. Colean, Ruth Goodhue, George Nelson.

Publisher, Howard Myers; Advertising Manager, George P. Shutt; Business Manager, Vernon Hitchcock; Circulation Manager, George Seufert.

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

THE ARCHITECTURAL FORUM is published monthly by TIME Inc., at 19 W. 44th St., N. Y. 18, N. Y. Subscription may be sent to publisher's office or to 330 East 22nd Street, Chicago 16, Ill. Address all editorial correspondence to 19 West 44th Street, New York 18, N. Y. Yearly subscription payable in advance. U. S. and Possessions, Canada, Mexico, South America, \$4.00. Elsewhere \$6.00. Single issues, including Reference Numbers, \$1.00. All copies mailed flat. Copyright under International Copyright Convention. All rights reserved under the Pan American Copyright Convention. Entered as Second Class Matter July 17, 1944 at the Post Office at New York, N. Y., under the act of March 3, 1879. Copyright 1944 by Time Inc.

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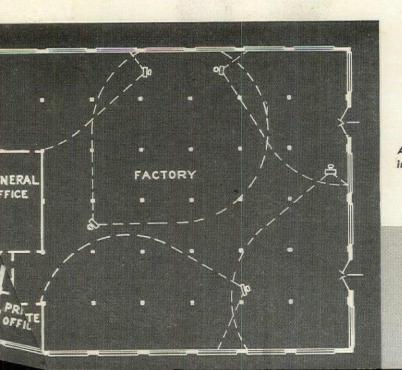
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### REVELATION 22

8 But the fearful, and unbelieving, and the abominable, and murderers, and whoremongers, and sorceres and idolaters, and all liars, hal

the Lamb's wife.

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10 And he carried me away in the spirit to a great and high mountain, and shewed me that great city, the holy Is

A description of the heavenly Jerusalem

19 And the foundations of the wall of the city were garnished with all manner of precious stones. The first foundation was jasper; the second, sapphire; the third, a chalcedony; the fourth, an emerald;

20 The fifth, sardonyx; the sixth, sardius; the seventh, chrysolyte; the eighth, beryl; the ninth, a ropaz; the tenth, a chrysoprasus; the eleventh, a jacinth; the twelfth, an amethyst.

21 And the twelve gates were twelve pearls: every several gate was of one pearl: and the street of the city was pure gold, as it were transparent Of Christ's coming and eternity

Lamb shall be in it; and his servant shall serve him:

4 And they shall see his face and his name shall be in their fore

eren and true, and t Lord God of the holy prophets set his angel to shew unto his servan the things which must shortly !

I come quickly: blesse epeth the sayings of th this book.

hn saw these things, ar And when I had hea fell down to worsh

eet of the angel whi these things.

th he unto me, See the I am thy fellowserval brethren the prophe which keep the sayin worship God.

aith unto me, Seal r he prophecy of t is at hand.

let him be ch is filthy, he that in be b

quic

# TWELVE PRECIOUS STONES

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an bring th he nations it e shali in no wi hing that defileth ver worketh abomin th a lie: but they wi fitte, in the Lamb's book

CHAPTER 22

it shall

NEWS . . . 1945: the Blueprint Boom (this page) . . . Surplus lands and little farmers (page 6) . . . Congress stalls on federal planning aid (page 7) . . . U. S. housing will go to France (page 8) . . . Inflated prices slow G. I. sales (page 8) . . . Speculators wail as New York zones for tomorrow (page 9).

### TWO-WAY FORECAST

Everybody's forecast for the new year had to be made two ways. One-and this was the one the nation liked to look at-was based on an end of the war in Europe by early summer. The other was based on WPB chairman J. A. Krug's production outlook: the end of the war in Europe cannot now be predicted. Cut-backs dropped out of the news spotlight; ordnance and labor shortages elbowed each other for headlines. Bulldozers dug into foundations for \$500 million worth of mortar plants. Small arms ammunition output will be doubled. Housing shortage tracked the new production spurt around the nation.

Savings and loan men muttered that veteran borrowers would get a better housing deal by avoiding FHA insurance; mortgage bankers viewed with alarm G. I. loans made without benefit of FHA appraisal standards. Senator Robert Taft (Rep., Ohio) would soon begin his long-threatened committee probe of federal housing activities. Probable opener: the National Housing Administrator on a broadened postwar formula for the Federal Housing Administration.

Closest look at the immediate building future came from WPB, which said that if V-E day comes by spring, 1945 construction may amount to almost \$4 billion. If not, construction may slump to little more than \$3 billion. Either way, the year would be big with building plans—bigger than any year before. As 1944 flickered out, there were plenty of tokens: The Civil Aeronautics Administration sent Congress a plan for 3.000 new airports to cost more than

\$1 billion—omen of the postwar tide of public and private airport building that may shape the pattern of real estate development throughout the nation. The Public Administration Clearing House reported that 24 states are ready to go with \$1 billion worth of works programs. Standard Oil of New Jersey planned to add another block of skyscrapers to New York's Rockefeller Center; there were murmers about still another Metropolitan Life housing development. Best guess: 1945 will see not a building, but a blueprint boom.

### HOUSE MOVING JOB

War plant construction spurted, longidle ordnance plants went back to work, and war housing need moved up again to the building news front. But the current job is less a building than a moving job, the National Housing Agency said.

Although emphasis is on moving, it is not on demountables. Demountables will stay where they are. This is not only because they are 94 per cent occupied. It is also because the Federal Public Housing Authority has found that it is quicker and costs less to take apart and re-erect an ordinary temporary unit than to move a demountable.

Moving a temporary house saves from \$400-900 as against the cost of building a new one. Because of this and despite rising building costs, the moving scheme will bring the average unit cost of the new program down to \$2,900 (current bids on the temporary unit are running over \$4,000).

Out of money, NHA told Congress it (Continued on page 6)

### WPB OUTLOOK: HOUSEBUILDING WILL SPURT AFTER V-E DAY

	(Millions of		)	A-E DAI	
	1943	1944	Two-front war through 1945	V-E Day by spring 1945	
Total Construction	. 1,318	3,840 685	3,150 525	3,950 775	
Public	. 702	188	75	75	
Private	. 616	497 920	450 <b>595</b>	700 <b>725</b>	

### NEWS

will have to get to work on 14,000 units next month—all of them deemed vital to war production by the Army, Navy and WPB. After a good deal of haggling, NHA got \$20 million to do the job, said it would be back with the next deficiency bill for more. These 14,000 units will not go far to meet the need ahead. New activity in small arms ammunition production will alone require 65,000 more

surpluses, Littell focused Congressional interest on writing the Surplus War Property Act in a way that will give the small buyer a chance at the big government holdings.

Congress charted this outline for land disposal policies: The Act directs that agricultural lands be broken up in small parcels suitable for family-sized farms. It says that former owners must the whole disposal program: How far can war surpluses be used as a tool "to improve the general welfare?" How much must the government be guided by the necessity for getting the best dollar price for its holdings and a quick sale?

tion, also unanswered and central in

Three men will decide how fast the \$100 billion worth of war property owned by the government will get back into private hands, into what hands, and for how much. Last month the President named two members of the Surplus Property Board. Robert A. Hurley is a former Governor of Connecticut. A roads and building contractor for many years, Hurley has recently been vice-president of the Narragansett Machine Co., Pawtucket, R. I. His policy on war surplus, as expressed to Congress: "Not to give it away" and "to operate in a glass house." Lieut. Col. Edward H. Heller has been a director or managing director of 15 or more companies, including a Kaiser ship building firm, a building materials company, retail chains, and a land company dealing in small farms. His policy: "To dispose of surplus war property as quickly as possible at the best price possible." Senator Guy Gillette (D., Ia.), whose term expired with the 78th Congress, is expected to be named as the third member of the Board.

These men will answer the war disposal questions—unless they get more help from Congress. Many a federal administrator and many a Congressman had called the Surplus War Property Act well-intentioned but unworkable as now written. Few believed that the 79th Congress would fail to look farther at questions that may well be decisive in the economic future of the U. S.









WAR DISPOSAL BOSSES: Gillette (probable), Hurley, Heller

workers. Honolulu reported a desperate need for 5,000 houses; the Kaiser shell plant at Fontana needed housing for 1,500 workers; a new plant under construction at Stockton, Calif. would hire 3,000; in Ohio and Michigan expanded output of heavy ordnance castings stalled because foundry workers could find no place to live.

To a budget-careful Congress, the National Housing Agency was able to boast of rising occupancy rates. "We have hit the target," said NHAdministrator John Blandford proudly. Public war housing is now 90 per cent occupied; private war housing, 98 per cent. Even such notorious white elephants as the Kingsbury-Laport, Ind. project for ordnance workers are crowded. And dormitories are at last filling up; with Army discharges at 50,000 a month, many unmarried men are showing up on war jobs.

### FOR SALE: 23 MILLION ACRES

By month's end the tangled story of the Assistant Attorney General who was fired by the President had dropped out of the news. But the unsettled questions spotlighted by the last angry months of Norman Littell's government career would be in the news for some time to come.

As head of the Lands Division of the Department of Justice, Littell probably knew more than any other one man about the 23 million acres of land which the government bought for nonindustrial war use. More aware than most of the potential economic dynamite in disposal of this and of other federal war

be given the first chance to buy at the price for which they sold and that former tenants must be given the next chance. It says that veterans must get buying preference over non-veterans. To these ends, it directs free use of government credit. It also authorizes the government to issue warranty deeds, a step recommended by Littell that will save buyers \$10 million in title search costs.

But the Act does not settle one of the most controversial land disposal questions: what federal agency will get the job of selling farm lands? As Surplus War Property Administrator, Will Clayton had turned this job over to the RFC (ARCH. FORUM, Aug. '44). Littell and others fought for the Department of Agriculture as the agency best equipped to handle farm land disposal in the public interest—a dispute which helped to align Congress back of a three-man board to make top disposal decisions.

The Act neither prohibits nor authorizes the government to deal with real estate brokers. One of Clayton's regulations had authorized the RFC "to utilize the services of approved and established real estate brokers" in selling government lands. Littell urged Congress that a real estate broker's natural interest in a profitable commission and a big cash turnover would not help resettle the small farm owner or veteran in need of long-term loans to get established on the land.

These unanswered questions covered only one small sector of the government's total war property disposal job. But they all turned on a bigger ques-

### LANDLORDS' REPRIEVE

Climbing commercial rents, long protested by New York's small retailers, are now making trouble in Pacific Coast cities, in Texas, Ohio, Massachusetts. And the Office of Price Administration, arguing at last for commercial rent control, saw bigger troubles ahead. Said OPA Administrator Chester Bowles:

"As the German war comes to a close, many demobilized veterans with credits from the GI bill, plus war workers with ample savings, will rush to . . . open up businesses. Vacancies in commercial establishments are already at the lowest point in 20 years.

"Under these circumstances, the present troublesome rise in commercial rents . . . would quickly reach dangerous proportions . . ."

Rejecting Senator Robert Wagner's (Dem., N. Y.) bill to put a ceiling on business rents, the Senate Banking and Currency Committee nevertheless made it clear that this is no pardon for offending landlords, but only a reprieve. Hope is that the New York State legislature will at its next session supply a corset for Manhattan's plump commercial rents. If not, and if such rents con-

housing for 60 years or more. . . . Standards are too often used to eliminate inventiveness. An improved housing product can be achieved, not by rigid standardization and centralized control, but by the ingenuity and inventiveness characteristic of our country."

Henry Kaiser told the lenders they could bring U. S. homebuilding pros-

Myron Ehrenberg





BUILDING MONEY CONFEREES: Dorothy Rosenman, architect Ralph Walker, Institutional Securities' Corwin Fergus, realtor Alexander Summer, Frank Cortright, NAHB.

tinue to increase in other cities, Senate leaders plan to write commercial rent control into the price control bill.

### WHAT CAN BUILDING MONEY DO?

If it's always the fellow up the street who does the wildcat financing, then something might be gained by getting all the fellows on the street to sit down together and start thinking about how the postwar building boom can be financed on a sound basis. That, at any rate, is the hopeful approach of the National Committee on Housing, which invited building money men in New York State to get together for a scrutiny of lending standards and practices. The Committee hopes other state-wide lenders' conferences will follow.

Most of the evils in mortgage practice, said George S. Van Schaick, vice-president, New York Life Insurance Co., are the "by-product of an unrestrained and unhealthy rivalry for loans . . . Minimum standards of security should be accepted generally by investors. . . . Here is a field in which competition in service may develop far and wide in the public interest without jeopardy to investors and without discredit to mortgage finance. . . . There is no field where shoddy goods serve any useful purpose, least of all in the field of improvements on land."

But construction standards without flexibility are not the way to building Utopia, observed architect Ralph Walker, who thinks "every standard should be shaken out at least once every five years to see whether it has gathered any moths of complacency. We may safely assume that any standard, perfect for the moment, may be just as wrong the day after tomorrow. Yet we lightly set standards in public

pects to "magnificent fruition by tempering the money market point of view with a recognition that social progress cannot be denied." Kaiser hoped they would take up the "opportunity for cooperation—a plain old-fashioned word yet so little comprehended and so seldom applied that business, government, political institutions, even nations themselves, have fallen because they neglected to put it into practice."

Lenders generally nodded approval at proposals for agreement on mimimum lending and construction standards, an end to the jerry-inspection that condones jerry-building, went home muttering that something might really get done about it all if only the fellow up the street would cooperate.

### PLANNING MONEY STALLS

St. Louis has authority to issue \$63 million worth of bonds for postwar building and a lot of ideas. But St. Louis has no plans. To pay for plans, St. Louis would have to begin selling bonds, pay interest on them for an indefinite period before actual construction can begin. Whenever Congress makes up its mind to grant the \$75,900,000 appropriation for advance planning aid authorized by the reconversion law, St. Louis and any other city can ask the Federal Works Agency for planning money, interest free.

But last month Congress clipped the planning dollars from the appropriation bill it passed. The reason: most Congressmen are not yet convinced that immediate planning expenditure is imperative if jobs are to be ready when the nation will need them most. The result: hopeful of federal aid, cities and states will go on twiddling their planning thumbs until mid-summer, the earliest date federal planning funds could now become available.

### SOLAR DEVELOPMENT

In Denver, where the sun shines 304 days of the year, the first normal building year will see 500 solar houses. The building team back of the first large-scale solar development is not worried about finding customers. Franklin L. Burns, who last month bought a 115-acre site near Denver University, has long been sold on sun-warmed and sunlighted houses. Burns discounts the bearish estimates of customer reaction freely proffered by local building conservatives by counting in Denver's housing pinch. He thinks the big demand for

(Continued on page 8)

### SEVEN-UNIT PREFAB

Just finished at the University of Michigan is a five-room and bath house that can be factory-produced as seven completely prefabricated units. Bolted together on the site, the units can be unbolted and rearranged in various room combinations—a potentiality that should add up to enormous market appeal among the legion of housewives addicted to moving the furniture around.

Warm floors and no furnace pipes, no nails and built-in-plumbing are features of the experimental model developed by George B. Brigham, associate professor of architecture. One major design innovation is the heating system, which forces hot, filtered air into a ten-inch space formed by steel trusses between the floors. Heavy insulation prevents heat loss downward, while rooms are heated



by registers cut into the floors. The 8 by 16 ft. prefab units are built from insulated panels framed by interlocking steel strips.

Designed to last as long as a conventional house, this prefab, Brigham thinks, can be produced to sell for \$4,000. The model has 15 doors (five outside), 16 windows, a couple of skylights. There are five double-sized closets, storage room, combination porch and car shelter, laundry room, furnace room and kitchen.

### NEWS

housing will step up market acceptance of the solar design by ten years.

As an opener in the 194X building market, glass construction has tangible advantages. With building prices at record peak, a glass wall costs less than

Floyd McCall



**SOLAR BUILDERS Trembley and Burns** 

a brick wall; a solar design can deliver more house for less money. With lumber critically short and the chief uncertainty in postwar building revival, glass is available without priorities.

To these construction pluses, Burns plans to add a merchandising plus in which Denver furniture stores will share. As soon as it can get a WPB go-ahead, the firm will build two model houses.

These will be completely furnished by Denver stores, who will join in an advertising program. Each will be equipped with a washer, refrigerator, dishwasher, gas stove in what Burns calls a "semibuilt-in" arrangement. House, equipment and furniture will be offered in one sales package.

More than half of the over-all wall area of the Burns house will be glass. The solar wall in the living room will be completely glass; other walls will have greatly increased glass areas, combined with frame or brick siding. Houses will have radiant floor heating, no basement. Prices will range from \$5,000-\$20,000.

Private Franklin Burns spends his furloughs back of his desk at the Burns Realty & Trust Co. Lester E. Trembley is in charge of the firm's building operations.

"After the war I am not going to sell houses, I am going to sell neighborhoods."

-David Bohannon, San Francisco developer.

"After the war our closets will sell our houses."

-Abraham Levitt, Long Island developer.

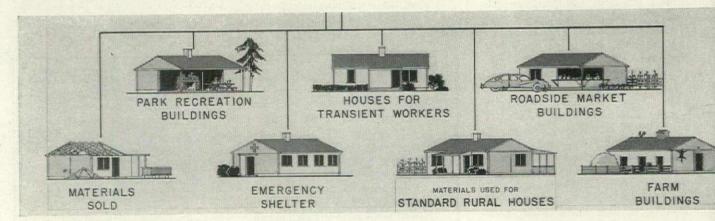
### INFLATION BLOCKS GI HOME LOANS

An asking price not in line with "reasonable normal value" has already turned down some of the several hundred home loan applications now before the Veterans' Administration. In these cases, veteran borrowers have been willing to pay the difference between the price VA considers reasonable and the actual market price of the property. But so far VA has been conscientiously respecting the intention of the law: to protect veterans against an unsound investment in home ownership.

Except for new construction, which is price-regulated, it is hard in the present sellers' market to find a house up for sale at a price anywhere close to its "reasonable normal value." And the necessity for rejecting inflated mortgages may also have the effect of shutting the veteran out of home ownership unless new and urgently needed housebuilding gets a go-ahead in time to bring down the prices of older property. If housebuilding in volume does not catch up with the time limit on GI loans (two years after war's end or after the veterans' discharge, whichever is longer), many a veteran will be denied the opportunity to make use of federal credit.

Even the dozen home loans that last month got VA approval showed the ef-

### 300,000 TEMPORARY WAR HOUSES MAY FIND THESE NEW USES



Unlike other government agencies with war surplus problems, the Federal Public Housing Authority will not be able to sell the 300,000 temporary war houses it owns to the normal market. Congress has made it clear that these houses may not be sold for residential use in the war communities where they are located.

Unlike some other war commodities, temporary houses have little salvage value. Big bombers and tanks, for example, can be junked profitably. But FPHA experiments have underlined what many a building man knows: cost of tearing down a temporary dwelling exceeds the amount that can be realized by selling its component materials.

FPHA has found it economical to dismantle these houses and put them together again to meet war needs in new localities (see page 5). Some of the houses no longer needed here will be shipped to French ports where they will shelter dock workers. The French Pro-

visional Government is buying 1,300 vacant war units for re-erection as barracks. Panel materials for some 4,500 new buildings, supplied by eight or ten U. S. prefabers will also be sent to France.

Domestic uses for the temporary structures as charted by FPHA (above and right) include a variety of utility and farm buildings. Federal agencies, city, county and state governments will get the first chance to buy the temporaries for these purposes, at a very small cost.

fect of the real estate price climb. The least costly one, a house in Maryland, sold for \$5,000. But a look at the record showed that this little white frame house had sold for \$3,100 in 1941 under FHA mortgage insurance. Happily, the record was actually a good deal better than it looked. Scare headlines dissolved against these facts: more than \$1,000 had been spent to improve the property since its sale in 1941; the neighborhood had considerably improved; the new mortgage includes \$425 for purchase of the lot, previously leased on a 99-year agreement. Most of the loan applications before VA cover houses in a \$6,000-\$12,000 price range. The price average will, however, go lower; early applications come from the big cities, do not represent a national average.

"Progress is made through deviations."

-Bryn Hovde, former chairman Pittsburgh Housing Authority

### NO BRAKE ON OVER-BUILDING

Although almost every real estate investor in the five boroughs shouted that the new zoning amendment would throttle 194X building, New York City last month reluctantly made up its mind to update its zoning resolution, making the first major changes in the regulation since its adoption in 1916. The city's

disinclination to take the advice of its Planning Commission on how to regulate new building to the public advantage was expressed officially by one of the commissioners, Irving Huie, who had a zoning plan of his own, and by four borough presidents, who voted against the amendment. Unofficial dissent was noisily expressed by 51 business and civic organizations, who organized for the battle as the Citizens Zoning Committee. This enterprise was funded and inspired by a curious amalgam of investors fearful that any trimming down of height and bulk would make new building unprofitable and of theoreticians doleful that the zoning step forward did not step farther towards a solution of basic planning problems.

Planning and Park Commissioner Robert Moses, who almost single-handedly shoved the zoning changes down New York's reluctant gullet, distributed invective impartially among visionaries and real estate speculators. Those who doubted that the planning commission had given adequate study to the zoning changes were dubbed a "respectable front" for predatory interests. To City Council President Newbold Morris' query about the economic significance of the changes, Moses replied: "It is not our business to guarantee every promoter what he thinks to be a fair return on what he says was his investment."

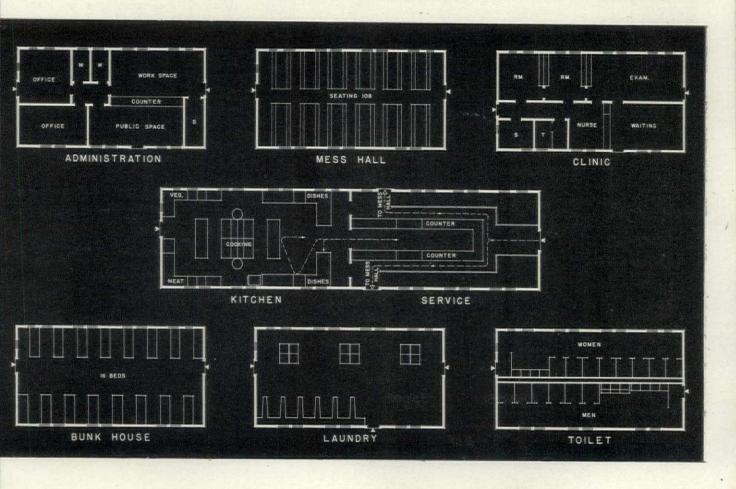
At the year's end, as the Citizens' Zoning Committee threatened court action to break the amendment and the

Department of Housing and Buildings set about revoking building permits issued during the recent rush to beat the stiffened requirements, New York real estate traders plunged into gloomy prophecy:

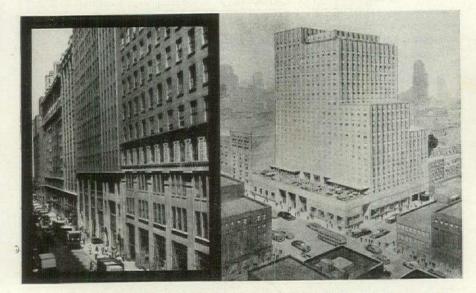
- Manhattan will have a boom in secondhand buildings; on high-cost land, it will be more profitable to peel an old office building down to its steel framing and cover this anew than to build under the present restrictions.
- ▶ One-third of the value of non-residential property will be destroyed; a proportionate part of the city's tax income will vanish.
- Small business will disappear; the new law penalizes the small owner and the small retailer, encourages large commercial developments.
- ▶ Chain stores and other retailing enterprise will no longer seek new Manhattan locations; demanding the 100 per cent ground floor coverage denied under the amendment, retailers will tend to spread out farther to the suburbs, accelerate decentralization.

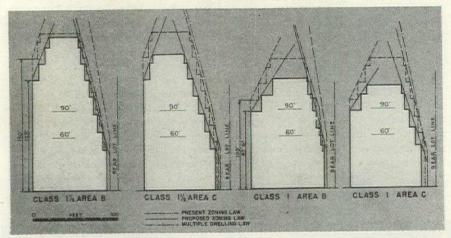
But to some New Yorkers the prophecy that both business and building would abandon the city had a familiar ring; even graver disasters had been foretold when New York passed its first zoning resolution in 1916. And while they might deplore Commissioner Moses' steam-roller tactics, most of the 5½ million city dwellers who do not have

(Continued on page 10)



### NEWS





NEW YORK ZONING REVISION promises reduced bulk in crowded Manhattan business districts, easement of traffic congestion. The office building of the future, with offstreet loading facilities and deep terrace set-back provided, may look like the drawing at the upper right, the planning commission says. Charts show the reduction in residential building volume made by the zoning changes; opponents claim this reduction is not enough. The City Planning Commission used all these illustrations to sell its amendment to New York's Board of Estimates.

large real estate interests applauded their results.

The tightened zoning regulations promised more light and air, easement of traffic congestion. They were not as revolutionary as real estate men feared or as planning-conscious citizens might hope. Wall heights will be reduced from 12 to 25 per cent at the building line. Setback slopes will be increased. Permissable lot coverage will be cut in amounts ranging from 10 to 35 per cent.

The new rules will mean over-all cuts in building volume ranging as high as 47 per cent in more restrictive districts, but in every case bulk and height reductions will be directly related to the size of the lot occupied. Said the Commission: "A building of moderate height and bulk, even a small taxpayer, may contribute relatively more to local pedestrian and vehicular congestion than a skyscraper on an adequate lot." The

amendment will not, therefore, mean the end of skyscrapers. Towers will still be permitted on 25 per cent of the lot area, and neither tower height nor volume will be reduced. Commissioner Huie, earnest sponsor of a bulk zoning proposal which would set limits for gross floor area, criticized the amendment as "too drastic in the highly assessed business districts" and not drastic enough in the city's undeveloped and largely residential areas.

Manhattan, where 100 per cent ground floor coverage for retail establishments has been permitted, was hardest hit by the requirement that will limit almost all building to 65 per cent of an interior lot or 80 per cent of a corner lot. Not even one-story retail buildings are exempted. If off-street parking is provided, ground floor coverage may be increased by a compensatory amount. But, real estate men complained, small retail buildings on inside lots cannot possibly



NO MORE 100 PER CENT COVERAGE for one-story taxpayers like this building.

provide off-street parking because owners cannot, in built-up blocks, find space for a vehicle entrance.

Unabated protest brought the promise of an amendment that would increase ground-floor coverage to 75 per cent. The planning commission, first to agree that the new amendment is far from perfect as a city-planning instrument, also promised a two-year study project that would lead to complete zoning revision. Planning-conscious citizens hoped the commission would give some incisive thought to reducing the excessive amount of New York land zoned for both residential and business use, and to more direct control of population density. The old zoning law provided for a residential population of 77 million and a working population of 344 million - and these theoretical maximums have not been greatly reduced. Until land use is rationalized and zoning inspired by a working city plan, the economic brake of mortgage collapse will continue to be a more effective check for over-building than the public brake of zoning control.

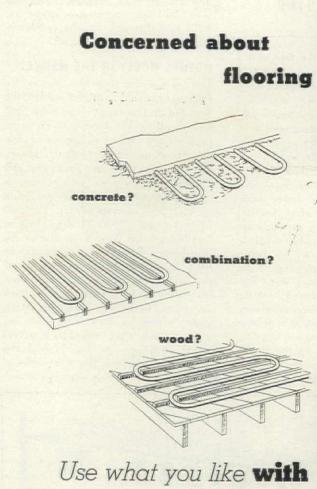
"We not only need to defend our standard of living, we need to achieve it."

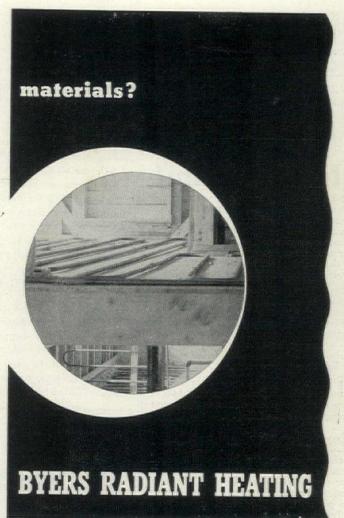
—Harold E. Buttenheim, editor The American City

### TEXTILE NOTE

Cotton duck made housing news of several kinds last month. In Alabama and Florida the Farm Security Administration took a look at ten houses whose cotton duck walls and roof have been tested by five years of wind and weather. Built in 1939, the houses were part of a double-barreled FSA experiment intended to produce both low cost rural housing and a new use for a surplus material readily available in the cotton states.

Cotton duck had stood the weather well, FSA testers reported. Two of the (Continued on page 12)





The effect of Byers Radiant Heating on various types of floors—and the effect of various types of floors on Byers Radiant Heating—are so frequently questioned that a definite answer should be helpful.

Based on experience and observation covering several hundred installations representing practically all types of floor materials and floor coverings—concrete, wood, asphalt and rubber tile, terrazzo, linoleum, and even flag-stones, bare, with scatter rugs and fully carpeted—we have yet to encounter any difficulties that could be attributed to a properly designed floor type radiant heating system.

This is not at all surprising, when conditions are considered. The surface temperatures of radiantheated floors generally range between 70° and 85°, which is less than body temperature. Comfort is maintained because radiant heating substitutes a large area, moderate temperature heat source for the small area, high temperature source of conventional systems. Even in the coldest weather, surface temperatures are ordinarily less than those built up day after day on the same floor in summer, or in countless homes where the furnace room or uninsulated heating flues build floor temperatures far in excess of anything found in radiant heating. Radiant heating has been successfully used with

concrete floors, wood floors, or a combination of wood and concrete. Regardless of type, Byers Wrought Iron pipe makes an important contribution both from the standpoint of heating efficiency and longevity of the system.

Byers Wrought Iron expands and contracts at almost identical rates with concrete. This eliminates danger of cracking and loss of bond.

Byers Wrought Iron has a high rate of heat emission, and maximum heat emission is a prime requisite of any radiant heating installation.

Byers Wrought Iron is readily formed and welded, and because of its unique structure it has an exceptional degree of corrosion resistance.

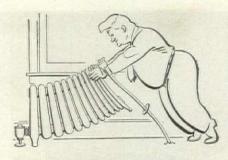
If you would like our bulletin, "Byers Wrought Iron for Radiant Heating," we will gladly send you a complimentary copy. And feel free to call on our Engineering Service Department for information or help at any time.

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With a Webster Moderator System, radiators are "flexible." In coldest weather, the entire radiator is in use and filled with steam. In mild weather, steam delivery to radiators shrinks to the needed quantity. The amount of steam delivered to a radiator depends not on the size of the radiator, but on outside temperature.

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The Webster Moderator System assures prompt heating-up, balanced distribution of steam and even room temperature throughout the building.

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If you're interested in flexible, adequate heating, write for "Performance Facts." This free booklet contains case studies of 268 modern steam heating installations and shows the great savings possible with the Webster Moderator System of Steam Heating., Address Dept. AF-1



In the Webster Moderator System of Steam Heating there are just four control elements—an Outdoor Thermostat, a Main Steam Control Valve, a manual Variator and a pressure control Cabinet. These controls are an integral part of the Webster System . . . assuring the highest expression of comfort and economy in modern steam heating.

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### MONTH IN BUILDING

(Continued from page 10)

houses, left unpainted for five years, only recently developed a few roof leaks. Eight of the houses, painted after three years, were in first-rate condition. FSA pronounced cotton duck thoroughly satisfactory as a roof and exterior wall finish, excellent as insulation, in need of painting no oftener than wood.

Although a number of building men have asked FSA for data on the experimental houses, there will be no more cotton duck houses until after the war. What was five years ago a surplus commodity is now a critical production problem. Millions of yards of this fabric are going into GI tents and duffle bags, a hundred other articles of war. Tarpaulin has almost disappeared from the market; all that can be spared from military use has been shipped to roof over Britain's roblitzed buildings.

But lack of housing in the textile towns is keeping workers off the job, mills behind schedule. Backing up the National Housing Agency's plea for more building money (see page 6), WPB said that only housing-in-a-hurry can untie this production knot.

### MUTUAL MONEY IN THE MARKET

Last of the big five life insurers to enter the national mortgage market, the Mutual Life Insurance Co. of New York last month let out another notch in its caution, prepared for an appetizing slice of the boom building of 194X. From now on building in the South, Southwest and Pacific areas, where the company is opening seven regional offices and lining up mortgage correspondents, will find Mutual a ready, if unobtrusive, backer.

Although this New York firm is the fifth biggest life insurance company in the U. S. and has written policies on half the nation's population, its real estate investments have been largely confined to property in the New York area. Mortgages outside of New York state account for only 9 per cent of its total real estate portfolio. Nor has Mutual had anything to do with the extra risks of

(Continued on page 14)



Milwaukee Negro Citizens built these modern homes as a redevelopment start

### REBUILDING WITHOUT SUBSIDY

Without subsidy, without even the help of FHA insurance, Milwaukee's Negro citizens have taken a substantial step towards solving their own housing problems and cleaning up one of the city's oldest, most down - at - the - heel neighborhoods. Owned, managed and rented by Negroes, Sherman Hill Houses were built at a cost of \$4,200 a unit, including cost of land and demolition of existing structures. Average rent for the 10 apartments is \$40. One-fifth of the rental income goes to local taxes.

A year ago Negro leaders sought and got a priority allocation for 75 houses for the Sherman Hill district, where 12,000 Negroes are crowded into the old homes of the well-to-do, most of them now cut up as rooming houses. Carver Memorial Homes, the corporation formed to build the houses, is backed by no philanthropist, by no public money, by no im-

posing financial arrangement. There are 65 stockholders, and few of them have invested more than \$200. Eighty per cent of construction cost was loaned by Milwaukee's Security Savings and Loan Association and the Mutual Savings and Loan Association. The remainder was advanced by Roth & Taplin and 10 other building firms and will be repaid by the corporation. Strong support from the Milwaukee chapter of the National Association of Home Builders and its president, Frank Roth, helped to get the project on its feet.

Sanford Carter, president of Carver Memorial Homes, says more projects will follow, all with a three-fold purpose: "To provide housing owned, operated and occupied by Negro families; to demonstrate that Negroes can be economically self-sufficient; to make a start in rehabilitating the area in which Negroes principally reside."



1. A business man asks . . .



3. An architect wonders . . .



2. A professional man inquires . . .



4. A department store manager asks . .

## Does 0TIS still make elevators?

Certainly! We've never been out of the elevator business, although our engineering and manufacturing facilities have been working 100% for the Armed Services.

It is true that we have manufactured vast quantities of parts for guns, ships and aircraft for the Army, Navy and Air Corps but, because vertical transportation is essential in the production and handling of munitions of war and in the operation of aircraft carriers, we have continued to produce a large volume of passenger, freight and special purpose elevators.

We have been too busy producing war goods to say much about the future — but

Now - representatives in our 244 offices are ready and waiting to work with architects, engineers, and owners in the preparation of surveys, plans and estimates on new elevator installations or the modernization, repair or maintenance of existing facilities.

Your action now will expedite future deliveries. Production will begin as soon as material and labor are no longer required for war goods.



## Wood SERVES IN WAR



Wood goes up fast... wood helped speed the war effort. Wood will do the same for you when you shift to peacetime construction.

## Treated Wood combats DECAY AND TERMITE ATTACK

Wolman Salts\* preservative has been proved in service. The performance of hundreds of millions of feet of lumber treated with it testifies to the worth of Wolmanized Lumber\*.



## Pressure Treatment assures



Pressure treatment drives the Wolman Salts solution deep. Fiber-fixation holds it there. You're safe when you specify Wolmanized Lumber.



1647 McCORMICK BUILDING, CHICAGO 4, ILLINOIS

### MONTH IN BUILDING

(Continued from page 12)

FHA war housing insurance. While its competitors have financed giant war housing developments under Title VI insurance, Mutual has never acquired a Title VI mortgage.

Mutual's late-coming move to extend its lending operations is only one of the new-fangled methods gently introduced to the oldest U. S. life insurance company since the advent of Lewis Douglas as president. One-time head of McGill University, one-time director of the U. S.

T



MUTUAL'S Boyle, Douglas

budget, Douglas has in recent years been pretty busy chipping off the tradition thickly encrusted on Mutual's methods. Actually, this is only a return to an earlier tradition, for Mutual, established by a marine insurer in 1843 to write the first life insurance policy ever issued in this country, was in its early days a relatively daring financial adventurer. Tagged by the end of the century as the "biggest financial institution on earth". the company was the first to establish an agency system, devised the first mortality table for calculating premiums, and wrote the first policies payable in installments. In 1849 policy-holder Cyrus W. Field, who laid the first Atlantic cable, paid the company a \$50 premium for permission to travel to Europe, but five years later Mutual was so progressive that Field was permitted to go to Europe at no premium.

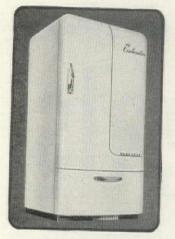
The company's appearance in the national mortgage market will be an unostentatious one. Arthur A. Boyle, manager of mortgages, is a firm believer in working through well-established local lenders who know local markets and building practices. For the most part, Mutual will play a secondary role in the lending picture, but its interest in initiating mortgages-especially those covering large rental housing developmentsis on the increase. The company expects to give strong support to the veterans' housing loan program, but its real estate officers are not particularly happy about the appraisal standards (or lack of them) prescribed by the Act and by the regulations. There will be plenty of room for prudence, Boyle says, and lend-

(Continued on page 18)

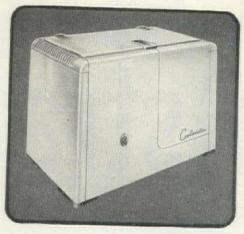


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OF HOMES		LECTRIC COOLERATOR 2 cu. ft. and 9 cu. ft.			61/2	FREEZERS 6½ and 15 cu. ft.			COOLERATOR ICE REFRIGERATOR 51/4 and 61/2 cu. ft.			
over		Width	Depth	Hgt.		Width	Depth	Hgt.		Width	Depth	Hgt.
\$15,000.00	9½ cu. ft.	331/2"	251/4"	661/8"	15 cu. ft. 6½ cu. ft.	303/8" 283/8"	72" 47"	38" 373/8"	6½ cu. ft.	311/2"	271/4"	591/2
\$ 8,000.00 to \$15,000.00	9½ cu. ft.	331/2"	251/4"	661/8"	15 cu. ft. 6½ cu. ft.	303/8"	72" 47"	38" 373/8"	6½ cu. ft.	311/2"	271/4"	591/2"
\$ 5,000.00 to \$ 8,000.00	9½ cu. ft. 7½ cu. ft.	33½″ 31½″	25¼" 25¼"	661/8"	15 cu. ft. 6½ cu. ft.	303/8" 283/8"	72" 47"	38" 373/8"	6½ cu. ft. 5¼ cu. ft.	311/2"	271/4" 25"	59½" 55¾"
below \$ 5,000.00	7½ cu. ft.	311/2"	251/4"	611/8"	6½ cu. ft.	283/8"	47"	373/8"	6½ cu. ft. 5¼ cu. ft.	311/2"	27¼" 25"	59½" 55¾"

Under this one name "Coolerator" you can provide practically any kind of a home refrigerator . . . from the largest capacity Freezers and Electric Refrigerators to the most economical Ice Conditioned Refrigerators. This is a set-up unique in the refrigerator business . . . backed by a company with a proven record of fine styling and

durable construction . . . with ten years of national advertising . . . nearly a million satisfied customers. Ready for early production of genuine postwar models, not makeovers of former styles.

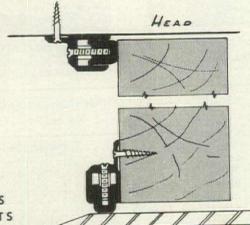
Before you design or build postwar homes, remember Coolerator's unique, complete home refrigerator lineup.



America's Largest Sole Specialists in Home Refrigeration

# MICHAELS

# ADJUSTABL AStragals



are designed to compensate for expansion or contraction of doors. Made of extruded bronze, aluminum or nickel, they are easily installed and adjusted; prevent drafts, air currents, and help to keep out dirt and dust. They are simple, practical, rugged, and available in several styles for any type of doors. 

Architects and builders have been specifying and using Michaels Adjustable Astragals and other products for many years. And while present wartime restrictions preclude their manufacture, we believe it will be to your advantage to investigate NOW.

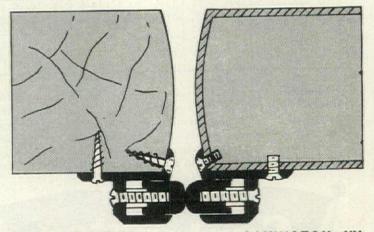
We shall be glad to send complete information and specifications on any or all Michaels building products.

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Marquise Push Bars Wire Work Exhibit Cases Elevator Doors Tablets and Signs Name Plates Bulletin Boards Cast Thresholds Store Front Sash Parking Meters Lamp Standards Kick and Push Plates Extruded Thresholds Extruded Casements Welded Bronze Doors Elevator Enclosures Building Directories Grilles and Wickets Bronze Lighting Fixtures Bronze Casement Windows Fixtures for Banks and Offices Bronze and Iron Store Fronts Bronze Double Hung Windows Bronze Markers and Plaques Railings (cast and wrought) Check Desks (standing and wall) Wrought Iron Lighting Fixtures Stamped and Cast Radiator Grilles

Above: Type A Surface Astragal may be applied to wood or hollow-metal doors, or as a stop bead, or at bottom of door.

Right: Type A-1 Astragal for surface application on bullnose hollow-metal or wood double door.



THE MICHAELS ART BRONZE CO., Inc., COVINGTON, KY.

Manufacturers since 1870 of many products in Bronze, Aluminum and other Metals



Experienced representatives wanted!

Keep on Buying War Bonds!

## EDWARDS announces "OVER-ALL" SIGNALING SYSTEMS FOR SCHOOLS AND INSTITUTIONS

• EDWARDS AND COMPANY, the oldest manufacturer of electric signaling devices in the country, is pleased to announce that it can supply complete clock and program signaling systems, powered by the famous Telechron synchronous movements, along with its well-established line of school telephones, audible and visual signals, and fire alarm systems.

Accurate, complete and comprehensive in every detail, EDWARDS now offers architects these advanced "over-all" systems, backed by years of EDWARDS "know how" in electric signaling.

This important new service for architects marks another forward step by EDWARDS AND COMPANY, who have received the endorsement of the profession for its work in the architectural field. Over 70,000 copies of "How to Plan Your New Home" have been distributed as a result of EDWARDS' consumer advertising, describing the architect's place in home building.



... a clean cut, modern shower, available for immediate delivery

FIAT

SIZES: 32x32x75 and 30x30x75.

WALLS: Tempered, hard pressed treated fiberboard coated on both sides with waterproof baked-on-enamel. Standard color, gray. White on special order. Frame, all steel, including front stiles and threshold. All exposed metal parts finished smooth.

RECEPTOR: Pre-cast reinforced cement. Non-slip, leak-proof, sanitary. Drain cast integral with receptor.

• This type of shower is very popular because of its economy in first cost and ease and speed in erecting. Thousands of Volunteers have been installed with complete satisfaction to users. Many wartime installations of these Volunteer cabinets have been in constant.

daily use for over two years; a severe test of quality of materials and waterproof construction. Not a single instance where dissatisfaction has resulted due to defects of construction or breakdown in materials has been reported.

The Volunteer represents a most successful shower cabinet of unusual value to the user and a profitable item to plumbers and plumbing jobbers.

### FIAT METAL MANUFACTURING CO.

1205 Roscoe St., Chicago 13, Illinois

21-45 Borden Ave., Long Island City 1, N. Y. • 32 So. San Gabriel Blvd., Pasadena 8, Calif.

### MONTH IN BUILDING

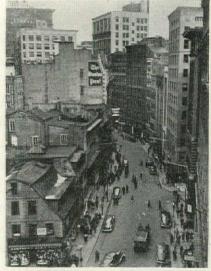
(Continued from page 14)

ing caution can go far to protect the interest of the veteran home owner.

#### **BOSTON LOOKS AHEAD**

Two-thirds of all Bostonians live outside of Boston. Core of a community of 2,500,000, Boston proper has only 800,000 residents—and the smallest corporate area of any of the ten biggest U. S. cities. This is the nub of Boston's urban problem, and none of the top three prizewinners in the Boston Contest failed to

Life



NEWSPAPER ROW is one of the crowded downtown streets whose traffic problems might be solved by planning proposals offered by award-winners in Boston Contest.

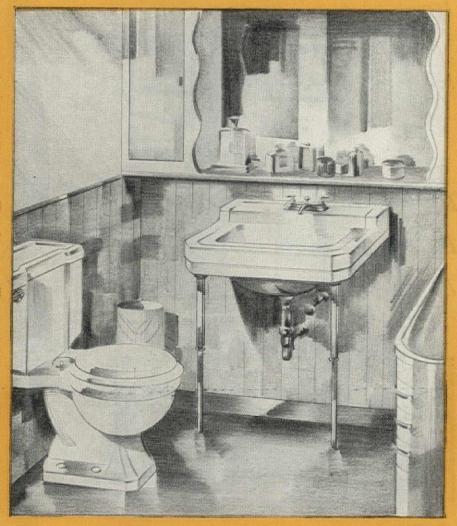
recognize that a solution for Beacon Hill must actually begin with Brighton.

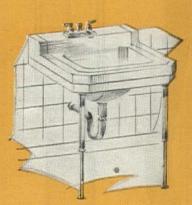
The distinguished teams who last month got awards in the planning contest sponsored by Boston University all agreed on the need for a self-controlled, self-financed metropolitan agency to administer essential services for towns and communities in the area. All proposed unified metropolitan planning. But none of the winners thought that merger of Greater Boston into a single city would be politically possible; all said that interference with the local autonomy of Boston's satellite communities must be avoided. Among the winning recommendations were proposals for shifting the real estate tax base to income value and wider municipal use of state tax resources. One plan outlined a system of spoke highways radiating from the central business district to connect with a belt-line parkway system.

Boston University's laudable effort to interest Bostonian's in charting their own future drew 90 plans and some of the city's best talent. First prize went to a Harvard team: Seymour Harris, associate professor of economics; Tal-

(Continued on page 22)

### ELJER PLUMBING FIXTURES





The Savoy Lavatory



The Sylenta Closet

## Suggestion = Acceptance

### FOR THAT EXTRA WASHROOM

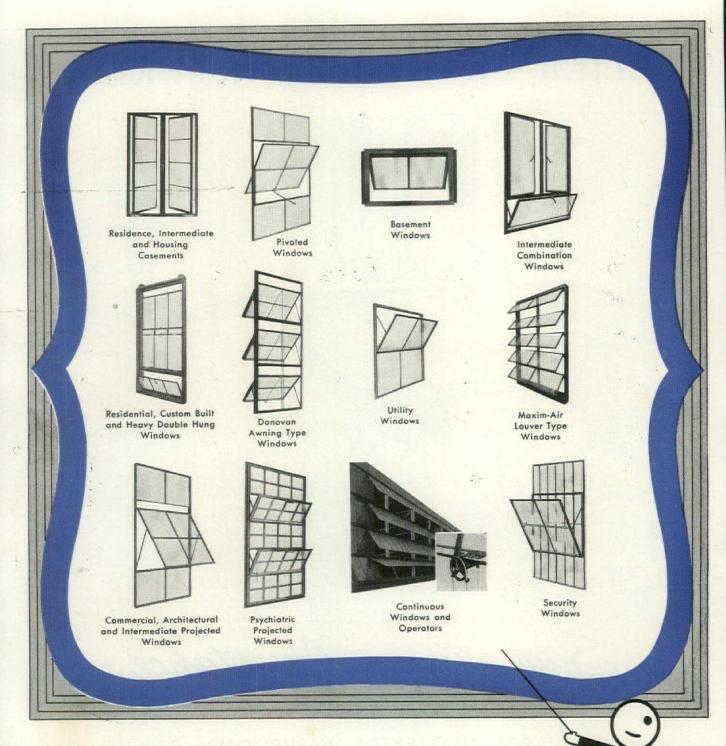
Nothing pleases the American homeowner more than adequate and well located plumbing fixtures. Any ingenious suggestion that you can make to provide for extra comfort, over and above the basic fixtures themselves, will win warm acceptance from your clients. Call it extra washroom, powder room or lavatory. Locate it in the front entryway, behind the stair well, or adjacent to the rear entrance and kitchen. Even consider its

possibilities in the upstairs quarters. No matter its name or placement, the suggestion will find enthusiastic acceptance.

Name ELJER in your specifications. The presence of ELJER plumbing fixtures in houses for sale by the merchant builder assures his client's or purchaser's enthusiastic acceptance of the plumbing installations.

ELJER CO. FORD CITY, PA.

SINCE 1907 MAKERS OF FINE PLUMBING FIXTURES



### Announcing ...

### TRUSCON WINDOW RECONVERSION PLANS

These are the Truscon Steel Windows we will start producing when our wartime obligations are fulfilled, and we again can serve the architects and builders of America with Truscon quality window products so well-known throughout the industry. This complete line of quality steel windows will solve your particular window and design problems with a minimum of time and effort.

Write today for a copy of our SWEET'S Catalog reprint giving types and sizes of all Truscon Window Designs.



YOUNGSTOWN 1, OHIO

Subsidiary of Republic Steel Corporation Member of The Metal Window Institute





# KEYWORD IN THE ARCHITECT'S LEXICON . . .

# Responsibility

• The creative forces of the architect flow more freely when detailing can be satisfactorily delegated to the supplier . . . when quality of product is unquestionable . . . when the manufacturer is long known and highly regarded.

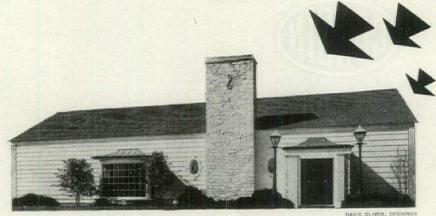
By policy, personnel, product and experience, P. & F. Corbin is equipped to supply this responsibility in builders' hardware. To-day, production is restricted but experienced specialists are available to work with you on projects back-logged for the future . . . to the end that your hardware will be handsome and wholesome — refreshing if new in design, authoritative if old.

### P. & F. Corbin

THE AMERICAN HARDWARE CORPORATION, SUCCESSOR

NEW BRITAIN, CONNECTICUT · SINCE 1849

### How to keep a house from growing old



New homes can have enduring youth if painted at regular intervals with Eagle White Lead.

The 2000-year-old white lead formula has been admired by painters and architects alike for generations. Thomas

Jefferson approved white lead for exterior and interior surfaces. Pure white lead ground in pure linseed oil has preserved many of the world's architectural masterpieces. There is no better paint than white lead, and no better white lead than Eagle!

In addition to making things beautiful, Eagle White Lead protects against the ravages of time and weather. Its tough, durable film is flexible...expands and contracts with temperature changes. Eagle does not crack or scale, but ages gracefully by even chalking, so that when repainting time finally comes, the surface is in perfect condition. Eagle's broad coverage and great hiding power combine with its long life to make for true painting economy.

Eagle Pure White Lead is available without priority. You can recommend it to your clients with full confidence.

Speed the final victory with more War Bonds!

### THE EAGLE-PICHER LEAD COMPANY

Cincinnati (1), Ohio

Member of the Lead Industries Association



### MONTH IN BUILDING

(Continued from page 18)

cott Parsons, professor of sociology; Walter Francis Bogner, professor of architecture: Charles Cherington, instructor in government; George Walker of Boston.

Second prize winners were Henry I. Harriman, vice chairman of the New England Power Assoc.; Philip Nichols of the State Housing Board; Edward Dana, president, Boston Elevated; Louis M. Lyons of the Boston Globe; Joseph D. Leland, president of the Boston Society of Architects; Robert Bottomley, lawyer: John C. Kiley, real estate man.

The third prize went to a Boston University faculty group who put special emphasis on the restoration of the Faneuil Hall district as a cultural and community center.

### MEMORIALS FOR DEMOCRACY

Many a city, seeking the way to honor citizens who serve in World War II, has chosen a memorial that will serve the democratic way for which its citizens fight. Living memorials (ARCH. FORUM, Sept., Dec. '44) that will be used by the whole community are planned by most cities, according to reports coming to the International City Managers Associ-

Paducah, Ky. has purchased two city blocks for a municipal recreation center. Louisville will establish a memorial park. Muskegon, Mich. plans to build a combined auditorium, civic and recreation

Edgerton, Wis. voters approved a referendum calling for construction of a \$75,000 memorial hall.

Toledo favors a public auditorium with meeting rooms for veterans' organiza-

Milwaukee County has formed a citizens' committee to make plans for a cultural memorial center.

Aircraft landing centers in commemoration of war heroes is the suggestion of Col. Earle Johnson, commander of the Civil Air Patrol.

#### **COLLECTIVE RATIONALITY?**

Every Tuesday night some 500 Chicagoans make their way through the city's confused transportation system to ponder, among other things, the fact that most of them spend nine years of their lives getting to work. What to do about this and other inefficiencies of urban living is part of Chicago's first venture in city planning education for anybody who wants it. Undismayed by the imposing title, "The City: Organism and Artifact," nonprofessionals have bought most of the tickets for three months of

(Continued on page 26)



IN POSTWAR . . . IT WILL BE

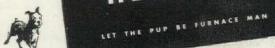
# Gas Heating

FOR GAS HEATING . . . IT'S BRYANT

Study the postwar building surveys that measure the nation's preferences on types of heating equipment, and you will discover they indicate a growing preference for automatic gas heating. Question a few of the people you serve, and you will find that the best-known name in gas heating is Bryant . . . a reputation won by past performance.

Producing for war has not prevented progress in perfection of Bryant equipment for postwar. Bryant research and development laboratories, now with more scientific ability than ever before, promise product improvements that are practical, proved and salable . . . modern gas heating equipment which you can recommend, specify and install with confidence. In postwar as in days gone by . . . it will be best to "let the pup be furnace man."







# Lighting-as completely



GENERAL ELECTRIC presents another in its series of postwar lighting perspectives. Here you see some interesting home lighting suggestions by Theodore Criley, Jr., AIA, Los Angeles.

Says Mr. Criley:

"As I see it, home lighting should be planned for living . . . as completely planned as the home itself. It should serve not only to add to the attractiveness and decoration of the home but it should also provide protection and comfort for eyesight . . . even in a small home.

"The sketch at the right suggests one way that living-and-dining space in a modest home might be given these benefits. Cove lighting with two rows of continuous fluorescent lamps and a switch for each row, offers general lighting flexible in color and intensity. Built-in over the couch are prefabricated fluorescent ceiling units to provide good light for reading. Floor and table lamps that combine the new circular fluorescent with filament lamps could supply pleasing light for other furniture groups. While over the dining table is a unit which gives both dramatic downlight and a spread of soft indirect light."



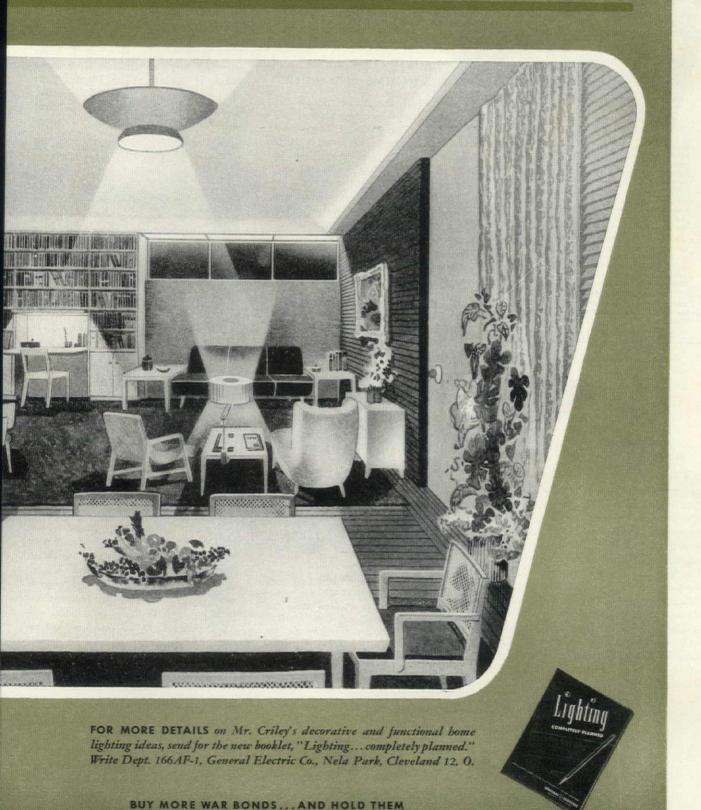
GENERAL SE



ELECTRIC

Rear the G.E cadle programs: "The G.E All-Girl Orchestra", Sunday 10 p. m. EWT, MBC; "The World Today" news, Monday through Friday 6:45 p. m. EWT, CBS; "The G.E Houseparty," Monday through Friday 4:00 p. m. EWT, CI

## planned as the home itself!



JANUARY 1945



... Previous to the time we installed this stoker, we had a considerable amount of lost time due to temperature reduction at night. It required several hours for us to bring up the heat in the morning, so that our press cylinders would be sufficiently warmed and the ink in our presses would flow satisfactorily.

"After the Winkler Stoker was installed, we were able, without additional labor, to maintain proper night temperature, so that full production could be resumed upon the arrival of our men in the morning.

"After going through the past season, we have found that we are saving 20% in fuel as compared to hand firing, besides the enormous amount of man hours saved in our production by having this uniform temperature.

"Due to the satisfaction we received from this stoker, we have placed the order for a stoker to be installed in our other building."

THE SALE LITHOGRAPH CO.

FULL PROTECTION

WITHOUT A SHEAR PIN!

For service-free, dependable operation, the Winkler Fully

Automatic Transmission

stands alone. The extra power

by a metallic or uncrushable object, the

Winkler Safety Release goes into action.

Automatically and continuously it

disengages and resets the transmission

until the obstruction is removed. The

Winkler then resumes normal oper-

ation without suffering the slightest

Low cost fuel, automatic control and minimum attendance time are the basic reasons for stoker economy. The degree of economy achieved, however, depends upon the efficiency of the stoker. In this respect the Winkler Stoker has made an enviable reputation.

The Winkler Burner, for instance, is an example of sound, creative stoker engineering, with design features which minimize segregation of coal sizes, assure proper distribution of air and in general improve combustion efficiency. Tuyere and dead plate construction is heat-dissipating, hence warp-proof and longer-lived.



### SEE THIS WINKLER X-RAY DEMONSTRATION!

You need not leave your office to see the proof of Winkler mechanical superiority. Any Winkler Distributor will be glad to show you an interesting X-ray presentation of Winkler construction—an instructive exhibit to specifiers and installers of automatic coal burning equipment.

All Winkler Stoker Models can now be installed without priority approvals

### INKLER

fully automatic STOKERS

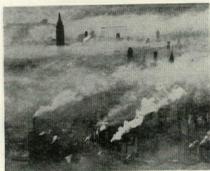
U. S. MACHINE CORPORATION . LEBANON, INDIANA

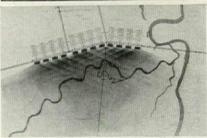
### MONTH IN BUILDING

(Continued from page 22)

lectures offered through the joint enthusiasm of the University of Chicago, the Illinois Institute of Technology and the Chicago Chapter, A. I. A.

An ambitious and philosophic attempt to relate city planning to the social, political and economic demands of modern living, the Chicago series can scarcely be expected to bring the city a measurable step nearer action to rid itself of blighted areas. Some of the lectures: Thomist philosopher Mortimer J. Adler on "Freedom and Order"; sociologist Frank H. Knight, "The Planful Act: the Possibility and Limits of Collective Rationality"; distinguished political scientist Charles E. Merriam, "In Search





CHICAGO EXHIBIT contrasts today's smokefilled city with Hilberseimer design for an industrial strip, located so that prevailing winds will blow the smoke away.

of Political Forms for the Modern Metropolis." But if the layman is not utterly discouraged by the complexity of the big questions that seem to relate to the specific question of urban blight, he may conceivably be inspired to go to work on a Community Development Association for his own neighborhood.

Imagination flexed in the lecture rooms, Chicagoans can view in an adjoining exhibit Ludwig Hilberseimer's design for a city where everybody could get to work in a 20-minute walk.

### BACK-TO-WORK CREDIT

Between combat missions, one Air Corps pilot had time to do some thinking about his own postwar plan. He got an idea for combining steel and plywood to make a new building material and began to plan the small plant that would get his scheme into production.

(Continued on page 30)

damage.



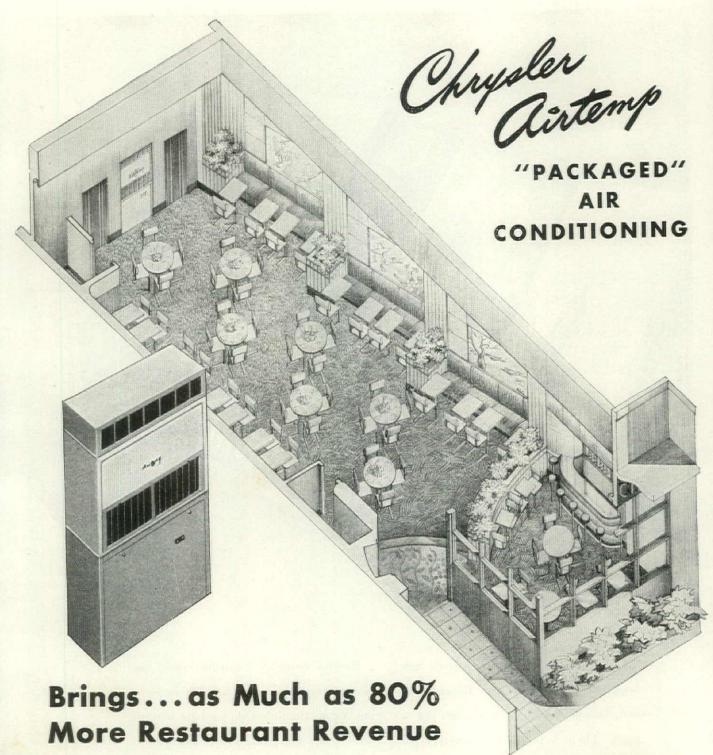
To get their pictures into Alcoa's new book, "Let's Look at the Record," all installations had to be ten years old or more. These veterans of various types prove aluminum's worth as an architectural medium. Besides being a valuable report on performance, the many ways of employing Alcoa Aluminum shown here will interest every architect, builder and owner. For a free copy of this book, mail the coupon today.

# ALCOA FIRST IN ALUMINUM

ALUMINUM COMPANY OF AMERICA, 2166 Gulf Bldg., Pittsburgh 19, Pa. Please send me a copy of this new book.

Name\_\_\_\_\_

Address\_\_\_\_



Nationwide restaurant surveys show increased annual revenues of 15 to 80 percent after air conditioning. Patrons' checks in summer average 53 percent larger too. Customers seek out the cool, properly dry atmosphere of air conditioned restaurants when it's "too hot to eat" anywhere else. That's why Chrysler Airtemp "Packaged" Air Conditioning is popular with owner and patron. Quiet and trouble-free in performance, these self-contained units, singly or in multiple, are ideal for restaurants. Chrysler Airtemp air condition-

ers are light, flexible in application, and easy to install. No wonder owners are asking architects to include in their new plans "Packaged" Air Conditioners which, in combination with the famous Airtemp Percolator Boiler, provide year 'round indoor climate control. Chrysler Airtemp offers architects helpful cooperation in making plans and estimates, not only for cooling, but for heating and commercial refrigeration installations. Airtemp Division of Chrysler Corporation, Dayton 1, Ohio • In Canada, Therm-O-Rite Products, Ltd., Toronto.

Buy More War Bonds! Tune in Major Bowes every Thursday, CBS., 9 p. m., E. W. T.

## CHRYSLER OF AIRTEMP

HEATING . COOLING . REFRIGERATION

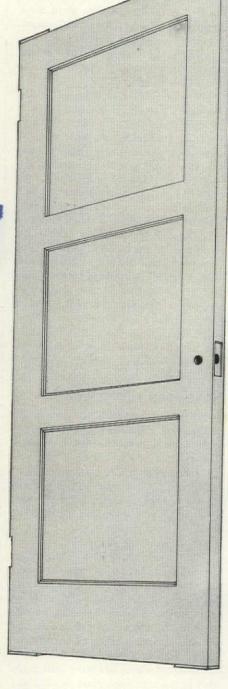
In Postwar Planning -Specify These
Modern,
Attractive
All-Purpose
Interior Doors!

## FACURU-EUT

PRECISION-MADE DOUGLAS FIR DOORS

Savings on the job more than offset the slight additional cost of FACTRI-FIT features. These new advantages—available on special order — Make Douglas Fir Interior Doors the all-purpose doors, economical to install, satisfactory in long-time service, attractive in appearance.

Now available only for essential building, Douglas Fir Doors will be ready for delivery the moment war needs lessen.



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

### Douglas Fir DOORS

FIR DOOR INSTITUTE

Tacoma 2, Washington

Remember!

NATURE MAKES

DOUGLAS FIR

Durable!

Durable Douglas Fir Doors

are made from all-heartwood, vertical-grain, soft,
old-growth Bouglas Fir.

## FACURUFIII

### **FEATURES**

1

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

2

FACTRI-FIT doors may be ordered completely machined at your option—gained, bored or mortised by high-speed precision tools.

3

FACTRI-FIT doors (like all Douglas Fir Doors) are edge grade-marked for ease in ordering, specifying and supplying.

4

FACTRI-FIT doors are scuffstripped to protect the precision-cut corners during handling and shipping.

NOTICE: Douglas Fir Interior Doors

- are manufactured three ways:

  1—STANDARD—Purposely made oversize for fitting to inexact
- openings.

  2—PRE-FIT Trimmed to sixe, ready to hang.
- ready to hang.

  3—FACTRI-FIT Prefit, gained, and bored or mortised.



### OF PERMAGLAS

WRITE today for this unique round Permaglas book . . . and reserve a permanent place for it in your files. It tells the inside story of a water heater that is a "best seller". . . inside facts that will prove valuable to you and your clients who seek the best in modern automatic gas or electric storage water heaters.



### MONTH IN BUILDING

(Continued from page 26)

But he had no capital. One night, back in the U. S., he heard an NBC broadcast about a plywood manufacturer who is ready to advance both material and payroll money to any man who knows how to use them.

The pilot's letter is only one of the thousands that have already come to Lawrence Ottinger, president of U. S. Plywood Co., from men who hope to start new business ventures after the war and from experienced contractors who want to get back to work again. No philanthropist, Ottinger knows that fluid credit will be imperative in getting normal production off to a quick start.

Ottinger is prepared to extend his credit plan to any builder making use of plywood. Since his material represents only a small fraction of construction cost, he hopes that other material and equipment manufacturers will join with him in credit plans of their own. Combined effort, he points out, could easily put back into business most of the 75 per cent of all housebuilders who have shut down for the duration.

### MORE ROOM FOR MOVIES

Inquiring among the big league movie distributors, the Wall Street Journal finds a trend towards smaller theaters. The average postwar movie house will seat not more than 800 persons, but more room and comfort per patron are expected to bring a better price for each seat. Industry guesses put the national need for new theater space at 800 to 1,000 houses, costing \$75 to \$125 million.

Theater owners have evidently adopted one firm new policy—two arm rests for every patron. There will be more leg room, too, and seats will be larger and softer. All this new luxury will raise theater costs, now estimated at an average of \$125 a seat.

Fireproofing will get a lot of emphasis in theater design. Draperies will probably be made of spun glass or glass and asbestos. Carpets will be treated with fire retardant chemicals. Seats, doors and trim will be made of flame-proof plastic plywood or compressed wood.

Designers now at work on theater plans are considering separate sections for children and the even better solution of two auditoriums, in one of which juvenile features would be shown. Most owners and managers interviewed by the Journal betrayed small enthusiasm for television. Majority opinion: Broadcast television programs won't compare with million dollar film productions; television cannot yet give the perfection of reproduction and sound offered by wellmade films and good projection machines.



## FENCES AND OTHER PRODUCTS

Architects the nation over are adding beauty, dignity and protection to all types of property by specifying Stewart Plain and Ornamental Iron and Chain Link Wire Fences and Entrance Gates; Iron Railings; Grilles; Lanterns; Lawn Furniture; Window Guards; Wire Mesh Partitions and other products. We shall be glad to send more details. When writing for literature, please mention products in which you are especially interested. This will enable us to send the correct catalogs.



THE STEWART IRON WORKS CO.
INCORPORATED
1265 STEWART BLOCK, CINCINNATI 1, OHIO





All production depends on it. In turn, it must be absolutely dependable for the life of your electrical system. The best, therefore, is none too good. For more than 50 years, back when electricity was just starting to walk, the Frank Adam Electric Company has been making switches and switchboards. The Shutlbrak Switch is our finest operating switch.

Sound engineering developed in the M Shutlbrak Switch is a shuttle movement faster than the eye... silver on copper contacts under tempered steel compression within a completely insulated, damp-proof chamber. ... arcing tips away from contact points... contacts that improve with operation. These improvements alone revolutionized heavyindustrial switching.

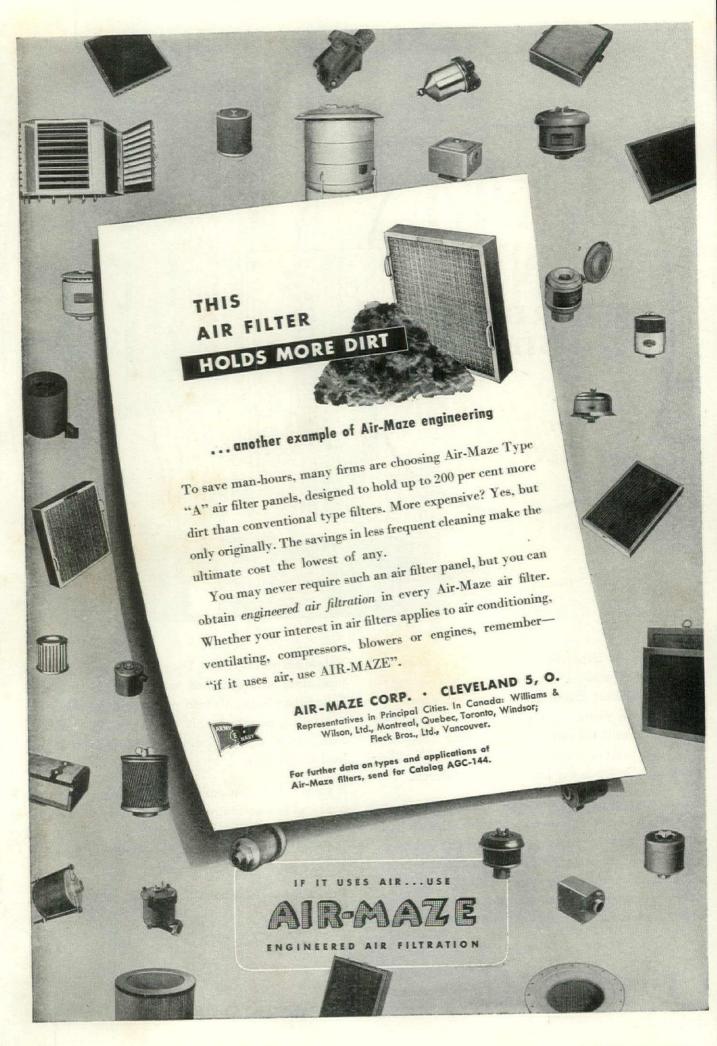
But we did not stop there. The patented @ Kamklamp fuseholder was designed to hold both ferrule and knife blade terminals in a permanent grip. For low resistance, positive cable connection, @ Shutlbrak Switches are equipped with @ Pressure Type (solderless) Connectors.

If your installation calls for quality equipment, see our local representative. His years of experience are at your service. Write for his name and address and Bulletin Number 70 describing Shutlbrak Switches, Switchboards and Panelboards.

Frank Adam Electric Co., Box 357, St. Louis, Mo.

Makers of Busduct, Wire and Cable Duct, Switchboards, Panelboards, Quikheters, Service Equipment and related items.







## \$55,000 DESIGN COMPETITION

DETAILS ON FOLLOWING PAGES

Recognizing its dealers' demands for improved facilities for their customers, and in anticipation of a greatly expanded postwar business—

## GENERAL MOTORS CORPORATION

announces

### A DESIGN COMPETITION

for

## AUTOMOBILE DEALER PLACES OF BUSINESS

Conducted by The Architectural Forum

The Problem Involves the Use of Buildings and Grounds for Showrooms and Offices, Service Facilities, Parts and Accessories Merchandising and Used Car Display.

The vast improvement in design, operating efficiency and economy, which has made the automobile a universal means of transportation, has outdistanced the facilities and locations in which these cars are sold and serviced. Most of these buildings are outmoded and inadequate in terms of today's standards, even more so in terms of tomorrow's.

Recent surveys show that many General Motors dealers plan to correct this situation as soon as building restrictions are relaxed. As its contribution toward an improved standard of automotive sales and service facilities, General Motors believes it should call on the creative talents of the architectural profession in arriving at forward-looking solutions to this unique and important problem.

General Motors has therefore established

# 60 PRIZE AWARDS TOTALING \$55,000

to induce the widespread participation of architects, designers, draftsmen and students in the competition.

The Professional Adviser, in collaboration with automotive experts, has prepared the program, which will include all data necessary to guide competitors.

SEE FOLLOWING PAGE FOR AWARD DETAILS

# \$55,000—60 PRIZES

		PLANNING	PROJECTS		DETAIL	
Rating	PASSENGER CAR AND COMMERCIAL (Average Size)	PASSENGER CAR AND COMMERCIAL (Medium Size)	PASSENGER CAR EXCLUSIVELY (Large Size)	COMMERCIAL EXCLUSIVELY	STRUCTURAL AND DECORATIVE	TOTAL
1st	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
2nd	2,500	2,500	2,500	2,500	2,500	12,500
3rd	1,000	1,000	1,000	1,000	1,000	5,000
4th	500	500	500	500	500	2,500
20 Honorable Mentions at \$250 each	1,000	1,000	1,000	1,000	1,000	5,000
Subtotals	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
20 Special A	wards at	\$250 ead	:h			5,000
Grand Total						\$55,000

This competition is limited to residents of the continental United States and Canada. Employees of General Motors or its subsidiaries, of The Architectural Forum or of advertising agencies serving the above, are not eligible. Competitors must register in order to receive the program and complete instructions. The competition closes at midnight, April 16, 1945.

George Nelson, A. I. A., Professional Adviser, c/o The Architectural Forum, Empire State Building, 350 Fifth Avenue, New York 1, N. Y.

l'intend to enter the GENERAL MOTORS competition. Please send me the program, including the conditions governing the competition and awards.

Name			
Firm (if any)			
Address			4.70
City		State	
Check one: Architect	Designer	Draftsman	Student
Other Oc	ccupation		



AITHFUL interpretation of your most advanced ideas is assured with the complete Brasco Construction. For Brasco places no limitations on YOUR conception of what the ideal, modern store front should look like.

Great flexibility of design is possible since the Brasco line is completely unified — all members of the same team working in harmony to translate your ideas into the thing of beauty visualized at the drawing board.

Thirty years of "know how" assure enduring strength and positive glass protection. Sound engineering, heavy-gauged metals and strongly reinforced bars all guarantee built-in beauty that LASTS!

A Complete Line For Every Design



# BRASCO MANUFACTURING CO.

HARVEY · (Chicago Suburb) · ILLINOIS

National Distribution Assures Effective Installation

# LETTERS

Loredo Taft blushes . . . Plaudits for the Storagewall . . . Average American Cowsheds . . . Another method of drywall construction . . . A discussion of A.I.A. membership.

### UNATTRACTIVE BACK



Forum:

There have been times when I have disagreed with Mr. MacLeish but I am entirely in agreement with him concerning War Memorials.

I am enclosing the one at Danville, Ill., that turns its unattractive back to everyone entering the city. Loredo Taft was the designer but I have seen him blush as he looked at it.

E. G. C. WILLIAMS, M.D.

Danville, Ill.

### THE STORAGEWALL

Forum:

In the current issue of your magazine appears a new idea called the Storagewall. As an apartment dweller, I was greatly impressed with this cabinet arrangement. It is the first sensible solution I have seen for the problem of storing hard-to-classify objects. In addition it includes built-in furniture, another asset for the small crowded apartment. The Storagewall should become standard equipment in modern apartment houses. It is one of the best things the FORUM has ever published.

EDGAR FURNESS

Chicago, Ill.

Forum:

We have just received your November 1944 issue and we are quite enthusiastic about your presentation of the Storagewall. We are just starting plans for a new home and we would appreciate information from you as to where and when these cabinets can be procured.

FRED SCHEIDERER

Marysville, Ohio

Forum:

The Storagewall in your Life-Forum House Ideas interested me. Will such units be available in the near future and can you give me an idea as to the probable cost?

MARGARET F. MARYOTT

East Providence, R. I.

Forum:

The current issue of your publication shows Storagewall closets. Can you give us the name of a manufacturer who produces these items?

Charles P. Pendleton

Thomaston, Conn.

Present material shortages prevent immediate manufacture of the Storagewall, but arrangements for postwar production are pending—ED.

### AVERAGE AMERICAN

Forum:

Having read Mr. Stafford's letter regarding "cowsheds," we feel it only proper as a couple who have built and lived in two contemporary houses to offer a rebuttal.

We make no claims to being "modern." Our taste in furniture is just average American—mixtures of Georgian, Federal and plain "American," but when it comes to housing that furniture—Ah! "There's the rub!" What true traditional house can offer zoned quarters, unbroken wall areas for that "rogues" gallery of the amateur photographer, large, plain, fenestration for ease of cleaning and panoramic views,



First Perkins "cowshed"

integrated mechanical functions to reduce initial costs and upkeep, solar heating and so on. To date we have found but one disadvantage to modern houses and it is on this point that we take issue with the Staffords. For

it seems that the local American public, even prior to building restrictions and our present scarcity of housing, not only insisted on seeing modern houses but were too willing to buy them. As a result we now live in our second contemporary house.

C. STUART PERKINS

Wayzata, Minn.

### DRYWALL CONSTRUCTION

Forum:

I was much interested in your article on dry wall construction as I have had a long experience with a hollow brick wall which did not allow water to come through. According to the theory of Mr. Franklin O. Adams, my practice was right, but my theory wrong. In domestic buildings where a 12 in. wall was sufficient, I used a bond which I think I invented. It was a hollow wall, three stretchers and a header in both the outer and inner 4 in. The inner and outer headers were staggered in each course and in alternate courses so that the wall had continuous vertical ducts 4 by 10 in. from foundation to plate. At the bottom the outer headers were laid dry in the first course and later removed and the fallen mortar cleared out when the wall was completed.

The theory was that what water came in would either evaporate or run to the bottom and so out. The inner 4 in. would remain dry and therefore no water would come through. My expectations were justified by the results. This hollow wall proved to be dry. I never saw any sign of water coming out of the weepers at the bottom, but assumed that it evaporated before there was enough water to run.

If Mr. Adams is right, as apparently he is, then my wall was dry, not because the water came in and went out, but because the water never came in.

I am ashamed to say I never really had the courage of my convictions, for in the 1920's I was persuaded by the contractor, a mason of long experience, to use a solid wall in an important country house. It was laid with half cement mortar and grouted to insure against any air spaces, and it leaked wherever it was exposed to driving rain.

I could never use the hollow wall in Boston, as the building laws would not accept my hollow 12 in. wall as the

(Continued on page 40)

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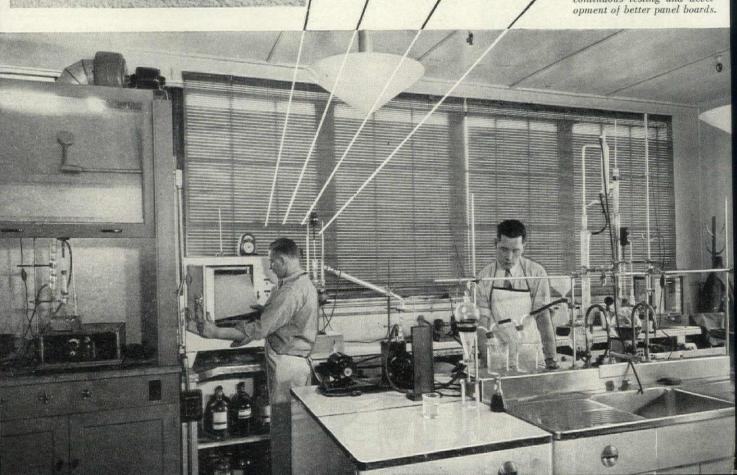
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## LETTERS

(Continued from page 38)

equivalent of a solid 12 in., which, of course, was silly, as for strength and weight carrying ability, it was just as good as a solid wall and rather better bonded than the bond required by the building laws.

R. CLIPSTON STURGIS

Boston, Mass.

### KILLAM PLEASE NOTE

Forum:

I see in your October issue that you have included a letter by Charles W. Killam of Cambridge, Mass., about public housing.

I cannot refrain from expressing amazement at the way in which Mr. Killam "works himself to a perspiration" by his mental exercises with what he interprets as the horrors of public housing economics.

In the July 1944 Journal of the American Institute of Architects, Gilbert Rodier and I in a composite article took exception to statements made in the previous May Journal by Albert O. Larson of Minneapolis, which he titled "Slum Prevention." Our reply prompted the writing of a letter by Charles W. Killam to the Journal, the subject being in similar vein to that included in his letter to The Forum.

To correct misconceptions in Mr. Killam's mind, I think his studies of the figures published should be prefaced by a clear understanding that the economics of public housing are closely interwoven with the anti-social environment of American families living in substandard housing.

In further substantiation of the figures I released which included extraordinary decreases in certain anti-social phenomena the following is a recent news release in connection with the public housing projects in the City of Philadelphia:

"The figures for deaths from tuberculosis and pneumonia, for criminal offenses and juvenile delinquency are not only much lower than comparable figures for the slums in which all of these families previously lived, but are only one-half to one-tenth of the city average. Most remarkable is the fact that among the 8,024 inhabitants of the two Negro housing projects only 5 criminal offenses occurred, or 0.06 per cent, a rate fifty times lower than the city average."

If Mr. Killam is prepared to view the entire program of "public housing" impartially, I am confident he will revise the last paragraph in his release in the October 1944 FORUM so that it will be more in accord with my statement: that it is not inconceivable that by pursuing

such a program of public housing to its ultimate conclusion on the basis of a comprehensive master city plan, the taxes of such privately owned dwelling units as exampled by Mr. Killam might be substantially reduced.

DAVID H. MORGAN

Philadelphia, Penn.

### RESOLUTIONS FOR THE A.I.A.

Forum:

Lately, after corresponding with young architectural friends and after discussing the subject at length with others, I have begun to think more seriously about my chosen profession, architecture, its limitations and its great possibilities. I herewith submit some resolutions which I sincerely hope the American Institute of Architects will take as a serious request from all young architects -most of whom are in the service of our country, and who should, when they come home, be provided with a fair opportunity to set forth in our glorious profession unhampered by discriminatory practices from within and without the A.I.A. Let us try to emulate our brothers of the Royal Institute of British Architects, who are a powerful group of men, capable of completely controlling building and civic planning in their country.

1. The American Institute of Architects should throw down "old guard" policies and make membership of all licensed architects practically mandatory in order to make a strong national confederation of architects with lobbies capable, not only of influencing congressional legislation and government building, but of subtly propagandizing the American building public as well.

2. It should supervise all architectural education in the U. S. and should classify and rate all schools of architecture. It should encourage architectural education through scholarships to deserving and talented young students and through A.I.A. sponsored, undergraduate competitions.

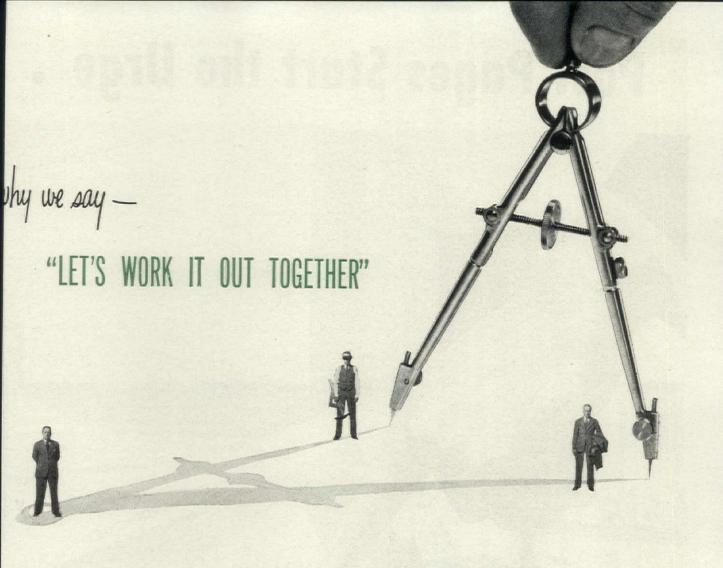
3. It should bring about state or national legislation to equalize state board examinations, thereby making it possible for an architect to practice anywhere in the union.

4. It should encourage sound building material research and try to standardize manufacturer's specifications by publishing lists of approved materials, manufacturers and building contractors.

5. It should make it possible for an independent licensed architect after five years of practice to command a salary of \$5,000 per year minimum.

6. It should hold conventions in the most business-like manner possible, so as to devise better methods of bringing the profession into the limelight of

(Continued on page 44)



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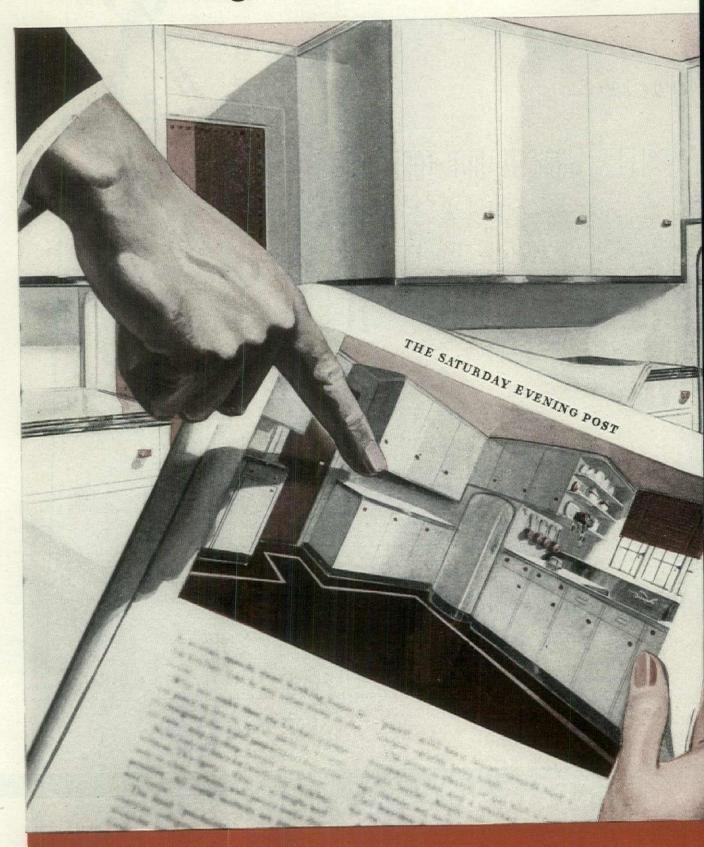
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## LETTERS

(Continued from page 40)

Congressional and building public attention.

7. It should, above all, try to regain the place of the legitimate architect; good architectural engineering should be encouraged in schools and offices so that the science of structural building will come once more into the realm of architectural practice.

T/Sgt. J. Thomas Bear, Jr. c/o Postmaster New York, N. Y.

Fornm

dled the fence on the membership problem through at least twenty years that I know of finally decided, a few years ago, to settle the matter by adopting an even worse straddle. It declared that it would help build state societies all over the country, each of which would have group membership, but not individual memberships, in the Institute. This was like going out of our way to tell the architects who had never joined anything before that we wanted their influence but not their persons.

The result was-organized dissatisfaction. It was serious in some parts of the country, coming at a time when there was turmoil within the Institute. There was persistent talk of a new national organization and something had to be done. Actually, the thing had been done backwards from an organization standpoint. We should have first built up the membership and then, with a strong corporate body in each state formed state societies of corporate members. There were not many state societies in existence then and our whole program could have been greatly simplified.

However, the mistake had already been made and the only thing left to do was to rush in and convince everyone that the Institute deserved the backing of every architect and bring as many as possible into corporate membership, thus heading off trouble. Before trying to convince anyone else that this was the thing to do I had to convince myself. I was proud of the Institute and everything it stood for, and I didn't want to make a bad mistake as Director.

I had to permanently discard any idea that the Institute might ever serve the profession better by being a select group, even of the finest architects in the country. It was never intended to be that. It was plainly stated that its first purpose was to "unite in fellowship the architects of the U. S.," but this had never been accomplished or even

(Continued on page 48)



# FOR ARCHITECTS WHO DEMAND

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- \* PLEASING APPEARANCE

Architects of projects that include provision for the preparation and serving of food will be obliged to familiarize themselves with epochal advances that have been made in this field since the outbreak of the war.

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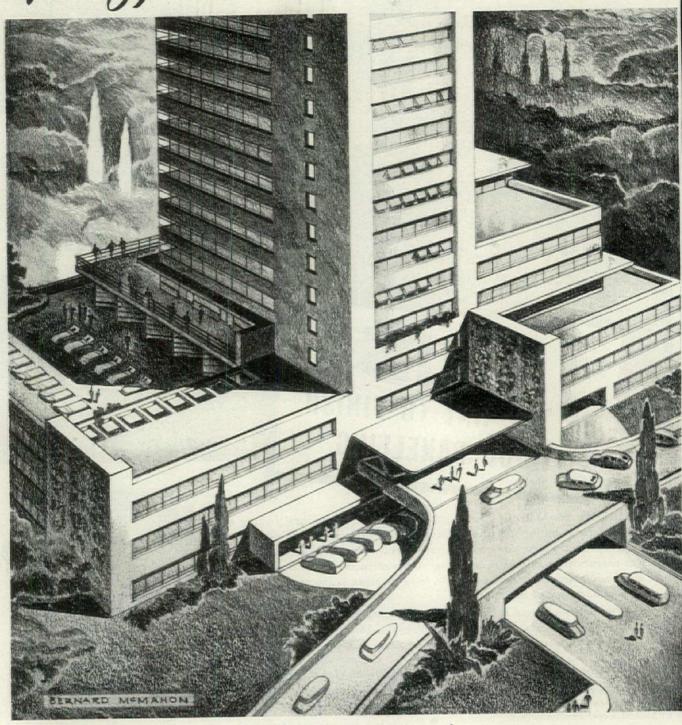
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## LETTERS

(Continued from page 44)

seriously attempted so far as I could learn though there was evident need of it and the Institute, with its rich background and prestige was the logical framework around which to build a more inclusive organization. Any other procedure would have been ruinous competition and duplication of effort.

Fortunately R. H. Shreve promptly disposed of our internal difficulties and Matt Del Gaudio inherited the job of convincing state societies that their membership and Institute membership should be one and the same, all of which smoothed the way for me to test my conclusion in my own district. These conclusions are about the same today as they were then, and first among them was this conviction:

The profession as a whole is now, and will always be, judged by what all of the architects do. It makes little difference whether they are members of the Institute, some other organization, or none at all. How then could we ever have considered anything other than bringing all the reputable architects into a single national organization, denying membership only to those who are dishonest or unfit?

It is the only possible way that those at the top of the profession may bring to bear the full weight of their own attributes upon all the others and thus guide the future course and level of professional quality, ideals and service. . .

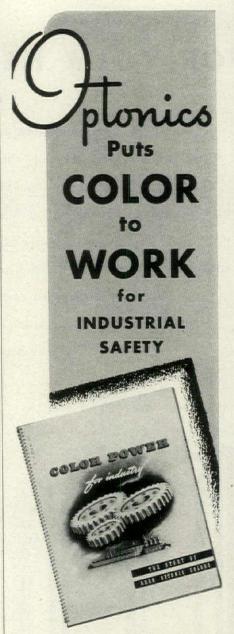
When the time comes, and I hope it will, that we have more than 80 per cent, say, of all architects as corporate members then perhaps failure to be a part of the Institute may be noticed by the public sufficiently to make a client interested in that fact alone, but I doubt it. I wonder if you know whether your physician is a member of the American Medical Association which has 85 per cent membership? If you should learn he is not, then perhaps you might inquire as to the reason. But you would surely not worry over your attorney's failure to join the American Bar Association if you knew that less than 15 per cent of them belong.

Thus my conclusions end with the strong conviction that we have everything to gain and nothing to lose by having every reputable architect in the country in the Institute, leaving it to each chapter to decide in each case as to the reputability of the architect, believing that they can and will make the decision without personal prejudice. . .

C. JULIAN OBERWARTH

Membership Secretary, A.I.A. Washington, D. C.

(Continued on page 52)

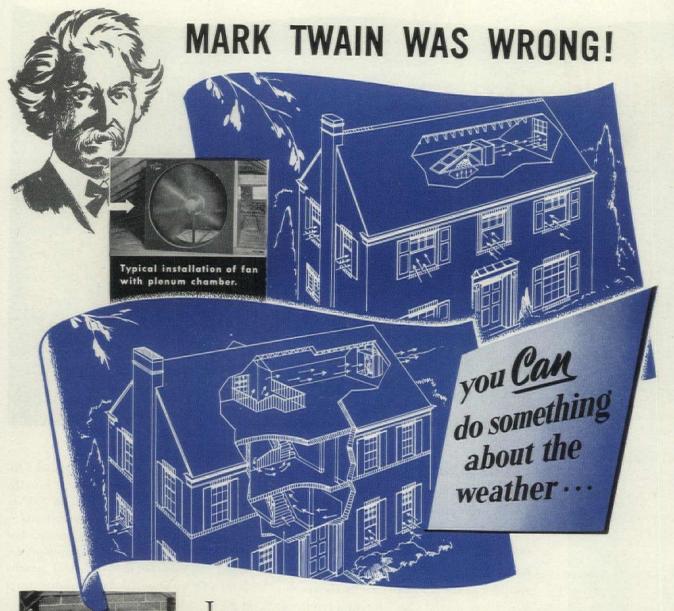


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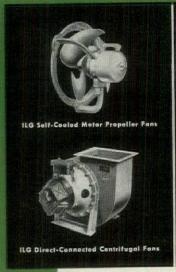
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# A LETTER FROM THE PUBLISHER

Dear Reader:

For a good many months the Forum's staff has been pondering how we might help returning veterans and others shifting from war to peacetime pursuits. Not because we think the war is over, but because in the first place we believe it wise to plan for that day, and in the second place because the armed forces have already returned to civil status almost 11/2 million men. Whether in or out of uniform, many who have been active in some phase of the war effort have become so detached from their prewar work that a return to it is doubtful. Similarly, many of the offices in which they were employed have disappeared during the building drought, leaving no place to which they can return. Again there are thousands of young men who were just ready to enter a building career when war intervened.

As step No. 1 in the Forum's program we are establishing a registery which will work two ways at once. The man returning to peacetime status is invited to register with the FORUM, making known his qualifications, the kind of job he wants and the location in which he prefers to work. These statements will be printed without charge in a special classified advertising section of the FORUM. At the same time the FORUM invites employers seeking professional or executive personnel to make known their requirements. These requests will be classified and the information made available to those qualified. Thus in acting as a clearing house the Forum hopes to be the means of bringing together the right man and the right job. Further details of the service will be announced in the February issue.

A second service the FORUM will provide is through publication of a simple pamphlet in which the editors will review the major building events of the war years. This phamphlet-Building, War and Postwar-will be sent without charge on request to anyone who has been or still is in war service. Through this simple device the Forum will perform its normal function of informing building professionals of past events and coming trends which may influence their careers. Building, War and Postwar, is now in preparation. Requests to the Forum will be filled as soon as the pamphlet comes from the press.

Our intention is to make our job placement service something more than a cold routine. Forum offices in New York, Chicago and Cleveland (see phone book) have been instructed to render all assistance possible to those seeking employment and those seeking personnel.

In all three cities callers will find a welcome, a comfortable chair and time to chat. We promise no miracles but a sincere interest in you, whether you have jobs or your services to offer.-H. M.

## LETTERS

(Continued from page 48)

Forum:

- . . . I believe the rackets could be taken out of house building to a great extent if more people had more information on the following points:
- 1. Proper reinforced deep laid foundations which will not sag or crack or shrink. There is a modern gypsum cement which can be used to obviate these.
- 2. Steel frames-or metal frames, with a coefficient of expansion and contraction small enough to safeguard against cracking walls and ceilings.
- 3. Fireproof construction. If more people knew that fireproof homes can or could be built at little or no increase of cost over regular balloon-framing firetraps, anyone would prefer it, thus

reducing the tremendous fire losses in residential districts. I expect, along with many thousands, to live out in the country (if and when I can retire again) somewhere in our Southwest and believe me, we who live far from fire protection and where forest and prairie fires are possible, want real fireproofing.

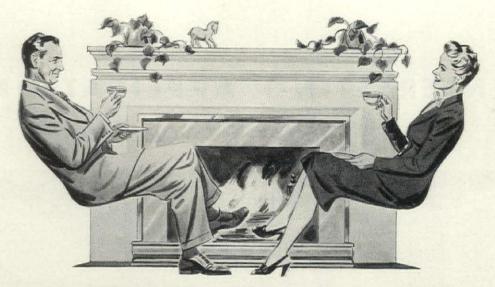
4. Termite, ant and vermin proofing. This factor can be built into a house, and should be.

5. Fixed double glazed main windows

with suitable screened grills, ventilators and air conditioners built into the wall beneath them.

The U. S. Steel-Gunderson combination can build houses with these features, and can ship and erect at a reasonable price. Perhaps this would serve to correct some of the local building rackets throughout the country. . . .

CMDR. JOHN ROCERS, U.S.N. Wilmette, Ill.



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Foamex not only makes upholstered seating wonderfully simple. It makes folks feel simply wonderful. Floats them to blissful rest on millions of super-resilient air-and-latex cells. (Every cell breathes to keep people air-cooled, and seating dust-free, damp-proof, odor-proof.)

Foamex wears years longer. Never needs restuffing. There's no stuffing in it. No inside parts at all to sag or come apart. Just one molded, sag-proof, lump-proof material—Firestone's ever-buoyant latex foam. That's why

Foamex cushioning is standard on railway, highway and airway—wherever seating must take a beating and provide utmost comfort.

And that's why you'll do clients a big favor when you specify *Foamex* for all seats, sofas and chairs, built-in or otherwise.

For the duration, every bit of *Foamex* is needed to shield fighting men and instruments from concussion. But keep it in mind for your postwar battle for better living.

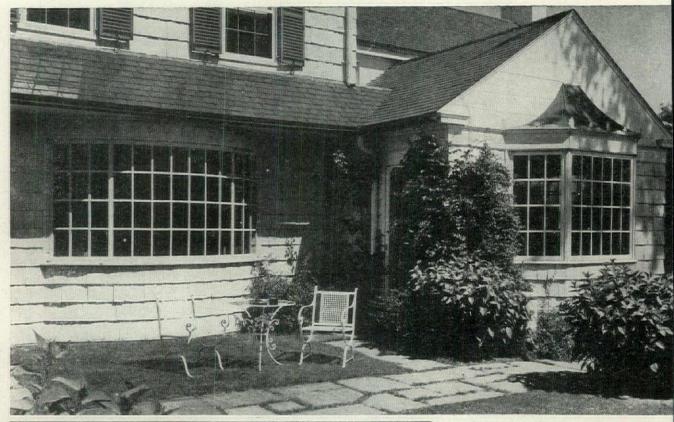
P. S. The ideal covering for *Foamex* seats — *Velon*,\* Firestone's wonder fabric. Makes smarter colors practical.

NOTHING TO SLEEP ON IS SO RESTFUL AS FOAMEX

ANOTHER CONTRIBUTION TO A BETTER WAY OF LIFE by



# INTERESTING APPLICATIONS OF



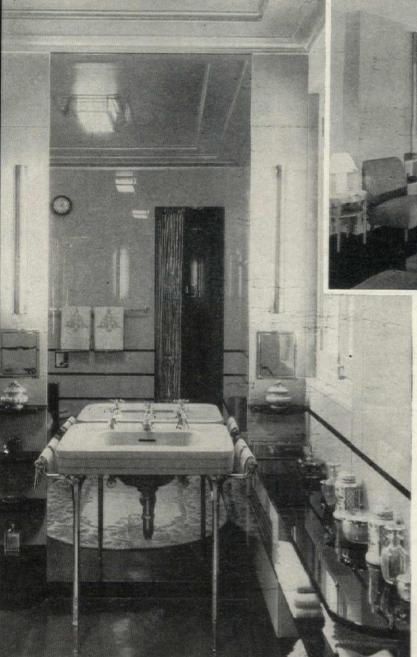


AS WINDOW AREAS INCREASE in size and number, it becomes proportionately more important to glaze them with a quality glass. Pennvernon Window Glass has won the approval of architects for its clarity, good looks and freedom from distortion. For larger panes of glass, Pittsburgh Polished Plate Glass, with its perfect vision and lustrous beauty, is recommended. Architect: Aymar Embury, II.

TO TAKE FULL ADVANTAGE of a homesite's attractive environment, large panels of Pittsburgh Polished Plate Glass are steadily winning favor. Such "picture windows" not only afford unobstructed vision, but add tremendously to the appearance of the room.

Architects: Mitchell & Ritchey.

# Glass IN RESIDENCES





THE POSSIBILITIES for achieving striking effects with mirrors are much broader today than they used to be. This is largely due to the variety of colors and backings in which mirrors are available. Pittsburgh Mirrors, for example, may be made of blue, flesh tinted, green or regular Plate Glass, with silver, gold or gunmetal backings.

Architects: Skidmore, Owings and Merrill.

BROAD LATITUDE in bathroom design is assured when the architect uses Carrara Structural Glass for walls and shelves. Ten colors, a wide range of thicknesses, and numerous possible surface decorations are available. Carrara is frequently combined effectively in bathroom design with Pittsburgh Structural Mirrors, "Copper Backed" to withstand moisture.

Architects: Walter T. Karcher-Livingston Smith.

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

PITTSBURGH GLASS

"PITTS BURGH" stands for Quality Glass and Paint

PITTSBURGH PLATE GLASS COMPANY

Pittsburgh Plate Glass Company 2020-5 Grant Building, Pittsburgh 19, Pa.

Please send me, without obligation, your new booklet entitled: "Ideas for the Use of Pittsburgh Glass in Building Design."

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Address....

City..... State.....

# "Tru-sized Doors Popular with Lumber Yards ... mean Big Saving to Contractors"—says W. K. Haley, Prominent West Coast Jobber



To save time, money and work, yet be assured of new door beauty and perfect installation, insist on Tru-Sized doors. There is a good selection of designs for both interior and exterior use.

Tru-Sized doors are a superior product, guaranteed to give complete satisfaction in every way. When ordered fully machined for locks and hinges, Tru-Sized doors help carpenters and builders do a better job than ever before.





No Sawing!

No Planing!

No Fitting!



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ed IIIIII

are completely manufactured . . . ready to install

State

# Design for HOSPITAL EFFICIENCY

The communicating system in a modern hospital is more important than in any other type of building. It has more jobs to do - and prompt, unfailing contact may be a matter of life and death. Among these important signalling and communicating jobs are: keeping track of the whereabouts of doctors and staff members, nurses' call, patient supervision, and integration of all the complex phases of hospital operation . . . Long experience as specialists in the design and manufacture of hospital communicating and signalling systems has taught us the importance of considering them at an early stage of the planning. Consultation with a Connecticut Telephone and Electric representative is a sound step toward maximum hospital efficiency. It involves no obligation.





A "Connecticut" doctors' register system is the first step in keeping posted on the location of key personnel. Paging and *Interphone* systems follow through on the job.



Special interior telephone circuits for special departments (the diet kitchen, for example) smooth service and relieve switchboard loads.



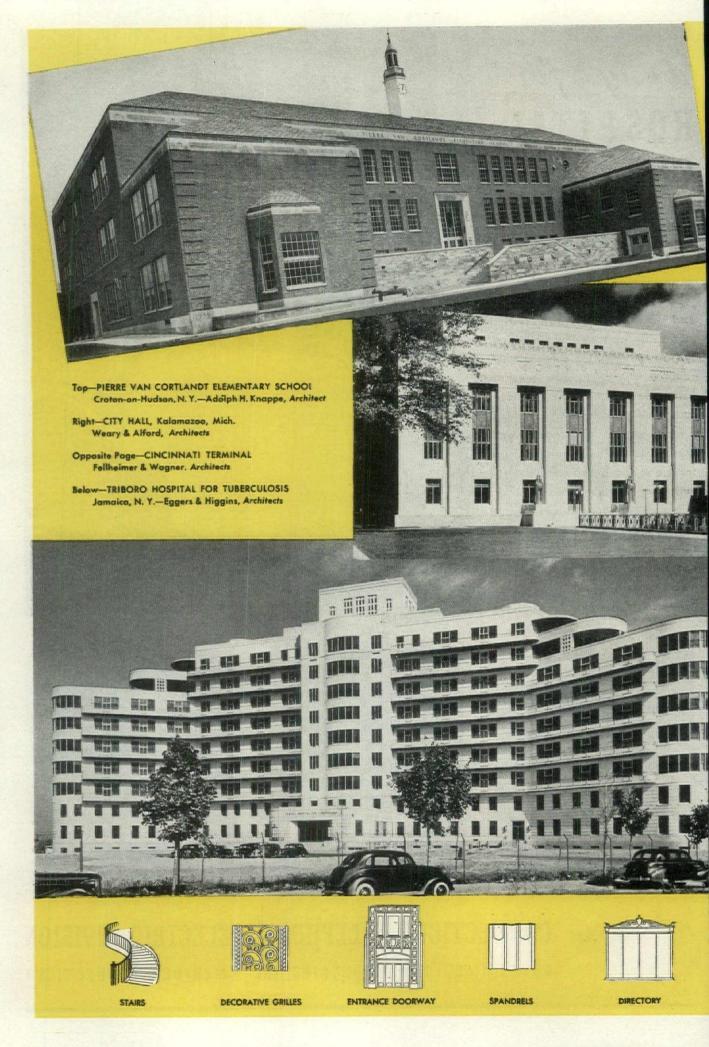
Standard nurses' call systems may be augmented with Connectaphone installations which permit nurse and patient to talk together, and make possible silent supervision of patients from the nurse's duty station.



# CONNECTICUT TELEPHONE & ELECTRIC DIVISION

GREAT AMERICAN INDUSTRIES, INC. . MERIDEN, CONNECTICUT

JANUARY 1945 57





# Any building is more beautiful and more practical—designed with

# ARCHITECTURAL METALS

Take a look at some of the outstanding buildings designed during the last ten years. In practically every case you find architectural metals used to good advantage—both from a decorative as well as from a practical point of view.

Because of their great versatility and extreme adaptability Architectural Metals can enhance the beauty of whatever type building you design — school, hospital, public or commercial building.

Give your buildings that extra touch of distinction by making full use of architectural metals in the entrance, stairway, balustrade, grilles, etc. You can also add extra strength and safety through the use of architectural metals in service equipment, building devices, etc.

As you design for the post-war building boom ahead, use architectural metals to keep your new buildings modern for years to come. Write today for new Directory of Leading Architectural Metal Working Fabricators who are anxious to serve you. Address Dept. F-1.

## NATIONAL ASSOCIATION OF

# ORNAMENTAL METAL MANUFACTURERS

209 CEDAR AVENUE, WASHINGTON 12, D.C.



SO MANY PEOPLE ASKED THESE QUESTIONS



For some time, we have been bombarded with questions about the new ideas in home heating.

To help clear up this obvious confusion we have prepared a booklet. It explains in simple words that a home owner can understand (1) what true heating comfort means (2) the advantages and limitations of each type of system (3) automatic heating with various fuels (4) other pertinent and commonly questioned points about "indoor climate."

We believe you will want to read this booklet. Perhaps it may save you time in answering similar questions . . . Write for your copy and after looking it over if you have any suggestions for the next edition send them along.

# The NATIONAL RADIATOR Co.

231 CENTRAL AVE.

JOHNSTOWN, PA.

THE	NATIONAL RADIATOR COMPANY
231	Central Ave., Johnstown, Pa.
PI	ease send "Plan To Be Comfortable"

Street
Name

# IN THE FORUM

This month's preoccupation with kiddies does not indicate any change in FORUM policy in matters of maternal frustration, which we shall continue to ignore. Nor does it, our staff writer informs us, stem from impending orange blossoms. If you must know, it is simply the season and that inevitable Santa on our corner who shakes while he laughs like a bowl full of jelly .- ED.

Philip Ives almost developed galloping palsy beating off swarms of neighborhood children who with termite tenacity descended on the Richardson Wood house (p. 90) while it was under construction. Mistaking the floor joists for a horizontal



jungle gym, they managed to develop minor fractures and strains on the average of one a day. Omission of the rough flooring was responsible for the high casualty rate. This raised hob with Ives who believes wholeheartedly in preservation of future clients.



Tradition has painted a picture of hardboiled captains of industry lapsing into baby talk under the spell of their curlyheaded offspring. In reverse, George Nemeny, who did the neighborhood redevelopment projects in the Bronx and Queens (p. 81) informs us that he has a 41/2 yr. old secretary

capable of taking messages with adult éclat. We can picture Nemeny the younger-a sober quiet child, replacing Peter Rabbit with Modern Business Methods. However, her father reports that the career girl already shows an aptitude for sitting on the boss's lap.

The model for the Garage-Storage Shed (p. 119) was sawed, nailed, glued and painted by John Funk in a nerve - racking process haughtily supervised by histhree-year-old son. Funk endured all indignities includ-



ing the proprietary gleam in junior's eye, hoping to tighten the bond between father and son. Instead a major crisis was precipitated when that "nice toy' was sent away. Fortunately, Junior's wrath is separated from the FORUM by 3,000 miles and the gas shortage.

Lustig for Look (not to be confused with lust for LIFE) has the instincts of a gadfly. Flitting about with complete disregard for protocol, he exhibits the most



attractive qualities of the free lance designer and care-free Californian. Unlike the benedicts above, Alvin is one of Manhattan's most eligible bachelors. His offspring-as we go to press-are of the brain, and mighty bouncing babies say we.

# The ONLY wall and ceiling covering

# Guaranteed for life of building

VEOS Porcelain TILE



In Veos Tile beauty with permanence has truly arrived. It is guaranteed against crazing, cracking or color-fading for the life of the building. Its light weight makes it practical for old walls and even ceilings. (Weighs only 3½ lbs. per square foot installed—as against 16 to 18 lbs. for claybodied tile.) Quick installation means little or no interruption. No periodic refinishing expense. No servicing except simple washing. Veos Tile is assured primary attention in postwar planning . . . both new construction and remodelling.

# 10 BIG Advantages for

Residential, Commercial and Industrial Buildings

- Rapid installation
- Upkeep at a minimum
- Quick, easy servicing
- · Won't crack
- Won't craze
- · Won't fade
- e Won't loosen
- Won't warp
- e Won't sag
- Guaranteed for life of building

A WIDE RANGE of architecturally favored tile SIZES provide new opportunities for unusual tile-size groupings in distinctive decorative effects. Standardized SHAPES to meet varied room conditions are carried in stock. No extra charge for colored tile . . . 12 choices. More than 80,000 pre-war installations have been made.

CLYDE PORCELAIN STEEL CORPORATION CLYDE, OHIO

Send for FREE SAMPLE of both Veos Tile and Veos
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# FORUM OF EVENTS

Photos: Roy Stevens



DESIGNS OFFER WEBBED OR CUSHIONED UPHOLSTERY



DETACHABLE HEADRESTS ARE AN OPTIONAL FEATUR





New line of contemporary furniture features uniformity of design and the return of the rocker.

Designed by Ralph Rapson, this furniture is intended to give the public contemporary, "matched" pieces which will blend painlessly with the average present day interior. The chair designs, a natural outgrowth of the first armless models presented several years ago by the manufacturer, H. G. Knoll Associates, have been tempered by wartime restrictions and an obvious return to the American heritage. The rocker, as much a national institution as the Rotary Club, is with us again in the attempt to revive a happily forgotten bit of tradition. Prefabrication of standard parts and economical production methods keep the prices at a moderate level. Frankly keyed to meet the demand of dealers and customers for matching furniture, the new line sacrifices much of the grace and lightness of earlier designs. One important attribute remains - few competitive lines are able to offer an equal combination of design and price value. (Continued on page 66)





# THIS is one thing we mean by SERVICE!

What you want, when you want it, how you want it...that's what "service" means in our book.

But—wartime is wartime. First call on our time and material goes to our number one customer, the U. S. Army and Navy. And this we know is as you would have it too!

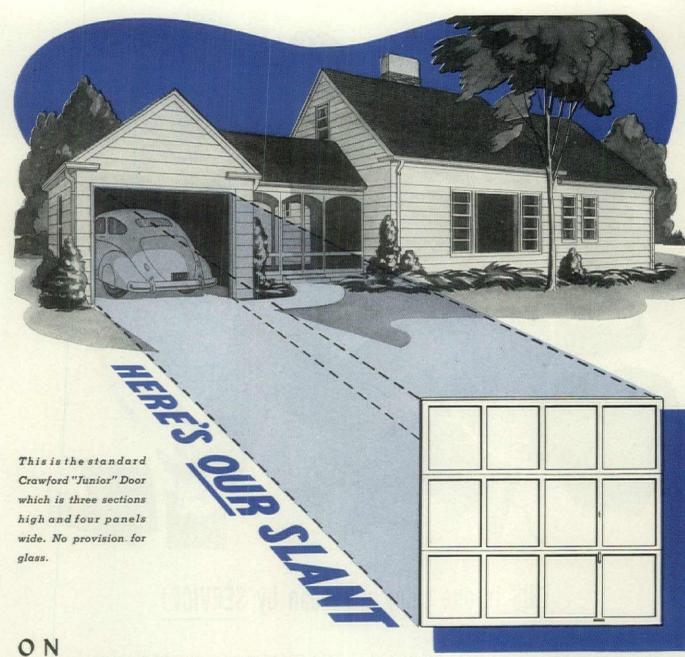
Of course, we're having a manpower shortage just as you are. Stocks are limited. But while deliveries may not always be as prompt as we wish, we still supply—to the best of our ability—1. expert design advice on difficult or out-of-the-ordinary arrangements; 2. a good line of window coverings to meet usual as well as many unusual arrangements; 3. a color range, in both Venetian blinds and window shades, wide enough to suit the most exacting taste.

63

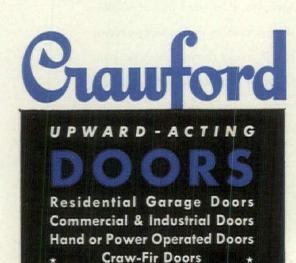
See Sweets' Architectural Catalogue for more complete information on Columbia products.

Columbia WINDOW SHADES
AND VENETIAN BLINDS

THE COLUMBIA MILLS, INC. . 225 FIFTH AVENUE, NEW YORK TO, N. Y.



GARAGE DOORS FOR THE ARTISTIC SMALL HOME....

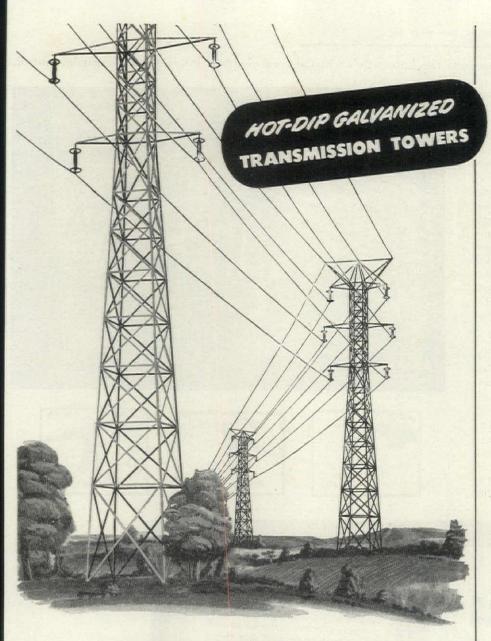


Because it is so prominent a part of the "front" of the modern small home, the garage door takes on unusual importance and should be selected with a discerning eye to its appearance in the ensemble.

The example above illustrates how effectively the Crawford Upward-Acting Door conforms with the design motif of a typical cottage-type dwelling—a type which always has been and always will be a leader in popularity.

Thus, even in the "budget" type of dwelling, there is no need to compromise on your garage door preference. For, this modestly priced Crawford unit combines good appearance with fine structural quality and employs the finest hardware in the Crawford line. It is a good door to specify

CRAWFORD DOOR COMPANY, 401 St. Jean, Detroit 14, Michigan



# WILL IT RUST?

WHERE costly installations are exposed to the elements and rust prevention is of first importance— Hot-Dip Galvanizing proves its own case. Day in and day out it pays its own way in longer, uninterrupted service and savings from replacement and maintenance costs.

Zinc, when applied by the Hot-Dip Galvanizing method, provides

the best possible coating obtainable. Laboratory and field tests have proved it the most dependable rust preventive.

For information as to how zinc protective coatings will lengthen the life of your product write to any member of this association or to The American Hot-Dip Galvanizers Ass'n. Inc., First National Bank Building, Pittsburgh 22, Pa.

"If it carries this seal it's a job well done."



Buy from the qualified members listed below and KNOW you are getting a genuine HOT-DIP job.

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LOS ANGELES GALVANIZING CO., HUNTINGTON PARK
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WESTERN GALVANIZING COMPANY, LOS ANGELES
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JOHN FINN METAL WORKS, SAN FRANCISCO
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THE WITT CORNICE COMPANY, CINCINNATI THE FANNER MFG. CO., CLEVELAND THE NATIONAL TELEPHONE SUPPLY CO., CLEVELAND

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### RHODE ISLAND JAMES HILL MFG. CO., PROVIDENCE

### WASHINGTON

ISAACSON IRON WORKS, SEATTLE

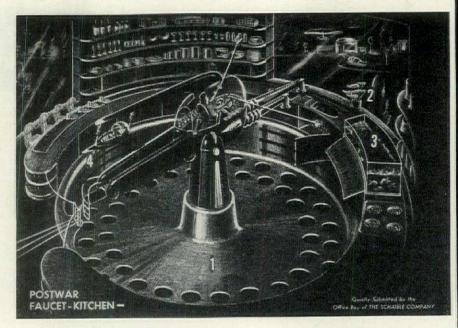
### WISCONSIN

ACME GALVANIZING, INC., MILWAUKEE

For the best Zinc Cooting hot-dip GALVANIZING

Postwar design of the month presents the housewife's whirligig, an eloquent intercession for gagdet-control.

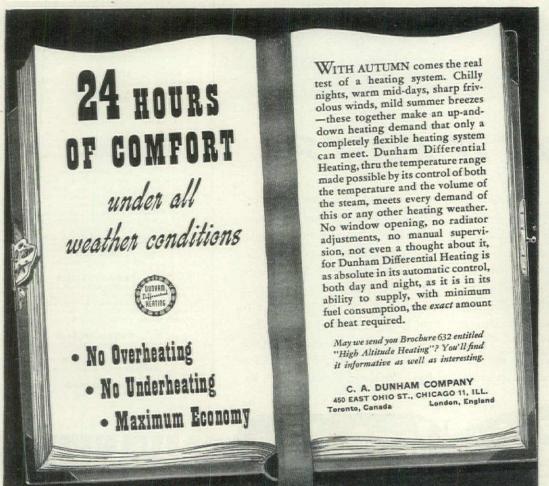
The product of some casual speculation by a manufacturer and his designer on what the housewife expects of her postwar kitchen and what she will actually get, this super-chimeric unit outdoes Rube Goldberg's most flamboyant creations. Sadly enough, the housewife of tomorrow will find that her life not only continues to revolve about the kitchen but that it does so in a much more literal manner. Seated at the controls of the new Faucet-Kitchen she will whirl about her duties at a breakneck speed aided by the magic of electronics. The floor, no longer a functional element, is converted into a giant, whirling strainer 1), which washes clothes, dishes, babies and dogs. Lowered two feet, it becomes a wading pool for the kiddies. Flowers of tomorrow 2), show the painful influence of streamlining on the vegetable world. A chemical garden 3), raises pre-dehydrated fruits, legumes and fish. The hopper below fast-freezes food and compresses it into capsule meals. The designer has fallen down in only one instance: even streamlined to fit his selfrocking cradle 4), the baby of tomorrow will still be made entirely of prewar (Continued on page 70) materials.











Fuel-Saving Starts With CONTROL

Only Dunham meets ALL Control needs. Differential Heating takes on the whole burden of maintaining comfort-level temperatures at all times, in all parts of a building, in all weather conditions, under variables in service and occupancy.



Mrs. America is looking forward to that warm, livable wood room she's always wanted.

Formerly the rich beauty of wood-paneled rooms was denied her because of the high cost of materials and labor in solid wood construction.

Weldwood . . . in genuine Walnut, Mahogany, Weldtex,\* Knotty Pine, Oak, Gum and other fine hardwoods . . . brings her dream within reach for the first time.

And for those rooms to be covered with paper or paint, inexpensive Weldwood Utility Panels with their extra-heavy hardwood faces provide an ideal undersurface free from checking or grain raise.

Mr. America is sold on appearance, too.
\*Trade-mark Registered

He likes the fact that, when he builds, construction time will be shortened — as much as four to six weeks.

He's sold on the fact that, with dri-wall construction instead of plaster, he eliminates the hazards of warping and swelling in sash and wood work.

Weldwood Plywood Panels are crack-proof and are guaranteed for the life of any building into which they go.

Yes, Mr. and Mrs. America are interested in Weldwood. They're learning more about it every day.

And when your specifications call for Weldwood Plywood in any form, you're giving your clients the best in what they want.

Write for complete specifications on Weldwood Plywood and other Weldwood products.

Mengel Flush Door with "Insulok" Grid Core

... Strength and beauty. The modern door for the modern home.





Plastic 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 wea resins and other approved bonding agents. Back of these Weldwood Products are unmatched facilities and experience in Plywood production and fabrication. Available also are the services of qualified engineers, chemists and wood technologists.

WELDWOOD Plywood

Weldwood Plywood and Plywood Products are manufactured and marketed by
UNITED STATES PLYWOOD CORPORATION
New York, N. Y.
INCORPORATED
INCORPORATED

New York, N. Y.

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

# 372,444 GALLONS OF FLAMMABLE LIQUIDS IN 9 HUGE ROOMS



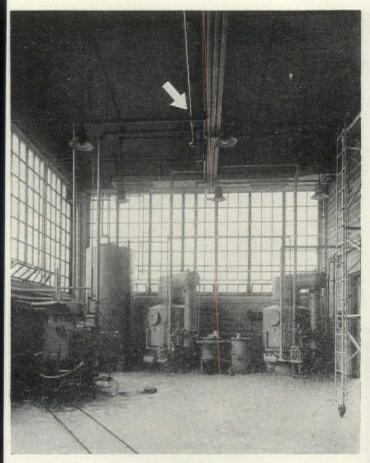
# Protected by ONE Cardox Fire

The five oil processing and storage rooms illustrated here . . . plus four others and a long pipe tunnel that could not be photographed . . . represent a major fire hazard in one of America's large war plants. All nine rooms and the pipe tunnel . . . 941,140 cubic feet . . . are guarded by a single engineered Cardox Fire Extinguishing System.

Total flooding of any of these rooms with inert carbon dioxide and CO<sub>2</sub> snow is provided by 12 tons of liquid Cardox CO<sub>2</sub> as soon as fire strikes ... with substantial reserve for new emergencies.

Here is only one of hundreds of examples of how engineered Cardox Fire Extinguishing Systems utilize fast-acting, non-damaging, inexpensive carbon dioxide to provide enhanced extinguishing performance in protecting large and small hazards. The enhanced extinguishing performance of carbon dioxide, as controlled and applied in Cardox Systems, is due to these four basic factors: (1) It has uniform extinguishing characteristics regardless of plant or atmospheric temperatures; (2) It is available in ample quantity for application at high rate and for total flooding (when necessary) of large areas; (3) It provides high CO<sub>2</sub> "snow" yield for increased cooling effect; (4) It achieves effective projection through relatively great distances—even outdoors.

The hazards in your plant may not be as large as those shown here, but the kind of extinguishing performance that has caused Cardox Systems to be specified for guarding hazards such as these has a place in your fire protection plans. Cardox engineers offer you practical cooperation.



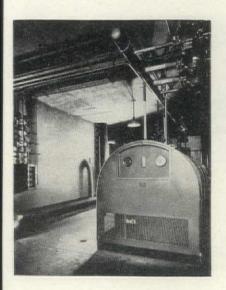
# **Extinguishing System**

Write for details and Bulletin 615.

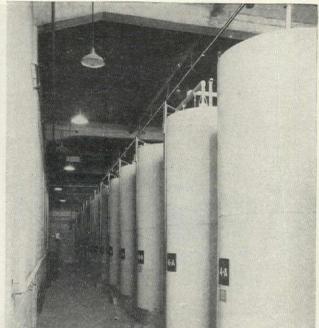
# CARDOX CORPORATION BELL BUILDING . CHICAGO 1, ILLINOIS

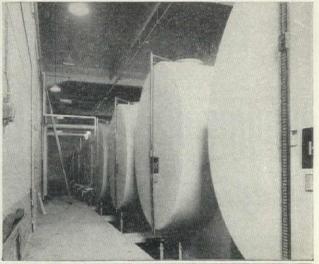
New York • Boston • Washington • Detroit • Cleveland

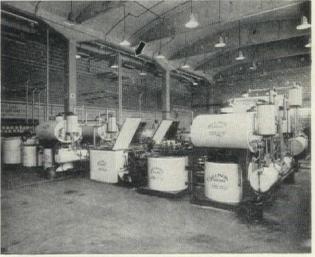
Atlanta • Pittsburgh • San Francisco • Los Angeles • Seattle



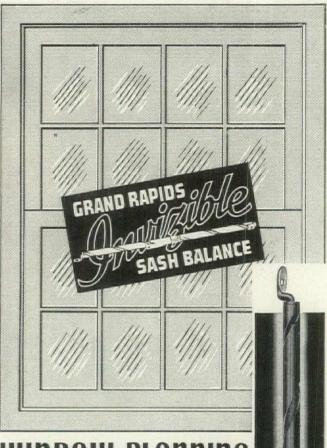
All of the areas illustrated here represent Class B hazards . . . involving volatile and flammable liquids. Total flooding with Cardox CO2 is applied at the highest practicable rate to create an extinguishing concentration in the minimum length of time. An adequate supply of liquid carbon dioxide to cover all of the hazards illustrated is maintained in a single refrigerated Cardox Storage Unit similar to one pictured at left.











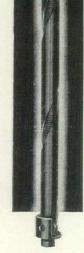
WINDOW PLANNING Begins Now!

In planning post-war construction of hundreds of thousands of new homes, contractors will be forced to take advantage of every product whereby time can be saved without sacrifice of installation time, satisfactory service and dependable performance.

To assist manufacturers of window assemblies with the speedy, economical and correct installation of window and sash hardware. Grand Rapids Hardware Company offers a trained and competent engineering service to cooperate with them right on the job. These men can be of assistance to all who agree that window planning should begin now and who are willing to observe first hand what the Grand Rapids Invizible Sash Balance will do for them.

These services are rendered without charge or obligation.

- Tasily installed. Only 6 simple steps. No odd sizes. Completely interchangeable.
- **2** No tapes or cables or exposed tubes. Entire sash balance moved with the sash. Always invisible.
- 3 Deliveries of Grand Rapids Invizible Sash Balances are governed by government priorities. Send for catalog for information and delivery details.



Sash pulleys will be available as soon as materials are released,

GRAND RAPIDS HARDWARE COMPANY

## FORUM OF EVENTS

(Continued from page 66)

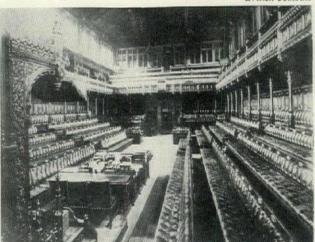
### AIR CONDITIONED POLITICS

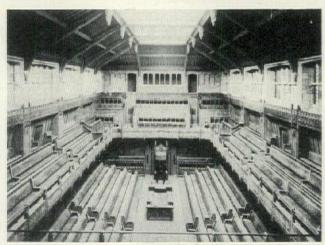
If, as some Britishers complain, the course of the Empire has been charted over the last quarter century by men with cold feet, the House of Commons, to a man, would put the blame on the inadequate heating system that has long plagued members. It will take five years to rebuild Britain's blitzed House of Commons but the political consequences may be enormous. Members can look forward to transacting the affairs of the Empire in an atmosphere that will be like "a fine spring day."

This was the promise of Dr. Oscar Faber, the ventilating engineer who will equip the House with its first air conditioning system. Heating and ventilation, Faber said, will be designed "to produce cool heads and warm feet and not vice versa."

Otherwise, the rebuilding of Commons will make few concessions to modernity. Except for a capacious bar, installed

British Combine

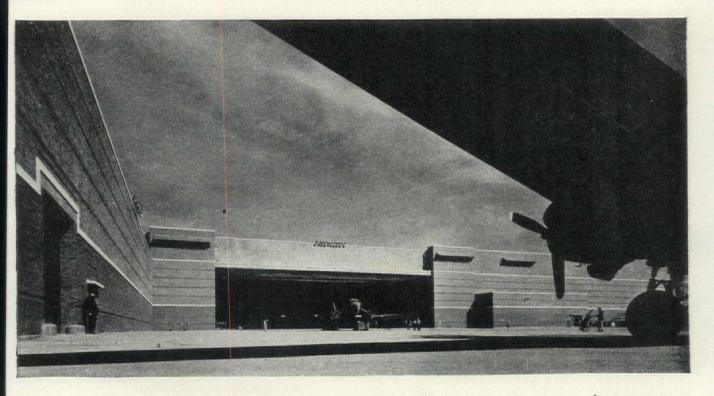


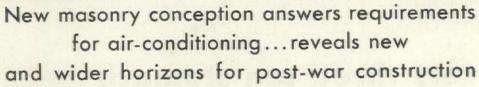


House of Commons: preblitz, and model for restoration

for the American contingent of the press, the form of the century-old House will remain virtually unchanged. Sir Giles Scott, architect for rebuilding, endorsed the late Gothic style of the old House with an architectural philosophy that matches Winston Churchill's political philosophy. "Modernist architecture in its present state," said Sir Giles firmly, "is quite unsuitable for the rebuilding of the House of Commons . . . It is also at present too mechanistic (Continued on page 74)

# Two Miles of "Breathing" Walls Built of Brick and Tile!





17,000,000 bricks in nearly two miles of "breathing" windowless walls enclose the new Douglas Aircraft Plant at Oklahoma City, Oklahoma—and provide complete insulation and air-conditioning.

Builder of this new aircraft plant was The Austin Company. Asked by the U.S. Army to make limited use of vital war materials—and yet design the huge plant with "controlled" conditions—this company conceived the "breathing" wall. The wall breathes by means of a continuous ventilating flue nearly two miles long.

A new idea in masonry—it holds great promise for factory and other build-

ing designs of the future.

And there is still more promise for the future contained in recent announcements of clay products manufacturers. These manufacturers have accepted the 4-inch modular unit for brick and tile. The "breathing" walls of the future and all other buildings of brick and tile will be more easily designed by architects and more economically erected by builders.

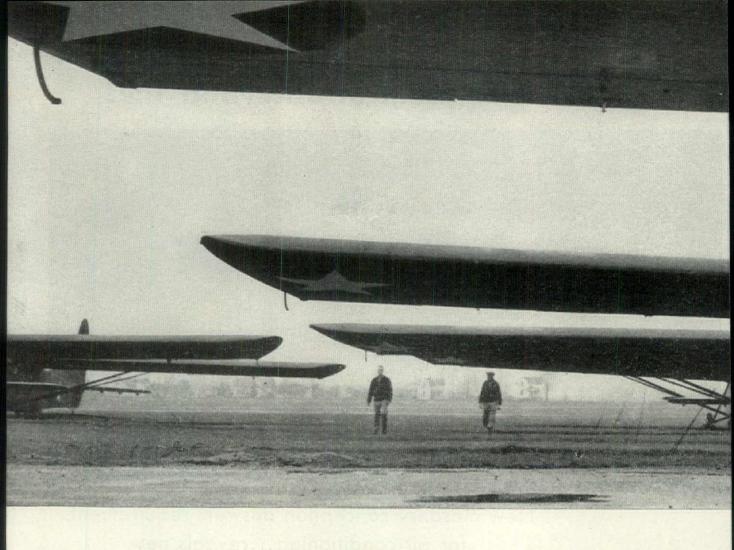
We will be glad to send you a folder describing in detail the "breathing" wall at Douglas Aircraft Plant. Address Structural Clay Products Institute, 1756 K Street, N.W., Washington 6, D. C



AFTER THE WAR ...

IT WILL BE BUILT OF MODULAR-DESIGNED

BRICK AND TILE



# Its three ton stomach started with a window screen



When the CG4A Glider disgorges men and materials on a new air held front, give a service ribbon to Ceco metal window screens.

For from the engineering and manufacturing skill absorbed in the manufacture of this lightweight, rugged, metal frame screen came hundreds of glider fuselages for the Army Air Forces.

The fabrication of gliders requires the full use of Ceco's engineering skill and experience with lightweight metals. And depend on it—the additional skills learned in the fabrication of this remarkably tough, serviceable Glider will produce an even finer CECO

screen for every type opening after the war.

No job, no opening, too difficult for CECO to screen

Ceco became the largest manufacturer of custom ma screens in the world because Ceco brought to making of screens the designing ability and precisi workmanship of an engineering company. Ceco l solved the most difficult screening problems throu better engineering, often redesigning and rebuildi openings before screen installation.

The large proportion of CECO screens in gover ment buildings ... over 500 U. S. post offices fro coast to coast, veterans' hospitals, Federal court hous Treasury Department offices, etc., is proof for arc tects of the outstanding quality of this Ceco produ

ENGINEERING MAKES THE BIG DIFFERENCE IN CECO



ONSTRUCTION PRODUCTS

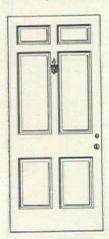
(Ceco screen shown on the Ceco residential casement window... a sun maximum window of proven adaptability to all types of architecture in the residential and apartment field.)

OTHER CECO ENGINEERED PRODUCTS: All types of metal residential and industrial windows, all types of steel doors, metal lath, metal weatherstrips, steel joists, steel roof deck. Meyer Steelforms, adjustable shores and clamps, concrete reinforcing bars, and welded fabric.



Opinions may differ...ideas may diverge... but there is no disputing the results of careful, scientific testing. That is why NDMA, as part of its service to the public, retains the authority to test the efficiency of toxic preservative solutions for wood used by its licensees.

NDMA's authority to make such tests provides a firm foundation for the confidence with which architects, builders and homeowners regard wood products carrying the NDMA seal of approval. This authority makes it possible to determine, accurately, that such products as windows, doors, screens, frames and shutters have been treated in accordance with NDMA's minimum standards . . . that their lasting qualities are improved and enhanced.



The NDMA Seal of Approval—available by license to all manufacturers and distributors who conform to the toxic preservative standards of the NDMA—represents these six steps of protection:

- 1. An efficient test for measuring effectiveness of toxic preservatives
- 2. Minimum standards governing the toxic preservative treating of woodwork products
- 3. A seal identifying products treated in conformity with NDMA Toxic Preservative Standards
- 4. Mill inspection of treating equipment and practices
- 5. Laboratory check-tests of preservative solutions
- 6. Educational effort in the public interest

NATIONAL DOOR MANUFACTURERS' ASSOCIATION
McCORMICK BUILDING . CHICAGO, ILLINOIS



#### FORUM OF EVENTS

(Continued from page 70)

being frankly based upon the beauties of the machine rather than nature, which has always been, and must always be, the basis of all art . . ."

#### DIED

Benjamin Wister Morris, senior architect in the firm of Morris & O'Connor, New York. He was 74 years old. Mr. Morris attended St. Paul's School, Concord, N. H. and Trinity College, Hartford, Conn. In 1894 he received his Ph.D. from



Benjamin Wister Morris

Columbia and spent the subsequent two years at the Ecole des Beaux Arts in Paris. After establishing his own practice in New York, Mr. Morris designed numerous commercial and educational buildings including the '79 dormitory and Patton Hall at Princeton. Between 1910 and 1915 he was a partner in the firm of LaFarge & Morris which designed the country home of the late J. P.

Morgan and the Williams Memorial Library at Trinity College. Resuming private practice in 1915, Mr. Morris continued to design large-scale public buildings. At the time of his death, he belonged to the National Academy of Design, the National Institute of Arts and Letters and the board of trustees of the Metropolitan Museum of Art.

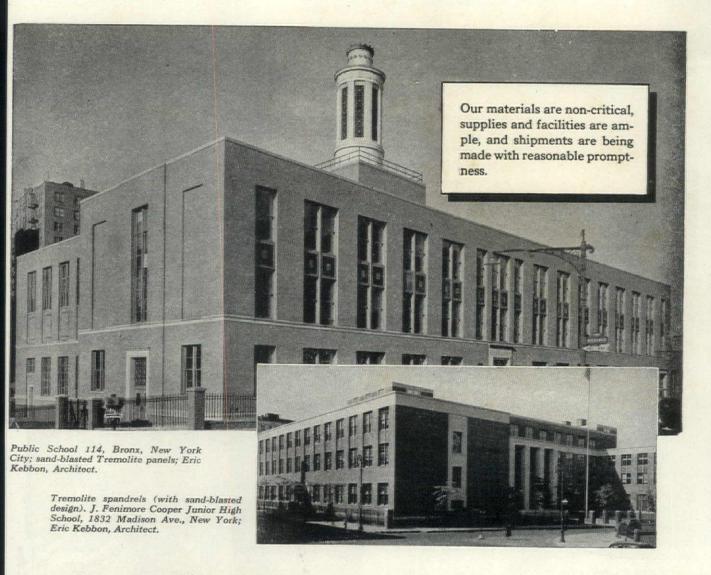
Professor Clinton Lee Harris, a member of the department of architecture at the Pennsylvania State College for the past 31 years, at his home in State College, Pa. Professor Harris was a civil engineer as well as an architect and the author of "The Influence of Neighboring Structures upon the Distribution of Wind Pressure on Tall Buildings."

George A. Martin, pioneer of the paint and chemical industries and chairman of the board of Sherwin-Williams Co., at the age of 79. He was perhaps best known for his success in putting paint into ready-mixed packages for nonprofessional use and for crusading to make the U. S. paint and chemical industries independent of foreign sources of colors and dyestuffs. Mr. Martin rose through the ranks of the Sherwin-Williams Co., and was a director of the Goodyear Tire & Rubber Co., Wilson & Co., the Erie Railroad and the Metropolitan Opera Association. To assist the present war effort, Mr. Martin lent a staff of engineers to build and operate for the government the Illinois Ordnance Works, one of the largest shell and bomb loading plants in the country.

#### CORRECTIONS

On page 36 of the November issue there was included a picture of the new architectural and industrial design firm, Ruth Gerth, George Kosmak, Alexander Kostellow and Rowena Reed which was incorrectly captioned, Kosmak, Gerth and Associates. Alexander Kostellow and Rowena Reed are partners and should have been listed.

Accidentally omitted from the December issue were the names of Noel L. Flint and Charles W. Schonne, associate architects, who were responsible with Samuel Marx for the Life-Forum living room.



# Sand-blasted Tremolite . . .

### A PREVIEW OF POST-WAR PANEL TREATMENTS

In addition to their decorative value, sand-blasted Tremolite spandrels and panels, assure permanence and lasting economy. Initial cost is moderate because sections cut as thin as 7/8" are practical. The school buildings pictured above illustrate this modern treatment and the use of the interesting sand-blasted effects which will no doubt feature school, hospital and institutional building design in the post-war period. In fact, the designers of many structures of the 194x period that now dot the

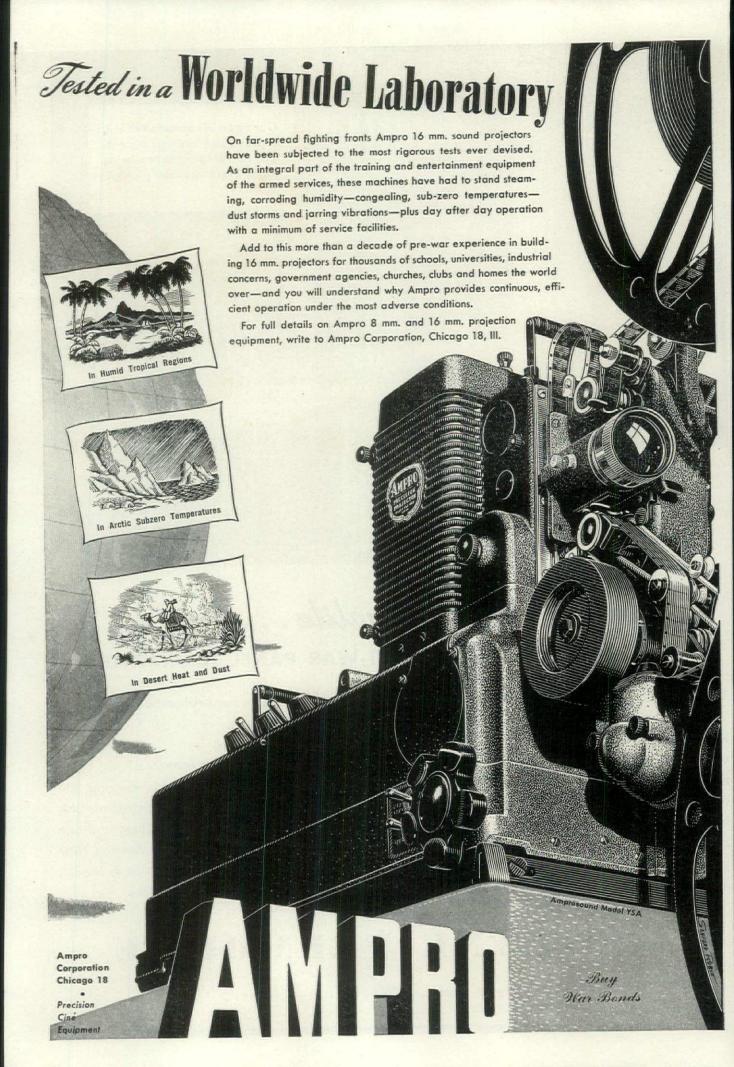
American scene have used Alberene *Dark Stones* for facade treatments.

A request on your business letterhead will bring you samples, conveniently boxed, showing the range of stones, including black and mottled dark blues and greens. Please address Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York 16, N. Y. Quarries and Mills at Schuyler, Virginia. Sales offices in principal cities.

## ALBERENE TREMOLITE

Moderate in Cost . . . Negligible in Upkeep

JANUARY 1945 75



# U. S. ARMY PROVES MANY-LAYER PROTECTION IS BEST IN CLOTHING

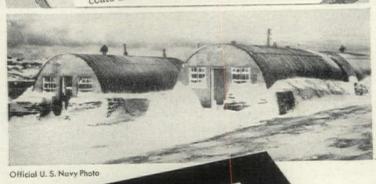


What the Well-Dressed G. I. Will Wear

The Arm

Will Wear

The Army Quartermaster Corps has discovered that separate layers of cloth are warmer than one extra-thick layer, like an overcoat. They have designed a uniform which incorporates the "many-layer insulation" principle. As the weather gets colder, layers of clothing are added inside the outer shell, extra shirts, trousers, underwear. This many-layer principle is actually centuries old. Way back in the days of China's youth, coolies knew that two 4 lb. coats are warmer than one 8 lb. coat.



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

A PRODUCT OF
Kimberly
Clark
RESEARCH

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

against arctic cold and tropic heat.

The KIMSUL many-layer principle is scientifically superior to that of loose, "bulk insulations," and to blankets with only one or two plies. (KIMSUL Double-thick has 44 layers, and KIMSUL Standard has 22.) By test, it is one of the best heat stoppers known.

KIMSUL layer insulation, unlike bulk insulation, gives uniform coverage over every square inch of insulated area. The density of the material does not vary; hence, there are no heat leaks through inadequately protected spots.

Furthermore, KIMSUL, unlike bulk-insulation, cannot sift or settle. Rows of strong stitching hold the blanket's shape permanently, prevent sagging. KIMSUL stays put, and stays RIGHT, for the life of the structure in which it is installed.

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

		CORPORATION vivision, Neenah, V	
☐ Please "Save	send me my Man-Hours	FREE COPY of the nand Man-Power or representative cal	new illustrated book, n Every Job."
Name			
Address _			
City			te
	Architect	☐ Contractor	☐ Builder



# "Homes with Servel all-year are preferred

#### Read these typical statements

MR. L. M. LILLY, PRESIDENT, First Bancredit Corporation, St. Paul, Minn.: "A short time ago we had occasion to look over some installations of the Servel All-Year Gas Air Conditioner, and were amazed with the results which were being obtained.

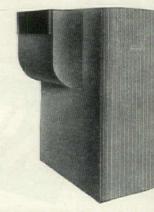
"We will be very happy to finance the installation of this equipment, and think so well of it that we are prepared to extend much longer than usual terms, to permit more people to enjoy the living that goes with a home that is equipped with this type of conditioning."

MR. P. A. BENSON, PRESIDENT, The Dime Savings Bank of Brooklyn, Brooklyn, N.Y.: "In granting mortgages, we carefully scrutinize a home not only for its immediate value, but also as to its value ten or twenty years from

now. A home that has an *All-Year* Air Conditioner tend to stay, in our opinion, 'modern' and have a greatesale value over a longer period of years. It also states to reason that a home with this type of equipment to be appraised at a higher figure, resulting in a proptionately higher mortgage loan."

MR. G. CARLTON HILL, VICE-PRESIDENT, The Fifth The Union Trust Co., Cincinnati, O.: "It is therefore

opinion that the further development of units such as your Company is manufacturing, offering the benefits of heating and air-conditioning to private homes and including



Servel All-Year

SUMMER COOLING-WINTER HEATING-IN ONE SIMPLE UP



# Gas Air Conditioning ost-war investments!"

e cooling unit for summer use, will greatly retard the te of obsolescence of the present home structure, and Il help to retain a higher sale value."

our clients will have little difficulty in obtaining vorable financing on homes designed to include "The ew Quality of Living" that Servel All-Year Gas Air anditioning provides. As these typical comments interact, mortgage loan officers all over the country active the increased investment value of homes so supped.

One of the reasons for this endorsement is, of course, a amazingly successful performance of the equipment ring four years of test installations. Now in more than 400 homes and commercial buildings, it has won unqualified praise for the new comforts it brings, and for its performance and economy.

One simple unit, controlled by the Servel Selectrol, supplies cleaned, filtered air indoors the year round. In summer, it cools the air, removes sticky humidity. In winter, it warms the air, adds just the right amount of humidity. Windows can be kept closed the year round, providing new privacy, quiet and safety.

Plan now to make this "New Quality of Living" available to your clients by including the Servel All-Year Gas Air Conditioner in plans for your post-war homes. For complete details, get in touch with your local gas company, or write direct to Servel, Inc., 2501 Morton Avenue, Evansville 20, Ind.

# Gas Air Conditioner

ADE BY THE MAKER OF THE SERVEL GAS REFRIGERATOR

# WHAT KIND OF A NOISE ANNOYS AN OYSTER?



WHETHER FOOD—including the oyster—is affected by noise is open to question—but all of us today know that it certainly does affect patrons' enjoyment! So it is standard practice these days for architects to plan sound control into their restaurant construction—into almost all other construction, too.

For their assistance, National Gypsum Research has developed a complete line of acoustical materials suitable for every job and every budget. These are only a few of more than 150 different Gold Bond products to help you build better. For complete information see Sweet's or write us direct.



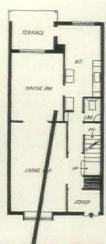


# BUILD BETTER WITH GOLD BOND

Wallboard · Lath · Plaster · Lime · Metal Products · Wall Paint · Insulation · Sound Control

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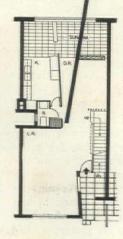




#### Ezra Stoller

# HOUSES

Good design moves the conventional row house upstairs, sells itself to renters by increased space, to builders by substantial construction economies.



These speculative houses disprove the contention that city buyers will not accept modern planning.

Are home buyers and renters ready to move into houses that represent a maximum of what the modern architect knows about increased space and design flexibility? Yes, says architect George Nemeny, pointing to a modern, 80family rental development in the New York area which was 100 per cent rented before construction was finished. Are builders reluctant to experiment with new solutions for the old problems of urban family living? No, says Nemeny pointing to the builder who sold modern houses by building one for his own home, bringing customers out to see for themselves the space bonus of an open plan. Is building money irrevocably wed to whatever a generation of building has called a good investment? Nemeny lists the mortgagees who have backed his many successful departures from the row house style well established in Long Island speculative building.

This architect's escape from convention was a gradual and workmanlike one. It began with the rental project in Queens (Type A, p. 84) and some strong support from a forward-looking builder. Airhill Corp. was willing to drop the exterior frills and interior eyecatchers that have long spelled rentability to the developer. Nemeny's plan for two-family row houses eliminated a basement, put garage, utility and workroom space on the first floor, raised the living space to the second and third floors. This made possible entry through a central stairwell, freeing the front wall for maximum fenestration and salvaging space ordinarily used for stairhall and corridor. Big sunny rooms, achieved at a moderate cost through the economies of the design, sold themselves to tenants. By the time construction was two-thirds done, the owner was ready to hang out a "no vacancy" sign. Few tenants knew that they were putting the stamp of market approval on a modern design principle pioneered by Le Courbusier. But the builder knew that Nemeny's plan vielded bigger rooms with better exposures at less cost than the two-story and basement row houses characteristic of Queens practice.

The architect's interest in a freer use of space was considerably more in evidence in his next undertaking—the house for sale. With a confidence bolstered both by the cost figures and the market appeal of the rental units, Nemeny had little difficulty in finding builder and lender backing for a development of his basic plan into the owner-occupied, row houses shown at top of facing page. Here again the main living space was raised to the second and third floor. But the first floor held, in addition to the garage, a self-

contained two-room apartment, to be rented out by the owner (Type B, p. 84). Buyers liked the open effect achieved by the elimination of many partitions.

A variation of this plan (Type C) puts more space into the ground floor apartment by use of a projecting garage. The garage roof provides the living room sun terrace shown at the bottom of the opposite page. A parapet

GEORGE NEMENY, Architect





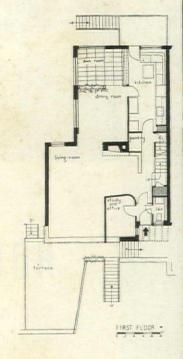
BUILDER'S OWN HOME SELLS MODERN DESIGN TO MANY CUSTOMERS

wall on the street side gives privacy.

The builder who dramatized the possibilities of the Nemeny design for his customers located his house next door to a Bronx park area. A picture window extending the width of the living room overlooks the Jerome Park reservoir, and there is nothing to block this excellent view throughout the maximum length of the first floor.

In the Type C plan Nemeny got the same sweep of view by introducing a slanted partition as a kitchen wall. Most kitchens are designed like this one for two rows of fixtures facing each other. More working space is required at the range end than at the broom closet end, and that end of the kitchen can profitably be narrowed.

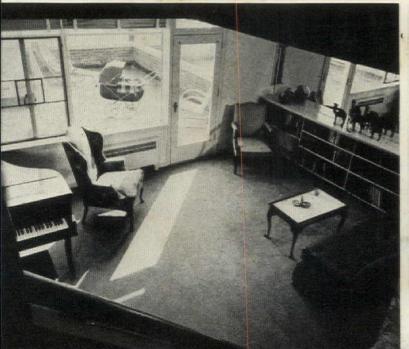
Builders have found that this architect's direct approach to the space needs of family living means not only ready marketability, but an over-all reduction in cubage that cuts construction costs. Nemeny expects, in the big home building decade ahead, to find plenty of customers among speculative developers who understand that good design means construction economy.





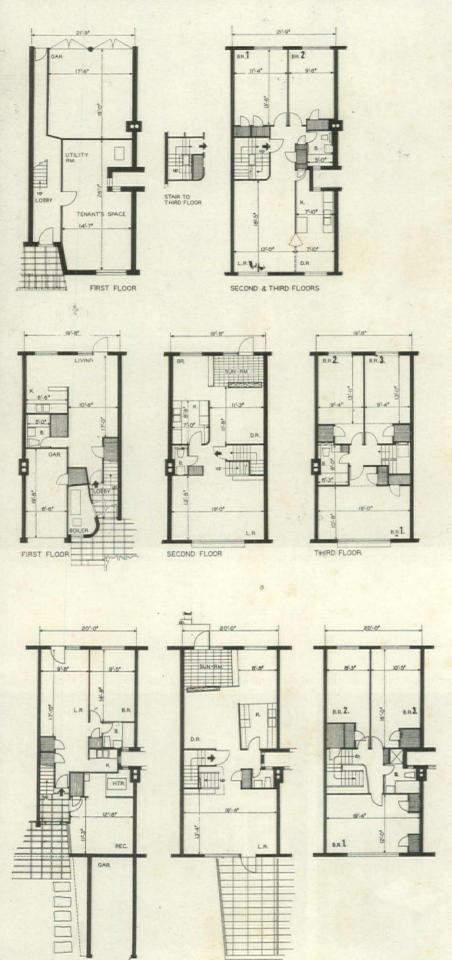
IN GARAGE AND ONE-ROOM APARTMENT ARE LOCATED ON GROUND FLOOR OF TYPE B HOUSES WHICH HAVE MANSARD ROOFS

#### S FORMED BY ROOF OF GARAGE, WHILE WAIST-HIGH OBLIQUE PARTITIONS CREATE OPEN LIVING SPACE IN TYPE C HOUSE





Builders have backed Nemeny's evolving design at every step because it yields more space at less cost.



SECOND FLOOR

THIRD FLOOR

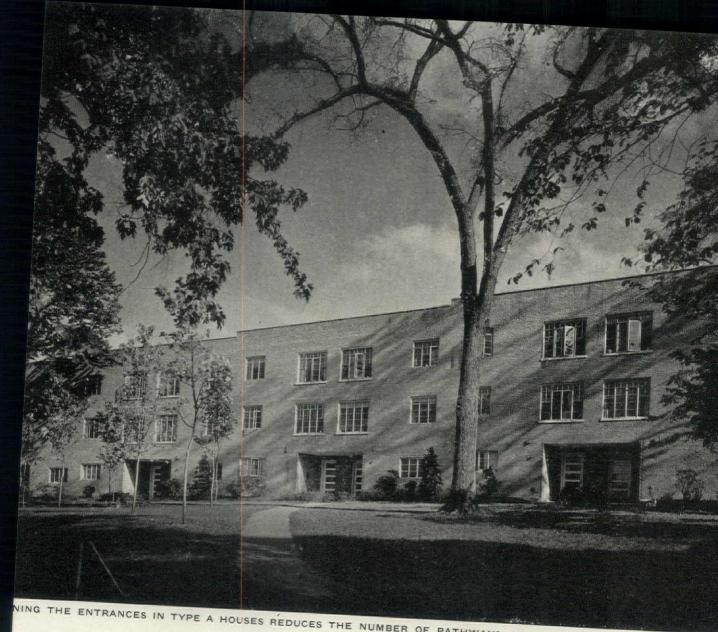
TYPE A was the first to be developed as 80 rental houses in Queens. First floor contains two-car garage with rear driveway, also utility and tenants' space which is used jointly by the two families as a workshop or for recreation. The upper floors contain identical four-room apartments. The use of a ventilating shaft for bathroom and secondary kitchen ventilation, as well as the use of an interior stairway, makes possible good exposures for all important rooms and reduces over-all cubage. Cost: \$7,800 per three-story unit. Mortgagee: Fourth Federal Building and Loan. Builder: Airhill Corporation, Robert Goodman, President.

TYPE B is a compact non-rental house, with lower apartments for rental by owners. The ground floor space is fully utilized for a separate two-room apartment opening off lobby. The utility space is kept down to a minimum. The two upper floors form a single family six-room house which features open planning, elimination of entrance corridors, and wide picture windows on the long sides of the living room and master bedroom. Cost: \$7,000. Mortgagee: Bronx Federal Savings and Loan Assn., West Side Federal Savings and Loan Assn. Builder: Berkwit Associates.

TYPE C is an outgrowth of Type B, with the garage separate from building and a recreation room for the owner on the ground floor as well as a separate apartment, renting for \$50 a month. The second floor has an oblique partition screening the kitchen from the dining room and a recessed sunroom. The plan is open, and the living area runs through the entire floor. A generous terrace provides outdoor space in addition to a patio on the ground level. Cost: \$8,500. Mortgagee: Bronx Federal Savings and Loan Assn., West Side Federal Savings and Loan Assn. Builder: Berkwit Associates.

GEORGE NEMENY, Architect

FIRST FLOOR



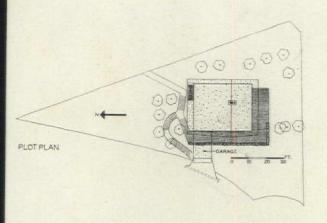
NING THE ENTRANCES IN TYPE A HOUSES REDUCES THE NUMBER OF PATHWAYS, ALLOWING FOR WIDE LAWN AREA

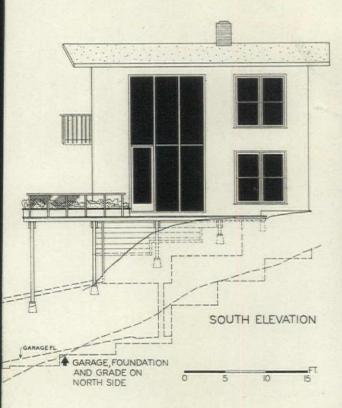
AMILY TYPE C HOUSES HAVE FIRST FLOOR DESIGNED AS A RENTAL APARTMENT, UPPER TWO FLOORS FOR OWNER'S USE





## USE IN ROSS, CALIF. Architect Joseph Esherick, Jr.'s design for a sloping plot.





#### CONSTRUCTION OUTLINE

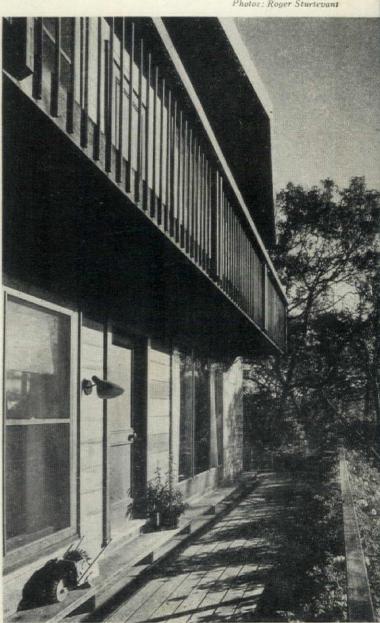
FOUNDATION - reinforced concrete. STRUCTURE: terior walls-studs, hemlock furring, building paper and redwood. Interior: Floors, walls and ceilings-hemlock. BOOF -built-up tar and gravel. INSULATION: Roof-rockwool. U. S. Gypsum Co. SHEET METAL WORK-galvanized iron. WINDOWS: Sash-double hung. Glass-Quality A, single strength and sheet. FLOOR COVERINGS: Kitchen-linoleum. PAINTS-Samuel Cabot, Inc. HARDWARE-Schlage Lock Co. ELECTRICAL INSTALLATION: Wiring-knob and tube. Switches-tumbler. BATHROOM EQUIPMENT-American Radiator & Standard Sanitary Mfg. Co. and Briggs Mfg. Co. PLUMBING: Soil and vent pipes-cast iron. Branch pipes - galvanized iron. HEATING - hot air, gravity, gas fired system.

GENERAL CONTRACTOR: C. W. Monk, San Rafael, Calif.

The hillside subdivision in which Joseph Esherick's own house is located was almost completely built up by 1925 - with the exception of this lot, which no one considered suitable for building. It slopes very steeply down toward the west, but despite this challenge to the architectural imagination is conveniently located for shopping, schools and bus routes. It also has magnificent views to the west and south.

The tall, almost square house was placed on reinforced concrete foundations, with post supports over the garage. The standard 2 by 4 stud construction and grained hemlock siding fits nicely in the surroundings, which are dominated by odd-shaped madrona trees set among evergreen planting. The approaches are from roads on the east and west sides and the paths have been graded for easy access. All other grading was done with the object of minimum cutting in mind. A terrace of redwood blocks was formed on the south side, where the balconv ends flush with the grade, and this forms a convenient and shady outdoor garden. (Continued on page 89)

Photos: Roger Sturtevant

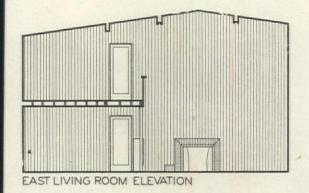


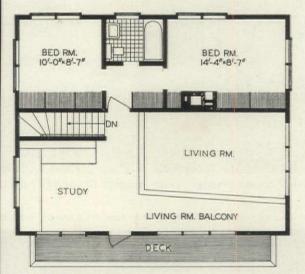
MAIN ENTRANCE OPENS INTO DINING ROOM FROM BALCONY



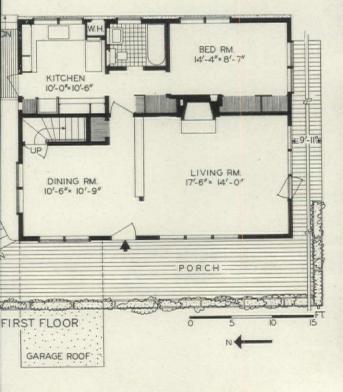
Small and compact, the house acquires a roomy look through use of open planning technique.

#### JOSEPH ESHERICK, JR., ARCHITECT





SECOND FLOOR



The simple but carefully thought-out plan is divided by a fireplace wall and staircase. On the first floor, a combination bookcase-sofa forms the only separation between living and dining areas which are amply lighted by large panels of fixed glass. The kitchen, bathroom and ground floor bedroom are closed off from the living space by a door. They have windows facing on a redwood terrace carved out of the hillside, where the soil is retained by a redwood bulkhead four feet high. Outside the west windows is a balcony decorated by flower boxes.

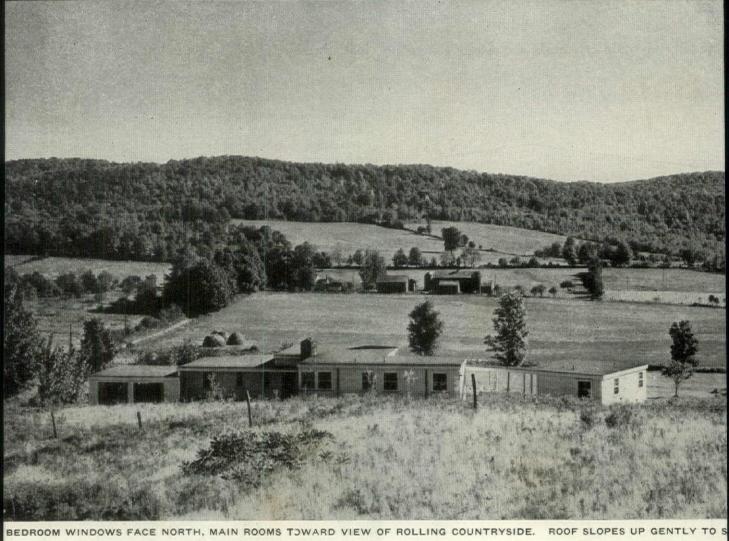
On the second floor, a study-balcony arrangement is open to the upper part of the living room, giving the whole house a pleasant airy effect and allowing for interplay of light and shadow. From the balcony a sun deck is accessible. As on the first floor, a door separates the sleeping quarters which consist of two bedrooms and a second bathroom. The bedrooms have closets the full length of one wall and are very simply furnished. The warm effect of the vertical boarding throughout the house makes an appropriate background for the quiet colors of the fabrics and floor coverings. Cost: exclusive of landscaping and architect's fee: \$5,200.



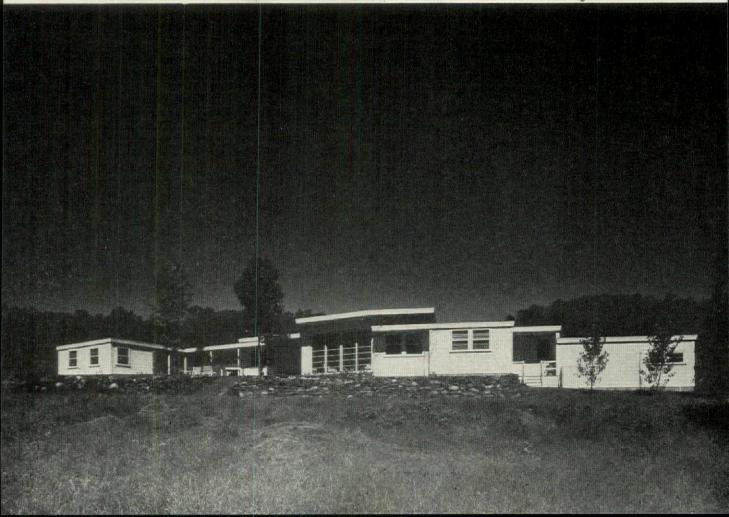
CONTINUOUS DESK TOP IN STUDY IS FOR ARCHITECT'S USE



FIRST FLOOR ROOMS FORM ONE SPACE WITH LONG VISTAS



TERRACE ON HEAVY CLAY FOUNDATIONS FORMS LEVEL PLATFORM FOR ALL ROOMS EXCEPT THE GARAGE AT LOWER END O



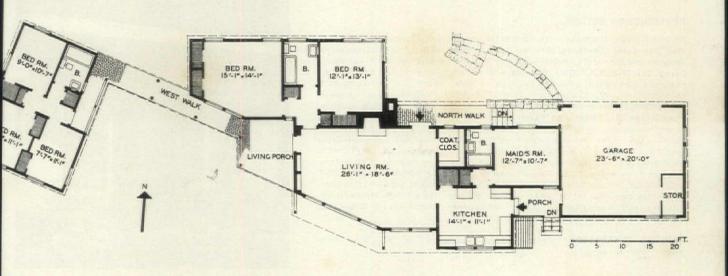
#### HOUSE NEAR MILLBROOK, N. Y. An unique one-floor plan by Architect Philip Ives.

The design of this unassuming country house was not the result of any self-conscious effort on the part of the client or the architect to produce something "modern." It was much more the product of the owner's desire for simplicity and seclusion. In the plan as it was worked out, even the children have their own "house," separated from the main living area by a covered walk.

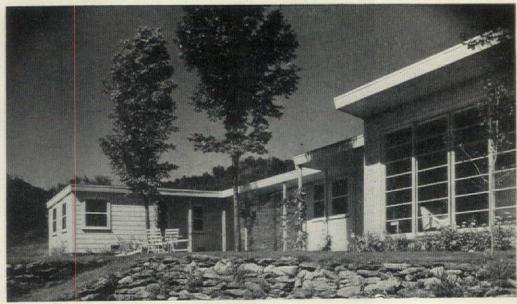
The shape of the living room was determined largely by the view to the south-west, which extends for ten miles or so down the famous Clove Valley in Dutchess County. The house was placed just high enough off the floor of the valley to take in the whole panorama. The angle of the living room and the living porch is thus accounted for; less accountable is the function of the living room as a passage between bedrooms and service quarters, which complicates its use unreasonably.

The house was so well built that it can be left without heat through the winter and there is no trouble with doors and windows when the time comes to open it again in the spring. It does, however, have heating for winter use, and the children's wing has a separate oil burning unit.

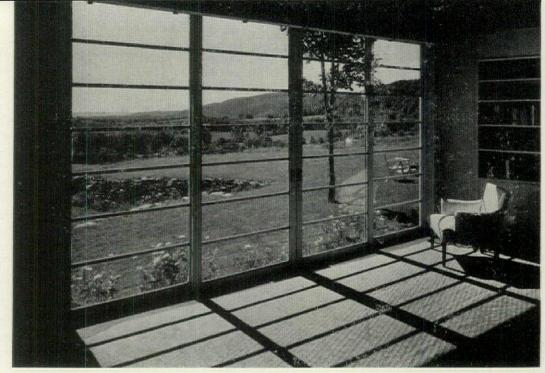
The kitchen windows have a double overhang, noticeable in the lower photograph on the opposite page. In the original plan the projection over the living room was considered enough, but during construction the clients requested the other for esthetic reasons and the result is not unpleasing. The rangy, casual effect of the house in the landscape is well-suited to the character of the valley. Cost, exclusive of landscaping but including architect's fee, \$18,731.



COLUMNS SUPPORT COVERED WAY WHICH SERVES DUAL PURPOSE AS SUNSHADE



Photos: Ben Schnall

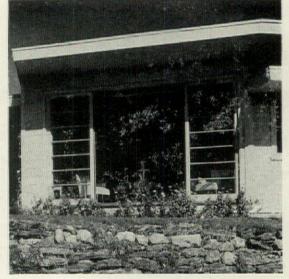


SLIDING WINDOWS WITH HORIZONTAL MULLIONS OPEN ONTO TERRACE FOR SUMMER BREEZE

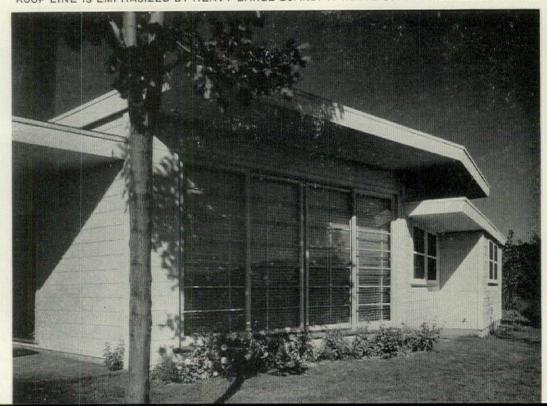
#### CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls-asbestos cement clapboards, Philip Carey Co., Vaporseal sheathing, Celotex Corp.; inside studs, cork plaster board, Newark Wallboard Co. ROOF-15 year bond, slag surfaced built-up, Philip Carey Co. INSULATION: Outside walls-cork plaster board and Vaporseal, Celotex Corp. Roof - Rocktex, Philip Carey Co. FIREPLACE DAMPER-H. W. Covert Co. SHEET METAL WORK-16 oz. copper. WINDOWS: Sash-pine and horizontal siding. Glass-double quality, Pennvernon B., Pittsburgh Plate Glass Co. WALL COVERINGS: Main room-wallpaper. HARDWARE-Yale & Towne Mfg. Co. ELECTRICAL INSTALLATION: Wiring system-BX. Switches-tumbler, Bryant Electric Co. Fixtures - Kurt Versen, Inc. and Lightolier Co. KITCHEN EQUIPMENT: Range - bottled gas. Refrigerator - electric. Cabinets -Morgan Sash & Door Co. Fan-Pryne & Co. BATHROOM EQUIPMENT -Crane Co. PLUMBING: Soil pipes-cast iron. Vent pipes-galvanized iron. Hot and cold water pipes-copper tubing. HEATING-direct fired, filtering and humidifying. Boiler, oil burner, thermostat - Gilbert & Barker Co. Grilles-Tuttle & Bailey Co.

GENERAL CONTRACTOR: Carl Hazzard, Millbrook, N. Y., Boss Carpenter, Bob Megloughlin.



ROOF LINE IS EMPHASIZED BY HEAVY BARGE BOARD. A WHITE SOFFIT AIDS ILLUMINATION



# BUILDING IN ONE PACKAGE

Its chief exponent, The Austin Company, with \$600 million of wartime building behind it, still challenges professional fetishes with its 40-year-old slogan, "undivided responsibility." The Austin Method: what it is and how it works.

First to cut across accepted lines of professional and commercial responsibility, upset long-established taboos against advertising and offer complete design, construction and fabrication service, The Austin Company is Building's maverick. But The Austin Method is more than a new way of getting and doing business, more than an expeditious system of construction, more than an attractive prospect to harassed industrialists lost in the maze of involved building procedures. Almost everyone knows something of the organization which designs, builds and equips factories, airports and office buildings from Maine to California, Alaska to South Africa; few fully understand its ramifications or know of the advances in building and engineering science which Austin's resources have made possible. Some of its ways of getting business would leave the average architect or contractor gasping. About two years ago, for example, the Company invited one of the leading manufacturers of television equipment to cooperate with it in the development of designs for a series of hypothetical television broadcasting studios.

"At whose expense?" asked the manufacturer, realizing the months of work and study involved.

"We are willing to match our time and experience with yours and foot the bills connected with our part of the work," the Austin executive replied. "We simply want to prepare ourselves for postwar activity in this field, and feel that you should be willing to contribute your experience and advice to help the development of a new industry."

The manufacturer agreed. Followed months of intensive work and conferences, including visits by Austin engineers to existing television studios all over the country. A master station was designed for continuous large-scale network presentations, planned around existing and anticipated broadcasting equipment. It had a turntable stage and dual audience seating areas to minimize equipment costs, a single, central control room. After this design—in model form—had been exhibited to potential television broadcasters from coast to coast, a revised scheme, more adaptable to the requirements of the average city, was developed. Also built in working model form, the second station had one large studio with a two-section sliding stage, and two smaller ones served by a common, pivoted platform for broadcasting equipment.

All of this work, including the restudy of the original design, was carried out without lining up a single client. It was not just a new promotion scheme (although it was a good one); it was an honest effort to anticipate postwar building activity in a hitherto unexplored field and to get preliminary research work out of the way to clear the decks for actual construction at the earliest possible date.

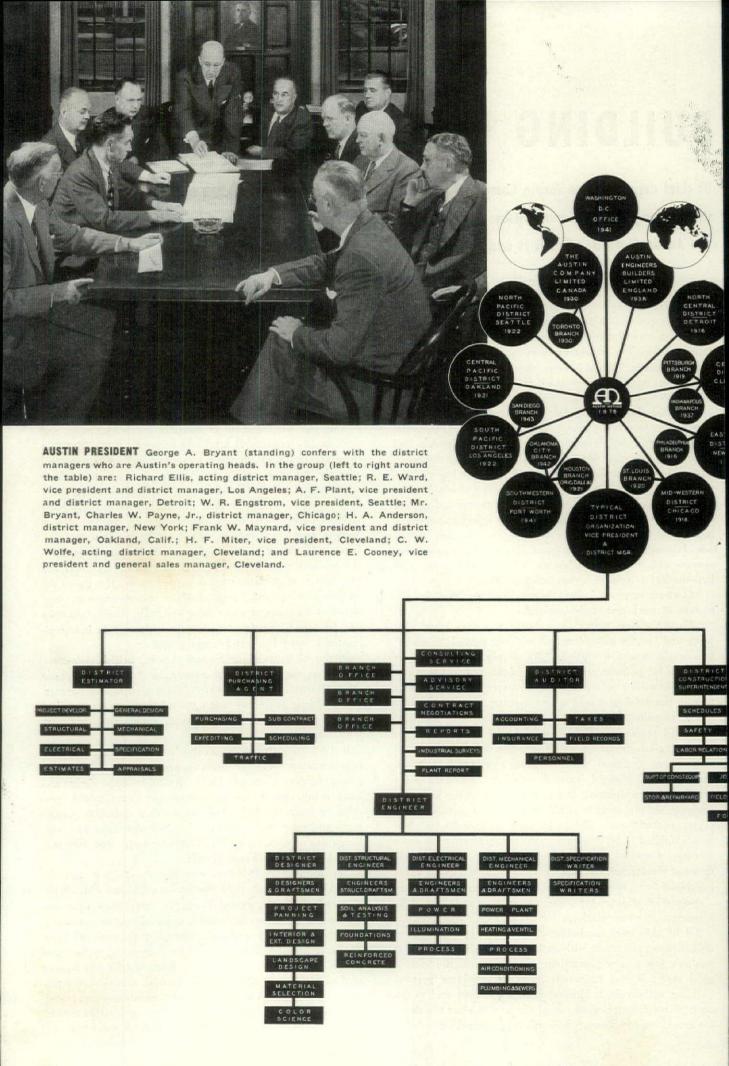
While there are still professional practitioners who turn pink around the jowls when the name Austin is mentioned, and are likely, if pressed, to launch into tirades against "contractors trying to masquerade as architects," few would deny the soundness of this approach to a new design problem, or the advantages of an organizational set-up which makes such research possible. As a matter of fact, although the professional standards of the American Institute of Architects still forbid participation in construction work, more and more large architectural firms now subscribe to the idea that some relaxation of this rule to permit more direct control over the building process might be advantageous to both architect and client. Especially since the war, former distinctions between purely architectural and purely engineering services have broken down almost entirely. In The Austin Method, as in any arrangement which combines design, specifying and contracting in a single organization, the client loses any advantages to be gained from competitive bidding, and the advice of a disinterested professional. He gains the services of a integrated team of designers, engineers and construction superintendents, a team which The Austin Company has developed, step by step, in pace with modern industry's insatiable need for better working space.

In the 63 years since Samuel Austin, British carpenter, arrived in the United States, the name "Austin" has been the performance bond on some 6,800 industrial and commercial building projects—over 6,000 of them under complete service contracts embracing design, engineering and construction.

In 1904 this carpenter-contractor's craftsmanship and business acumen were merged with the professional abilities of his young engineer son to provide the first all-inclusive design and construction service. Unique in its scope, character and operating methods, this 40 year old partnership of designers, engineers and construction men has handled more than \$900 million worth of work under The Austin Method,—over \$600 million of this during World War II.

Serving private industry, government agencies and the armed forces through eight district organizations which function independently, except insofar as they draw upon the research and engineering counsel, financial resources and professional manpower available through their national head-quarters, Austin's wartime activities have been concentrated in the U. S., Alaska and Canada. Each district has its own staff of designers; structural, mechanical, electrical and process engineers; estimators; purchasing agents and supervisory construction force. The flexibility of the organization enables jobs to be handled in ways most efficient for their type and

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ING VICE PRESIDENT H. A. Hallstein, seated, shares president's s. Vice president W. G. Paton handles personnel and fabrication.



PRESIDENT Albert S. Low (center) who handles government conass't research director Waidelich and fabricating sup't Burr.



PRESIDENT J. K. Gannett (right) who directs engineering and arch, with Robert Smith, Jr., designer. Below: drafting room.



special problems. Austin is one of the few building organizations of national scope, and makes much of this advantage. In the case of a large radio studio on the West Coast, built for a firm with headquarters in New York, the basic architectural design was developed by the research department in Cleveland, with the New York office acting as liaison with the owners on the early phases. All of the structural, electrical and mechanical drawings were developed by the Austin district organization on the West Coast, where the owner was represented by the members of his own engineering staff who were constantly available for consultation.

Another interesting case was that of a large food industry having headquarters on the West Coast and for whom Austin designed and built a very large modern plant in the New York metropolitan area. In this instance the first contacts were made with the district organization out West. The contract was finally concluded, however, by the eastern district manager, who went to the Coast for that purpose. The flow chart and general machinery layout, as well as detailed drawings for much of the equipment directly related to the manufacturing process, were worked out on the West Coast, where members of the Austin district organization could readily observe operations in the company's existing plant, and had the benefit of day to day contact with the owner's engineers and operating staff. The actual selection of the site, however, was entrusted to the New York district, which likewise handled all of the architectural and structural drawings. While the owner made a number of trips East during the period of construction, between visits all matters which required their attention were handled through Austin personnel on the West Coast.

It was the planned doubling and redoubling of personnel in these district organizations in advance of mounting war business that enabled Austin in five years to deliver plants worth \$200 million to aircraft, aviation and related industries; \$100 million worth of airports, air stations and other aviation facilities; plus \$200 million worth of chemical, food and process plants; and another \$100 million for mining, machinery, and miscellaneous industries. With a peak payroll in 1942, when its employes totaled 49,972, Austin entered 1945 with about 10,000 on its construction payrolls and an operating staff of nearly 1,500 persons, 480 of whom are designers, engineers and draftsmen actively engaged in design, research and development work.

The personality largely responsible for Austin's growth is George A. Bryant. General sales manager of the company from 1918, when its activities became worldwide, until 1930 when he became the company's directing head as general manager and promptly negotiated a \$60 million contract for design and construction of a complete industrial city for the Soviet government, Mr. Bryant has been Austin's president since 1940.

The organization he heads is not the only one which offers design, engineering and construction in a single package. Its volume of work is not the largest in the industrial field. But the scope of Austin's activities—in terms of kinds of construction and geographic coverage—is as broad, or broader than any other firm now in existence, while its championship of the integrated-building-organization idea is unique. For this reason, Austin's solutions of typical problems of industrial construction are of interest not only as examples of executed work, but as evidence of what such an organization can accomplish.

### STRUCTURE

Early recognition of the speed and economy to be gained through standardization of structural parts led Austin to the design and construction of its first plant employing standard trusses in 1915. In 1918 the firm completed the engineering and erection of a 27 acre plant for the old Curtiss Aeroplane Company at Buffalo in 90 working days. This plant and the Austin-built Naval Aircraft Factory in Philadelphia are among the few aircraft plants of the first World War which are still being used for building planes. They were unusual instances of high, wide-span construction in their day, and are now useful reminders that the life of most plants is cut short by limitations of column spacing, clearance and load-carrying capacities, rather than by deterioration.

Improvement of early riveted truss designs was followed in 1925 by experiments which proved that welded trusses, entirely without gusset plates, could be made considerably lighter than riveted trusses designed for the same loading and would be stiffer and easier to handle in the field. In 1929 Austin erected a four-story all-welded commercial building at its own expense by way of further experimentation in the techniques of structural welding.

In 1935 the firm erected a building which remains an impressive application of structural welding in heavy industry—the Diesel locomotive assembly shop for the Electro-Motive Corporation, a division of General Motors at La Grange, Ill. A 200 ton capacity traveling crane, itself weighing 205 tons, and 30 and 40 ton cranes operate in the 1,100 ft. erection aisle on a 104 ft. span. With this experience behind them the engineers adapted their welded designs for use in wire mills, a large smelting plant and fully-mechanized foundries, where trusses had to withstand eccentric stresses emphasized by the high speed stops of loaded monorails.

Having reached the conclusion that welding would make rigid frame buildings commercially feasible, in 1936 the company announced a rigid frame sawtooth design entirely without web members. Its tree-form columns and one piece roof bents lent themselves to speedy erection by field bolting or welding. This and other rigid frame arch and sawtooth designs have been effective in providing unobstructed headroom in manufacturing areas, foundries, research laboratories, drafting rooms and loading platforms.

The application of rigid frame and arch principles was carried over into concrete and timber structures to save steel during the war period, when the company designed two magnesium alloying plants with rigid frame concrete arches of 100 ft. span for the Dow Magnesium Corporation, and cafeterias, gymnasiums and drafting rooms with laminated timber arches. An Austin-designed cafeteria for Boeing at Seattle employs a hinged arch of 92 ft. span with 28 ft. clear height at the peak.

Two recent developments have had a far-reaching influence on speed and economy in building fuel storage tanks and seaplane bases for the Navy in many localities. Pre-cast beams and slabs have been used to eliminate costly cofferdam construction where extreme tidal ranges are encountered, at great saving of time, steel and expense, and Austin designs for prestressed concrete tanks have become a standard for the storage of gasoline and fuel oils at Naval Fuel Supply Depots.

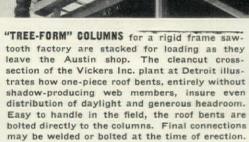


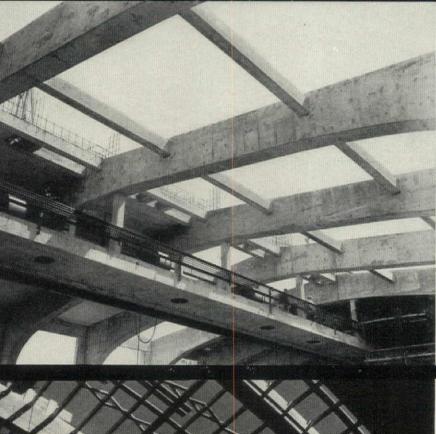
BELL AIRCRAFT'S modern fighter planes are now produced in transverse monitor craneway bay where Curtiss built these seaplanes in 1918. It was then the largest factory under one

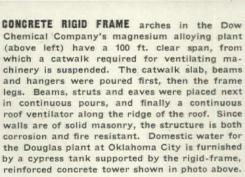


ALL-WELDED 65 ft. building columns for the Electro-Motive pi together with crane columns on either side, were fabricated in Austin shops as one piece. Each of the columns weighs about 8 ft.

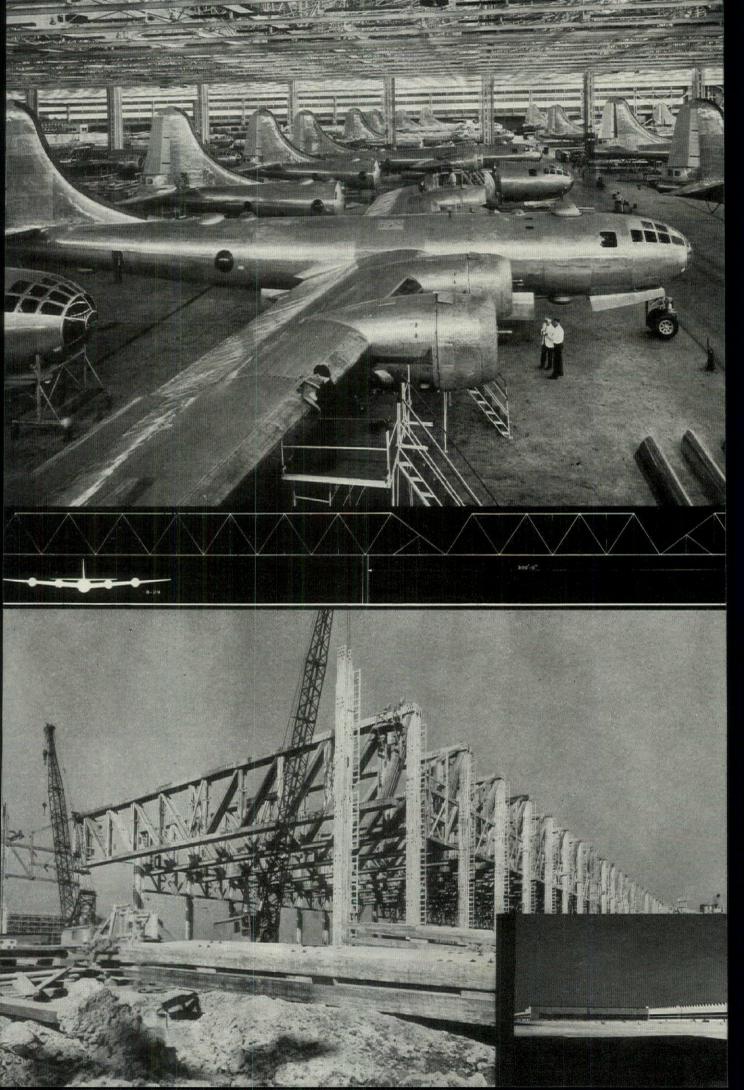


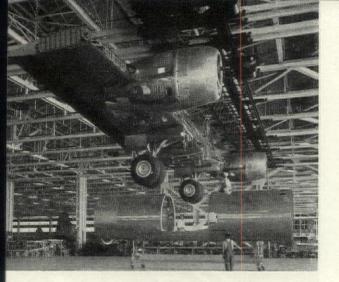




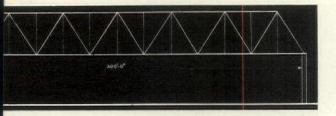




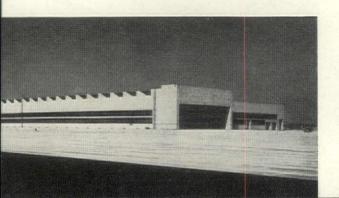




200 FT. TRUSSES above the final assembly areas in Boeing's plants are 35 ft. deep and are supported by columns 65 ft. Interconnecting monorail bridge cranes of 10-ton lifting capaare suspended from the trusses in these areas. Working toer, the two cranes shown above are lowering the 17-ton main re wing section of a Superfort into the fuselage bomb bay. While Vichita plant shown here was erected on good bearing soil, that enton is on the water front where heavy piling was required ram below shows how suspended trusses, 170-ft. long, were to complete the center of three spans there. Trusses for the bays have 65 ft. cantilevered arms to which the suspended on is pin-connected to accommodate any settlement that might without changing the primary stresses in the truss members.



NATED WOOD SECTIONS make up the 54 ft. columns supporting on, 150 ft., ring-connected timber trusses in this Army aircraft that Chicago, where Douglas produces C-54 four-motor transport es. Columns in the wide span area consist of two laminated others, each 17½ in. by 34% in., bolted together. A total of 30 on board feet of lumber were used on this project, with a net saver more than 20,000 tons of structural steel. Clearance of 35 ft. in wide-span area leading to the 150 ft. overhead door at the of the assembly bay (see below) is reduced to 25 ft. in storage, ary manufacturing and light sub-assembly departments, in the background and on the extreme right. Continuous sidewall sash a sawtooth roof admit daylight throughout all working areas.

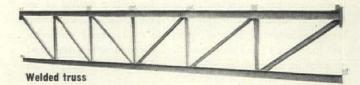


#### STRUCTURE cont'd

In meeting the requirements of the aviation industry for superspan construction, Austin has designed and built more than 1 million square feet of 300 ft. clear span construction at Boeing aircraft plants where B-29 Superfortresses are produced. In the design of other large aircraft plants for the Army, Navy, DPC and private industry, the company has developed a variety of structural plans which have one common feature-flexibility-which should render the plants adaptable to a variety of uses when war contracts have been fulfilled. The Grumman controlled-conditions plant at Long Island and the Bell plant at Niagara Falls are both devoted to the production of fighter and pursuit ships of limited wing span but have wide span final assembly areas, 240 ft. at Grumman, 200 ft. at Bell Aircraft. In the much larger Vultee and Douglas Army aircraft plants at Fort Worth and Tulsa, several 200 ft. jack trusses were incorporated in the sidewall framing to permit future installation of wide hangar doors, should the need arise, and the buildings have been so planned that each 500 lin. ft. can be used as a separate working unit if necessary. Mezzanines are cantilevered from the trusses and can be bypassed by the monorails for greater flexibility.

When the Army called for similar facilities in a plant entirely stripped of structural steel, a design was produced that has given Chicago the world's largest all-timber factory. This Douglas-operated plant has 150 ft. timber trusses completely fabricated on the job. Vertical clearance of 35 ft. is maintained in the major sub-assembly and final assembly bays.

In 1943, the company resumed work on improving welded cross-sections and early in 1944 produced a new design of standard rolled H-sections. Rolled members are simply cut to correct length, tack-welded in the jig, and the trusses then set upright and completed by down-welding. The most significant feature of the new design is its adaptability to heavier loadings merely by increasing the weight of the 8 in. H-beams used for the top and bottom chords. This in-



volves no changes in center to center dimensions, truss depth or drawing details, and the bottom chord of the truss itself can be used as a monorail. Action of the truss under a heavy overload was impressive due to the fact that lines of action of all members lie entirely in one plane and end connections are not only concentric but symmetrical. This is one of the first examples of a truss design than can be adapted to a wide variety of loadings without any change in design details or fabricating jigs. Available in lengths of 50, 60, 70 and 80 ft. these trusses have since been used in Austin plants in six different localities.

While Austin standard structural designs have been applied in more than 3,000 plants to date, they have covered only a small proportion of the company's total activity, and only 10 per cent in recent years. The engineering principles on which they are based, however, are widely reflected throughout all of the company's work.

### WALLS AND ROOFS

Austin engineers look upon walls and roofs as critical elements in the design of efficient industrial plants. They believe that the function as well as the character of enclosures is subject to the same kind of improvement as any other part of the building.

This viewpoint enabled them to develop windowless factory interiors, realizing the late Gifford K. Simonds' dream of atmospheric conditions to rival those of a perfect June afternoom for year-round working conditions.

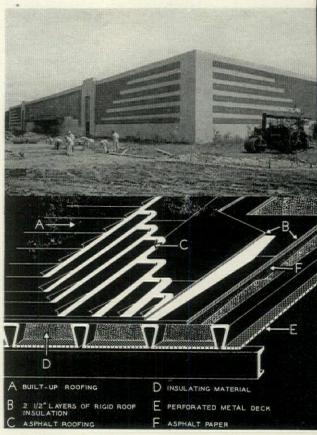
To do this, Austin realized that controlled conditions would depend as much on wall and roof design as on mechanical equipment. The problem of maintaining high humidities in cold weather and reducing both temperature and humidity in the heat of summer required complete analysis of construction details with respect to thermal and vapor transmission characteristics, as well as from the structural standpoint. First of the designs developed to meet such problems was a double wall, with an air space between the outer masonry and acoustic block on the interior, and a cork-insulated metal acoustic ceiling. This was for the Simonds Saw and Steel Co. at Fitchburg, Mass.

At the air-conditioned research laboratories of the American Rolling Mills Co.'s Middletown, Ohio plant, Austin used insulated steel walls, which they had previously developed for prefabricated porcelain enamel service stations. At Armco, glass block was first used for roof lighting in vertical sawteeth which admitted daylight to scores of inside rooms in this single story building. Its cellular steel roof is similar to the one at Fitchburg.

In 1939, previous experimentation with Fiberglas led the company to use it for roof insulation in barracks, hangars and other buildings for an Army Air Base at Fairbanks, Alaska, where there is a temperature range of 100° F. in the summer to-75° F. in winter. The walls were sheathed with asbestos-protected metal and painted aluminum in the interest of heat reflection.

The operation of the Simonds plant served as a guide for many other projects when the war brought a revival of interest in windowless designs. In some instances, insulation was supplemented by roof sprays to reduce peak refrigeration loads, and improved acoustical controls were introduced as a result of experience in the design of sound stages and broadcasting studios.

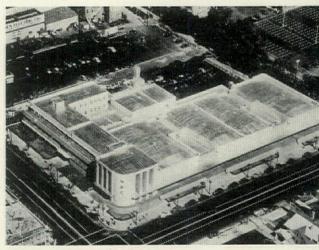
The most unusual wall and roof designs, however, occurred in connection with the three huge controlled-conditions Army aircraft plants in the Southwest, for which the company developed "breathing" walls as an aid to economical air conditioning. Two of these plants have walls constructed entirely of steel and Fiberglas, with a roof of the same material. Since these plants had to be completely air-conditioned for efficient year-round operation, the design of a thoroughly insulated wall which could be speedily erected and would be fire and shatter resistant was called for. The 6 in. wall and 5 in, roof which were finally evolved weighed 10 and 11 lbs. per sq. ft. respectively, and were built entirely of long span formed metal sections with Fiberglas mats and insulating board in sizeable units, which made for exceptional speed in erection. In addition to their record insulating qualities, the exposed white Fiberglas mats on the ceiling and interior walls have a noise absorption capacity of 75 per cent or better and a high light reflection value.



WELL-INSULATED ROOF and double walls in the first controlledditions plant, which Simonds Saw left unoccupied and without from 1931 to 1938, prevented deterioration of the windowless p



SPENT WATER from air-conditioning systems is sprayed on the of some controlled-conditions plants to help meet peak cooling to



ISOLATED WALLS AND ROOFS prevent sound transmission betw four large and two small studios in NBC's Hollywood Radio C The insulated roof is painted aluminum for maximum heat reflect



Development of a "breathing" masonry wall for the third plant followed metal conservation directives which made impossible the use of steel walls in this project. The Army required that its insulation must duplicate the effectiveness of that in the other plants. A vapor seal like the one which insured a permanently dry wall at the previous structures was placed between a solid inner wall of masonry and the rock wool insulation. The insulation behind the seal is allowed to breathe through perforations in ventilating tile which function as flues in the outer wall. Open vertical joints in recessed courses near the bottom and in a rowlock course near the top of the 50 ft. wall serve as the intake and exhaust for air circulation.

In advocating windowless designs for structures in which controlled conditions facilitate the economic layout of plant functions or the more efficient conduct of production and business activity, Austin emphasizes the psychological value of vision strips and other light admitting areas, where these can be provided without upsetting functional controls. Thus they have introduced narrow double glazed runs of sash in cafeterias, drafting rooms and offices where there are no other windows. Vertical panels of glass block have likewise been used to admit natural light to lobbies and stairwells.

Consideration of psychological reactions has also led to special handling of windowless interiors. In some instances this has been confined to the use of special outdoor colors—chiefly greens and yellows—and in others has involved the installation of photo murals or other pictorial panels which suggest a third dimension and have the effect of "opening up" solid wall areas. Where a large number of inside offices have been required, they have not only installed large areas of glass in the partitions but have adopted alternating color schemes for the walls and ceilings of adjoining offices, to enhance the perspective.

Daylight construction, which is an outstanding feature of so many industrial plants, has been emphasized in Austin buildings by the use of continuous sash outside the column lines. In multi-story reinforced concrete structures, this has been accomplished by carrying the floor slabs out a foot or more beyond the columns so that the slab forms an architectural feature on the outside as well as support for the side walls and continuous sash.

The bands formed in this way, or by the special treatment of masonry or other exterior materials where structural requirements make continuous runs of sash impossible, are characteristic of most Austin work.

During the war period when the use of metal sash was sharply restricted, Austin demonstrated the fact that equally striking results can be obtained with wood sash. In some plants designed solely for wartime use, they employed asbestos cement siding for side wall enclosures with successful results. By covering the joints between panels with narrow strips of the same material, they achieved an interesting pattern.

While many high bay structures have walls totally enclosed by glass, others employ bands between sash at various levels to prevent excessive brightness and reduce heat transmission. Insulation and light diffusion have recommended the use of glass block for many purposes, but Austin has found its most important application in process industries. In penicillin plants, for instance, it facilitates the maintenance of aseptic conditions, and is ideal for metal cleaning and pickling houses where sash would be subject to rapid corrosion.

OPEN BRICK COURSE

BRICK -

VAPOR SEAL

INSULATION-

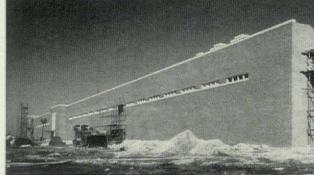
TRUSSED WALL TIES-

PERFORATIONS IN IN-SIDE FACE OF TILE VENTILATE INSUL-ATION

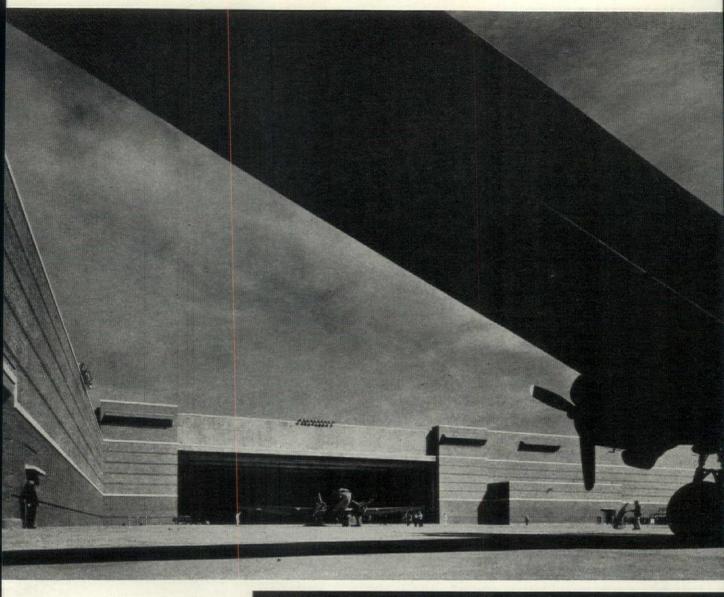
BRICK

OPEN BRICK COURSE





VISION SLOT in windowless wall of Grumman drafting room is st from interior (above) and exterior (below). Double-glazed wi sealed airspace, the vision slot is also equipped with blackout sha



ENTEEN AND ONE HALF MILLION BRICKS in two miles of "breathing" windowless s have made the Douglas Aircraft plant at ahoma City a symbol of new life among leadof the brick and clay industry. Returning compliment which one brick manufacturer his company in terming this ventilated wall most ingenious example of masonry conction in modern times," Austin's president ed the brick industry to set an example for er building material manufacturers and appriate \$1 million for research to help archis and engineers make more intelligent and antageous use of their products. Photo above ws the apron between the low sub-assembly s on the left and the long final assembly bay he right, with a C-47 transport plane emergfrom the plant's "short" production line.

ESTOS CEMENT siding encloses sidewalls of all-timber Army aircraft plant at Chicago, are continuous bands of wood ventilating in have been installed outside the building colms to give the building its striking modern earance. Daylight admitted through these dows, and the sawtooth roof above all protion areas, enables some departments to opte without electric lights during much of the in the late spring, summer and early fall.



## LIGHTING

The Austins first gained their reputation for coast to coast service through design and construction of electric lamp plants over 30 years ago. Working closely with lamp, fixture and equipment manufacturers ever since in the development and application of improved lighting and distribution systems, their organization is probably as close to the lighting industry today as any other group of industrial engineers.

Confidence in the industry's ability to solve new lighting problems which dates from the establishment of Nela Park. in which Austin played an important part, has been to a large extent responsible for the Company's unhesitating advocacy of controlled-conditions plants and office buildings. This has been more than justified by the steady improvement in quality and efficiency of lamps and fixtures.

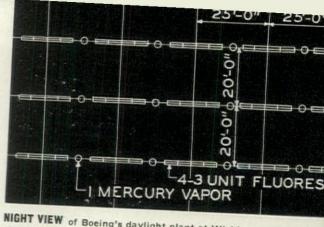
The elimination of glare and low heat output of fluorescent lamps have made them an almost universal choice in controlled-conditions plants, particularly since the perfection of high bay fluorescent lighting which has been adapted to mounting heights as great as 60 ft.

The scientific handling of light in windowless plants has been aided by the ability to completely control light reflection from floor to roof. With paints, wall and ceiling materials in various textures and colors, and white cement for floors, contrasts and reflection value are specified to meet each situation. This, plus the diffused quality of fluorescent lighting which eliminates harsh shadows, bright reflections and blinding glare, reduces eye fatigue in such plants to a minimum.

Austin lighting engineers consider the development of an adequate maintenance system for systematic relamping and cleaning of large installations as a part of the original design problem. In high bay areas, fixtures are usually mounted to facilitate cleaning from monorails or cranes which will accommodate the equipment necessary for maintenance crews, without impeding normal handling activities. While the frequency of cleaning required depends upon the character of manufacture and whether or not the plant is air-conditioned, complete relamping at regular intervals based upon the average lamp life is usually recommended.

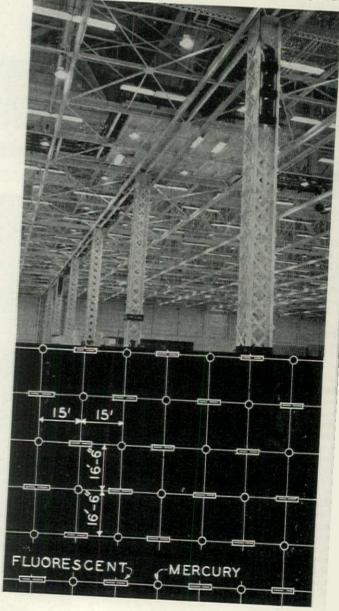
In daylight plants, they frequently install electronic controls which automatically turn the lights off or on when the intensity of daylight entering the plant falls below specified level. These installations are equipped with controls which permit a brief time lag so that the automatic switch does not operate in case of momentary variations caused by passing cloud formations.

Austin pioneered in the use of 3-phase, 440-254 v., 4-wire systems for large fluorescent installations. The improved ballasts and controls developed by the lighting industry for use with this high voltage system have brought widespread acceptance of this method. In controlled-conditions Army aircraft plants, 1000 amp. bus ducts extending the length of the buildings alongside catwalks through the trusses, serve as the power source, with lighting taps only a few feet long serving secondary distribution panels. Push button controls at floor level operate magnetic contactors in these panels, which in turn control circuits over individual departments and working areas. Wherever possible, Austin uses the space between flanges of building columns as raceways, with panel boards mounted on the web so that sheet metal cabinets are not required.

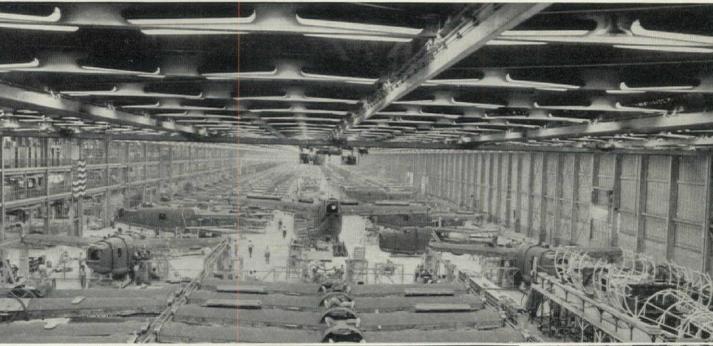


NIGHT VIEW of Boeing's daylight plant at Wichita shows a combition of 400-w. high intensity mercury vapor lamps in high bay flectors and fluorescent units with four three-tube sections endend, in rows parallel to the monorails. With twelve 40-w. lamps each of the fluorescent units, the installation produces 35 to 40 for candles on the horizontal working plane from a unit height of 45

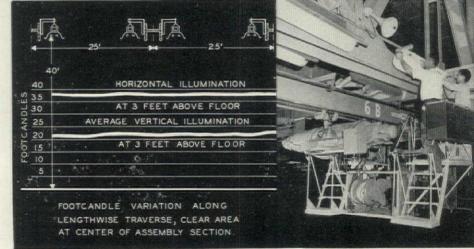
SUPERFORTRESS PRODUCTION at Renton is conducted under artificial light 24 hours a day, because all sawtooth and sidewall sash was covered to comply with blackout regulations. Here high intensity mercury vapor lamps like those at Wichita are arranged in a diamond pattern between two twinlamp fluorescent units carrying four 100-w. tubes in place of the larger number of small tubes at Wichita. Resulting illumination is comparable to that at the Wichita plant.







ONSOLIDATED-VULTEE'S huge controlled-condions plant at Fort Worth was the first to comine rectified fluorescent lighting, light-reflecting iberglas walls and ceiling, and a white cement oor, in a floor-to-ceiling approach to illumination roblems. There are more than 21,500 Type RF lamp units in high bay areas like this throughut the assembly and distribution bays, where 0 ft. clearance has been maintained. Spaced on ft. 4 in. centers and suspended from angle ons welded on both sides of the trusses to acommodate twin rows, the units can be easily emoved for periodic cleaning. Because of the act that work is carried on at many different evels, some of it on the underside of wings and uselages, the range of illumination at various levations is a critical factor. Light meter readngs made by General Electric Company showed xceptionally even light distribution throughout he area, with minor variations at various levels.



JANUARY 1945

### HEATING AND VENTILATING

Austin's experiments with windowless buildings have led the firm to adopt several heating and ventilating innovations for controlled conditions, although it has not neglected the problems of conventional daylight plants.

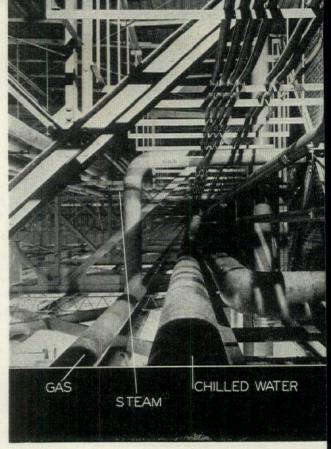
The conventional system for a controlled-conditions plant uses overhead distribution located above the bottom chord of the truss, with returns located at the individual fan units or along the walls near the floor line. In some cases, this design has been changed to introduce large quantities of low velocity air near the floor and allow all of it to escape through exhaust ventilators in the roof, located directly above high sources of heat. This system serves the purpose of removing large quantities of excess heat and fumes.

In the larger controlled-conditions plants Austin has introduced two other systems. The first method is to install a series of fan rooms, each to handle a given area or department. Each fan room is equipped with necessary fresh air intakes, return air intakes, filters, and a combination of heating and cooling coils. Depending on the type of loads encountered, these coils are fed by a single pipe carrying either hot or cold water, according to whether heating or cooling is required, or by two separate pipes, one carrying chilled water and the other steam or hot water. The heating and cooling medium is circulated from a unit usually located in the power plant. This method is very flexible for temperature control, uses a minimum of piping and a minimum of reciprocating equipment, which in turn reduces the maintenance factor.

The second method is to install the same series of fan rooms mentioned above and to include motor driven refrigeration compressors in each room, complete with evaporative condensers. The heating coils are fed through a circulating hot water system or from steam mains with individual control valves. This system requires less main line water piping but uses additional copper for the power feeders and increases maintenance due to the large number of reciprocating parts and controls.

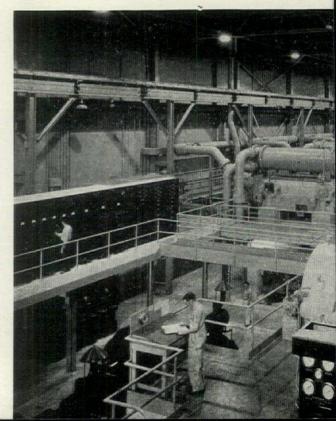
The amount and quantity of air conditioning used in a controlled-conditions plant depends entirely on the type of manufacturing activity. Some industries require a very careful control on humidity, others require a large quantity of air with a small amount of cooling for ventilation, others the entire elimination of dust through the use of electrostatic precipitators, as well as equipment to remove all moisture from compressed air used in cleaning minute parts in process of assembly. Thus each project presents a set of conditions all its own, which are to a large degree solved on an individual basis. The question of shock on entering a cool area from the warm outdoors is always considered and it is often found necessary to provide an intermediate temperature in the entrance lobby or else raise the average temperature of the entire building during the change of shifts. Both methods have been successfully used. Where well water is used as the cooling medium, either alone or in combination with mechanical refrigeration, the spent water is in many cases used as a roof spray to reduce heat gain.

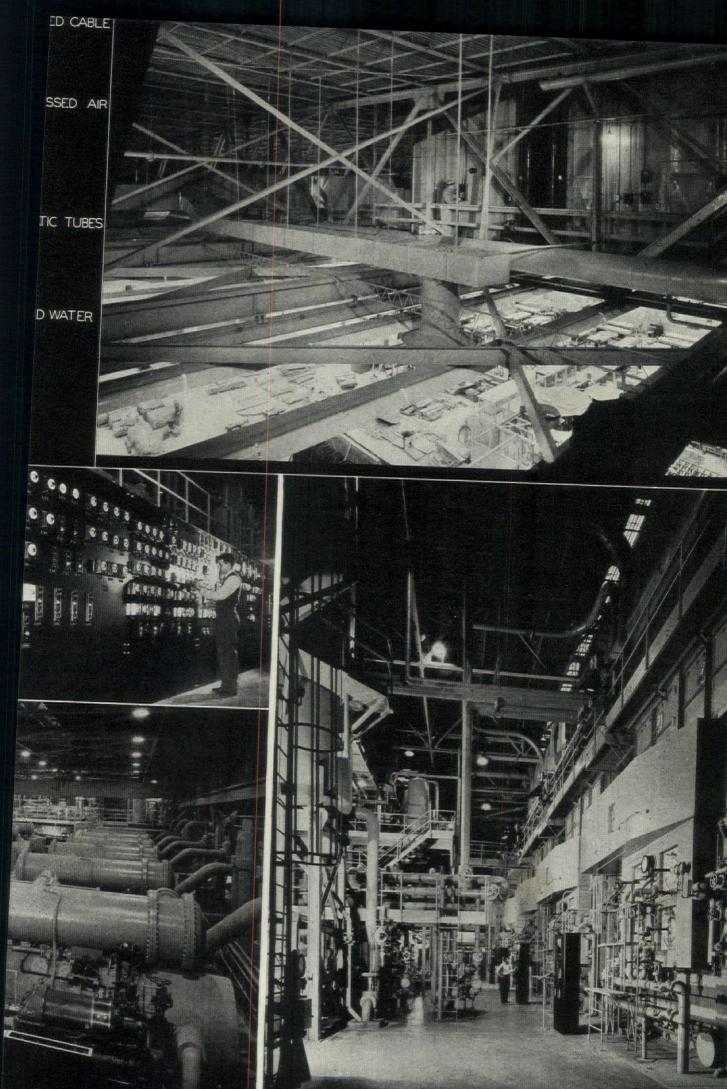
Paint spray booths and departments devoted to plating and anodizing can frequently be located at any point in the layout without necessity for partitions, but must be specially ventilated to prevent the spread of vapors throughout the remainder of the factory.



DISTRIBUTION SYSTEMS of all types are concentrated in the trus at Douglas Aircraft's new Oklahoma plant. View above shows chi water lines, pneumatic tubes, and a 6 in. compressed air line. 10 in. gas feed cuts over left to right above the others into the bo room. Located above the trusses, air conditioning units (right) accessible from catwalks extending the full length of the pla Lighting units hang from bar joists, illuminating the assembly flat

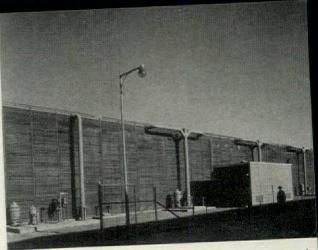
REFRIGERATING UNITS in Consolidated Vultee's Fort Worth phave own control panels (below), but whole system is regulated be central control board (right). The plant has an aggregate refierating capacity of 12,000 tons. The four gas-fired boilers (extra right), each with a capacity of 100,000 lbs. of steam per his serve heating and process functions and drive the refrigerating of pressors in this world's largest air-conditioned industrial build



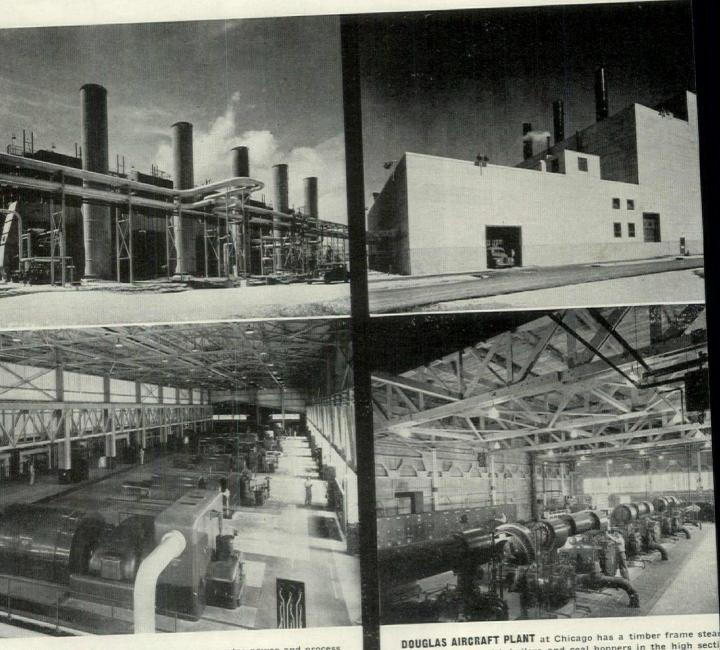




VENTILATING DUCTS in cadmium plating department of Oklahoma City plant eliminate the need for full-length partitions which would otherwise interfere with free-flowing production.

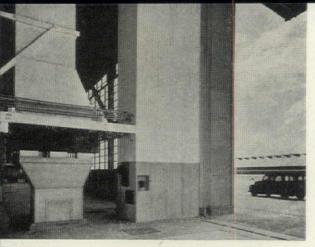


**COOLING TOWER** at Oklahoma City has five vertical pipe rise which return warm water to top sections. Photo also show pumps and pump pits which insure flow of cool water to boiler

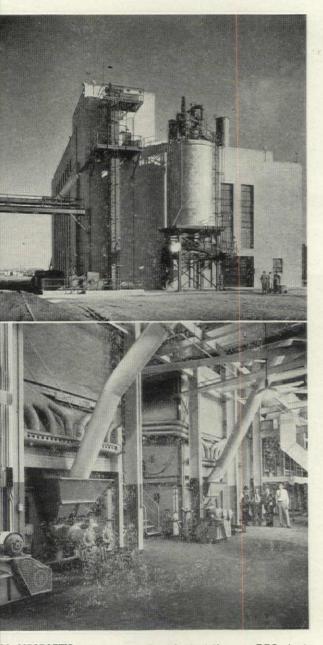


DOW CHEMICAL Co. power plant generates power and process steam for all operations producing magnesium from sea water on the Gulf of Mexico. Top view shows boiler side of plant with gas-fired units exposed to the weather except for firing fronts within the power house. Lower view shows interior of the turbine generator bay of the power house, which is of all-welded steel construction, with walls of corrugated asbestos.

erating station, with boilers and coal hoppers in the high section compressors, power distribution facilities, etc. in low section of lower portion. Note the wooden to place of steel. Boilers and coal hopper are supported on copiers. Note handsome effect of plywood gusset plates in background.



T HEATERS are located between canopy-type doors of Douglas craft's Chicago plant, furnishing high velocity jets of hot air ich rise from floor slots when doors are opened, stopping drafts.



LL AIRCRAFT'S steam generating plant at the new DPC plant the Niagara frontier has four boilers, two of which are shown re. They are fired by pulverized coal with forced and induced aft air which insures maximum combustion efficiency and perts the use of short stacks which are required in all localities joining airports. A vacuum type conveyor system transfers hes to a large silo equipped with a mechanical unloader.

#### HEATING AND VENTILATING cont'd

In the conventional daylight building the normal method of heating has been with unit heaters, either of the projection or blast type. In either case the selection depends upon the height of the roof, the amount of heat required and other related factors. Austin has also used the forced hot water system very successfully and considers it ideal for heating the average factory, since it provides maximum temperature control throughout the year at the lowest possible heating cost. Where exhaust steam has been available it has been used as a direct low pressure heating system where the pipe runs are short. Direct fired units which warm the air by contact with the heated surfaces have also been employed. This air is then transmitted to all parts of the factory building by a fan and duct system.

#### **POWER AND STEAM PLANTS**

Austin engineers treat the planning of power plants and steam generating facilities as a many sided problem, the crux of which is to provide low cost operation to meet specific needs and to accommodate any predictable additions.

A complete analysis of the requirements for electric power, process steam, heating and refrigeration, with relation to available central station services, and the price and availability of various fuels necessarily precedes the design.

Power requirements are analyzed with respect to loads, both demand and total connected, with special consideration for seasonal or part time loads imposed by air-conditioning, lighting, or other special requirements.

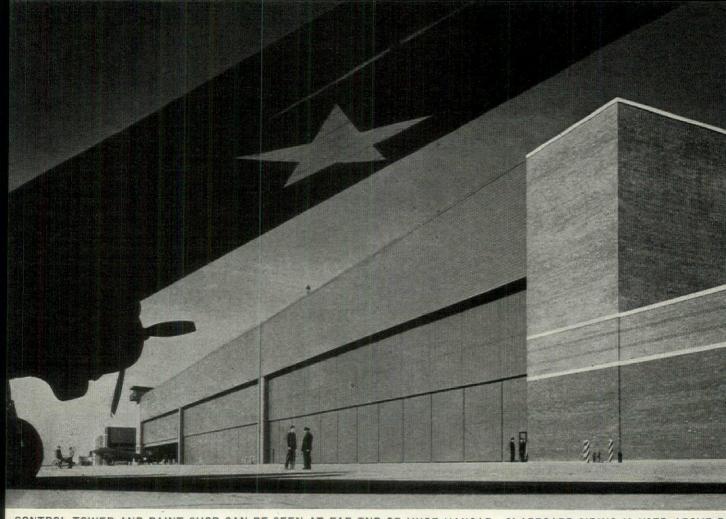
Steam requirements are determined both as to temperature and pressure, the quantities required and steadiness of the load, except where its sole function is heating. In this case only the total load is considered.

In air-conditioned plants, where the refrigerating load is a factor, a heat balance is usually necessary to determine the availability of steam as a source of power at various times of the year. In continuous process industries, particularly those requiring large quantities of low pressure steam, independent electric generating facilities are frequently advisable, provided adequate supplies of low cost fuel and water are available.

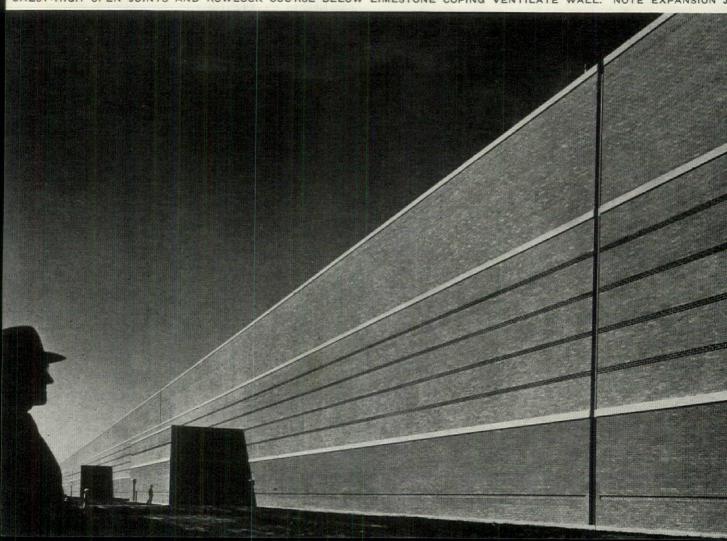
In chemical and other industries, where the quantities of process steam are a major factor, the necessity for maintaining pressures and temperatures throughout a vast system of distribution lines frequently influences the exact location of the generating plant, with respect to the units served.

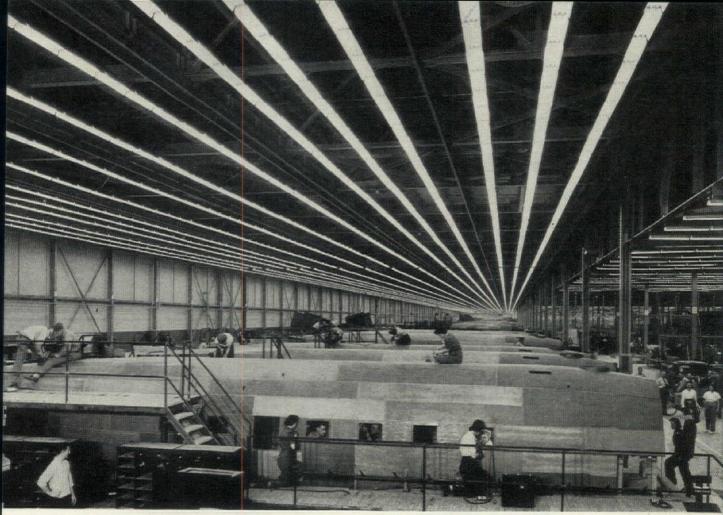
The number, type and size of boilers is decided with a view to meeting all the varying loads most economically. If the work is divided between at least two boilers, even in small plants, one can act as a standby during part of the year so that there is never need for total shut-down.

In arranging equipment within the generating plant, Austin endeavors to concentrate all mechanical and electrical equipment needed for complete operation of the plant in the boiler room and adjoining equipment room. This reduces piping to a minimum and centralizes supervision of all services. Space is allocated for all required appurtenances with a view to simplifying maintenance. Cranes and hoists are usually installed to facilitate handling of heavy equipment. A maximum of automatic control equipment is used in the interests of manpower conservation, except in small plants which do not warrant such controls.



CONTROL TOWER AND PAINT SHOP CAN BE SEEN AT FAR END OF HUGE HANGAR. CLAPBOARD SIDING IS USED ABOVE DECENTION OF THE COURSE BELOW LIMESTONE COPING VENTILATE WALL. NOTE EXPANSION OF THE COPING VENTILATE WALL.



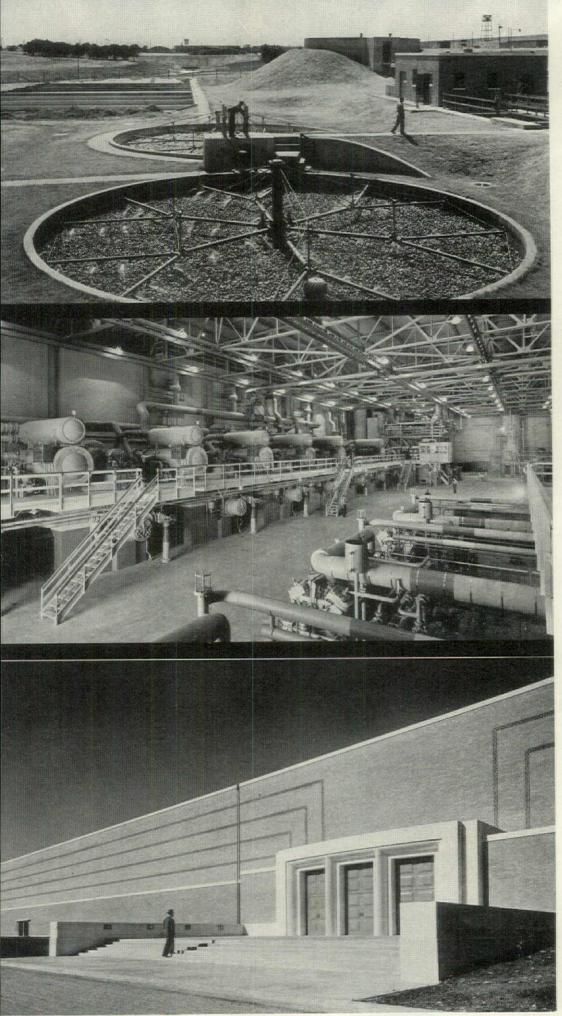


DER CONTINUOUS FLUORESCENT LIGHTING WORKERS PRODUCE DOUGLAS SKYTRAINS IN VAST ASSEMBLY AREA

CLAHOMA CITY PLANT DESIGNED FOR S. ARMY CORPS OF ENGINEERS PERATED BY DOUGLAS AIRCRAFT CO. Early in 1942, when this controlled-conditions plant was placed under contract, there was urgent need to conserve steel. Austin abandoned its use of steel and Fiberglas for exteriors to evolve a "breathing" wall over 50 ft. high and ventilated through open vertical joints to prevent condensation and keep the 4 in. blanket of mineral wool insulation permanently dry. Built entirely of native brick trucked from nearby yards the interior required a special paint suitable for use on brick having a high alkaline content. Continuous bands of limestone and rough faced brick extend all around each of the buildings making up this integrated plant, which includes a 700 ft. administration building, a huge hangar, and a large paint shop capable of accommodating two fully assembled transport planes in individual spray booths.

The main building houses under one roof all of the facilities essential for manufacture and assembly of the large twomotor transport planes. Cafeterias, first aid stations, and production offices are housed in two-story lean-to structures at frequent intervals on all sides. A central kitchen, office cafeteria, and dining room, as well as a completely equipped medical department, with surgery, X-ray and therapeutic treatment rooms, are located in the adjacent administration building. The hangar has three telescoping turn-over doors on either side. One hundred and seventy tons of steel were saved by the use of masonite instead of porcelain reflectors in the more than 20 miles of continuous fluorescent lighting fixtures, and large quantities of copper and aluminum conserved by the use of a new double duty lighting mechanism which are equipped with 4-lamp, 254 ballasts instead of 2lamp ballasts.

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INCLINED SITE facilitated design of gravity flow sewage treatment facilities. Filter beds with their rotary distributors are shown in the foreground. To right are the office and laboratory building and a sludge digester.

BOILER HOUSE mezzanine has centrifugal refrigeration machines which cool water for the air-conditioning systems. Sas driven air compressors are shown in the lower right foreground.

LIMESTONE PORTAL supplies monumental decorative element in the otherwise plain facade of the administration building. Design is above average of Austin's usually pretentious administration units.

Photographer's credits

Photographer's credits
Pages
94-95 H. B. Cornelius, C. W.
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96 (bot.) Parade Studios
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Austin Co.
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103 Hedrich-Blessing
104 Boeing
105 (top) Boeing, (bot.) James
Laughead
106-107-108 Hedrich-Blessing
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# PLANNING WITH YOU

A novel technique in city planning which eliminates the usual haphazard groping has been developed by traditionally conservative New Haven, Conn. Realizing that a fundamental over-all solution quickly reached is the best guide to final detailed study, the planning commission set a definite deadline for completion of their master plan. The city's needs have been considered as related symptoms which require synthesized treatment and natural assets have been utilized to the full. With this approach, the planners have developed a sensible long-range scheme, based on the city's heredity, both cultural and economic.

MEYER HALE NITZSCHKE DOWNE

Most city planning commissions, dedicated to a policy of lengthy investigation, spend years examining their city with a microscope before getting down to the actual master plan. It may seem strange, therefore, that New Haven, one of the oldest and most conservative cities in the East, and home of ivyclad Yale University, has completely junked this accepted method of approach. Instead of puttering over detailed reports year after year, they allowed themselves just six months to produce results.

In 1941, by demand of local citizens, Mayor Murphy called on a number of planners for their ideas. A group formed by Maurice Rotival, Associate Professor of Planning at Yale University, and two instructors in the same course, Maynard Meyer and George Dudley, proposed what at the time appeared to be a daring procedure—to undertake a six months' master planning project. This short approach was to define the problems and objectives of the city, analyze all important facts and propose tentative solutions in the form of directive plans.

Rotival's proposal was preferred to others which would have taken several years without the possibility of public discussion. The city felt that in this short time they could get at the very least an insight into New Haven's difficulties and a sound basis for future study.

From the planners' point of view, the short time limit compelled them to concentrate on basic facts and problems for the diagnosis, and to put all their efforts on broad and effective solutions.

#### THE SIX MONTHS' PROCESS

In January, 1942 the short approach study was handed over to the Mayor by the planners. The staff had been working under great pressure, but had achieved what had been promised—a workable master plan offering solutions to New Haven's fundamental problems.

As New Haven did not possess a map on which the study could be made with reasonable precision, the planners first undertook, with the help of aerial photos and several maps of varied importance, to establish a base map in different sizes. These maps covered a large part of the metropolitan district in addition to the city proper, and were tied to the Connecticut Geodetic Survey for the entire state. This work was done as the studies proceeded and proved invaluable in gaining time when the final maps had to be prepared in the last few weeks of the period allotted.

ROTIVAL

The program of work was divided among the different members of the small staff which consisted of two trained planners, one civil engineer, one architect, one secretary and occasional architectural students from Yale.

In the first three months one group concentrated on the base map. A second group collected and analyzed pertinent documents including U.S. census bulletins, population studies, city data of all kinds, and many state and federal publications. A third group undertook the most important task in reaching a solution-the understanding of the city and urban district and its problems. For that purpose the planners gathered information first hand from leaders in industry, bank presidents, heads of the chambers of commerce, factory workers, retail workers and many others.

While the second group advanced in its detailed study of official documents, comparisons were made with the practical results of the work of the third group. The observations of the latter—what the man on the street thought was wrong with his city—were almost always confirmed by the documentary evidence of population density, traffic flow and other related factors.

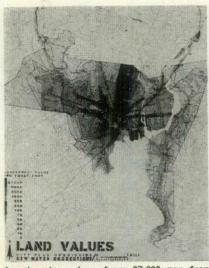
As in the analysis of any city, the planners soon discovered certain primary principles which had influenced the

growth of New Haven from its beginning and with which there could be no compromise. These factors acted as guiding lines for the new master plan. First of all, New Haven's natural location is ideal. It is rare to see a city which has been so logically conceived. facing the sea where trading as its first function of life was exploited. During its growth the city has slowly covered a plateau gently inclined toward the water-front harbor. The development has been neatly limited by the trap-rock extrusions of the East, West and Mill Rocks, forming a circle of three miles radius from the centerample area for a modern city of 250,000 inhabitants.

Because of its strategic position in the very center of the Connecticut shore, New Haven has automatically become a distribution center for the entire state. The city lies at the breaking point of the northeast line starting from New York which takes an east-west direction east of New Haven. The natural disposition of the coast has.

NEW HAVEN is strategically located on the north shore of Long Island Sound, centrally placed in relation to other New England towns.





Land values drop from \$7,000 per front foot at main traffic intersection to \$1,000 three blocks away. High values have also moved out along main traffic arteries.

therefore, an inclination to divide traffic going to the north or northeast and to the upper New England regions, and offers at that point a fanlike system of communications.

New Haven's orientation toward the sun and wind is also mathematically perfect. The predominant winds, coming from the north and south, blow away the smoke and obnoxious gases of manufacture, railroads and shops through the channel formed by the Quinnipiac Valley to the north and the harbor to the south. In accordance with this prevailing situation, the newest industrial developments have located themselves east of the harbor's main channel and in the adjoining municipalities to the north.

The historical development of the city shows an equally logical placement. The original nine squares of New Haven are still the center of the city and the enlarging town has spread out radially from them in all directions. Unlike town centers which shift from place to place during the years, New Haven's center has proven its stability and must therefore be retained under the new plans.

#### THE PATTERN OF DECAY

These existing factors of natural location and specialization of trade were accepted by the planners as a basis upon which to build. However, it became evident that New Haven's economic plant was not functioning properly, that it was, like many New England towns, decidedly 1890 in conception. The planners, therefore, set about to analyze the difficulties.

Obviously, the prosperity of the urban district is based on the value of all its components and the extent to which this value remains in the district. This depends on:

The level of wages paid to labor, the



Majority of houses were built before 1900 and the oldest are concentrated near industry. Most new construction is in suburbs north and northwest of city.

amount of surplus trade in surrounding areas and the sums paid to the district in wages, food or general expenses by such creative components as railroad classification yards, trucking centers and Yale University.

The adequacy of the service components, the efficiency of the arterial and terminal systems—in other words the cost of servicing the district.

The state of the basic components the age and replacement of housing and industry.

In New Haven many of these assets have fallen since 1925. The city's balance sheet reveals that outside of the heart of the city—which covers slightly more than twelve blocks—many areas show a deficiency in taxes received as compared to services supplied. Although New Haven has much specialized industry, there are certain factories making semi-finished products or basic materials not requiring specialized labor and therefore paying low wages. In these districts burdens are imposed in uncollectable taxes while the city provides education, recreation and other services at a loss.

The healthiest sign appears to be the development of the fuel trade—as a servicing function for the southern part of the Connecticut Valley area. A large modern factory conveniently located near the harbor, receives coal and transforms it into other products to service the area. This is an indication of what New Haven could do in the future, not only as a servicing unit for fuel, but for many other commodities.

#### TRAFFIC DIFFICULTIES

The city is already a distribution center for trucking, marketing, trade and general business for the southern part of Connecticut, but this position cannot be maintained unless service components are brought up to date. Historically, New Haven established its



Recreational areas are inadequate for se the entire population. Most extensive park too far from the city proper for daily use near for longer weekend vacations.

prosperity because of its harbor, next as a railroad yard of national importance, later as a necessary center of roads for motor traffic. The one-time excellent harbor, ideal for the service of the Connecticut Valley area, is now partially clogged with sand and muck, and its remaining wharves handle fuel which is low in dollar value per ton. Higher valued general cargo is now carried by the railroads.

New Haven is the main distribution point on the railroad trunk line to New England from New York and the south. Its rail facilities are good, except for some needed modernization, in particular redesign of the lines serving the industrial east side of the harbor.

The deficiency of the transportation system as a whole becomes most evident, however, in the facilities given to road traffic. The main arteries connecting with New York, Route No. 1 and the Merritt Parkway represent a load of 18,000 to 30,000 cars per day, one of the heaviest of the country.

As the traffic enters the city it has to force its way through inadequate streets used for all purposes—trade, business and parking. Even before the war this confusion was preventing New Haven from acting as a real transportation center. As a result the new Wilbur Cross Parkway skirts the city to the north, and will in the future tend to detour away from the center much trade which was vital to the city's function.

The obvious fault which causes such traffic confusion is the lack of good design in the city's street system. There is a specialization of service streets with parking lots and garages parallel to the main commercial ones, and a specialization of wholesale market trade near the approach to the railroad station, but for the most part components of living, servicing, and production are confused and intermingled.



stion along main arteries leading to and city presents a major transportation probdue to lack of any logical street design for ig traffic. Parking space is also inadequate.

#### SHIFTING LAND VALUES

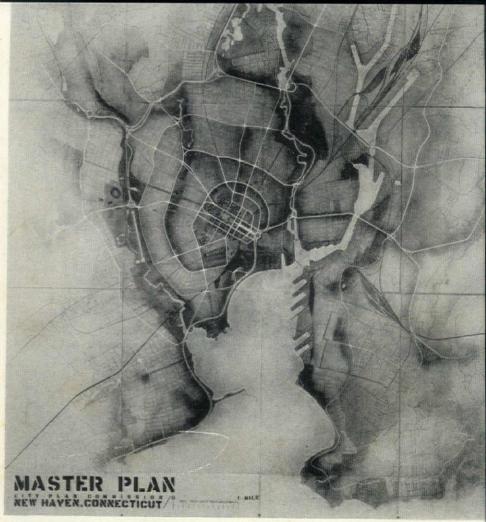
The consequence of this disorder, as usual, is to depreciate values precisely where they should have increased most. There has been a constant desire in the last decade for trade to move outward, transforming long and well-serviced residential avenues into commercial lanes. So far the city has resisted this tendency by careful zoning, knowing that to yield would destroy all true remaining values in the center of the city and in residential areas.

However, like most American cities, New Haven's growth leap-frogged to the suburbs with the advent of the automobile in 1920. High residential rents have tended to disappear within the city and to move outward, especially towards the north and northwest, near recreational areas and open country. On the eastern fringes of town, new and growing industries have sprung up in low rent districts. The city's population which increased steadily until 1920, has now become stationary with a tendency to decrease in congested areas around the center of the city near the harbor. This, again, is due to the shift to the suburbs, leaving halffilled communities behind.

The city of New Haven has become only a part of the whole urban district which includes approximately double the population of New Haven proper. The city, however, supports the heaviest tax of the district, and carries most of the essential services which benefit the whole. This situation is typical of most American towns, and is one which must be controlled if the town is to survive.

#### SOLVING THE PROBLEMS

With this broad, but careful analysis of New Haven's problems, as a working basis, the planning commission was able to formulate definite principles of action. They decided first that New



SIX MONTHS' PLAN concentrates on solving the transportation problem in the center of the city, thus assuring New Haven's position as major link in the distribution chain for the New England region. A new shoreline parkway goes near the center, but not directly through it. A branch traffic loop which circumscribes the center provides easy access for trade which would otherwise bypass the city.

Haven must find its prosperity in the traditional role of traffic distribution center, whether by rail, road, water or air. In addition all trades accessory to this traffic should be encouraged-retail, wholesale, business, banking, light and heavy industry. It became evident also that New Haven should regain its old position as a residential city, where life could be attractive for all, protected from blight and adverse influ-New Haven's harbor should again play an important role in the industrial development of the entire regional area. Furthermore, the industrial area should be separated from the residential areas, and located near main transportation lines. Thus the city could be made into a compact unit, with each part in its proper place and functioning in relation to every other part.

To translate these principles into actuality, the most important job and the one around which the whole plan was developed, was the reviving of the center of the city. Its area, being concentrated, contains all the vital elements of the city—administrative, religious, institutional, business, banking, wholesale and retail trade, plus marketing, transportation, classification and

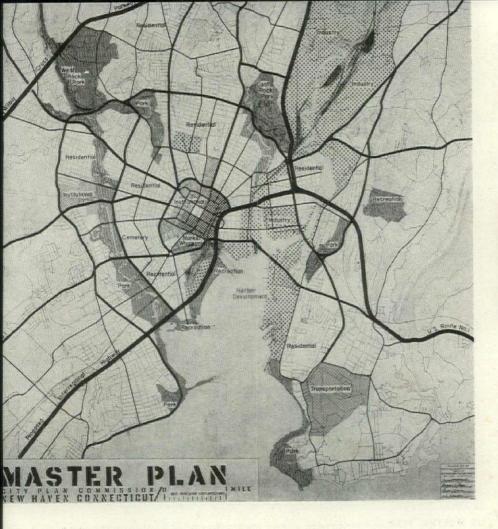
storage. Convenient access to the center and easy traffic flow within it is therefore essential to the life of the whole city. To give this life the meaning which has been lost for so many years, it is also vital to reestablish the connection of the city proper with the harbor. Such a connection is as important to the city as its traditional landmarks-the churches on the Green, Yale University and East and West Rocks. A destruction of the vision of any of these parts would unbalance the plan. and carry with it a factor of decay, just as the railroad, cutting the city into parts and surpressing the harbor, brought with its prosperity the elements of disruption.

#### THE NEW DESIGN

The redesign of the city center, therefore, confirms the traditional importance of the green and extends the city over the railroad cut, thus reuniting the two severed parts. Under this scheme, motor traffic is allowed only on the main streets of the center which mark the nine original squares. These primary streets underpass the secondary ones which are converted into land-scaped pedestrian walkways for shop-

(Continued on page 118)

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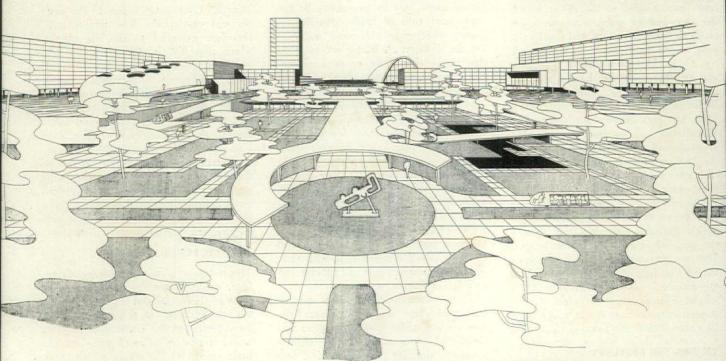


REVISED MASTER PLAN (left) after public disc sion has simplified the intersection leading to city center, but retained the basic solution to traffic problem. New map also shows the se gation of industrial and residential areas, c mercial transportation centers, reclaimed reational areas and harbor development.

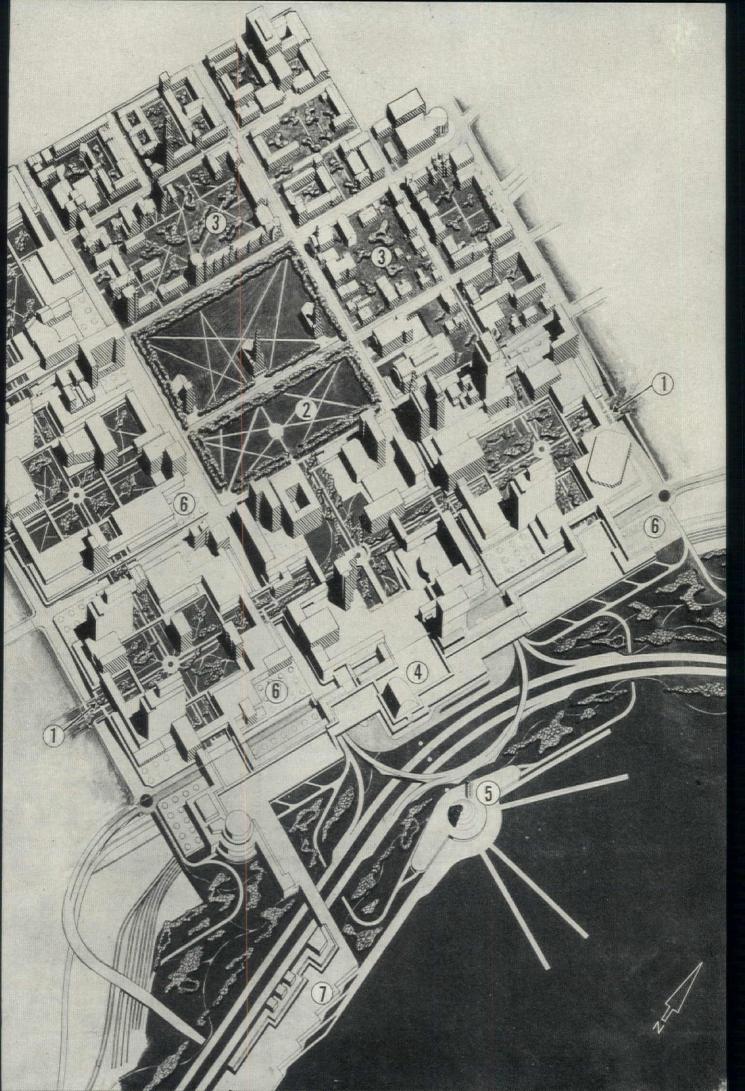


PRESENT CITY CENTER (above) shows the Grand traditional churches which will be retaunder the new plan.

BIRDSEYE ISOMETRIC (opposite page) of prop changes in the City Center shows traffic lim to major streets which underpass new pedest walkways created from secondary streets Existing buildings are indicated by hatch unhatched buildings will be new. The Green is an axis for the new plan and is bordered the west and northwest by Yale University and by business and banking buildings. Civic Center on the east side includes r shops and near the harbor a general transpo tion terminal (4) and a helicopter field (5). south side of the Green is bordered by r shops and theaters. Covered parking space is provided in the lower block of this sec The other side of the railroad cut near harbor is reclaimed for an amusement area



**DETAIL SKETCH** of the Civic Center looking ward the harbor shows central covered walk and other walks surrounded by grass and tr Retail stores face on both sides and the new minal building is at the far end.





SCHEMATIC MAP of southwest New Haven shows proposed division of activity. Administration, business, transportation and institutional facilities are concentrated around the Green, extending mainly toward the northwest and the southeast. The southern residential section of town has been replanned into neighborhood units. Industry, not shown, would extend to the east and north on the far side of the harbor.

pers. Store fronts open to these walkways and pedestrians are undisturbed by bus stops and trucking which are confined to the outer traffic streets. The center walkway extending straight from the Green and ending in a terrace over the railroad cut, reestablishes the original view of the harbor. Near the cut a new traffic terminal is planned to serve train, bus and plane transportation. This connects with a helicopter field directly on the shore-line.

The existing scheme around the Green, formed essentially by administrative buildings on the north side, religious monuments on the Green itself and Yale on the northwest is retained and protected against encroachment. The present collection of retail stores on the southwest of the Green, however, is reorganized and a coordinated scheme of buildings and covered parking spaces created for a live, modern terminal of trade and business. South of the retail center a wholesale and marketing center is established together with an industrial transportation center, the nucleus of which would be the present railroad station, express warehouses and market.

The traffic thoroughfares necessary to serve the rejuvenated city center

consist of fast thoroughfares, main arteries and belt parkways. The approach to the city is along the coastline with a constant view of the sea to entice traffic away from less interesting routes which bypass the city. This interstate traffic is not routed through the downtown portion of the city, but brought near enough to make entrance easy, since tourist trade is vital to the center's economic life. The circumferential lines of traffic surrounding the central area of the city are attached to the main parkway, thereby fixing the center for the present and future. Certain traffic arteries are to be designated as trucking routes connecting directly with the industrial, wholesale and transportation areas. Residential streets should also be revised and modified to tie into the main arteries.

Since the connection of the city's life with the harbor is so important, a disused part of the frontage behind the railroad cut is to be reclaimed and made into a recreation area within a few minutes walk of the city center. Reorganization of the harbor for modern port facilities is concentrated on the eastern shore, since this would affect adversely the smallest area and connect with the growing industrial section

on this side of town. As industry develops it would be consolidated here in areas near the main railroad lines and spurs, major highway arteries, and the harbor both in and outside the city limits.

Residential groups would also be consolidated into units, each complete with its own grade school, community center, recreational facilities and shopping center. Each neighborhood unit would be separated from the next by buffer strips of trees and shrubs or by main transportation lines protected from the neighborhoods.

This, greatly condensed, is the master plan which was submitted to New Haven after only six months study. It has been discussed pro and con, up and down, by the leading organizations and individuals of the city. Many were shocked by what they considered radical changes and as a result of public discussion and opposition to some suggestions many shifts have been made. But the broad outlines of the plan remain the same. Changes in the design details of the City Center, for instance, have not destroyed the basic idea. More detailed studies under the outline already laid down by the master plan have since been developed.

Whether the plan will actually become a reality is, of course, still a moot question. It will require implementation from both the legal and financial angles. The development of neighborhood units and the reclamation of blighted commercial and industrial areas must be carried out at least partly through private enterprise. New laws and new financing regulations which will promote cooperation between governmental and private development corporations are therefore necessary.

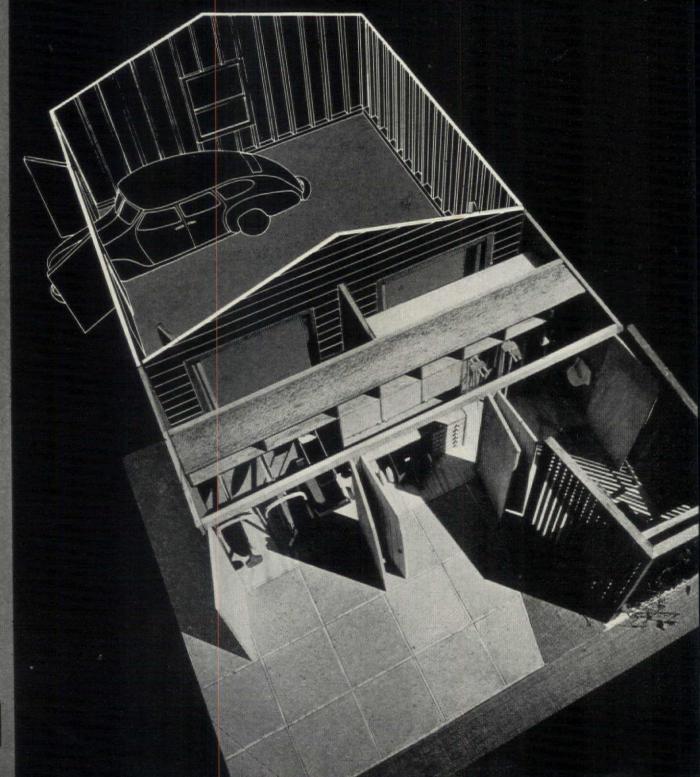
New Haven's realistic and simple approach to a complex problem is particularly valuable as a pattern for other cities. In considering New Haven's dependence on transportation and therefore routing traffic near to the center of town, the commission has shown a real understanding of function—a principle which planners elsewhere should apply to the particular problems of their cities. The quick plan is conducive to this approach since it eliminates the possibility of becoming sidetracked in detail, and thus losing sight of the over-all scheme.

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.

# GARAGE STORAGE SHED

An important adjunct to the basementless house, this new storage unit adjoining the garage surpasses the old fashioned woodshed in capacity and convenience.

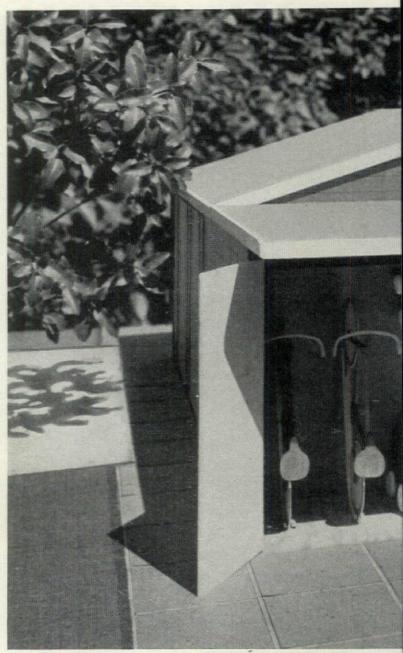


Like the Storagewall shown in the November issue, this Life-Forum idea substantiates the theory that it isn't how much you store, it's the way you store it. For both the basemented and the basementless house, the garage storage shed provides inexpensive and easily accessible, ground-level space in which to stow unwieldly tools and equipment. Aside from the convenience of not having to haul objects up and down stairs, the interior closets are superior to most basement storage facilities. being drier and better ventilated. Opening on an outdoor, paved area, the exterior portion of the storage shed eliminates the clumsy manoeuvering of bulky objects into small spaces, excludes all damp, earth covered tools from the house. Drawers and cabinets provide for the orderly arrangement of a myriad of small items. Many motley but familiar collections of household equipment disappear with this arrangement-the flower pots from the basement window ledge, the half empty paint cans from the cellar stairs.

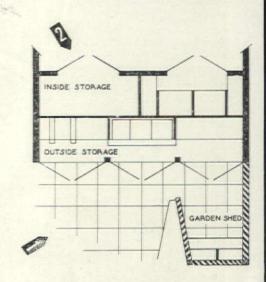
In plan, the rectangular addition is divided lengthwise. Two dead storage closets opening into the garage are intended for trunks, suitcases and obsolete furniture. Outdoor closets, which accommodate garden implements, perambulator, bicycles, etc., are flexible and can be arranged to meet the needs of the individual. For example, the requirements of one family owning a lawn roller or a motorized lawnmower would differ greatly from those of another needing less room for garden equipment but more for bicycles and toys. The actual interior fitting is simple enough to be worked out by any competent carpenter.

The plant corner should be a great convenience if any sort of garden is to be maintained. Under the deep work counter, space is provided for a wheelbarrow, cabinets for storing bags of fertilizer and small drawers for hand tools. The shelves above are for seedlings, plants and empty pots. This particular version was designed for a warm climate and is therefore enclosed by 1 by 6 vertical boards set at an angle. Glassed in and heated, it would serve as a small but practical greenhouse in less temperate zones. As a variation, the same shape would be suitable for a well equipped home carpentry shop.

Built on a simple wood framework, the garage storage shed is throughout an ordinary carpenter's job. No prefabricated parts are required. Because of its attractiveness from the viewpoints of design, utility and economy, the idea should prove a popular feature for the convenience of the individual owner and a good selling point for the operative builder.

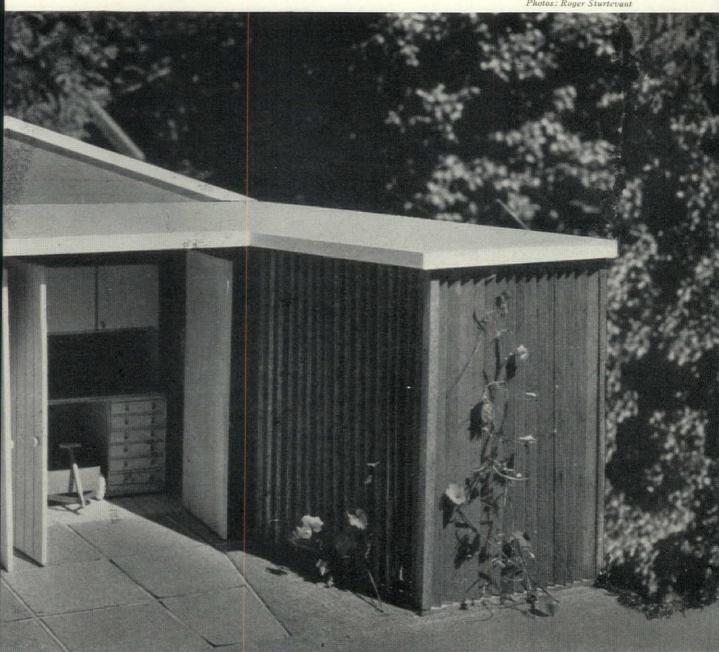


BACKED BY INTERIOR CLOSETS, OUTDOOR STORAGE COMPARTMENTS



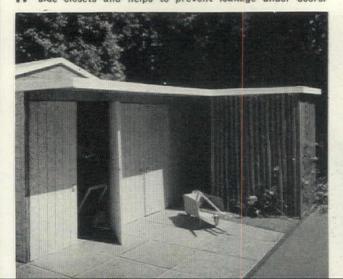
e and plant corner may be attached to any typical single or two-car garage.

Photos: Roger Sturtevant



CTIVE USE OF SHALLOW SPACE. A THIRD, SIMILAR COMPARTMENT IS CONCEALED BEHIND THE PLANT CORNER

Flat overhanging roof affords weather protection for outside closets and helps to prevent leakage under doors.

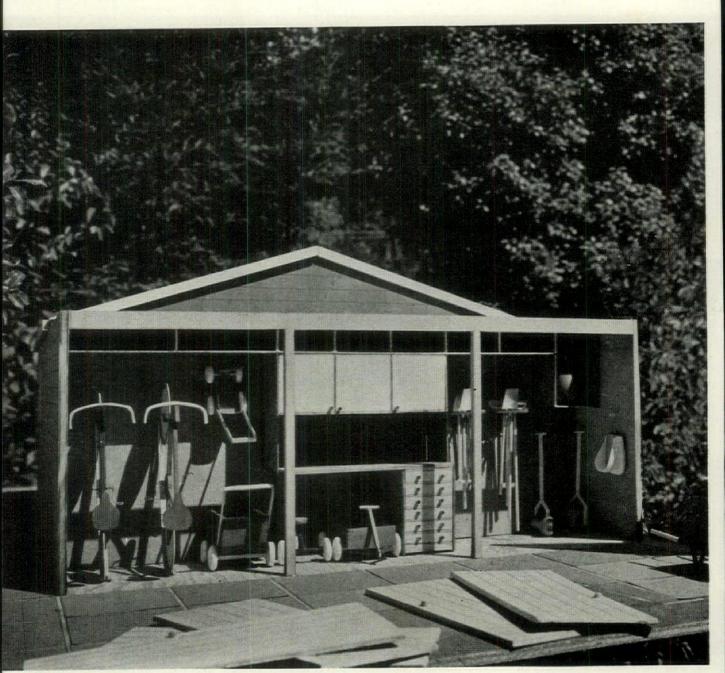


The two dead storage compartments which open into the garage, have double doors, both have removable shelving.

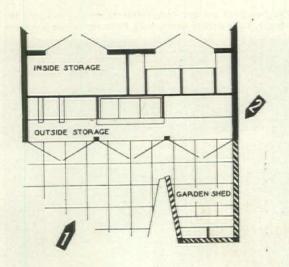


GARAGE STORAGE SHED

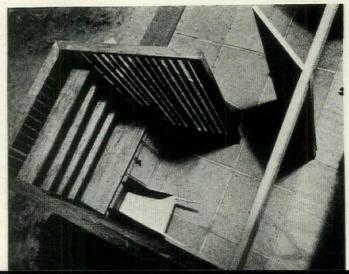
6. Closets are individually fitted for various items.



REMOVAL OF DOORS, ROOF AND PLANT CORNER REVEALS SIMPLE, IN-LINE CONSTRUCTION OF GARAGE ADDITION



2. Plant corner has one oblique wall for easy manoeuvering of wheelbarrow. Protected storage closet at rear requires no doors.



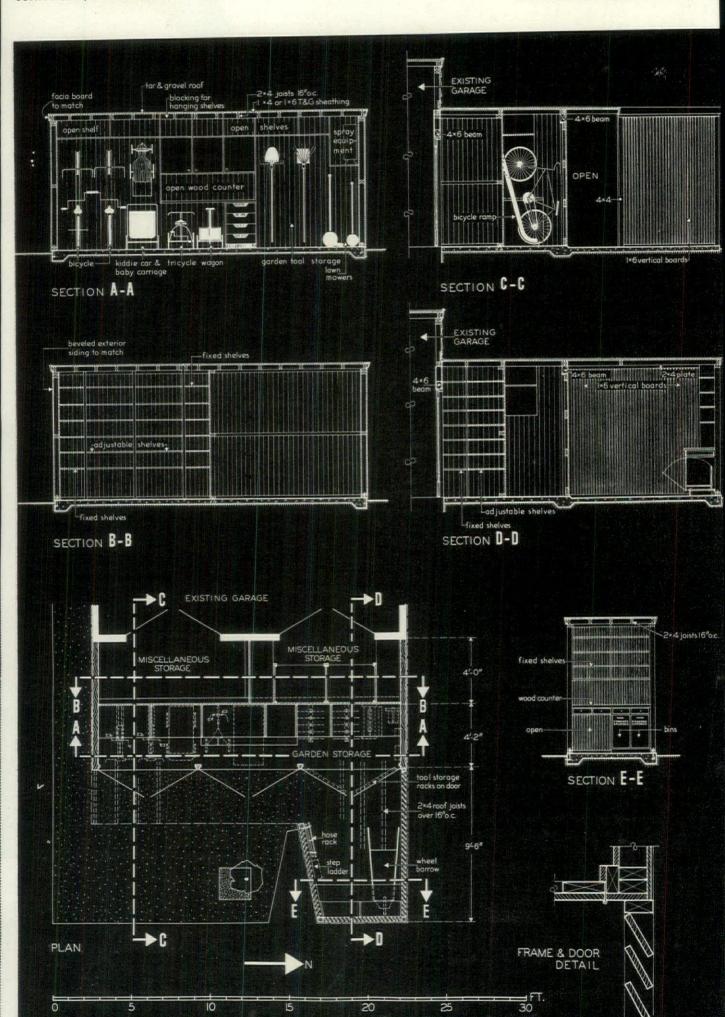


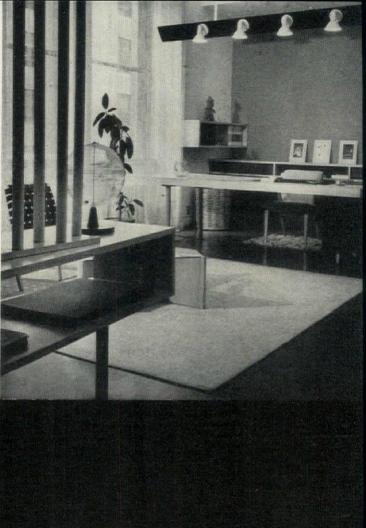
VIEW THROUGH ENTRANCE INTO PRIVATE OFFICE. THIS ROOM SERVES A TRIPLE FUNCTION FOR DESIGN, DISCUS AND DISPLAY. THE COLORS ARE LIGHT TERRA COTTA, GRAY AND WHITE WITH NATURAL BIRCH AND BLACK ACCE

# GARAGE STORAGE SHED

JOHN FUNK, ARCHITECT

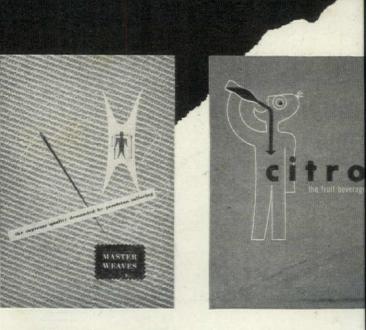
DESIGN DATA 27.





isual research director of LOOK magazine





VERTISEMENTS PREPARED FOR A MAGAZINE DUMM'



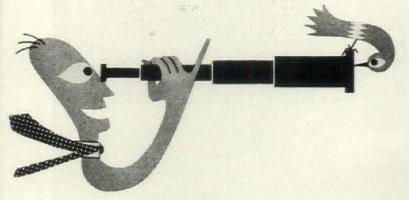
TABORET HAS OPEN PIGEONHOLES FOR OFTEN-USED IT



BLACK-FACED CABINETS ALTERNATE WITH OPEN SHE PRIVATE OFFICE IS REACHED THROUGH SECRETARY'S A









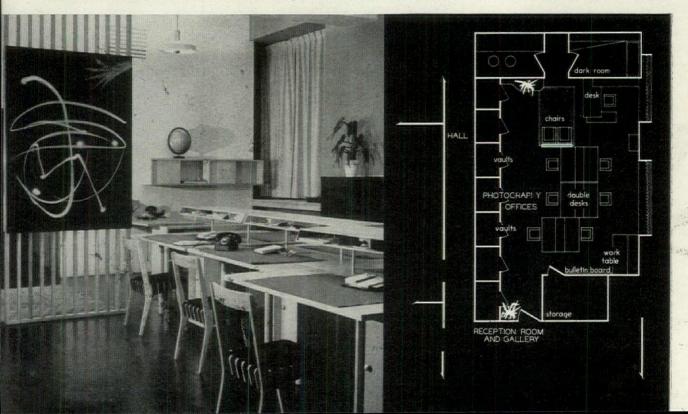


A SUSPENDED SHELF AND THREE SAWTOOTH PANELS SUP-



SECRETARY'S OFFICE HAS SIMPLE, EFFICIENT EQUIPMENT

PHOTOGRAPHERS' OFFICE HAS DOUBLE DESKS, SINCE WORKING HOURS VARY. NOTE RAISED PIGEON HOLES



POSTWAR BUILDING TECHNIQ

To clear the air of claims and counter claims regarding postwar building methods and materials, THE FORUM presents this series of articles outlining war developments which will affect future building of all types. The first article deals with new construction methods and their significance in a changing production picture. The second, in the February issue, is devoted to a review of new materials and probable future uses for them. The third in March examines war-born equipment and its postwar applications.

In recent months editorial attitudes toward postwar building have executed a neat back-flip. The brave new world of tomorrow which sprang into print at the beginning of the war has quietly disappeared from magazine pages. To replace the vision of houses which revolve with the sun and electronic devices which do the work of ten servants we are now given the bleak picture of 194X houses exactly like those built in 1939. The Producers' Council, representing most of the building materials industry, has issued an official statement that postwar construction will not be noticeably different from prewar. This is an understandable and sensible campaign of counter-propaganda leveled against the terrifying prospect of a market nourished during lean war years with gilt-edged, but worthless promises. It would indeed be a catastrophe for building if the public balked at realistic construction, holding out for innovations impossible to achieve in the immediate postwar period.

As in all extremes of position, however, there remains a middle road which strikes closer to the truth. It is obvious that a public conditioned to expect the copywriter's dream world should be stripped of such illusions. Equally obvious to anyone familiar with building's phenomenal wartime development is the fact that important improvements are already available which will find new and increasing application when peace comes. Shortages have sharpened the wits of engineers and product designers, accelerating the growth of ingenious and thoroughly practical construction techniques and building products. On the other hand, shortages have undeniably curtailed experimentation with materials which are critical to the war effort. But, even in these cases, development may be expected to leap ahead after the war due to increased production capacity. Advanced construction methods, worked out in relation to present materials, will undoubtedly be applied to unavailable products when they are again on the market. Some farsighted manufacturers have already worked out plans for the postwar use of their priority controlled materials and are ready to start production as soon as the ban is lifted.

The farsighted builder, therefore, realizes the inevitable and profound effect wartime techniques will have on future construction. Fully conscious of the many obstacles still to be overcome, he does not anticipate spectacular changes. But changes there will be. Furthermore many of them will occur at once, not ten years from now. The builder who believes he can use the same type of construction which was



factory before the war may find himself out on the wellon limb, rendering this illusion, however comfortable at present time, a poor guide to future activity.

is not the Forum's purpose to debate this issue. Neither it help matters to deal longer in generalities. This series rticles has been prepared to outline specifically those developments which are likely to influence postwar buildf all types. Many of the materials and methods described not be new to the informed reader, but their extensive and thorough testing during the war have greatly insed their future possibilities. In addition a new approach rd building has grown up, resulting directly from the ication of mass production techniques to what was erly a craft. Such factors cannot be ignored. To give ning to this broad picture, an evaluation of each developand its significance to the postwar building industry has included wherever possible. The present article outlines tural developments starting with foundations and conng through new methods of framing and wall fabrication w methods of roof construction.

#### NDATIONS

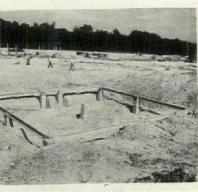
trend toward basementless construction was well estabd in the small house market long before Pearl Harbor ed down private building to a creep and gave low cost housing an open field. Even in 1940 FHA figures showed 30 per cent of U. S. houses were being built without rs and 14 per cent more with only partial basements ARCH FORUM, Nov. '44). Basementless construction become even more widespread since 1940 as an accepted of war housing. It is not surprising, therefore, to that the vast amount of experimentation carried on in

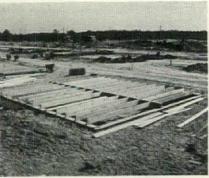
the past four years has resulted in new and improved metho of foundation construction.

First, the use of a concrete slab placed directly on t ground has increased tremendously in comparison to t more conventional raised floor, as its advantages have become better known. It was formerly believed that the use of slab on the ground produced colder floors and more u comfortable living conditions than raised, wood joist co struction. Tests conducted by the Bureau of Standards ha shown, however, that proper edge insulation of the slab c make a house with this construction completely comfortal and capable of maintaining a more stable temperature lev throughout an entire room than conventional constructi with a crawl space. There is another equally importa criticism of the concrete slab-its tendency to absorb mo ture. To combat this fault an extra slab was usually co sidered necessary to provide a base and protection for water proofing material, but such construction added a great de to foundation costs. Present methods eliminate the need f more than one slab by placing the waterproofing membra directly over the gravel fill.

Ordinary slab construction, of course, requires the use footings because of the tendency of foundations to "mov unless firmly anchored below the frostline. The need f footings was generally accepted until the development of a other new type of slab construction strong enough to resist the action of the frost. This type of slab is usually referred to a "mat." The mat-type slab is made stable by the use more than ordinary amounts of reinforcement, but because the steel shortage its general use has been curtailed during the war. With the vast amount of steel which will be availab in the future, it should be much more widely used in postwa

OEM Defense photos by





ATED PIER FOUNDATIONS as used for Glenn L. Martin housing. Bulldozer clears nd for installation of concrete footings, block piers and grade beams. After floor are laid, earth is pushed back against beams, closing spaces between piers.

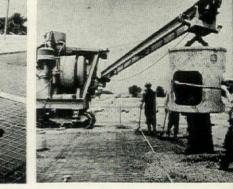


SIMPLE GRID FORM used for site p tion of poured concrete piers at \ Calif. turns out 84 in a single ope



ed cinder fill. Heavy wire mesh reinforcement is then un-





rolled over waterproofing. Highway paver pours concrete waterproofing membrane to form slab. Concrete contai shuttled to correct location supported by a movable

ilding. Its major advantage is a saving of excavation work ith consequent reduction in costs.

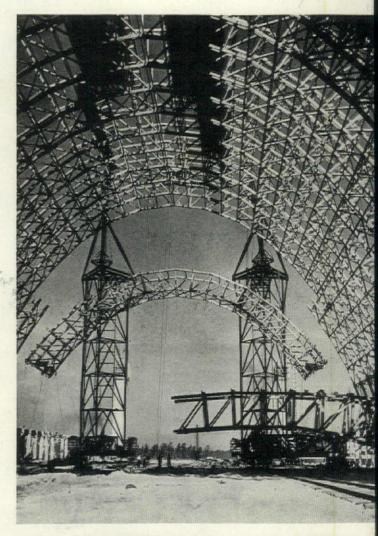
Although not new, another method for saving wall material houses of basementless construction has been used more ctensively than ever before. Instead of running a solid undation under the length of each wall, isolated piers are instructed spanned by beams. The main objection to olated pier construction in the past has been its unattractive ilt appearance, but recently this has been remedied by sing a skirting of wood to cover the crawl space to within few inches of the grade. Even better is the use of cheap ement asbestos sheets which look like masonry and can be ctended below the ground without fear of deterioration. his is an important advance and one that has been applied ith great success to hundreds of war housing units.

A variation of this type of construction has been used to a reat extent on the West Coast as an inexpensive and flexible plution to building on irregular sites. In this system, assonry piers are set to the same height above ground on very level. Additional wooden posts are then attached above the ground in the lengths necessary to adjust the difference a levels. The irregular space is covered with a wood skirting. This eliminates difficult and expensive foundation construction and saves concrete in the piers which extend high above round. In some cases, heater and utility rooms have been reated within the skirting of the foundation without recourse to general excavation and heavy wall construction.

All of these wartime devices developed in connection with ne basementless house point up the fact that light frame tructures do not need a foundation capable of supporting a our or five story building. Because of frost conditions, moisare absorption and other problems, however, it has formerly een the practice to build them as if they did. Those disussed meet the real performance requirements, but use a ninimum amount of material and save money. In utilizing nese new techniques it should be remembered that they are ot exclusively a part of low cost temporary building. It is rue that their development is largely a result of the war nd that they might not have appeared in the ordinary course f events. But the methods which have proved successful are vorthy of application to houses in any price range. In some ases they still pose heating problems which are hard to solve, ut in spite of these problems, it is becoming increasingly vident that people need not and probably will not continue build a conventional basement for the small house. In addiion to its other advantages, a more attractive appearance nakes basementless construction preferable to the convenional house with a cellar.

#### TRUCTURAL FRAMING

Because of steel's high position on the priority list engineers have been forced during the war to use substitute framing materials except where steel is absolutely essential. Non-ritical wood and concrete have taken over in construction of the huge industrial buildings demanded by all-out war production. However, the wide unbroken spans used in airplane factories, hangars etc. presented an immensely difficult engineering problem when it became necessary to build hem without steel. To utilize wood in these giant war projects new techniques had to be applied which might never have become widely used in normal times. As a consequence imber has been projected into the front rank of heavy construction materials. Unlike wood, concrete has never been classified as a small-scale building material, but it was frequently unwieldy and expensive. Widespread use has there-

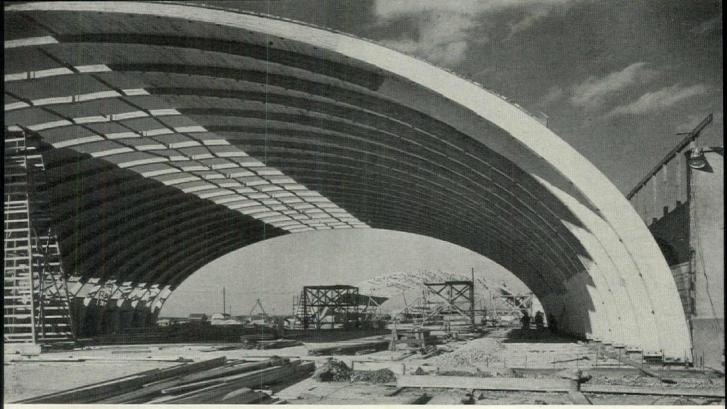








TIMBER TRUSSES for 246 ft. span Navy blimp hangar were fabricated by Timber Structures Inc. Connectors were made by Timber Engineering Co. Rings fit between members, are center bolted.



LAMINATED ARCHES spanning over 100 ft, were designed by Younger Engineering Co. to replace steel in war - time construction.





LAMINATED KNEE BEAMS, shaped to specifications for a chapel at Corvallis, Ore. were fabricated by Timber Structures Inc.



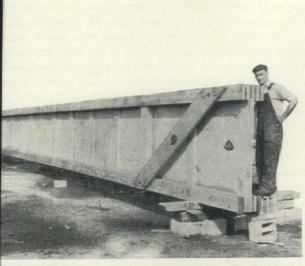
SMALL ARCHES in Purdue University research house are made of laminated wood, successfully reducing use of connectors.

fore simplified concrete construction and reduced its Because of the vast amount of experimentation which taken place to answer industry's needs, wood and concan now be used for huge arches which span over 200 ft. as framing members which require a strength formerly tainable only with steel. In reverse, advanced framing i and materials once reserved for large-scale building been applied to small houses. The Quonset hut is one ample of steel arch construction on a small scale and it been followed by many other experiments in housing.

#### WOOD

One of the greatest deterrents to large-scale wood const tion has been the problem of forming rigid connection joints. This was of vital importance when wood was su tuted for steel in huge trusses and arches. The succes timber construction is primarily due, therefore, to the connector, a simple implement for stress dispersal that well-known before the war, but not widely used. The ring is the most versatile type of this group which also cludes toothed rings, claw plates, shear plates and gr Each connector consists of a single metal ring which inserted between two pieces of timber to form a jo Grooves are made in the wood and one-half of the ring si into one member, the other half into the other member, t embedding the ring between them. A tongue and slot s in each ring is forced slightly apart so that expansion contraction can occur with the wood to form a rigid and to connection at all times. The two members are then bo together through the center of the ring. This simple deconverts wood into an engineered material capable of c peting with structural metals. As a result it seems likely postwar designers will be free to choose timber for fram whenever its use is more appropriate, economical or of venient. In addition, the ring connector may find its way i house construction, as an aid in the development of a m suitable frame for the big-windowed modern house.

Laminated construction - layers of wood glued toget



T-UP I-BEAMS, with plywood web and wood flanges are manured by Timbeam Inc. Diagonal ties at end reduce tension and . Beam shown above is a 60 ft. girder.

VOOD ARCHES, (right) fabricated by the Marine-Air Research
., are built up in I-beam form with laminated cap strips and
wood web. Purlins are attached with plywood gusset plates.

formed into special shapes—is another equally important ovation which has greatly influenced the use of timber for ge construction. It was employed in a limited fashion ore the war, but advantage has only recently been taken its many potentialities. The greatest importance of lamted wood lies in the fact that it can be curved to almost desired shape, designed and built to exact dimensions. loes not check, split or warp after installation and it can used in sizes and spans unheard of with solid timbers. hough low grade lumber cannot be used, laminae can be ricated from small pieces which would otherwise be untable for framing. Thus when large timber is scarce big ninated beams can be built up from the small wood availe. In addition, this product can be made in unlimited antities in a relatively short time because it does not rere the long air drying necessary for solid timbers. These ny advantages combine to form a structural material que in building history. Unlike ordinary wood, laminated mbers can be successfully carried around curves and cially tapered sections can be made to conform to taperstresses. Arches may be circular, elliptical, boomerang other variants, and may be designed in one piece or as nted members. The shaped knee beams, rigid frames and thes which have been devised adequately take the place steel in present large-scale construction. Smaller struces have also been built with light arch-shaped ribs of ninated wood which reduce the number of nails, bolts or nnectors necessary. Such advanced applications of this uctural material have been made possible only because of wartime development of new and stronger glues and of table methods for using them. Laminated wood was formy used indoors bonded with water resistant casein glue, t a completely waterproof type was necessary for outdoor nstruction. Phenol and urea resin glues are now being ed for this purpose and have been so successful that lamated wood bonded with them can even be employed in king boats. The extensive use of laminated wood in war rk has built up a record of performance which points the



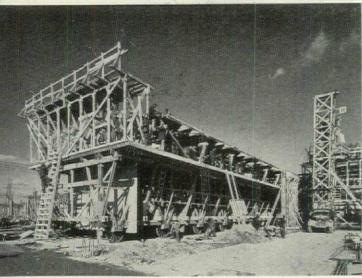
way toward a whole new field for timber construction. However, laminated members cost more size for size and strength than solid members. But, engineers, fabricators, glue manufacturers and lumber associations have joined in an effort to improve the product and lower its cost. Chemists are also at work on a fire retardant which can be applied without affecting the glueline. Because of the importance of the new material, a project is already underway to set up stress and safety requirements for laminated timber plus a standardization of sizes and grades.

Plywood has also been particularly useful during the war in creating I-beams and other structural shapes consisting of plywood webs to either side of which are attached lumber flanges. Struts may be used to reinforce the web and diagonal ties from bottom to top flange near the end of the beam resist shear. In most cases the whole assembly is glued together, although nails or connectors can substitute. Standardized prefabricated plywood beams have been used to such a great extent that their properties are well known. They are nonrusting, weatherproof, lightweight and very strong. A 5 ft. beam can span up to 60 ft. and sustain loads up to 1,500 lbs. per lin. ft. Dead loads due to beam and column weight are reduced 20 to 40 per cent. The beams also give flexibility to floor plans by eliminating the need for load-bearing partitions. One midwestern factory advocates the use of plywood I-beams for complete building frames including columns, girders and joists.

Plywood has also been utilized for gusset plates in heavy timber construction. Here the important requirement is strength, not economy of material, and the plywood plates have proved eminently satisfactory. Although their primary purpose, is to hold wood together to make rigid joints, they incidentally form a handsome pattern repeated at regular intervals.

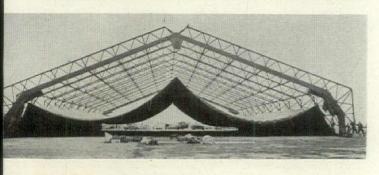
Extra large-sized plywood panels are another development which has come into greater use during the war. They were introduced in sizes up to 50 ft. by 8 ft. a few years ago, but did not attract much attention until recently. Now they are manufacured in sizes up to 80 ft. long made from standard





CONCRETE construction in industrial plants is reduced in cost by ingenious use of traveling forms which facilitate pouring.

STEEL, though restricted, has been used in portable hangars made by Butler Mfg. Co. and in arch construction of Quonset huts.





size sheets joined together with scarf joints that are as stream and weather-resistant as the material itself. The decks of ar tugs are made merely by putting two of these panels teget with a single seam down the center of the boat. Passagew and openings are cut out after the decking is in place, and cut-out sections utilized for bulkheads and cabins. Most these long panels are made in thicknesses of 3/4 in. to 1 although thinner panels have also been produced. Since thin ones have greater flexibility, they are suited for roofs huts and other arch-shaped structures.

Most of the techniques which have made wood an importance construction material during the war are not in themsel new. The important thing which has been gained by force use of wood is an actual knowledge of what can be done wit. Before the war there were a great many unanswered quations concerning the use of this material in big construction and regarding the efficacy of certain types of glues. Actually, and reperience has revealed unexpected potentialities. In the future wood can be used for either large or small building whenever its application seems suitable, because the necessaresearch and engineering have already been completed.

#### CONCRETE

Like wood, concrete has come into much greater prominen because of war necessity. Unlike wood it was already use in large buildings before the war, although less the U. S. than in other countries. Here steel was chear because of the high labor costs involved in concrete co struction. War shortages gave the engineers a new reason use concrete, however, and as they became more familiar w it they developed new techniques for cutting costs and si plifying work procedure. Movable forms for use at the s were developed which successfully solved the complex quirements of speed, ease of erection and minimum expen-These forms are used with a girder system which perm them to be pulled from one set of bays to the next locati without encountering obstructions. When the same shape repeated over and over-ten times or more-and the for moved without taking it apart, considerable economy resul The skilled carpenters ordinarily required to rebuild the for are eliminated. With this method an entire acre of roofs as columns has been poured in a single day. Used on large on story plants, it has reduced costs below those of wood or stee

These movable forms have also made possible the ma production of thin concrete shell structures, well known other countries before the war, but practically ignored her The shells are only 3 in. to 33/4 in. of reinforced concrete, b can span huge areas without intermediate support. This because the reinforcing system makes the whole structure a as a homogeneous load-bearing member. Unlike convention building materials which transmit loads only in one direction the shell transmits loads in any direction in its planes. The clear spans of up to 300 ft. can be reached, making the stru ture relatively thinner than an eggshell. Because domes ca be made in spheres, ellipsoids, paraboloids or any oth curved figure, the architect need no longer confine his design to the requirements of conventional structural members. addition, any combination of span widths is possible to make various size arches without altering the fundamental form the structure. Similar in principle to the shell, concrete arc ribs have also been developed which can span several hundre ft., supporting incredibly thin concrete domes and providir completely unobstructed floor space. The Dodge-Chicas Plant, probably the largest structure ever built, which cove an area of 82 acres was constructed in this manner. Futu

Official U.S. Navy photo









by 1 in. strips at the back, it is lifted into place after assembly, forms adequate bearing wall for one or two-story house.

UDLESS WALL used in war housing makes framing unnecessary. te fabricated of 1 in. tongue and groove wood panels reinforced

ssibilities for such construction seem almost unlimited. The electrical prestressing of reinforced concrete is another w method which has permitted hitherto impossible applicaons of this material. Complete slab walls only 21/2 in. thick e now practical and have been used successfully in houses Tampa, Fla. Prestressing eliminates the tensile stresses in increte which produce cracks, increasing both its shear value nd compressive value. Formerly, high initial tension was oplied to the reinforcing steel while the concrete was still et. A new method, developed by Vacuum Concrete Inc., accomplished electrically after the concrete has hardened. einforcing rods are coated with a thermoplastic material efore they are placed in the form. After the concrete has ecome hard, electrodes are connected to the ends of each d and current passed through the steel. When the heated ds lengthen and extrude from the concrete a nut on the nd of each rod is taken up the necessary distance to give ne desired amount of prestress. When the rods cool the permoplastic coating hardens, restoring the bond. Because ess than a minute's application of current is necessary, ne concrete does not become overheated and expansion tresses are not induced. Moving up a nut only 5/8 of an inch n a 30 ft. rod will double the working stress of the steel, hus reducing the necessary amount of reinforcement by 50 er cent. This new method fully utilizes the potential strength f both concrete and steel, making possible the use of large, hin slabs, lightly reinforced. The resulting structure is low n initial cost, has no maintenance problem and is highly fire-

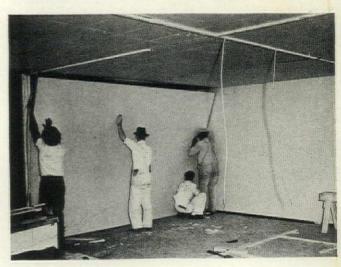
esistant. Whether concrete will continue to be so widely used in uildings of all types when steel is again available, is, of ourse, a question the future will decide. The likelihood that t will continue to be used in greatly enhanced by wartime levelopments of economical high speed techniques combined with improved construction. Since costs would vary in different parts of the country, it is highly probable that concrete will be employed to a great extent in sections where steel nust be shipped great distances at increased cost.

#### STEEL

Although the use of steel has been curtailed during the war, it has been used for special purposes of particular interest. A collapsible airplane hangar which can be demounted and carried inside a plane, was made of steel. The Navy's worldfamous Quonset hut is also steel. This type of building indicates the possible use of this metal in arch construction for smaller structures after the war. It can be applied to utility buildings, warehouses and garages designed in the Quonset shape, and has been proposed for vacation cottages. Because of the greatly increased production of steel during the war there will be huge quantities available when peace comes and it will undoubtedly be cheaper than ever before. In reaching for new markets it will probably invade the small house field, hitherto reserved mainly for wood and masonry. Prefabricated panels for both houses and industrial buildings have already been developed and are better adapted to large-scale manufacture than either wood or concrete. It is evident, therefore, that the war has increased the possibilities open to all three of the main structural materials. Architects and builders will in the future be freer to choose the material which best suits their needs-whether wood for heavy construction, or steel for a small house-with a more exact background of knowledge on how to employ it.

Panel wall construction, a technique already widely used, has been employed even more extensively during the war. Most of this experimentation has occurred in war housing as a means of speeding up and simplifying erection. Wallboard which combines an insulation core with hard surfaced outside coatings to withstand climactic exposures and furnish a smooth washable wall surface, has been found highly satisfactory. It eliminates the need for both inner and outer walls plus separate insulation, since all three functions are combined in one panel. The material, readily workable with ordinary carpenter tools, is simply nailed to the framing mem-

JUMBO SHEETS of wallboard made by Upson Co. can form an entire partition. Doors and windows are cut out afterwards.







FACTORY FABRICATION supplies sectional houses by the thousand ready for erection as soon as they reach the site.

SITE FABRICATION applies mass production techniques to onthe-spot building, saving on erection time and labor costs.



USHA photo, Esper

bers and the joints between panels sealed with caulking tape and battens or a waterproof wood spline. This simple operation provides a fireproof wall with a pleasing finish unaffected by the elements and offers a suitable vapor barrier provided by the bituminous laminating agent. A recent development has been the use of vertical wall panels instead of the usual horizontal ones, a more satisfactory arrangement in some cases.

Another widely employed innovation is the use of jumbo sheets of wallboard, large enough to cover the whole of one side of a room. This is an important contribution to the technique of using sheet materials, since it eliminates the joint problem, allows easier construction and reduces labor costs. In this method, doors and windows are cut out after the sheet is in place.

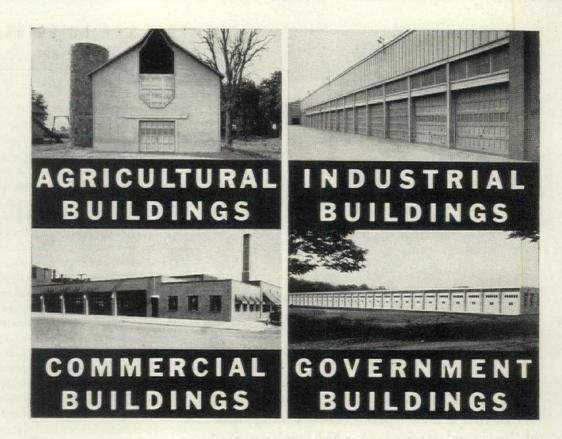
The studless wall is another relatively new construction method which has been made possible where walls are assembled as panels. In this instance framing as such can be completely eliminated. The wall is simply constructed of 1 in. tongue and groove panels stiffened at the back by 1 in. wood strips outlining the top, bottom and ends of walls and the window and door openings. Diagonal strips are also used at certain positions for added reinforcement. This takes the place of conventional framing and can be made of much thinner pieces of wood since it does not have to stand alone awaiting application of sheathing and other materials. After the complete wall is assembled, it is raised into place as a unit. This method has been widely used in site fabrication and offers possibilities for postwar small house building.

Complete prefabrication of wall panels is not new, but again is a system which came into much wider use during the war. Stressed skin construction is the usual technique employed in factory fabrication. An inner and outer covering, of plywood or other sheet material is glued to a frame. Ordinarily this frame or core is of solid timber, but it can be made of plywood or metal. Panels may be increased in strength by shrinking the sheets onto the frames so that they are prestressed before they are loaded. The stressed skin principle depends for its success on the continuous sheet facing and, like any glued construction, upon the synthetic glues of great tensile strength which have been developed during the war. The panels are manufactured both as separate sections from which walls may be constructed and as complete walls with window and door frames included in the unit. Stressed skin construction will undoubtedly continue to be used extensively after the war when prefabrication comes into its own, not as a stop-gap housing solution, but as a superior product more than able to compete with conventional building in the small house market.

Site fabrication, too, will offer competition to conventional construction methods. Under this system, panels are built separately at the site and erected in one piece. The studless wall described above is one example of this technique, but it is not limited to a specific type of wall. Construction may be of simple wallboard or can follow conventional building more closely with sheathing and an exterior finish. Because of their ease and speed of erection plus greater economy these walls will undoubtedly achieve widespread use after the war.

In the field of industrial building, one of the most important developments in wall construction is that of "breathing walls" to reduce heat load on air conditioning equipment. Two types have been used: metal and masonry. In each case their significance lies in a basic new approach to wall construction. Engineers have recognized that walls have

(Continued on page 138)



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#### POSTWAR BUILDING TECHNIQUES

(Continued from page 136)

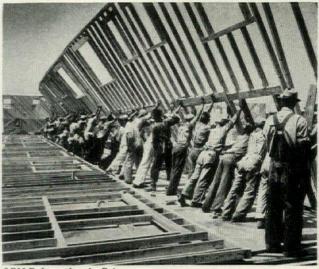
extremely complex functions and for the first time a deliberate effort has been made to design them for all of their functions with the most economical use of material. The new construction combines thermal insulation, acoustical control and light reflection in a minimum package. In the metal wall, the outer shell is a special rolled steel section, backed with expanded steel lath to form vertical air spaces. A horizontal opening at the top and bottom of the wall allows ventilation and equalizes inside and outside air pressure thus preventing the infiltration of moisture. The lath holds an inside facing of insulating mats which also act as an acoustical and light reflecting material. The masonry breathing wall, developed to take the place of steel when restrictions became tighter, is slightly different in construction although the same in principle. As in the metal construction, openings at top and bottom allow the wall to "breathe", preventing deterioration of the insulating material. A vapor seal is employed between the inner wall and the insulation and the interior surface of the wall is painted white to reflect light back toward the work areas. These methods were used successfully in aircraft plants built by the Austin Co. (see p. 100) In both brick and steel construction the important point about the wall is its multi-use and its integrated design wherein each function is dependent on the others. These principles can be applied to light frame walls and their utilization for dwellings is a postwar potential.

#### ROOFS

Before the war most houses had a center bearing wall to support the floors, and in one-story houses, the ceilings. One of the most widespread developments of war housing is a simple system of truss construction for roofs which eliminates the necessity of such partitions. Fabricated from 2 by 4's, these light roof trusses combine cross beams and rafters into a unit stiffened by diagonal braces. The use of lighter material in the ceiling beam is possible and the trusses span the entire width of the building. Such trusses are easily made in jigs either in a factory or at the site.

(Continued on page 140)

FRAMING for walls of four-family two story building is site fabricated, lifted into place as a unit by long row of workmen.



OEM Defense photo by Palmer



painting expense so costly on other windows. Their weathertightness, their ease of operation, their smart, distinctive appearance—these factors all appeal to your most exacting and economy-conscious clients.

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139

ARCHITECTURAL

METALWORK

TABLETS

WINDOWS

REVOLVING



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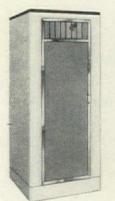
These standardized sizes will, of course, be available



# Bathe-Rite"DELUXE" MODEL NO. 4

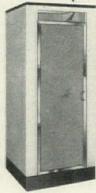
Luxurious bathing facilities for institutional buildings. able with top and glass ble with top and

Standard Sizes: 32 × 32 × 80" — 36 × 40 × 36 × 36 × 80" — 40 × 36 × 40 × 40 × 80" (Corner de:



All-Purpose Model No. 3

Sizes: 32 x 32 x 80" 36 x 36 x 80" 40 x 40 x 80" (Corner design)



Bathe-Rite Model No. 2

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Popular-Priced Model No. 1 Size 32 x 32 x 76"

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Bathe-Rite . . . TODAY'S QUALITY STANDARD IN SHOWER CABINETS

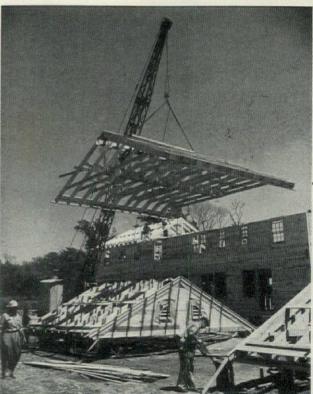
#### POSTWAR BUILDING TECHNIQUES

(Continued from page 138)

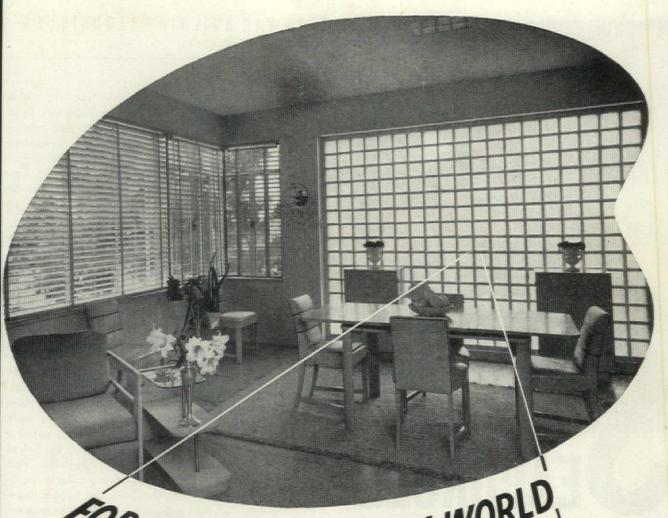
This development is important because of the new freedom it has introduced into house plans. Partitions can be placed wherever desired to make the most efficient design. In addition, they can be built when it is most convenient. This factor has succeeded in reversing ordinary construction procedure in many cases. The housing built for workers in Glenn L. Martin's huge ordnance plants illustrates the possibilities of the new process. Here the shell of the house was enclosed and all plumbing fixtures installed before any interior partitions were erected, thus allowing much greater freedom of access for workers. Incidentally, the roofs on the Martin houses are also interesting because of their unique exterior finish made of sections of insulating board covered with slate surfaced asphalt roofing, a combination of materials which makes sheathing and further insulation unnecessary. The large size of the shingles-7 ft. 11/4 in. by 3 ft. 33/4 in. is an important factor in providing weather tightness, high insulating qualities, and in disguising vertical joints. Another example of unusual building procedure possible with the new trussed roof sections was illustrated by a small project in New England. People who visited these houses while they were under construction were surprised to see the floor slab in place, the roof trusses resting on the framing of the front and back walls, but no end walls or interior partitions in place. Plumbing stacks complete to the flashing, however, were already installed. Such a reversal of time-honored procedure is bound to have an effect on postwar building. It is actually but one illustration of the changes which occur when large-scale building methods are applied to small buildings.

(Continued on page 142)

LARGE-SCALE BUILDING METHODS are applied to defense housing at Newport, R. I. Here, crane lifts twelve trusses. one-fourth of the entire roof section, in a single operation.



USHA photo, Esper

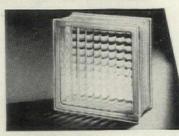


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Insulux brings daylight in — keeps prying eyes out!

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!



W HAT will our postwar homes be like? How will they differ from the homes of the past?

One thing is certain! The homes of tomorrow will be cheerful and bright—generously painted with sunshine and light.

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#### POSTWAR BUILDING TECHNIQUES

(Continued from page 140)

#### LARGE-SCALE METHODS

The practice of doing small things in a big way which has grown up during the war, is further illustrated by a larger project at Newport, R. I. Here, the roof trusses described above were used, but instead of the usual method of erection, a system was worked out for assembling a complete set of trusses on the ground and lifting the entire bundle into place with a crane. Another project-at Linda Vista, Calif.—was one of the first large-scale housing ventures to take full advantage of such new techniques. Here, 3,000 houses were built as one operation. Although turned out with the speed and economy that only mass production can achieve, the houses were of conventional design and were not identical boxes. To handle the immense amount of hardware used, the project required warehousing and distributing facilities equal to those of a wholesaler in a medium-sized city. Two million lbs. of nails alone were consumed, and 24 million bd. ft. of lumber. The application of such assembly line thinking to small house construction is extending its influence far beyond the projects for which it was developed. While no one looks forward with anticipation to the building of 3,000 identical units, now that towns of 3.000 and even 5.000 homes have been built successfully in one operation it will hardly be possible to ignore the know-how gained by this experience. Everyone connected in any way with these giant projects, and with the more modest housing efforts where similar methods were applied with equal success-from the builder down to the carpenter-has been exposed to these new techniques and impressed with their value. This experience will influence their approach to any sort of postwar building and will be a factor in breaking down old-guard methods.

Furthermore, the large-scale contractors who have been so successful in applying their techniques to housing will hardly want to hand this lucrative field back to its proprietors of four years ago. It is to be hoped that they will keep their interest in small house building, for only in this way will the economy and speed of building which has come out of the war be insured for the future.

(The second article of this series, covering new materials, will appear in February.)

ROOF CONSTRUCTION of Vallejo, Calif. defense houses is speeded by hoisting panels into place by means of a light traveling crane.



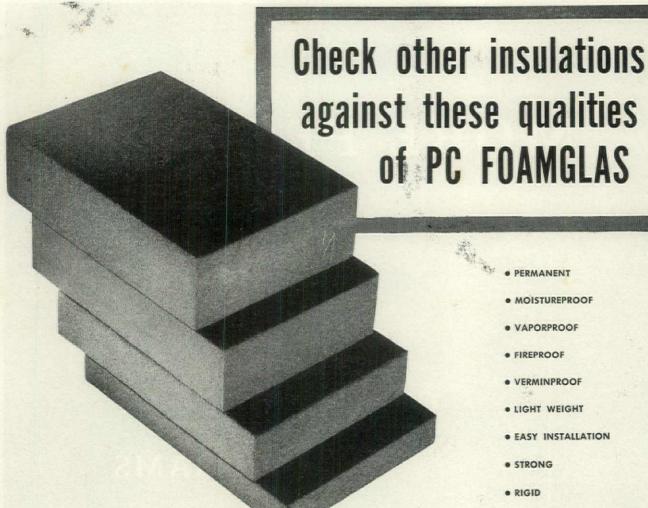
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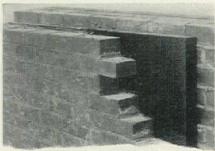
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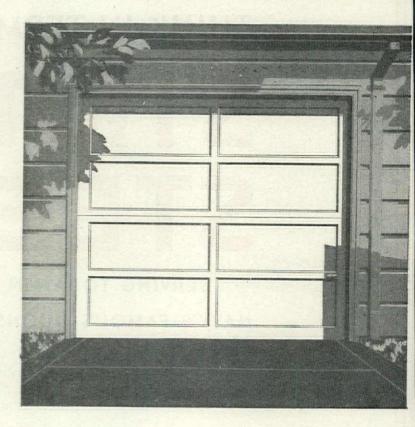
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- HEALTHFUL: Anthracite provides constant, even heat—temperature is not constantly fluctuating between "on" and "off" periods.
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Today, due to wartime conditions, many people must wait their turn to get telephones. But the day will come when everybody can have service in their new homes, and the time to plan for that is now. To be ready for it:

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These and many other modernization ideas, created in collaboration with the Florists' Telegraph Delivery Association Inc., are presented in our new portfolio entitled, "Ideas for Florists." It was designed primarily to interest florists in remodeling and contains a full color reproduction of a model florist shop along with other helpful data. (Similar portfolios are available on request for the following retall fields: grocery stores, beauty shops, drug stores, and restaurants.) We offer them to you as a help in planning retailers' needs. Write Armstrong Cork Company, Floor Division, 2301 State Street, Lancaster, Penna.

ditional smartness to the modern appear-

ance of the store's interior.

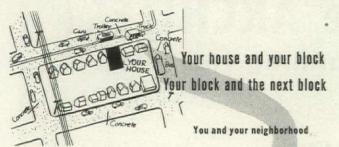


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You and Your Neighborhood . . . A Primer



### What are neighborhood needs?





Your neighborhood needs you

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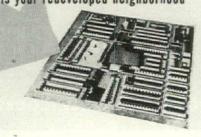
### Organize a neighborhood planning council



Your block chairmen are the workers

Architects and planners present their solutions





By Oscar Stonorov and Louis I. Kahn. Published by Revere Copper & Brass Corp., Inc., New York. 92 pp. Illustrated. 11 x 81/2.

With steady ascendancy the topic of planning is becoming as popular and talked of as were the Townsend Plan and psychoanalysis in their day. An encouragement to those of us who are interested in seeing the development of a sane, prosperous and healthy living pattern during the years to come, the new found acclaim neverthless carries with it the inevitable dangers of gab - distortion through misinformation or immature understanding. Numerous private organizations and farseeing industries, anticipating these very pitfalls, have attempted to circumvent them through public education by means of radio programs, lectures and pamphlets. In few instances, however, has the net result been as convincing and comprehensive as in the recent booklet, You and Your Neighborhood prepared by architects Oscar Stonorov and Louis Kahn for the Revere Copper and Brass organization. Believing the building industry to be one of the major springboards for postwar prosperity, this firm is attempting to contribute to the public thought and organization work which must necessarily precede our national building program by encouraging citizen participation. Their firmest belief is that sincere, active interest on the part of the individual is "the greatest of all forces that can be harnassed to bring about the successful achievement of great undertakings."

The booklet does not deal with the slum problem. Instead, the emphasis is on living communities. After a simple analysis of the citizen's relation to his neighborhood and an evaluation of his interest in it, seven typical neighborhood needs are listed. Then comes a step-by-step program for organizing an effective neighborhood planning council able to cooperate with the municipal planning commission. This last aspect, too often left to the ingenuity of the residents, is given particular stress and includes sample form letters, petitions, etc. There follows a section depicting the actual operations of redevelopment, a breakdown of typical costs and a general orientation of the individual's role in neighborhood planning as related to the greater scale of the community and ultimately, the city.

The text is cleverly amplified by free-hand sketches, maps and photographs which in themselves present a powerful graphic synopsis. The presentation on the left is a schematic condensation of the illustrations. Climaxing Revere's third year of presenting the ideas of leading architects and designers to the public, it is devoutly wished that, for the good of planner and layman alike, a copy of the booklet may reach every home in the country.

THE VALLEY AND ITS PEOPLE. By R. L. Duffus and Charles Krutch. Alfred A. Knopf, New York. 162 pp. Illus. 7 x 91/2 \$2.75.

If the waters of the Tennessee Valley have been dammed, certainly the voices have not. The Valley and its People is the third book on the TVA to appear within the past year. The first was Aldous Huxley's TVA, Adventure In Planning.

Chairman Lilienthal's straight-forward account was, in his own words, the tale of *Democracy on the March* (see Arch Forum, June '44). Mr. Duffus' story is rather one of "democracy at work." His faith in its infallibility is emotionally enthusiatic but also contagious: (Continued on page 152)



A Destroyer-Escort hitting the water from the Defoe launching ways

### When We've Launched Our Last Warship

After the nations of the world stack arms and the last warship has been sent from our ways, this company, in stride with the leaders of American industry, will be ready for conversion to peace. More than that, we will be prepared to translate the advancements and economies taught by war into epoch-making new products for better living for Americans. As it has for more than 40 years, the Defoe Shipbuilding Company will construct large yachts and commercial vessels. But the major expansion will come in the new Housing Division which will manufacture and distribute low-cost units and component parts for American homes and farms. The industries of this country should turn the experience, new techniques and materials developed by war work toward advancing the standard of living throughout the world. The large scale program of the Housing Division will be Defoe's contribution to the mobilization of American war industries for peace time production and employment.

HOUSING DIVISION

DEFOE SHIPBUILDING COMPANY, A BAY CITY, MICHIGAN



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

SHIPS FOR VICTORY
SERVANTS FOR PEACE

BACK THE ATTACK

(Continued from page 150)

"Perhaps we can say that it (the TVA) is a kind of wedding of the ideas of Alexander Hamilton and the ideas of Thomas Jefferson. It is Hamiltonian because it originated in the national capital and called for an extension of the Federal authority. The courts found justification for this extension in the Constitution but it did result in some things being done that the Federal Government had never done before. The TVA came down to the grass roots and did things to them . . . And while Alex-



You Can Mount @ Controls

At Any Angle

White-Rodgers Hydraulic-Action Controls may be mounted in any position or at any angle convenient to the design of your equipment or installation. The flexible element and capillary may be bent or adjusted to fit the controlled area. These advantages plus the features listed below enable White-Rodgers Controls to become an integral part of any installation and assure years of accurate, trouble-free operation.

#### 8 EXCLUSIVE FEATURES OF WHITE-RODGERS HYDRAULIC-ACTION TEMPERATURE CONTROLS

- May be mounted at any angle or position, above, below or on level with control point.
- 2. Hydraulic-Action Principle incorporating solid-liquid filled bulb and capillary provides expansion force comparable to that of a metal bar.
- 3. Diaphragm motion uniform per degree of temperature change.
- 4. Power of solid-liquid charge permits unusually sturdy switch construction resulting in positive contact closure.
- 5. Heavier, longer-wearing parts are possible because of unlimited power.
- 6. Dials are evenly and accurately calibrated over their entire range because of straight-line expansion.
- Controls with remote bulb and capillary are not sensitive to change in room temperature. Accuracy of control is not affected by temperature changes in surrounding area.
   Not affected by atmospheric
- 8. Not affected by atmospheric pressure. Works accurately at sea level or in the stratosphere without compensation or adjustment.

gle or arry led be-

Controls for Refrigeration . Heating . Air-Conditioning

ander Hamilton makes great plans and exults at the sight of factories so big that no one could ever get around them on foot, it is Thomas Jefferson who goes up and down on foot talking to the people, showing them how, and encouraging neighbors to work together of their own free will. TVA is Jefferson too."

The Valley is, through the eyes of Mr. Duffus, inspiring. In his historical painting of the Valley's past eleven years he finds it fertile, promising and above all, human.

Apparently by the very scope of its undertaking, the record of the TVA has failed to convey in any intimate way the success of its underlying philosophy. Neither its achievement as the first successful, large-scale development of a region nor as a working example of cooperation between the government and the individual has aroused any heartfelt public reaction. Somehow the early whisperings of "centralization," "bureaucracy,"

Pictures Inc.

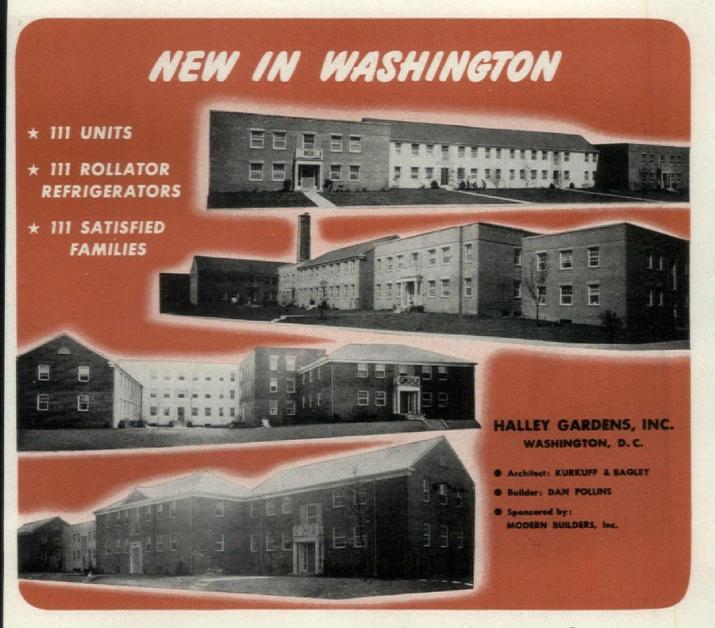


The Valley was fruitless

"coercion," "government controlled utilities" seem inextricably enmeshed with the layman's vision of Norris or Wheeler Dam. If ever a dream needed humanizing, or an heroic feat, publicizing, the TVA is it, This service is rendered movingly by Mr. Duffus' brief text and Mr. Krutch's eloquent pictures.

The author's story is simple and beautiful. That he speaks with profound feeling and deep conviction is evident on every page. To those of us who remember the congressional tempests and courtroom imprecations that rocked the

(Continued on page 156)



These one- and two-bedroom apartments were built under FHA plans for war workers. Completed in March 1944, these units are assured many years of trouble-free, low-cost refrigeration because Norge Rollator refrigerators were specified.

U. S. Home Builders—be sure to see our exhibit at the National Builders' Exposition and Annual Convention, Hotel Sherman, Chicago, January 15-18, 1945.

SEE NORGE BEFORE YOU BUY

## NORGE HOUSEHOLD APPLIANCES

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

ROLLATOR REFRIGERATORS
HOME HEATERS

GAS RANGES

RO-TA-TOR WASHERS ELECTRIC RANGES
COMMERCIAL REFRIGERATION



"PITTSBURGH" believes that the near future will see the resumption of an already well-established trend toward the use of more glass in American houses. This trend has manifested itself in larger window areas, in a more extensive use of mirrors and glass blocks, in wider application of structural, plate, tempered and other kinds of glass.

Since architects have been the leaders in applying both the principles of modern science and the products of modern technology in the design of ever-better residences, Pittsburgh Plate Glass Company and Pittsburgh Corning Corporation take pleasure in sponsoring this

architectural competition, instituted to encourage possible further developments in the field of domestic architecture, and to extend the general understanding of the intelligent uses of glass and glass products.

The problem calls for designing a house for a family of four in a typical metropolitan suburban community, anywhere in the United States

The competition is authorized by the Reinhold Publishing Corporation, publishers of Pencil Points. It will be conducted by Kenneth Reid, A.I.A., as Professional Adviser, and judged by seven architects of proven distinction.

It is open to all architects, architectural draftsmen and architectural

students. Members of the American Institute of Architects, under a ruling by the Institute Committee of Competitions, are permitted to enter.

There are no entry blanks or entre fees involved. The winning design will be widely publicized through out the country... and any result ing inquiries about them will be referred to the authors of the respective designs.

We urge you to send the coupor today for a reprint of the Officia Program and latest literature con taining up-to-date information or glass and its use. This material will be of real assistance to contestants The Official Program appears in the December issue of Pencil Points.



PITTSBURGH PLATE GLASS COMPANY

### THE PRIZES

First Prize											\$2,500
Second Prize											1,500
Third Prize											1,000
Fourth Prize									٠		500
25 Mentions @ \$10	0 each										2,500
8 Special Prizes @	\$250 e	ach'									2,000
*For details showing interior. The spons any of the unpren	sor may	, in a	ıdd	ition	a, p	urch	pase	1	Tot	al	\$10,000

### THE JURY

Pietro Belluschi, A.I.A., Portland, Ore. Ralph Flewelling, A.I.A., Los Angeles, Calif. J. Byers Hays, A.I.A., Cleveland, Ohio

Robert M. Little, A.I.A., Miami, Fla. Louis Skidmore, A.I.A., New York, N.Y. Hugh A. Stubbins, Jr., Boston, Mass.

Philip Will, Jr., A.I.A., Chicago, Ill.

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Pittsburgh Polished Plate Glass (in all thicknesses and colors)

Carrara Structural Glass

Pittsburgh Mirrors Figured Glass PC Glass Blocks Pennyernon Window Glass Herculite Tempered Glass

Solex Heat-Absorbing Glass Twindow—The Pittsburgh Multiple-Glazed Unit Pittco Metal Mouldings

Mail the coupon for helpful information. A reprint of the Official rogram will be mailed on request, together with a special assortnent of literature describing the various glass products manufactured by the sponsors. This material will be of assistance to contestants.

2017-5 Grant Building, Pittsburgh 19, Pa.

Pittsburgh Plate Glass Company

Please send me, without obligation, a reprint of the Official Program for the Pencil Points—"Pittsburgh" Architectural Competition, and latest literature on the use of glass.

### ITTSBURGH CORNING CORPORATION

(Continued from page 152)

cradle of the infant TVA, Mr. Duffus' wonderment may seem a little naive as he describes the basic conception:

"It was no political and partisan invention. It was an American invention. It was an American way of dealing with a problem for which no other suitable solution presented itself. It was as American as an old-fashioned barn rais-

Perhaps Mr. Duffus brushes too easily over the obstacles and bitterness of the

first few years. His task, however, is less one of recalling struggles than of illustrating the good that has so far been realized, a timely appraisal in view of seven more vast regional power developments recently recommended by President Roosevelt (see Arch Forum, Dec. '44). The great network of dams is nearing completion and the private utility companies who buy the power it generates are still doing business as usual. TVA power is producing great quantities of our most vital war materials and at the same time serving large private industries, notably the aluminium companies. A sadly eroded area of our



Scientific land use, new highways

country is being restored to agricultural productiveness and scientific land use. Model towns and experimental farming are raising living standards for the inhabitants. Even cooperative farm groups have so far failed to hatch the muchfeared spawn of "communism."

Yet for his profound belief, the author does not delude himself about future

pitfalls. He says:

"TVA has made a remarkable beginning, but no more than a beginning. It has been interrupted by a war which had to be won if democracy were to survive here or anywhere else in the world. When the war is over, it must be rededicated to its original purposes. It must get back to serving the little men of whom democracy is made up: on the farm and elsewhere, by making their independent labor productive, by opening up wider markets in which they can buy and sell, by ameliorating the conditions of their lives. TVA has served these little men with great fidelity. It has lent them dignity. It has made them enormously potent in war. It must resume the task of making them potent in peace. It will do so if it is not frustrated or interfered with. It is for the people of the Valley and of the nation to see that it is not interfered with."

Because of its simple narrative charm and visionary conception, there are those who will say that The Valley and its People is the work of a dreamer. Yet it is no more than the account of a fait accompli. Democracy is the dream of humanity. The magnificence of the TVA was conceived and executed under that form of government. If, therefore, in its application democracy cannot awake such feeling, of what value is the dream?

AIRPORT ENGINEERING. By H. Oakley Sharp, G. Reed Shaw and John A. Dunlop. John Wiley & Sons, Inc., New York. 146 pp. Illustrated. 81/2 x 111/2. \$5.

In this short but comprehensive work which covers all phases of airport construction from the selection of a site to the maintenance of the finished field, the authors have presented all the major problems which must be studied by the engineer engaged in such construction. Air transportation has been developed to

(Continued on page 160)



OU use reenforcing to give concrete strength. And I to give SISALKRAFT its strength, sisal fibre reenforcing is used.

The closely spaced fibres are at right angles to each other, embedded in two layers of asphalt and sealed, under heat and pressure, between two sheets of kraft paper, to make a tear-resistant, weatherproof covering of unmatched dependability.

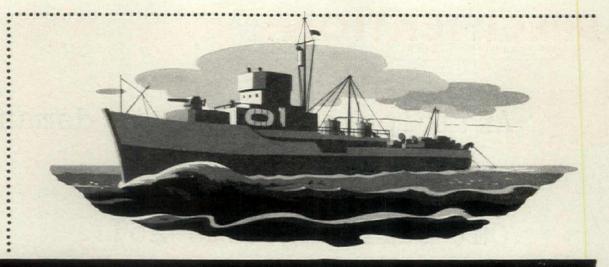
### SISALKRAFT Resists Tearing Costs Less to Apply!

No batten strips are needed with SISALKRAFT. Large headed roofing nails hold it in place. An unbroken "blanket" of SISALKRAFT protects sheathing and wood framework, shuts out wind, dirt and moisture. Specify SISALKRAFT over sheathing - as flashing around all window and door openings - under floors and roofing - as a vapor barrier over the inner side of studs before lath is applied.

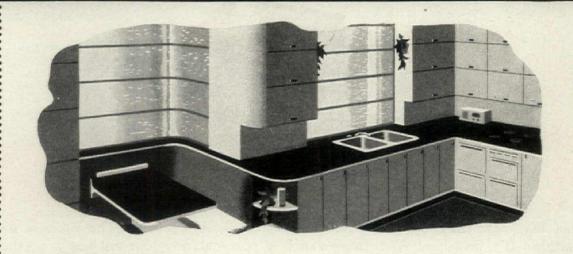


Specify time-tested SISALKRAFT. Its unmatched performance has been proved for 25 years.

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Whether you build Minesweepers or design Kitchens . . .



### your product can be improved

### Kimpreg Surface

A revolutionary new alloy-like material is achieved by fusing to plywood's surface a cured plastic skin of KIMPREG. This resultant material is not a plywood in the ordinary sense, not a conventional plastie laminate. It is a brand new, better structural medium with countless applications in many products-including, very probably, those you plan for post-war production.

With KIMPREG, plywood is converted into an improved substance which can be machined, formed and fastened like ordinary wood-yet has a plastic's smooth, tough surface and beautiful, permanent, paintless finish.

KIMPREG adds the following advantages to plywood: I, increases durability and flexural strength; 2, provides resistance to moisture and vapor; 3, armor-plates

against extreme abrasion; 4, prevents surface checks; 5, diminishes grain-raising effects; 6, makes the material scuffproof, splinterproof, snag-resistant; 7, affords a stainproof, washable, "wipe clean" surface; 8, creates resistance to chemical action, decay, temperature-extremes, fire, vermin, and mold. Moreover, it is warm to the touch, does not have the chill "feel" of metal surfaces.

Today all KIMPREG is required for military needs, ranging from airborne "prefab" huts to glass-smooth tables for packing parachutes without snagging. Hence, the wartime color of KIMPREG is a soldierly olive-drab. Post-war, however, it will be offered in a variety of appealing hues.

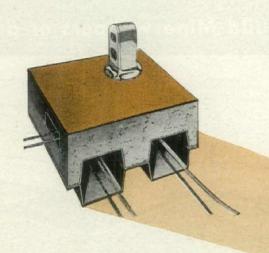
Now is the time to investigate the possibilities of KIMPREC-surfaced materials for your peacetime requirements.



157

### SPECIFICATION:

Anticipate electronic demands for thirty years.
Cut building time 25%.



Does that read like the beautiful but impossible? It's possible. And there's not a speck of grief in it. Q-Floors cover the order.

Q-Floors provide over-all electrical availability on a six-inch modulus. The steel cells of Q-Floors are six inches apart, so interrelated by crossover raceways that an electrician can drill anytime, anywhere and establish an outlet.

Think what this means in terms of flexible floor plans! Partitions and outlets need not be located until after the tenant moves in. New outlets can be installed in a matter of minutes, without trenches, without fuss or grief. The electrical responsiveness of Q-Floors helps keep a building alive to

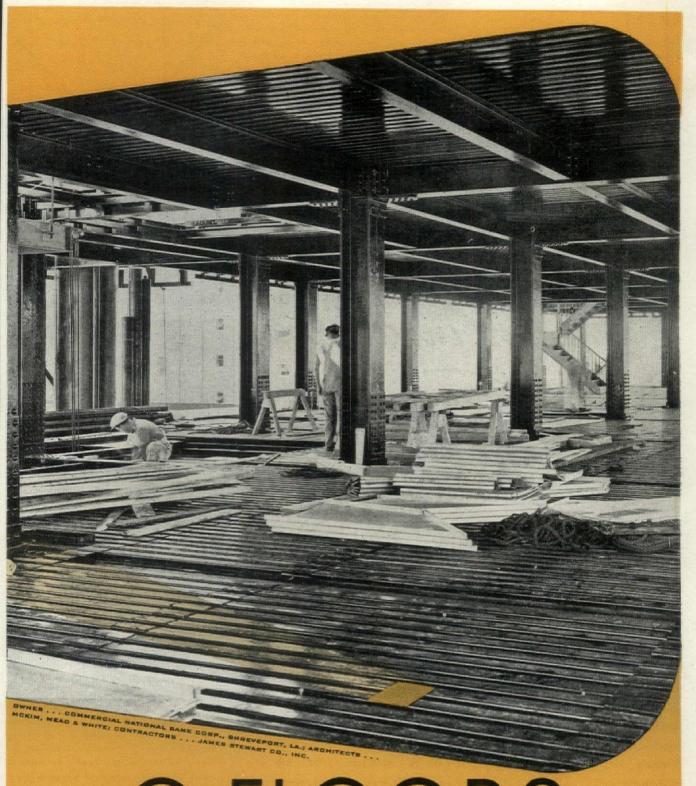
THE EASIEST THING FOR A BUILDER TO FORGET
Floors are what a building is for

changing times. The promise of great electrical development holds no threat of obsolescence. Think what that means in terms of client satisfaction!

Q-Floors also have construction advantages. Installation is fast, quiet, clean, fireproof. Two men can lay 32 square feet of Q-Floor in half a minute. No wet materials, no forms, no shoring. Stairs go in as soon as the floors. Floors can go in almost as fast as the frame goes up. Q-Floor becomes an immediate platform for all other trades. Work speeds ahead in record time. The total effect of Q-Floors is to reduce building time 20 to 30%. Clients like that, too.

Other factors effect financial savings. In fact, the cost of Q-Floors may even be a surprise, if you have decided they are expensive. Their cost is well in line with usual appropriation.

You can obtain detailed information from a Robertson representative or write for Q-Floor literature. Information regarding Q-Floor Electrical Fittings can be obtained from any General Electric construction materials distributor.



## Q-FLOORS

## H.H.ROBERTSON CO.

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OFFICES IN 45 PRINCIPAL CITIES WORLD-WIDE BUILDING SERVICE

(Continued from page 156)

a degree where special consideration must be given the ground facilities in order to correlate effectively surface and air travel. Flight requirements of various types of aircraft necessitate different terminal facilities. Not only must the engineer understand these diverse operational and transportation problems, he must also be prepared to arrange service facilities which will guarantee an uninterrupted flow of traffic.

Specifications for subgrade support

and surface pavement are extensively dealt with as is the all-important subject of soil stabilization. In regard to the latter aspect, particular emphasis is given to the manipulation and treatment. of soils for immediate and future heavy loads.

While the authors find that the engineering aspects of airport construction do not involve many design techniques limited exclusively to airports, they have nevertheless attempted to present an integrated picture of all the planning, design and engineering of a modern air terminal as is practical in a student textbook. Despite the fact that this work was intended for undergraduate engi-

Isometric profiles of airfield

neers, its excellent presentation makes it a valuable reference book for anyone interested in airport construction.

THE ECONOMIC STATUS of the New York Metropolitan Region in 1944. Published by the Regional Plan Association, Inc. 90 pp. 81/2 x 111/4.

In view of a steadily decreasing rate of growth in practically all large metropolitan areas, the New York Regional Plan Association has made a careful investigation and analysis of those economic trends which will have an important effect on the future size and distribution of the region's population. The most important factor in the phenomenal growth of the New York region during the past several decades, and the one which will best serve to retain a sound population level in years to come, is the maintenance of economic opportunities and adequate employment. This study, compiled during the past 18 months, is concerned with surveying the economic structure of the region, the trends of the various types of business and industry, and the probable size and nature of the employment problem which will confront the region in the years immediately following the war.

In the second chapter the economic activities of the region are classified as either "basic" or "service" in nature, a new method of approach for analyzing these elements. The basic activities are those which produce goods or services used by people outside the region in exchange for which we are able to obtain food, coal, oil, raw materials, automobiles and other necessities not produced within the area. The term "service" denotes activities which are carried on primarily for the benefit of the people of the region such as local transportation, retail distribution, professional services, domestic help, etc. This method of classification clearly defines the boundaries between intra and interregional commerce and industry, a distinction usually neglected in local economic studies.

(Continued on page 164)

## FAST becoming FIRST in Insulation



Residential, commercial or industrial-regardless of what type of construction, remodeling or new home building, Lo-"K" is fast becoming the favorite for all insulation purposes because it does the job easily, economically, more efficiently.

Lo-"K" is an amazingly efficient, scientifically-processed cotton insulation . . . flameproofed for extra safety . . . light weight, flexible, easy to install and DECIDEDLY MORE EFFECTIVE IN PRE-VENTING HEAT ESCAPE because of its lower thermal conductivity.

Lo-"K" already is first choice of architects, contractors and builders who like to keep one step ahead of the trade.

### A Product of Lockport Cotton Batting Co., Lockport, N. Y., Est. 1870

Available at lumber and building material dealers NOW, in blanket rolls, sized in thickness and width for standard construction.

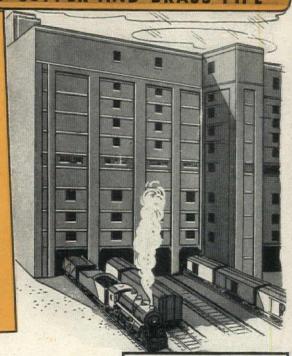
SEND FOR FULL PARTICULARS TODAY

Gentlemen: Send me the facts Insulation for better building-	s about Lo-"K" Cotton
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CONTRACTOR	OR BUILDER
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WHERE EXPANSION AND VIBRATION PREVAIL

Safeguard

Silbraz\* Joints



# MADE WITH WILLSEALE \*\* VALVES, FITTINGS AND FLANGES

For any services where extremes of temperature or vibration are encountered, you can prevent piping trouble by specifying Silbraz joints on all copper and brass pipe or tubing. These threadless, modern joints — made with Walseal bronze valves, fittings, and flanges — won't creep or pull apart under any temperature, shock or pressure which the pipe itself can withstand. They remain tight and leak-proof under punishment far greater than that encountered in normal industrial service.

Easily made up by oxyacetylene flame brazing, Silbraz joints require neither maintenance nor repair. They make every pipe line in which they are used a leak-proof, truly "one-piece" line. Be sure to send for a free copy of Catalog 42 for a full description of the complete line of Walworth valves and fittings, including Walseal valves, fitting and flanges for making Silbraz joints.

\* Registered trade marks

After cleaning and fluxing pipe and fitting, insert pipe into fitting up to shoulder. Then expand pipe by heating with the oxyacetylene flame.



Heat a section of the fitting, directing flame toward pipe or tubing. This causes section of fitting to expand, allowing alloy to flow.



Heat both pipe and fitting with a wiping motion of torch. Remove flame. Fitting contracts, alloy flows and forms ring at fitting edge, completing Silbraz joint

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



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will have new beauty . . . new flexibility

Johns-Manville System of Construction combines Walls, Ceilings and Floors as one integral unit. One Specification-One Manufacturer's Responsibility.

NE of the interesting features of the Johns-Manville System of Unit Construction is that it is equally adapted to large "public spaces," as in a bank or insurance lobby, as well as to individual private or general offices. It provides not only beauty and utility, but also an amazing degree of flexibility which permits quick, economical expansion or contraction of major areas or the easy rearrangement of various units.

These and many other features, vital to business efficiency, are available at moderate cost:

- ... Movable walls easily erected and relocated using same materials.
- ... Acoustical ceilings which have the added advantage of allowing for flush-type fluorescent lighting.
- . . . Resilient floors, made of units which permit easy office alterations.

The Johns-Manville Building Materials, used in the Unit Office System, offer a wide variety of modern colors and effects, thus giving the architect practically unlimited decorative scope. All are made of essentially indestructible raw materials, are long-wearing and easy to maintain. Furthermore, since only one specification is necessaryresponsibility is centered with one manufacturer.

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Movable Walls: J-M Transite Walls are strong, sturdy, durable. They provide a complete system of dry-wall construction, which can be taken down and relocated almost overnight with 100% salvage. Available for any heighteven for low railings and counters. Made of asbestos and cement, they have a smooth, hard surface. Fireproof. Last indefinitely. May be left in original gray finish, painted or decorated.

Acoustical Ceilings: Ceilings of the J-M Unit Office System are soundabsorbing acoustical units which permit hung ceiling construction, concealing air-conditioning ducts, overhead conduit, etc. Since the units are demountable, service equipment is readily accessible. Easy to clean, to maintain. High light-reflection coefficient. Exclusive J-M method of construction

allows use of flush-type fluorescent lighting with J-M Acoustical Ceilings.



In this modern banking room, notice the interesting detail of the Transite panels, not only for the teller's screen, but also for the interior finish of the outside building walls. Notice also the harmony of color in the floor and the modern flush-type fluorescent lighting which is combined with an efficient acoustical ceiling.



to maintain. Made of asbestos and asphalt, they will withstand hard wear and give years of service. Manufactured in small units in a wide variety of plain and marbleized colors, permitting a great many designs and patterns. The individual unit make it simple to extend or patch the floor.



# Johns-Manville Unit Office Construction



No matter what your flooring problem, we only ask that you compare Kentile to any other flooring before you choose. In this ad we can mention but a few extraordinary advantages of Kentile. No other type of flooring can offer every one of these advantages-and Kentile is superior in most of them. For instance, Kentile is amazingly low in cost. In fact, no durable material is lower. Yet, Kentile is surpassingly durable. In the busy corridors of Rockefeller Center, to name only one example, Kentile shows no signs of wear after ten years. But Kentile is not merely a "practical" floor. Kentile is laid tile by tile (not in sheets) and there normally are 44 colors, each available in 15 tile sizes plus strips. Just imagine the design and color combinations possible. Kentile colors go right through to the back so they can't "rub off." And if you have grease falling anywhere you use Greaseproof Kentile and no oil or fat known can soften or stain it. Indeed, any Kentile is cleaned by simple mild-soap water mopping. It is one of the world's easiest floors to main-

tain. Yet, these are but a few of Kentile's many advantages. Therefore we say "If you are considering flooring please check on Kentile" Write to us for the full-color, detailed book we will cheerfully send. You'll find it most interesting, informative and helpful. With the book we'll send the name of your local Kentile dealer. Phone or write him to come over — without obligation to you — to show you samples, give you technical details or advice, and an estimate that will amaze you. Just write to David E. Kennedy, Inc. 80 Second Ave., Brooklyn 15, N.Y.



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gains EFFICIENCY with AGE!



### EASIER TO INSTALL

Simply unroll like a rug. Light in weight and containing no abrasive substances, it is harmless to skin or clothing—leaves surfaces unmarred and cannot injure workmen. It's clean—no dust or flying particles when it is installed. Cotton Insulation reduces waste in storage, transportation, and handling on the job.

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Cotton Insulation weighs about 220 pounds per thousand square feet—three inches thick—as little as one-twelfth of the weight required when using some other insulating materials comparable in efficiency. The added weight of Cotton Insulation is negligible—places no strain on roci. ceiling, or other structural members of a building utilized for its support. A reduced thickness may be used to provide an equivalent insulating effect. This advantage is important to the practical man.





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Refusing to spoil, Cotton Insulation does not absorb, but sheds, moisture. In processing, the natural water-repellent waxes of pure cotton are retained. When floated in water for a period of six months, it shows no mildew or capillary attraction. When tested under severe and abnormal conditions, frozen solid and then thawed, it regains full resiliency and efficiency when dried. Cotton Insulation has lifetime durability.

## RESISTS FLAME-REPELS VERMIN

Subjected to a 1600° F. flame from a blowtorch for a period of 20 minutes, it does not burst into flame, only chars. The chemicals used to make the cotton highly flame-resistant are non-volatile under temperature and atmospheric conditions prevailing in the United States. Chemicals render Cotton Insulation vermin-repellent. Examined after years of use, it was found to meet the requirements of the U. S. Department of Agriculture in every respect.



Although available through trained applicators, no special equipment is required for installation. Packaged in blankets that unroll like a rug—handled with ease and safety—the featherweight of its field, these qualties brought instant popularity to Cotton Insulation.

This popularity is merited by facts—facts that clearly indicate a maximum efficiency with a minimum investment—facts that assure the user comfort and safety. It meets or exceeds technical insulation requirements—it is included in standard specifications of FHA and FPHA—no priorities needed. All production is inspected and certified in strict accordance with specifications of the U. S. Department of Agriculture.

The superior value of Cotton Insulation is confirmed by the tests of leading laboratories—tests which show that Cotton Insulation transmits less heat per inch of thickness than any other building insulation material available today. It gains efficiency with age—does not settle from vibration and heat—in fact, tends to fluff to a greater thickness.

The demand for Cotton Insulation, which entered production shortly before the war, has reached such proportions that it promises to be a major factor in the postwar stabilization of agriculture.

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

NATIONAL COTTON COUNCIL OF AMERICA

Philip

COTTON INSULATION ASSOCIATION

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



in Post-War BATHROOMS



Steam and moisture will be instantly dispelled with easily-installed, low-cost Victron electric ventilating fans. Bathrooms will be fresh and clean.

Tans



Modern kitchen planning will accent complete freedom from cooking odors. Floating grime and grease will be given a quick, safe exit to the outside air. Victron wall and ceiling ventilators will be available with a special model for thin wall prefabricated construction, also a steel sash, panel ventilating fan. Pioneers in residential ventilation, Victor has been first in the development and adoption of many desirable features in ventilating fans. Victor will again be the leader in home ventilating fans after the war. Your request will bring a catalogue showing latest pre-war models and bring you details of new models when ready.



VICTOR



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"Finishing Hardware at a Glance" — a new, original, simplified form of specifications to make your job easier — fills a long-felt need now for the first time. A leader in prewar, Lockwood offers this first for postwar.

This is a visual guide to the selection of the proper types of locksets and hardware for six types of buildings. Apartments, Hospitals, Hotels, Institutions, Residences and Schools. It is a practical architect's handbook of 20 pages in 9 sections in which the proper lock in either cast or wrought hardware is

selected instantly for any of the above buildings. Miscellaneous finishing hardware, Casement, Sash and Transom hardware, Cabinet and Drawer hardware and Door Closer detail are also simplified in "Finishing Hardware at a Glance" which will be found in Sweet's 1945 Architectural Section 17 b1.



Architects may obtain one of the limited number of copies of "Finishing Hardware at a Glance," with a durable cover, by writing for a copy on their letterhead.

### LOCKWOOD HARDWARE MFG. CO., Fitchburg, Mass.

Division of Independent Lock Company

PATRICIAN POLYFLEX MORTISE LOCK BOR-LOC UNIFAST CAPE COD SUPER CLOSER

JANUARY 1945

(Continued from page 160)

The 22 counties surrounding the Port of New York, known as New York Metropolitan Region, are shown to be necessarily interdependent, a fact which indicates the economic status of the region to be slightly more favorable than that of the country as a whole since a portion of the economic loss suffered by the urban area has been the result of shifting population, business and industry within the region itself.

The estimate given in Chapter XI of the postwar employment goal for the region, which must be met if mass unemployment is to be avoided, should serve as a sobering influence on those who dreamily anticipate an ever-growing population and industry. It emphasizes the fact that the region will have to provide jobs for 855,000 more people than were working in 1940. Based on this employment goal, forecasts for all fields of business seem reasonably optimistic if the proper steps are taken in time.

The book contains many charts and detailed breakdowns of numerous types of industry though it is entirely comprehensible to the layman. Undoubtedly it will be of interest to business men and students of economics but its greatest import is as a basic framework upon which New York planners can build This and succeeding studies now in preparation will lead to recommendations for the elimination of obstacles which increase local costs of production and to an indication of the types of business and industry best suited to location in the region. The physical proposals of the Regional Plan will be reviewed in the light of these studies in the hope of successfully welding the New York Metropolitan Region into a more efficient functioning unit and thus help it to meet economic competition in the years ahead and insure a more orderly and liveable development for the people of the area.

DESCRIPTIVE GEOMENTRY for Architects and Builders. By Leslie A. Lee and R. Fraser Reekie. Edward Arnold & Co., London. 224 pp. Illustrated. 51/2 x 81/2. This textbook is a thorough and competent English version of various domestic stand-bys. It does not attempt to give complete instruction in the rudiments of descriptive geometry but is a useful, small volume for professionals who are in need for brushing up. Practical application is the theme. The illustrations and diagrams, which include examples of up-to-date building practice, are simple and clear, and the text has been kept as brief as possible. The book is divided into two sections dealing with plane and solid geometry.

### A SHORT DICTIONARY OF ARCHITECTURE.

By Dora Ware and Betty Beatty. George Allen & Unwin, Ltd., London. 107 pp. Illustrated.  $5 \times 7\frac{1}{4}$ .

Offering practical help to both professional and amateur students of architecture, this handy, pocket-size dictionary is an excellent auxilliary for home or classroom reading. The text is amplified by simple line drawings of structural conditions and style details. Unfortunately, this reviewer has not been advised of the retail price of this or the preceding British book.

ESTIMATING BUILDING COSTS Third Edition. By Charles F. Dingman. McGraw-Hill Book Co., New York. 387 pp. 4 x 7. \$3. The most recent edition of this standard handbook appears with an entirely revised section on the methods of handling excavation and related work. The subjects of earth handling and moving are much more extensively treated so that the data given applies to building operations of almost any scope or size. Chapters on the handling and finishing of concrete also include most recent developments. New sections on plumbing and heating have been added for the benefit of general contractors who actually estimate this work.



Line of Ric-wiL conduit from anchor to boiler house (top, left). Note shallow, narrow trench.

Installing connector band. All necessary accessories are prefabricated and shipped with order.



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plant is piped through Ric-wiL steam conduit to six scattered stations where hot water is generated and

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No one knows better than the architect or builder how important good heating is to a good house. An inferior, or untried system can spoil an otherwise near-perfect plan—and frequently does. In planning post-war homes may we suggest your consideration of Round Oak equipment. Through 74 years it has been developed to a high state of efficiency. Whether your plans call for modern airconditioning combustion systems employing gas, oil, or coal, or the more simple gravity systems, you will find Round Oak products to meet your requirements, and nearby Round Oak dealers to provide a high standard of service.

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# Here are the WINNERS of the "FLEXIBLE HEATING" COMPETITION

Sponsored by THE BITUMINOUS COAL INSTITUTE

and conducted by KENNETH K. STOWELL, A.I.A. Professional Advisor



### 1st PRIZE \$1500 WAR BONDS\*

ELLIOT L. WHITAKER of the Department of Architecture Pennsylvania State College, State College, Pennsylvania

### 2nd Prize \$1000 War Bonds\*

STEPHEN J. ALLING 7373 Kirkwood Lane, Cincinnati, Ohio

### 3rd Prize \$750 War Bonds\*

KENNETH M. NISHIMOTO 44-1-B, Rivers, Arizona

### 15 AWARDS OF \$100 WAR BONDS\*

\*SERIES E MATURITY VALUE

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409 East 51st Street, New York City

CHARLES K. HIRZEL,

8406 109th Street, Richmond Hill, N. Y.

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Theodore Luderowski,

1613 Preston Road, Alexandria, Virginia LEE CHARLES MIELKE, 9754 Hoxie,

and Lawrence Lattin Smith,

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• The purpose of this competition was to stimulate creation of designs for the ideal basement of the postwar small home—incorporating the principle of "Flexible Heating."

"Flexible Heating" is a descriptive term for a heating plan that permits the use of *any* fuel—bituminous coal, anthracite, gas, or oil.

In view of the diminishing reserves of certain fuels, public interest has still further increased in bituminous coal—the most plentiful and least expensive of

all home-heating fuels. Thus, this contest sought to produce plans which, by providing adequate chimney and basement facilities, would permit the use of any fuel with equal efficiency.

The Bituminous Coal Institute extends congratulations to the winners—and sincere appreciation to all of the many architects who participated.

A selection of the contest entries, including the 18 winning designs, will soon be made available to architects and others interested in building new homes.

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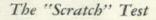
Construction Materials, Engineering Specialities, Prefabricated and Pre-Engineered Buildings.

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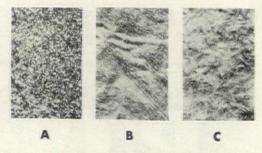
74 TRINITY PLACE, NEW YORK CITY 6 Here's a PAINTABLE Galvanized Sheet for Your New Peacetime Buildings

Your clients want long paint life as well as attractive appearance in their galvanized sheet metal work. This is why they will appreciate your specification of ARMCO GALVANIZED PAINTGRIP sheets—for residences as well as commercial and industrial buildings.

This original Bonderized galvanized sheet requires no preparation for painting. The phosphate film insulates the paint from the zinc and holds it several times longer than an acid-etched surface. These photomicrographs tell the story.



This test shows how paint adheres to PAINTGRIP. The top of the sample is Mill-Bonderized. When scratched with a penknife, only a superficial mark is noticeable. Paint on ordinary galvanized (bottom half) peels or flakes off readily.

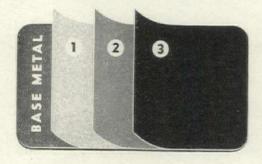


- A This magnification indicates that an ordinary galvanized sheet appears slick and difficult to "coat" with paint.
- B Ordinary galvanized after acid etching. The etching has removed part of the protective zinc coating.
- C Compare the mat-like paint-holding surface of ARMCO PAINTGRIP with that of the others. No coating has been removed and paint is insulated from the zinc.



### Immediate Painting

ARMCO PAINTGRIP can be painted immediately. No costly acid etching or primers, are needed. Thus the full weight of the protective zinc coating is preserved intact.



### What Paintgrip Is . . .

- 1. A full zinc coating under-
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- 3. Paint or enamel that can be applied in any color.

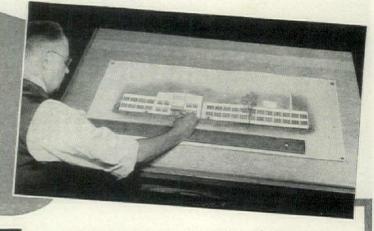
Exposure tests show that paint lasts several times longer on Galvanized PAINTGRIP than on ordinary galvanized sheets. When sheet steel is released for building purposes, Armco Distributors will be ready to supply your contractor with this original paint-holding galvanized sheet. The American Rolling Mill Company, 71 Curtis Street, Middletown, Ohio.

EXPORT: THE ARMCO INTERNATIONAL CORPORATION



Help finish the fight-with War Bonds

# FOUNTAINS for Tomorrows INDUSTRIAL BUILDINGS





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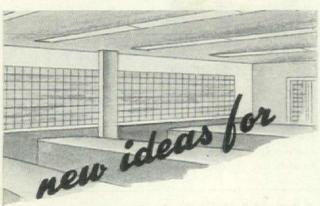
Halsey-Taylor drinking fountains

Architects watch the buildings of tomorrow take shape and plan for the future. Industrial buildings, for instance, that embody every latest comfort and convenience for worker and employer. Almost always the specification for fountains reads "Halsey Taylor."

For here are the fountains of tomorrow, available today for all essential construction,

and tomorrow for every type of building where sanitary drinking water supply is to be incorporated.

The Halsey W. Taylor Co. Warren, Ohio



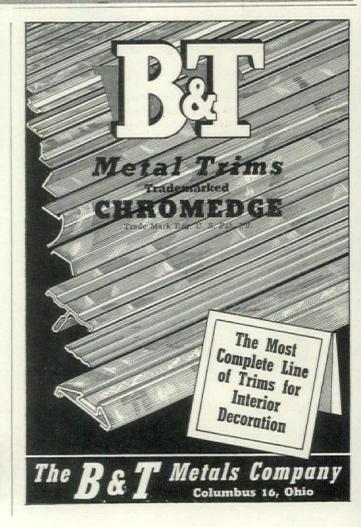
### POSTWAR LIGHTING!

Postwar interiors—theatres—offices—manufacturing plants and for remodelling—will require new techniques in modern lighting. Only \*Colovolt Cold Cathode Low Voltage Lamps can give you all the features your clients will want.

Low initial cost and maintenance, a life expectancy of over 10,000 hours, greater lighting and operating efficiency, plus standard sizes (93 inch lamps) make Colovolt the flexible and truly versatile lighting system for post-war installations. Write for new booklet, "Facts about Colovolt" which gives many other advantages.

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### PER MONTH PER APARTMENT FOR HEAT AND HOT WATER!

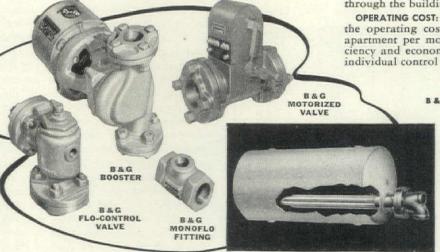
This housing project illustrates clearly why the B & G Monoflo System is the preferred heating system. The amazing economy of operation revealed by the following data is not unusual-it is being duplicated in thousands of large and small installations the country over.

LOCATION: Reno, Nevada OWNER: Mr. Roland Giroux

SIZE: 16 five-room apartments on a 11/2 acre tract HEATING: B & G Monoflo System, supplied from a central heating plant, with two main circuits, each equipped with a 3" B & G Booster Pump. The heating of each apartment is individually controlled by a thermostat operating a B & G Motorized Valve. Any thermostat calling for heat opens the Valve and starts the Booster in its respective circuit. Four boilers are installed, with three carrying the heating load and one used as a spare.

HOT WATER: Hot water for household use is furnished by a B & G Unitem Tank Heater. Boiler water is circulated through the heater coil by a bronze-bodied B & G Booster, with another Booster used to circulate the domestic water through the buildings.

OPERATING COST: Based on a nine month heating season, the operating cost of this system averages \$3.44 per apartment per month—an outstanding example of efficiency and economy. Tenant comfort is assured by the individual control of each apartment's heating.



B&G UNITEM TANK HEATER

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TO DO IT

The design and instal-lation of Forced Hot Water Heating Sys-tems and Service Water Heating Systems are fully covered in this 262 page, handsomely bound manual. Illus-trated with hundreds of trated with hundreds of diagrams for easy un-derstanding — packed with tables you need daily. For your copy, write today on your business stationery.



## B&G MONOFLO SYSTEM

BELL & GOSSETT COMPANY, MORTON GROVE, ILLINOIS

Canadian Licensee: S. A. Armstrong Ltd., 115 Dupont St., Toronto

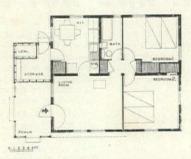
### PREFABRICATION

### General Houses Inc.'s conventional frame construction for war housing is a good starting point for postwar prefabrication.



GEORGIA AVENUE ROW HOUSES SHELTER FOUR TO SIX FAMILIES





FAIRWAY UNITS ARE FREE - STANDING SINGLE FAMILY DWELLINGS



Like its fellow pioneers in the prefabrication field, General Houses Inc., started out 12 years ago with roseate dreams of a mass produced house which would become as commonplace as the automobile. Made of flanged steel panels bolted together and to a steel base at the outer edge of the foundation, their one-story, cellarless design had the flat-roofed, smooth surfaced look of the International Style. Technologically, this solution was probably highly efficient, but its success depended on the assumption that the public was willing and ready to buy pressed steel houses in great quantity, for only by mass production could this kind of construction be made to pay off. The years of experience since 1932 have brought home the realization that to achieve such volume it is necessary to start in a small way, and build a market in gradual stages.

This, perhaps more than any other reason, explains General Houses' shift to a more conventional type of wood construction. Tackling the sales problems of modern architecture, new materials and prefabrication at the same time was too large a bite for a company as yet unestablished, particularly since the whole idea met stiff opposition from the building industry.

#### WAR HOUSING

The war crisis, which in 1940 brought the nation's first housing coordinator on the scene, also greatly influenced the line which prefabrication was to follow in the next few years. At that time General Houses jumped on the Washington band wagon by establishing a special war housing office there. Since prefabrication was then opposed by government officials, this office stressed the idea of demountability, a potent factor in war housing, and played an important part in selling the basic idea to top officials and getting a prefabrication program started. Under war restrictions, minimum standards were, of course, set up and a great effort made to conserve materials. With steel high on the priority list, wood construction was the natural outcome, jibing with the conclusion already reached from a sales point of view.

The type of dwelling unit put out by General Houses has, therefore, turned from a sleek, frankly factory-built structure into a clapboarded peaked-roof

(Continued on page 174)

## SCOOP. "YOUR FROZEN FUTURE"



Fact-Finder Florence Paine researching for her scoop "How Quick Freezing Will Affect Your Future Life" consults with John F. Stone, refrigeration expert of Johns-Manville. They discuss the feasibility of building zero-temperature rooms right into the house. It's no mere pipe-dream, since it's already been done in pre-war homes on the West Coast.



Getting All Angles.. is House Beautiful's job. So Editor Florence Paine investigates the newest packaging materials for Frozen Foods. V. W. Moody, Jr., Eastern Sales Manager, Foil Division, Reynolds Metals, describes the advantages of their new sheet aluminum foil for wrapping foods for both home freezer and refrigerator storage.



Digging Out Facts for her article "How Quick Freezing Will Affect Your Future Life" took House Beautiful's Florence Paine up to Robert M. Ruddick, Air Cargo Area Manager of United Air Lines. Here they discuss the possibility of freezing airflown novelty foods so every meal will be an adventure.



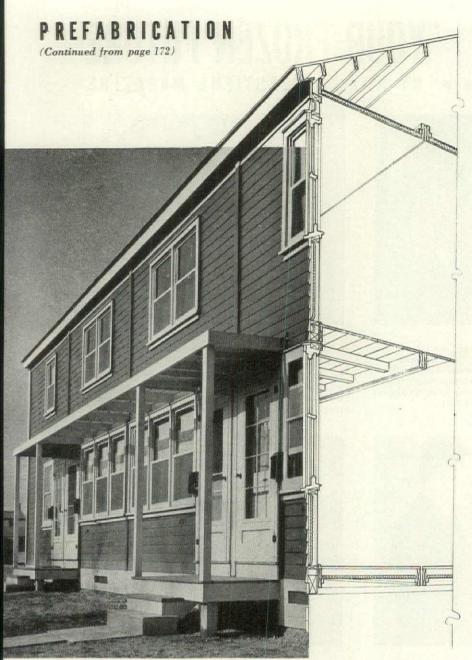
Interpreter of Trends . . House Beautiful shows the effects of quick freezing on our future life. Here Editor Paine gets a preview of one of the 2,000 Frozen Food Stores Howard R. Roberts, General Sales Manager, Deepfreeze, says will be open by June 1946. Even department stores consider putting in Frozen Food Departments and Delivery.

HOUSE BEAUTIFUL is the magazine that interprets living and markets for you. It's FIRST in the home field...the must magazine for those who make it their business to know their business.

YOU KNOW IT'S RIGHT WHEN



Ott Right from HOUSE BEAUTIFUL



SECTION SHOWS ASSEMBLY OF FLOOR, WALL AND ROOF PANELS

BEAMED CEILING IS INTEGRAL PART OF FRAME CONSTRUCTION



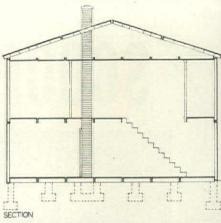


DIAGRAM OF CONSTRUCTION UNITS

bungalow, more attuned to the general public's conception of home. This product is what turned up at the Indianhead, Md. test project for which General Houses provided 50 units. (ARCH FORUM, Sept. '41). Soon after, 50 more were completed for a project at Hartford, Conn. Later in Vallejo, Calif. the company executed what is probably the lowest cost complete housing unit ever built. These homes, trailer type but much larger and with complete baths, sold erected and with all equipment including a refrigerator, range, beds, mattresses, chairs and tables for only \$1,139 each.

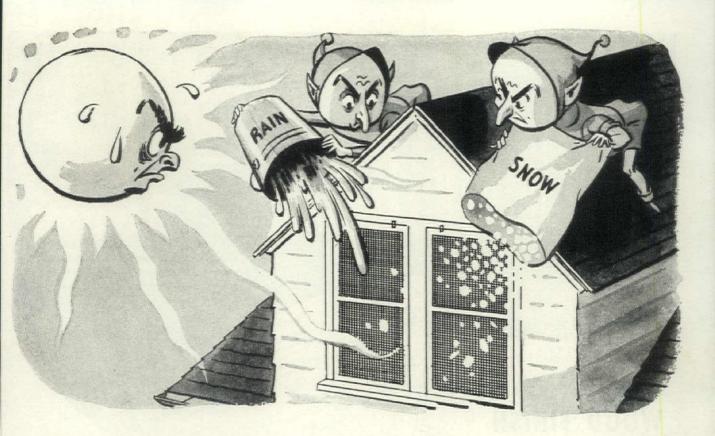
However, General Houses has been handicapped in the war program by its organizational set-up. Never, since its inception in the depths of the depression has this company actually owned and operated its own manufacturing facilities, although it has handled and controlled all other aspects of the job including research, designing, purchasing, warehousing and distributing. As a result the government has shied away from contracts, fearing an accusation that the company was a brokerage firm.

In spite of this handicap, General Houses has done a good deal of important work, and in their most recent projects—the Fairway and Georgia Avenue houses near Washington—they have accomplished within the terms of their assignment two of the most interesting prefabrication jobs as yet turned out under the war housing program.

#### ATTACHED ROW HOUSES

The Georgia Avenue houses illustrate how much prefabrication can accomplish within stringent limits. Instead of being contracted by negotiation or by bidding on plans and specifications provided by the government, this project is unique in that it was purchased under a formal competitive bidding procedure. Because of the special requirements involving two-story attached houses with specified room sizes, no company could use previously prepared standard plans. Suggested floor plans were provided, but General Houses started from scratch redesigning the space into 12 ft. wide

(Continued on page 178)



### The screen that can't wear out!

• That's a strong statement. But LUMITE, the new plastic screen woven from Saran\*, simply can't wear out through natural causes!

Rigid tests under every possible condition-in laboratories and by constant use in the Armed Forces-have proven beyond doubt that LUMITE is not affected by acid fumes, salt air, rain, snow, heat or cold.

And because this amazing new plastic screen cloth neither rusts nor corrodes, it is non-staining -no more ugly streaking of sills or sidewalls. Nor does LUMMTE itself ever need repainting-a damp cloth restores its new look instantly. And what's more, LUMITE is strong, resilient. The tensile strength runs as high as 50,000 pounds per square inch, gives sturdy resistance against dents or bulges.

That's why LUMITE is amazingly long-lasting, and that's why no other type of screen can offer such unbeatable durability, so many advantages to postwar building.

\*A product of the Dow Chemical Co.

CHICOPEE MANUFACTURING CORP. Lumite Division: 40 Worth St., N. Y. 13, N. Y.

World's Largest Maker of Plastic Screen Cloth



### TESTED IN WAR READY FOR PEACE

Not just a postwar dream product...millions of feet of LUMITE are now in actual use, protecting the Armed Forces against diseasecarrying insects.

- \* Will not rust or corrode ... long-lasting
- ★ Non-staining...no streaking of sills or sidewalls
- \* Strong, resilient ... no dents or bulges
- \* Unaffected by fumes or salt air
- \* Non-inflammable
- \* Will be competitively priced

You can't afford to miss this amazing proven product

# The new plastic insect screen cloth



ONE of the chief reasons why MINWAX assures owner satisfaction is its resistance to service conditions which are harmful to surface-type treatments. Because MINWAX is a penetrative stainwax finish, composed of special gums, oils and waxes which toughen and become part of the wood, there is nothing on the surface which can be chipped, scratched white or marred by daily use.

For the same reason, namely, that it is a penetrative finish and not a surface treatment, MINWAX provides additional advantages to the owner.

- MINWAX brings out, enhances and preserves the true, natural beauty of the wood with a wax finish in authentic stain colors, or clear finish.
- MINWAXED wood floors never need re-scraping.
- Worn spots can readily be restored by a simple application of more MINWAX.
- The finish improves with age and simple care, each polishing enriching the beauty of the wood.

These advantages are proved by 30 years of service to architects, and identify MINWAX as the type of wood finish that will produce the better results owners are expecting in the post-war period. For further information, see SWEET'S—or write to MINWAX Co., 11 West 42nd Street, New York 18, N. Y.

For the 27th consecutive year our COMPLETE CATALOG IS IN SWEET'S

FOR FINAL VICTORY ... BUY-AND HOLD-WAR BONDS!







LEADING architects agree that Cabot's finer-quality Shingle Stains really enhance the beauty of a building's design and bring out the natural loveliness of the wood! What's more, Cabot's stains are as practical as they are beautiful. Quick, easy to apply, they cost less than paint—won't even peel or blister on green lumber—give maximum protection with no waste of raw materials!

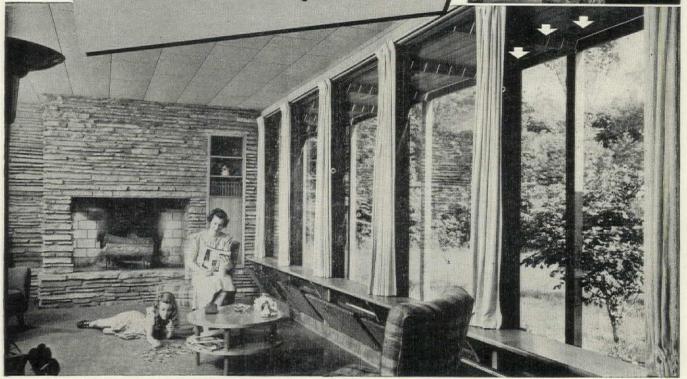
FREE BOOKLET "Stained Houses" contains illustrations and complete information on Cabot's Creosote and Cabot's Heavy-Bodied Stains. For your copy and color card write Samuel Cabot, Inc., 1265 Oliver Bidg., Boston 9, Mass.

Cabot's Shingle Stains
For Shingles and Clapboards



### POSTWAR LIVING

will be on the brighter side



George Fred Keck, Architect

• Much brighter rooms are on the way, with an abundance of healthful, cheerful, eye-saving daylight. Indoor and outdoor beauty will be blended ... by "opening" walls with glass, for full enjoyment of gardens, flowers and views.

These are the benefits of Daylight Engineering that add up to a quicker "yes" from prospects... that promise better satisfaction on the part of homeowners...that insure lasting property values.

The pictures on this page show what Daylight Engineering can do for a living room. Same room ...same furnishings...but compare them and you'll see how smart use of glass gives a house extra appeal. Remember, larger glass areas need not be a threat to winter comfort or heating bills. For Libbey Owens Ford has developed an

amazing windowpane that insulates-Thermopane.

The benefits of Thermopane are described briefly below. For full information, write for our illustrated Thermopane Book and for Data Sheets by Don Graf. Libbey Owens Ford Glass Company, 1515 Nicholas Building, Toledo 3, Ohio.

# Thermopane . . . the windowpane that insulates Makes big windows practical in any climate

Thermopane provides effective insulation because a layer of dehydrated air is hermetically sealed between its two panes of glass. Thanks to the patented Bondermetic Seal, used to prevent dirt and moisture influence.



prevent dirt and moisture infiltration, there are only two glass surfaces to clean.

This double-glass windowpane fits into a modified sash, just like a single pane of regular glass . . . stays in all year. It's a modern, practical way to provide the benefits of bigger windows, with assurance of winter comfort and heating economy.



a Great Name in GLASS

#### PREFABRICATION

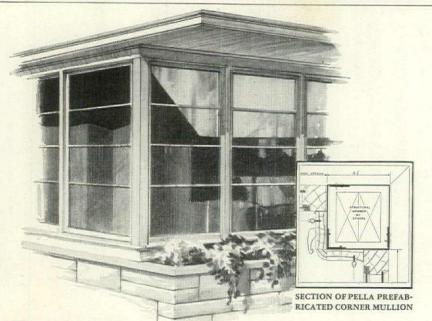
(Continued from page 174)

units, a substantial saving over the government's 15 ft. allowance. This instituted a saving in over-all length of approximately 20 ft. on a six-dwelling building, and made possible also significant reductions in the length of utility lines. With approximately 30 lin. ft. less outside wall, a saving in heat loss was also achieved.

The structural system used in these houses was of the utmost simplicity. Sloped roofs are employed throughout, but no complicated girders, columns or

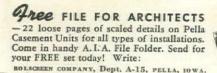


REDUCTION IN UNIT DIMENSIONS ALLOWS A LESS CROWDED SITE PLAN



# High Efficiency CONSTRUCTION that is ATTRACTIVELY DESIGNED

Pella's prefabricated stock size units have created this attractive corner window grouping. Pella's rigid rust-proofed steel frame fits neatly with the small prefabricated Pella corner mullion. It is window efficiency plus time saving construction. Windows of tomorrow demand larger light areas, increased efficiency and advanced design. Pella stock size units are right in step with a wide selection of sizes and light arrangements.





ROLSCREENS—the original roller-type inside screens. The ultimate in screen efficiency and convenience.



DUAL GLAZING—a single panel type that mounts on inside of sash. Inconspicuous. Easily removed for cleaning.

Fella WINDOWS

PROJECTED WOOD SASH

Made by Makers of Famous Pella ROLSCREENS and Pella VENETIAN BLINDS

changes in direction of the load bearing system are involved. All of the first and second floor panels, ceiling and roof panels span from wall to wall. All loads are carried by the end walls and by the transverse party walls between dwelling units. The latter, which carry double loads, are entirely uninterrupted by any openings (except for one doorway in the three-bedroom units). Since all the partitions and the sidewalls on fronts and backs of buildings are non-load bearing, liberal fenestration is possible without special framing. Structural load bearing wall panels rest on the foundation piers and are designed with self-contained beams to span across piers without separate girders. Plumbing stacks throughout are located off the center lines of partitions thereby avoiding any interruption of principle structural or other panel framing members.

The plan is arranged with particular reference to the use of space heaters to provide the maximum free circulation of warmed air. Four features important in this respect have been included: a space between the tops of the first floor partitions and the ceilings to give greater ventilation; location of the floor grille in the upstairs hall where it is most beneficial for heating the entire second story; full weatherstripping of the windows preventing any great air infiltration; and a small window instead of a large one in the bathroom to provide maximum warmth.

Both the house heater and the hot water heater are arranged so that they can be connected directly to the same masonry flue, thus requiring only one chimney for every two dwelling units. The heater is placed in the most unobtrusive portion of the living room and the chimney located at the back corner. This is another important change from the proposed government plans which showed a conspicuous chimney projecting into the living room.

#### FREE-STANDING HOUSES

The Fairway job is unusual in that it is a Government housing project mixed (Continued on page 182)

From crisp modern "machine for living" to vaulted chapel, from colorful colonial home to store or office or factory . . . there's not a single building job where you cannot use the versatile Masonite\* ligno-cellulose hardboards to advantage!

Made from the fibers of exploded wood, these hard, dense, grainless boards are among the most useful building materials you can find for both interior and exterior uses.

You'll find the Masonite hardboards a great help in remodeling jobs — and a major answer to many problems in new construction. Fitting and application are easy-ordinary carpenter's tools do the trick. And almost any kind of finish may be applied to their smooth, durable surface. They can also be obtained in custom finishes in a wide range of colors, textures and effects.

Start a handy file of data on Masonite Presdwood, Tempered Presdwood and other Masonite hardboards. Drop us a postcard and we'll send you the kind of facts you can use. Masonite Corporation, Dept. AF-1, 111 W. Washington St., Chicago 2, Illinois.

\*\*'Masonite" is a trade-mark registered in the U. S. Pat. Off., and signifies that Mason-ite Corporation is the source of the product.







COPYRIGHT 1945, MASONITE CORP.

# Simple Suggestions for More Attractive Wall Design Treatments with Douglas Fir Plywood

No. 1 of a Series

joints and divide the plain wall

Detailed below is one of the many wall design treatments possible with Douglas fir plywood—a horizontal placement using a three-panel arrangement.

In applying plywood, start at the openings with vertical spaces in an orderly pattern. Place vertical joints at top of door and at top and bottom of window openings. Where width of wall is 10 feet or less, panels may be run horizontally in two or three pieces with openings cut out. If width of door or window is over four feet, do not hesitate to place panels horizontally. Combinations of vertical and horizontal arrangements may be used in the same room with pleasing effect.

Additional design suggestions

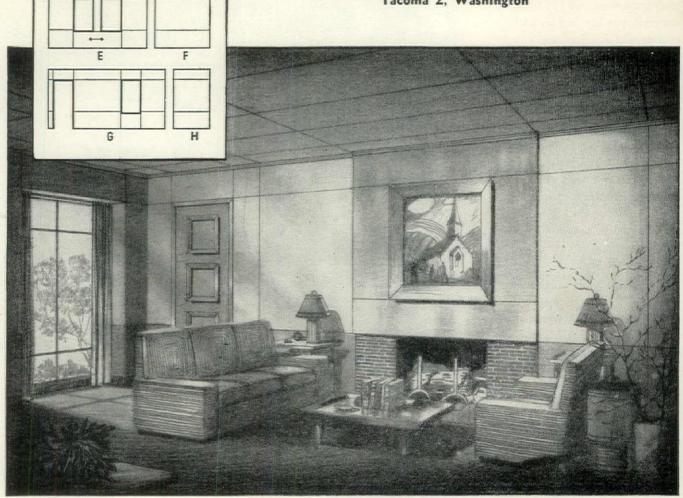
will be shown in subsequent advertisements.

CAN PLYWOOD BE SPECIFIED NOW FOR POSTWAR USES?

The increased capacity of the industry will make MORE Douglas fir plywood available for civilian consumption THAN EVER BEFORE, as soon as the needs of the armed services lessen or war restrictions are lifted. There will be no reconversion delays; the same types and grades of Douglas fir plywood that are now being made will flow immediately into peace-time buildings and construction.



DOUGLAS FIR PLYWOOD ASSOCIATION Tacoma 2, Washington



### REPUBLIC—THE PREFERRED PIPE FOR



Countless miles of plumbing and heating lines in all types of building structures are giving dependable, trouble-free service today because they were installed with Republic Pipe.

Republic Pipe is top-quality pipe. And that's the reason it is preferred by many architects, engineers and builders.

It is uniformly sound and strong

has a weld that holds even
under tight bends. It coils and
bends easily and readily. It cuts
and threads quickly and cleanly,
too, because the metal is free from
hard areas that might cause diffi-

culties. It welds freely and soundly by all modern methods.

Republic Pipe is made by the improved continuous weld process—hence it is clean and free from corrosion-inviting, valve-clogging scale—both inside and outside. You can specify it for all types of piping—with confidence.

REPUBLIC STEEL CORPORATION
GENERAL OFFICES . CLEVELAND 1, OHIO

Berger Manufacturing Division • Culvert Division Niles Steel Products Division • Steel and Tubes Division Union Drawn Steel Division • Truscon Steel Company Export Department: Chrysler Building, New York 17, N. Y.

#### SEE SWEET'S FILE

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

Pipe—Sheets—Roofing
Enduro Stainless Steel
Toncan Enameling Iron
Electrunite E.M.T.
Fretz-Moon Rigid Steel Conduit
Taylor Roofing Ternes
Berger Lockers, Bins, Shelving
Kitchen Cabinets
Truscon Steel Windows, Doors,
Joists and other building products

Republic



STEEL PIPE

N A FULL RANGE OF STANDARD SIZES

BLACK AND GALVANIZED IN A FULL

181

#### PREFABRICATION

(Continued from page 178)

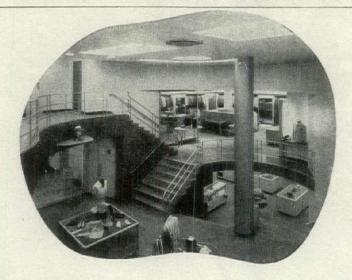
into a privately owned subdivision. This factor determined the entire design solution, which was so successful that one of the largest house developers in the country would not believe that the project was really fully prefabricated with both interior and exterior wall surfaces applied and all windows and doors installed in the factory.

Free-standing, single-family houses were used exclusively and were made conventional in appearance with porches, breaks in roof-lines, breaks in





NO EVIDENCE INSIDE OR OUT REVEALS THE PREFABRICATED CONSTRUCTION



# WERSATILE

Nothing remains static. Successful stores must be planned to meet ever-changing merchandising conditions and consumer trends.

The term "Fixtures" as applied to retail stores is a misnomer. Equipment must be of such type as to make frequent departmental changes possible with a minimum of expense and confusion.

Grand Rapids Unit Equipment is flexible beyond belief. From a limited number of basic items, endless combinations can be obtained — and combinations can be changed without altering the basic structure.

These advantages of standardization can be employed without sacrifice of store individuality, for Grand Rapids equipment is so utterly simple in design that it can be inserted in any architectural scheme, unobtrusively.



#### 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

eaves-lines, etc. to present the greatest possible harmony with the other houses in the subdivision. Although only two house types were used - two-bedroom units and three-bedroom units - a great sense of variety has been achieved due to the variation in placing and in color. The break in the eave-line over the living room windows was accomplished with a special supplementary prefabricated panel. Construction throughout is similar to that already described in the Georgia Ave. houses, but the results are strikingly different, illustrating the variations which can be worked out on one panel fabrication theme.

These wartime experiments in low-cost prefabrication have been invaluable to General Houses and point the way toward a large-scale postwar development of demountable houses within the framework of existing building industries and through normal distribution channels.

Starting in a small way with homes of conventional design, General Houses will undoubtedly build up a large postwar market. As their sales increase, they can afford to reintroduce the type of modern functional design which twelve years ago lacked mass appeal, but which according to present trends will soon be the house in greatest demand throughout America.

REDWOOD CLAPBOARD EXTERIOR







THE spotlight of public interest is turned full force on the homes being planned now for postwar construction. A large share of the tremendous volume of savings now in savings deposits and invested in war bonds will be spent for new homes.

One thing all potential home buyers are interested in is quality equipment; and in plumbing and heating, they universally recognize the name Crane as standing for high quality.

The Crane postwar line will include fixtures in a wide price range for every type of home, from the modest cottage to the fine estate. Be sure that the homes you are planning to build have the extra sales appeal that Crane equipment can give.

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

PLUMBING . HEATING . PUMPS VALVES . FITTINGS . PIPE

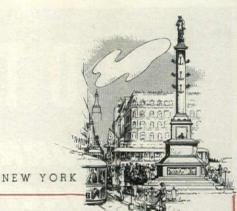
NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS



CRANE PLUMBING IS AVAILABLE FOR THE HOMES YOU ARE BUILDING TODAY

183 JANUARY 1945

The worlds busy Sports





Busy Spots - everywhere - have a well earned reason.

Everyone takes the Kitchen, The Busy Spot in the Home, for granted. We suggest you consider this list.

COST—Far lower than custom built kitchens, much cheaper than labor and materials in the open market.

INSTALLATION-A minor operation for skilled workmen.

 $\label{eq:APPEARANCE-Modern} \mbox{ APPEARANCE} - \mbox{Modern design with simplicity of line} \\ \mbox{ guarantees satisfaction.}$ 

DURABLE-Made of steel to last a lifetime.

EFFICIENT — Scientifically planned location of wall and base cabinets prevents needless steps and other lost motion.

CLEANER—The spotless white of the new product is easily maintained because of the porcelain enamel finish of the sinks and the DuPont DuLux on the cabinets.



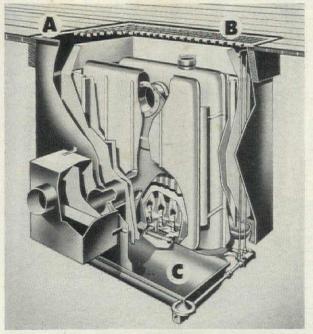
AMERICAN CENTRAL MANUFACTURING CORPORATION, CONNERSVILLE, INDIANA

### EW ADVANCED

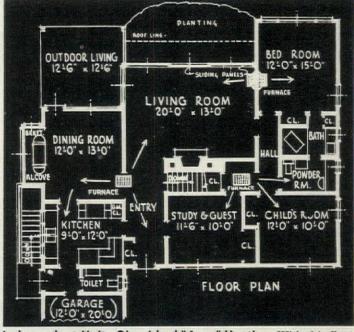


Cutaway View of a Post-War Home with high-comfort, automatic area heating supplied by the new Coleman Floor Furnace system. System includes one or more individual units, independently regulated by automatic controls. Each unit is set in the floor itself with only the register at floor level. Permits most flexible type of "area" heating; allows you to in-

dulge in any type of floor plan without risk of "unheatable" rooms. A sufficient number of floor furnaces, complete with controls, often costs less than a central heat plant capable of doing a comparable job. Here a 3-furnace installation is shown, adapted to the Nov. prize-winning "Miracle House" of Practical Builder Magazine. Architect, Edwin R. Bruno, Skokie, Ill.



Cutaway View of This Floor Furnace-Note three special features: Large area of heating surface for fast warming of cold air from floor (A); 80% open register for fast outflow of warm air (B); streamlined bottom (an exclusive patented Coleman feature) (C) which speeds up warm air travel as much as 35%. This combination combats cold floors; brings comfortable temperatures with top fuel efficiency; insures "warm-floors" comfort.



Independent Units Give Ideal "Area" Heating. With this floor plan three Coleman Floor Furnaces give the home owner top comfort with no waste of fuel. Each of three areas is independently heated to give most comfort when needed. Coleman Floor Fur-naces will be available after the war, in gas, oil or butane models. Write for catalog and information on Coleman Heating Equipment for post-war homes. - Coleman Lamp and Stove Company, Dept. AF-533, Wichita 1, Kansas.

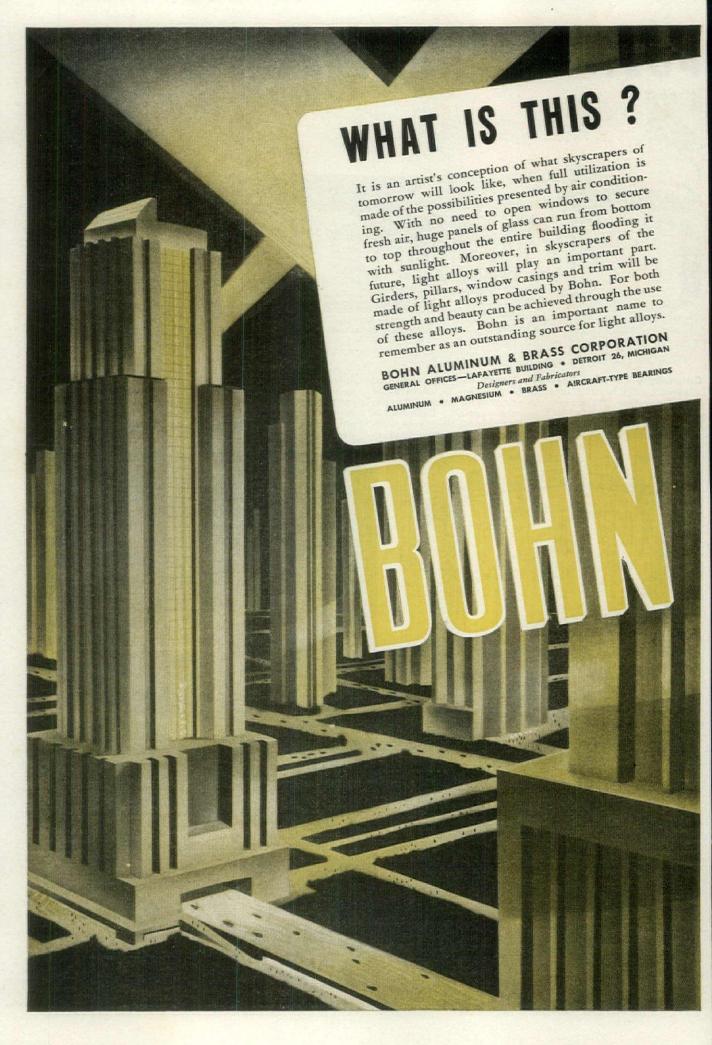
#### THE "HOT" NAME IN HOME HEATING





THE COLEMAN LAMP AND STOVE COMPANY NUCHITA 1 . CHICAGO 11 . PHILADELPHIA 8 . LOS ANGELES 54 . TORONTO, CANADA

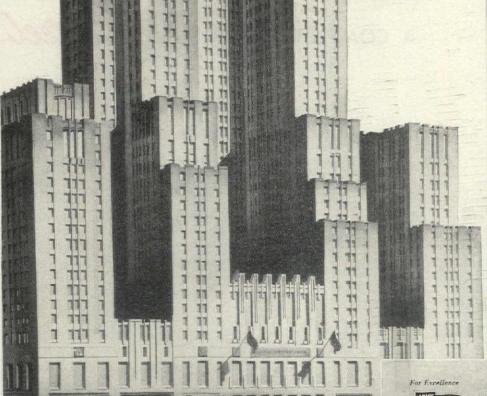
Coleman



Whether it's a single home or a huge building project

Look to the favorite

Look to Frigidaire



The WALDORF-ASTORIA-New York City. In the thirteen years since it was completed, more than six hundred individual Frigidaire installations-service refrigerators, air conditioners, water coolers and ice cream cabinets-have been made in this world-renowned hotel. Lucius Boomer, president, says, "I believe the fact that we have turned again and again to Frigidaire is indicative of the complete confidence we have in the dependability of Frigidaire equipment."

#### Frigidaire **Peacetime Products**

FOR HOMES AND APARTMENTS, OFFICES AND BUSINESS **ESTABLISHMENTS** 



Household Refrigerators in all sizes and models including the famous Frigidaire Cold-Wall.



Electric Ranges - from small apartment models to full-size deluxe cabinet models.



Fully-automatic Electric Water Heaters - in many capacities and models.



Home Freezers for freezing foods and storing frozen foods in the home.



Portable self-contained Air Conditioners-for window installation.



Home Air Conditioners - complete in a single package.



Water Cooling equipment for all applications.



Self-contained, large capacity, Air Conditioners.



Refrigeration Cooling Units\* and Compressors for large refrigerators.

Certain Frigidaire compressors\* and cooling units\* are now in production in limited quantities for replacement of vital worn - out equipment or to provide additional capacity for essential needs. As war production permits, other Frigidaire products will be made available. See your Frigidaire Dealer. Find his name in Classified Section of telephone book under "REFRIG-ERATION". Or write Frigidaire Division, General Motors Corp., 401 Amelia St., Dayton 1, Ohio. In Canada, 313 Commercial Rd., Leaside 12, Ont.

FRIGIDAIRE

Made only by

#### MOTORS

COMMERCIAL REFRIGERATION . AIR CONDITIONERS BEVERAGE, MILK, AND WATER COOLERS ELECTRIC REFRIGERATORS - RANGES - WATER HEATERS HOME FREEZERS . ICE CREAM CABINETS

# **BUILD FASTER**



### A COMPLETE ENCLOSURE OF Steel

Fenestra Building Panels enable you to construct durable steel buildings with new speed and economy. The flat surfaces provide walls and floors that are attractive in themselves, and which are suitable for the application of other finishes as desired. Panels are vapor sealed and noncombustible. Walls, floors and ceilings can all be insulated for heating economy and comfort. Further information will be given in Sweet's Catalogs for 1945.

#### MANY USES IN MANY BUILDINGS

WALLS

Factories
Superintendent Offices
Process Enclosures
Storage Enclosures
Garages
Gate Houses

Commercial Buildings Stores Offices Schools Hospitals

. . . and many others where economical, fast construction of sturdy floors, walls, roofs or partitions is desired.



## with these NEW

# BUILDING PANELS FOR

ROOFS

WALLS

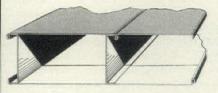
FLOORS

### THREE TYPES

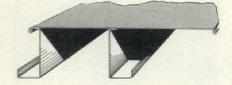
Fenestra's new building panels have been designed for fast construction and savings in field labor. Panels are lightweight, with high strength-weight ratio. Possible variations in length, width, depth and

gauge provide great flexibility of building design.

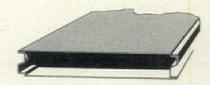
Although these panels are not yet available, you can incorporate them in your plans with the expectancy that they will be ready by construction time.



TYPE A consists of two channels with top and bottom plate which, with service cover, forms a two cell box beam shape when interlocked with adjacent section. Service cover gives access to cell for installing service facilities. 16" width, 3" to 9" depth elements of sections in combinations of gauges 18 to 10.



TYPE B has one flat surface and two channel-type ribs. Can be used with flat side up or down, inside or outside 16" width, depth 3" to 9" elements of sections in combinations of gauges 18 to 10. As with Type A, this panel permits easy application of wood, concrete or other materials for floors, walls or roofs.



for walls. Normally filled with insulation at the factory. Corrosion-resistant metal can be used for outside sheet. Walls can be covered, inside or outside. 2" and 3" depth, 16" width. Gauges vary according to application requirements. Readily framed for any desired window treatment.

GET THE FACTS
SEND FOR
FREE BOOK

DETROIT STEEL PRODUCTS COMPANY, Building Panels Division, (formerly Holorib Div.) Dept. AF-1, 2252 E. Grand Boulevard, Detroit 11, Michigan

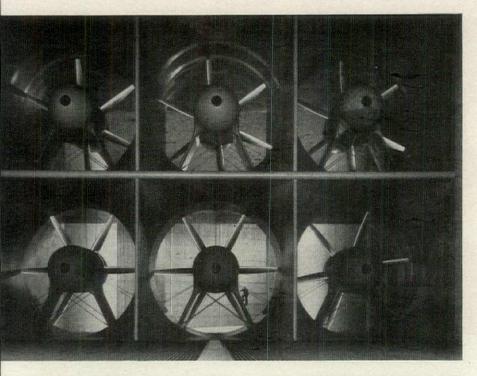
Please send me information on Fenestra Building Panels.

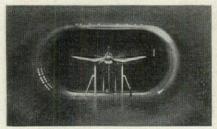
Name\_

Company\_

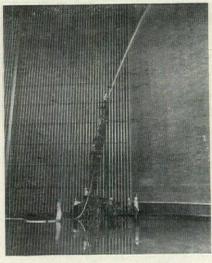
Address\_

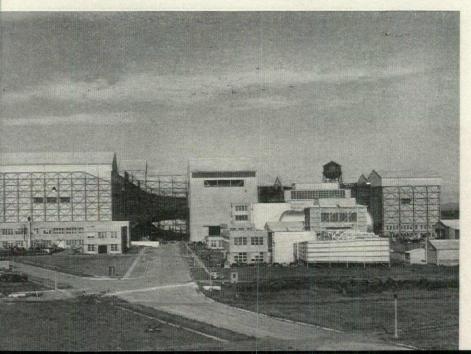
### BUILDING REPORTER





HUGE FANS (top) are windmakers for airplane testing in box-shaped tunnel at Moffet Field, Calif. Note relative size of figure. Full-size fighter plane (above) is mounted on supports ready for test. Although reactions are electrically recorded, observers can watch through windows at left. A wall near corner turning vanes (right) is washed down. Outside view of tunnel (below) illustrates its immense size compared to smaller tunnels in foreground.





LARGEST WIND TUNNEL IN THE WORLD, 868 ft. in length, 180 ft. in height, and 399 ft. wide at its greatest width and having an elliptical throat 40 x 80 ft. has been built especially for testing the aerodynamic characteristics of full-size airplanes. Research and investigation conducted on real planes instead of models and on new designs before they are cleared for production has resulted in definite improvements. Constructed at Ames Aeronautical Laboratory, Moffet Field, Calif. by the Pittsburgh-Des Moines Steel Co., the tunnel covers 8 acres and cost \$7,000,000. Unlike the usual cylindrical wind tunnel, the structure is box-shaped and the wind is forced around inside it at 200 MPH by giant fans. The exterior walls are of corrugated asbestos cement siding (The Ruberoid Co.) and are externally braced, leaving the interior unobstructed. Six 37ton, 6,000 h.p. Westinghouse motors drive the six-bladed fans, each of which has a diameter approximately the height of a four-story structure. Curved vanes turn the wind around the corners of the tunnel to prevent or reduce turbulence in the airstream, reduce the forces on the wind tunnel structure and to make it easier for the fans to build up a high wind inside. The large tunnel narrows down at the testing section to 80 ft. and the wind, when drawn into this bottleneck builds up its greatest velocity. The tunnel is used specifically to find the imperfections in airplanes which affect their speed and performance. Because an airplane, no matter how fast it flies, must take off and land at relatively low speeds, the effectiveness of controls at low speeds is extremely important. Through tests in this tunnel, airplane controls have been perfected and streamlining improved. Simple changes in exterior shape have added miles per hour to the speed of planes about to go into production.

MASTIC SURROUNDS simplify installation of steel windows in buildings constructed of concrete or concrete frame faced with brick. These surrounds, manufactured by the William Bayley Co., are made of galvanized, rust-resisting Armco Ingot Iron and are available in two types for the two different methods of concrete construction. They are attached to the forms by small clips, before the concrete is poured, providing a recess in the jambs and across heads of the finished openings in which steel windows are to be installed. The recess in the insert is filled with a natural colored stainless

(Continued on page 192)

# Inviting and Impressive.



Three Sisters Store, Chicago, Illinois. Anaconda Architectural Bronze installed by J. S. Heath Company, Mitchell Corporation, North Chicago, Ill., successor.

The distinguished-looking storefront is an invitation to customers. It is accepted as evidence of the permanence of the establishment.

Through the use of bronze, distinction in storefront and building facade design can be achieved. As practical as it is beautiful, Architectural Bronze provides durability and low upkeep expense. It is rustproof, resists atmospheric corrosion and weathers gracefully.

The American Brass Company has long been the principal supplier of Bronze, Copper and Nickel Silver in the form of extruded shapes, drawn shapes, sheets, etc., as used in the construction of ornamental work of every description.

BUY WAR BONDS . . . PAY YOUR SHARE OF VICTORY



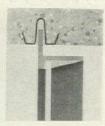
THE AMERICAN BRASS COMPANY—General Offices: Waterbury 88, Connecticut Subsidiary of Anaconda Copper Mining Company—In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.

JANUARY 1945

#### BUILDING REPORTER

(Continued from page 190)



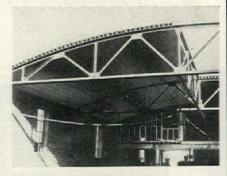


plastic, which is a caulking compound, and therefore eliminates the need for additional caulking. This fill is pro-

tected by a rope covering, which is removed by the window erector when the window is installed. The window is raised until inserted into the plastic fill at the head, and the jamb of the window is then placed into the jamb surround. After selecting the proper insert for the jamb and head forms the usual procedure is to make a gauge so as to place all surrounds an equal distance from the face of each form. The top of each jamb insert is prepared to project into the overlapping recess of the head insert, thereby providing an even continuous recess in jambs and heads of the finished opening. With single unit openings, surrounds are placed at the head and at

one jamb only, the other jamb being prepared with sufficient space to permit erection of the window. The continuous surround filled with plastic caulking at the opening serves as an expansion or contraction joint.

#### NEW PRODUCTS



PRECAST CONCRETE floor and roof slabs speed construction.

Name: Flexicore.

Features: Flexicore is a precast hollow reinforced concrete unit type of slab or beam, which when assembled forms a light weight floor or roof slab of great strength and rigidity. Its use speeds erection and eliminates formwork. Units are produced in lengths up to 22 ft. 6 in., allowing clear spans up to 22 ft. When assembled they form a flat slab only 6 in. thick, thus providing a saving of 4 in. to 6 in. in wall height over the conventional joist type of construction. Flexicore is fire, rot and termite proof, free from warpage, shrinkage and squeaking. The top surface of flexicore is level for roofing or any type wood or composition floor covering, and the bottom of the units may be painted thus saving cost of plastering the ceiling. Cored construction provides added sound and thermal insulation. These slabs are readily adaptable for use in industrial or factory buildings. commercial buildings, hospitals, churches, apartments, residences, barns or for any other job except where long span, heavy loads are required.

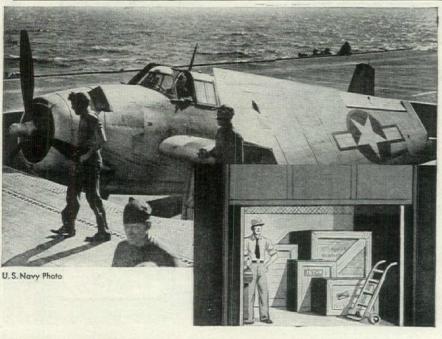
Manufacturer: Flexicore Div., Price Bros. Co., Dayton 3, Ohio.

#### FLUORESCENT TUBES, longer and thinner.

Name: Slimline.

Features: A new line of four extremely thin fluorescent lamps, the longest of which measures only 1 inch in diameter will go into production as soon as conditions permit. The four sizes announced, which average approximately 60 lumens for each watt of electricity consumed, will permit the use of fluorescent lamps where reflector space is limited. The new lamps are of the hot cathode type, and will be available in 42 in., 64 in., 72 in., and 96 in. over-all lengths including the sockets and single pin bases at both ends. The two shorter

(Continued on page 196)



### 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



### 20 huge Multi-Duty Self-Cleaning Filters like this one clean the air for the new G-E jet-propulsion engine plant

The 16-ft. Multi-Duty Filter shown above and 19 units almost as large (14 ft. 8 in. high) will filter the astounding total of 1,732,800 cfm of air for GE's new "plant of tomorrow" making jet-propulsion engines. High efficiency is obtained with Multi-Duty Filters in removing soot and dust particles. Thus they protect air conditioning equipment, plant machinery, precision pro-

duction and contaminable products and provide more healthful working conditions conducive to greater efficiency of personnel.

Continued improvement in the Multi-Duty Filter illustrates this company's policy of "good enough is not enough if better is required". This policy is the basis of AAF leadership in air cleaning and dust collecting. Ask for Multi-Duty Bulletin No. 241-A. The above drawing explains the operation of the Multi-Duty. The air gets a double cleaning as it passes through the continuous filter curtain. The filter panels in the curtain overlap like shingles when in the air stream, but are separated and individually cleaned and reoiled as they pass through the oil bath. Choice of three types of filter panels, depending on dust condition and operating requirements.

AMERICAN AIR FILTER CO., INC. 427 Central Ave., Louisville 8, Ky. In Canada: Darling Bros., Ltd. Montreal, P. Q.

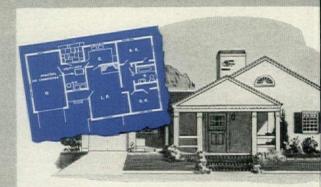


# Beating systems that



#### LARGE HOME

Janitrol Gas-Fired Winter Air Conditioner provides greater space for basement recreation room. Cleanliness of gas heat permits it to be placed with laundry and water heater in one section of partitioned basement.



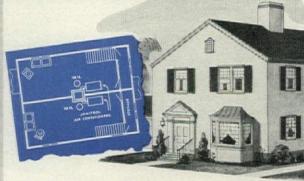
#### BUNGALOW

Basement may be eliminated to keep down building costs. Because Janitrol Gas-Fired Winter Air Conditioner requires no fue storage and because of its cleanliness, heating equipment plus laundry and water heater go into a small utility room. For basement installation, a Janitrol Gravity Furnace is recommended



#### APARTMENT

Janitrol heating unit built into living room wall of each apartment allows each tenant to choose his own temperature, pay for his own heating. This materially lowers apartment house operating costs.

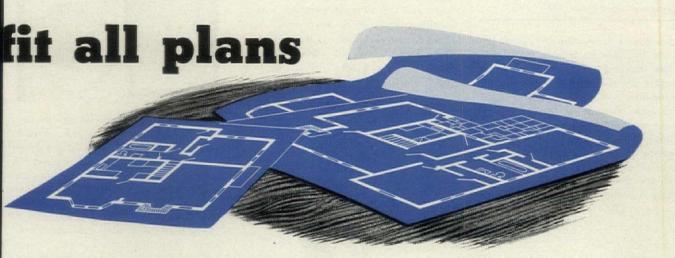


#### TWO-FAMILY DUPLEX

Basement is divided to give each tenant privacy and separate laundry facilities. Separate Janitrol Winter Air Conditioners provide each family with automatic gas heat, adjustable to their own needs. Installation of a single heating plant has not proved practical in this type of housing.



SURFACE COMBUSTION, TOLEDO 1, OHIO

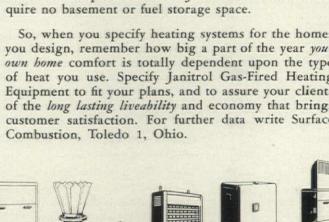


HATEVER type of home you may have on your drawing board, there's a Janitrol Gas-Fired Heating System to fit it. Thousands of successful installations - big community projects, private homes and apartments . . . in basements, attics, closets, kitchens, utility rooms, or walled up out of sight in living rooms-have shown that Janitrol's unexcelled flexibility makes it adaptable to practically every type of heating requirement.

But in all these installations, Janitrol is doing far more than merely meeting Btu specifications. There's compactness which results in more living space. There's cleanliness which makes for better health . . . less housework. There's automatic operation which means no backbreaking furnace tending, removing ashes or clinkers, ordering and storage of fuel. It all adds up to the kind of performance and solid heating comfort we like to call long lasting liveability.

Janitrol offers heating economy, too. Quickly responsive temperature control assures no waste of fuel for overheating. Highly efficient combustion chambers squeeze every Btu possible from a fuel that in itself is relatively cheap in most areas. Building costs can often be lowered, or more living area provided, by the installation of compact Gas-Fired Janitrol units which re-

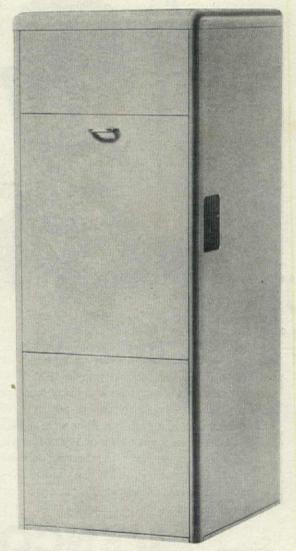
So, when you specify heating systems for the homes you design, remember how big a part of the year your own home comfort is totally dependent upon the type of heat you use. Specify Janitrol Gas-Fired Heating Equipment to fit your plans, and to assure your clients of the long lasting liveability and economy that brings customer satisfaction. For further data write Surface



Unit Heater

**Gravity Furnace** 

Conversion Burner



Fully automatic and compact, tested by 3 years of wartime service, the New Janitrol Winter Air Conditioner is the last word in proven heating comfort. The 60,000, 90,000 and 105,000 Btu units are completely factory assembled. Three larger units, because of size, require assembly at place of installation.

Gas-Fired HEATING EQUIPMENT

Boiler

#### BUILDING REPORTER

(Continued from page 192)

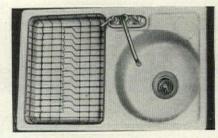
tubes have a ¾ in. diameter, while that of the 72 and 96 in. lengths is one inch. (The standard 60 in. fluorescent, the longest type heretofore made by these companies, had a diameter of 2½ in.) The new streamlined lamps consume about ½ as much wattage and produce slightly more than ½ as much light per running ft. of tube as did the former large types. They are instant starting, and are designed to burn at various levels of brightness, operating on either

100 or 200 milliamperes of current. The new tubes will be available in white only, and will have the same life rating as the standard 40 w. fluorescent lamp. *Manufacturers:* General Electric Co., Nela Park, Cleveland, Ohio; Westinghouse Electric & Mfg. Co., P. O. Box 1017, Pittsburgh 30, Pa.

DISHWASHING TOP SINK in economical model.

Name: Model TSI-32.

Features: This dishwasher top, 32 in. x 20 in., has a round bowl sink compartment 14½ in. in diameter and 8 in. deep, and a rectangular rinsing compartment,



13 in. x 16½ in. The rinsing compartment is recessed 3 in. to give adequate splash protection and to allow self drainage when the dish basket is used. A wire drain basket fits snugly into the drain compartment, and is rubber coated to prevent chipping of dishes. An extra long swing-spout mixing faucet, and an integral recessed soap dish are placed on the wide, level, back ledge. A combination lift-out, cup-type strainer and metal stopper is another convenience. The sink top, made of cast iron finished in porcelain enamel, is available in white or ivory.

Manufacturer: The Ebco Mfg. Co., 401 W. Town St., Columbus 8, Ohio.

SAW provides speed, smoothness and dependability of operation.

Name: Lowther C-Saw.

Features: This new saw fells trees, and cuts up timber and hard or soft lumber, at greatly increased speeds. It can cut through a 24 in. hardwood tree in less than three minutes and through 11 in. of spruce in seven seconds. A constant



centered drive insures belt alignment, and equal smoothness of operation at any angle on or off the ground. Four 112 in. V-belts connect

the two constant centered drive pulleys. Wheels have needle bearing and have heavy-duty industrial type dual pneumatic tires as optional equipment for easy rolling over loose or sandy ground. Other features include a 6 h.p. air cooled engine, an electrically welded tubular steel frame, and a 30 in. blade with extra large teeth and deep gullets. Manufacturer: Harry A. Lowther Co., 141 West Jackson Blvd., Chicago 4, Ill.

TERMITE CONTROL isolates and confines infestation to small areas.

Name: The Termitrol Patent.

Features: Through a strategic placement of treated lumber, this system isolates and confines infestations of termites to relatively small areas, so that replacement of infested lumber becomes correspondingly inexpensive. The theory of the Termitrol Patent is based on the premise that invasion by termites is sometimes inevitable. By this system the general framework of the building

(Continued on page 200)



Kencork now because our plant is serving only the Navy (and even Uncle Gus would approve that) and by now he would

also agree that there just isn't anything to match cork-nothing

After V day Kencork will again be made by Dad's son and heirs:

ENCORK

America's first

DAVID E. KENNEDY, INC.

80 Second Avenue Brooklyn 15, N. Y.

resilient floor tile

is as quiet, as resilient and as luxurious as

### Making a sales force of store fronts



You can combine customer appeal and functional design in store fronts when your plans include the use of clean, smooth, colorful, porcelain enameled sheets.

Inside the store too—for shelving, trim, racks, show cases, display fixtures, counters and working surfaces—the use of this easily cleaned, durable material effects worthwhile savings in labor costs and in reduced damage to destructible goods.

The enduring beauty of the porce-

lain enameled finish depends upon selection of the right metal base. For this purpose—by a special process— U·S·S VITRENAMEL sheets are produced.

These sheets are light and strong, can be drawn, stamped and formed, are also sufficiently rigid to use for flat areas. Their treated surface enables the frit to establish a firm bond when fired. The uniformly high quality of U·S·S VITRENAMEL Sheets is assured by rigid control of each

special process in their production.

You can safely recommend U·S·S VITRENAMEL based enameled panels to your clients when they want to build "sales appeal" into their stores, inside and out.

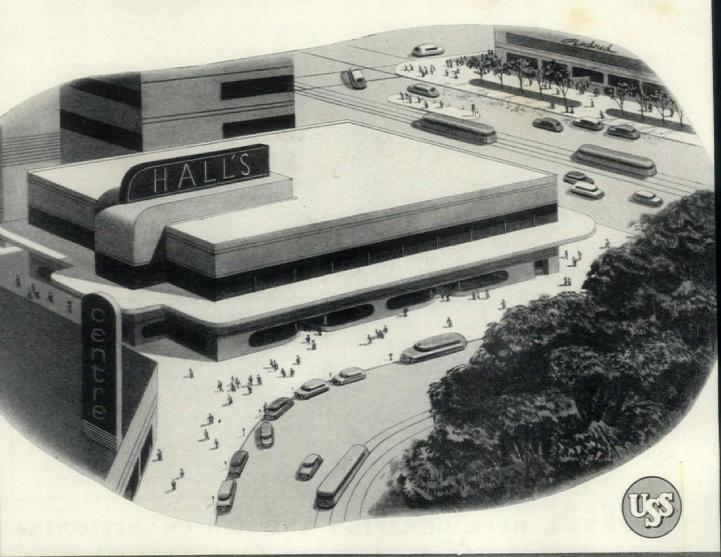
For general information, consult our "Architectural Sheets" section in Sweet's Catalog. Upon request, our technical staff will be glad to discuss your individual problems with you in full detail.

Write us today, their service is free.

### U·S·S VITRENAMEL SHEETS

#### CARNEGIE-ILLINOIS STEEL CORPORATION

Pittsburgh and Chicago
Columbia Steel Company, San Francisco,
Pacific Coast Distributors
United States Steel Export Company, New York



NITED STATES STEEL



#### Erosion and Corrosion Resistant STAINLESS STEEL IMPELLER

Because the stainless steel impeller blades of the York Allis-Chalmers Turbo Compressor successfully resist erosion and corrosion, perfect wheel balance is assured during service life. An exclusive construction feature is the elimination of blade rivet heads in impeller passages. Gas flow is unobstructed and noise cut to a minimum. To insure perfect impeller performance York engineers subject each wheel to a 30% over-speed test.

York Corporation, York, Pennsylvania.

#### Other outstanding features

- Low center of gravity of compressor—permitted by trough type cooler—cuts vibration, provides more accesible operation.
- 2. Balance piston to equalize wheel thrust makes necessary only a positioning thrust bearing, and results in less bearing friction losses.
- Pre-rotation vanes permit greater capacity reduction (down to 10%.)
- 4. Permanently silver-sealed condenser joints.

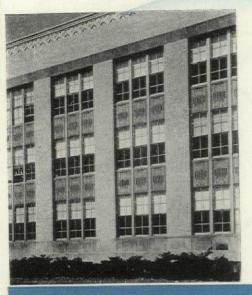
Write for free booklet
"New Light on York Turbo Compressors"

### YORK REFRIGERATION AND AIR CONDITIONING

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885



# Cluminum Windows have withstood the hazards of reduced wartime maintenance programs



The reason so many builders included Aluminum Windows . . . less upkeep . . . has proved out during the war. Windows of Alcoa Aluminum have come through this trying period in fine shape.

Manpower for building maintenance has had to be spread exceedingly thin. To Alcoa, therefore, the fine performance of Aluminum Windows is very gratifying.

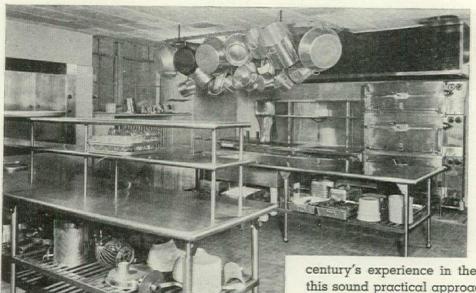
The arguments for windows of Alcoa Aluminum are these: Fine appearance, maximum glass area, continued easy opening and closing, no rusting, swelling or rotting. Painting is unnecessary.

ALUMINUM COMPANY OF AMERICA, 1866 Gulf Building, Pittsburgh 19, Pennsylvania.

# ALCOA ALUMINUM



### EFFICIENCY-in Design and Construction



- . ENGINEERING COUNSEL
- . INSTITUTIONAL LAYOUTS
- . METHODS AND MATERIALS
- MANUFACTURING
- INSTALLATION

Architects, Engineers and Owner-Managers desiring to make postwar plans now, are invited to consult with our engineering staff.

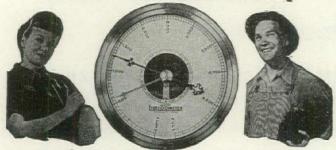
Polhemus engineers employ modern up to the minute ideas against a background of half a

century's experience in the kitchen equipment field. With this sound practical approach, fads and fancy yield to facts and performance. Consult us in your planning of commercial and institutional food serving strategy. We are prepared to cooperate in problems of design, manufacture and installation.

1010 VERMONT AVENUE N.W. Washington, D. C. P. B. POLHEMUS CO., INC. ROSELLE, NEW JERSEY ENGINEERING • MANUFACTURING • INSTALLATION

11 PARK PLACE NEW YORK 7, N.Y.

#### TODAY OR POST-WAR!



It Is Important to Measure Valuable Stored Liquids Accurately With-

### LIQUIDOMETER Tank Gauges

"THEY'RE ALWAYS DEPENDABLE"

100% automatic.

No pumps, valves, or auxiliary units needed to read them.

Models available for either remote or direct readings.

Accuracy unaffected by specific gravity of tank liquid.

Approved by Underwriters' Laboratories for gauging hazardous liquids.

Write for complete details.

#### THE LIQUIDOMETER CORP.

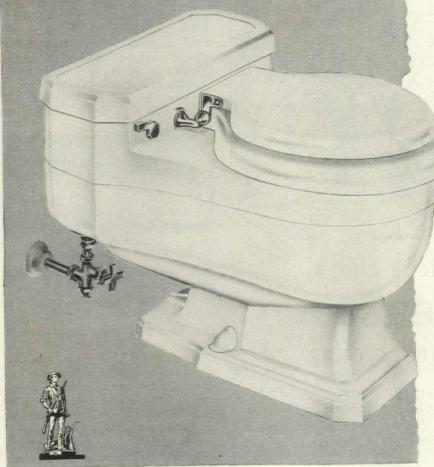
36-30 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

### FLUSH VALVES





# What the past tells you about the future...



Buy More Bonds!

Patented-Patents Pending

"Post-War" home are, basically, logical outgrowths of experience, of ideas and products that time has shown to be good. In a previous post-war period the "revolutionary" idea of a one-piece, non-overflow and quiet water closet became a reality when Case introduced the famous "T/N"—the outcome of experience and good ideas.

The best attempts to picture the

Winning immediate acceptance by the architect, engineer, builder and merchant plumber—and the homeowner—the "T/N" has become a mark of excellence in America's finest homes and public buildings, and at an average price of only \$50 to \$60. Our experience, and your own too, makes this a reasonable promise—that after the war the "T/N" will be better than ever. W. A. Case & Son Mfg. Co., Buffalo 3. Founded 1853.

#### THE CASE T/N ONE-PIECE

The first and finest one-piece water closet...non-overflow and non-siphoning...quiet and efficient.

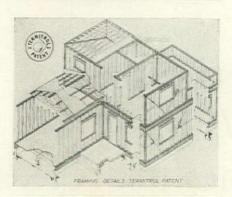
DISTRIBUTED NATIONALLY-AVAILABLE NOW

### Case

LIFETIME PLUMBING FIXTURES

#### BUILDING REPORTER

(Continued from page 196)



is divided into a number of local frames, the boundary members of which are composed of pressure impregnated lumber resistant to dry rot fungi and termites. The developer estimates that approximately 10 per cent of the total lumber used in home construction should be treated, but the small additional cost would be more than offset by added protection. Shaded areas on the detail indicate the treated frame members, which serve as a confining agent and restrict infestation to only the untreated wood within any given frame. Architects or contractors desiring to incorporate the patented frame, submit their plans to the company for approval, and the job is

checked in the final stages of construction by a company representative. Manufacturer: Hollywood Termite Control Co., Inc., Los Angeles, Cal.

SKETCH BLOCK eliminates loose materials.

Name: Craftint Sketch Block.

Features: Designed especially for draftsmen, engineers, and surveyors, each block has a patented non-slip cover with four separate "wings" uniquely attached. These wings are imprinted with 1/10 in., 1/8 in., 1/4 in., and 1/2 in. scales, plus an isometric chart over an 1/8 in. scale. Containing 75 sheets of fine tracing vellum in sheets 9 in. x 12 in., the block is so constructed that any of the attached scales can be inserted directly beneath the tracing paper. The scale will not slip during tracing and the use of the block eliminates searching for individual charts, and the carrying of loose materials. Sketching blocks are economical and save time, particularly for those required to make sketches in the field. They are available for civilian use. Manufacturer: The Craftint Mfg. Co.,

- Comment of the comm

210 St. Clair Ave., N.W., Cleveland, O.

#### GERMICIDAL LAMP is re-styled.

Name: Hygeaire Ultraviolet Germicidal Unit.

Features: The new Hygeaire Unit for air disinfection has been streamlined, and differs from the original model in its shape and general appearance. This unit employs a G.E. germicidal tube and a specifically designed reflector for optimum intensity and diffusion of the rays. The ultraviolet energy thus generated kills air-borne bacteria, combating cross infection in offices and industrial plants.

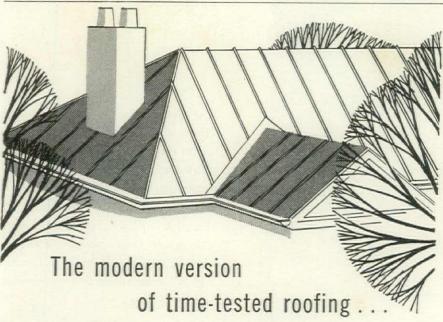
Manufacturer: American Sterilizer Co., Erie, Pa.

LAUNDRY UNIT is complete and compact. Features: A newly developed unit laun-

dry for postwar use will accomplish the laundering functions of washing, drying and ironing in a floor space of only 25 in. x 96 in. It is designed for use in the kitchen, utility room or basement, and its standard counter height matches that of any modern kitchen fixture. The complete equipment which consists of three matching units, can be assembled in any desired sequence, in a straight line or around a corner.

Manufacturer: Blackstone Corp., Jamestown 6, N. Y.

(Continued on page 204)



# FOLLANSBEE seamless terne roll roofing

Buildings dating from Colonial days are still covered with their original Terne roofs—on which there has been amazingly little maintenance. But the modern version of this material—Follansbee Seamless Terne Roll Roofing—offers even more to modern architectural designs of today.

Its standing seams, with clean, unbroken lines, lend themselves to a variety of patterns which can be designed to enhance the appearance of any type of structure. A Follansbee Seamless Terne roof can be painted any color to achieve harmonious effects.

Made in 50 and 100 foot rolls, Follansbee Seamless Terne roofing can be installed quickly and economically, since no cross-seaming is required.

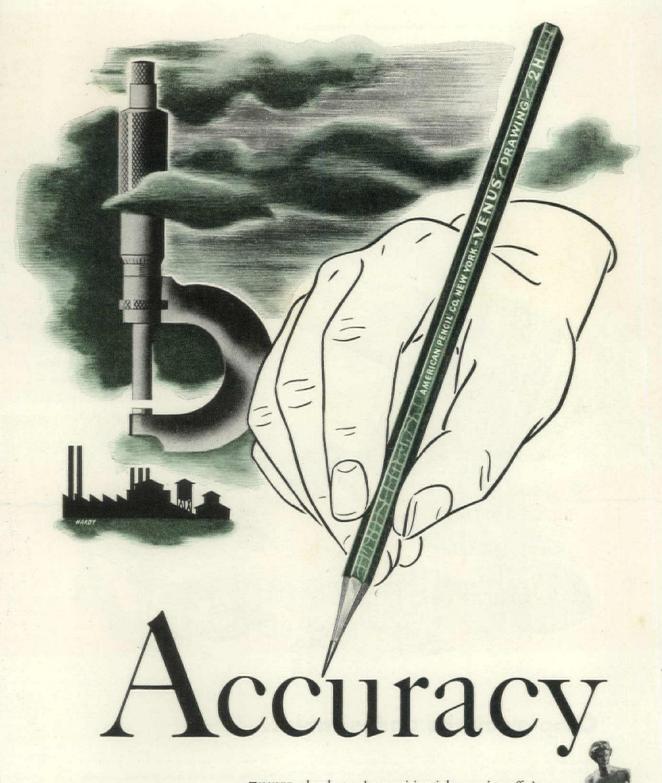
It will pay you to consider Follansbee in your post-war plans. Write today for Specification and Data File.



#### FOLLANSBEE STEEL CORPORATION

Sales Offices — New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee. Sales Agents — Chicago, Indianapolis, St. Louis, Nashville, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada. Plants — Follansbee, W. Va. and Toronto, Ohio

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



LINKED closely to the precision jobs coming off the boards are the tools that assure accuracy of detail. One of these is the seemingly small pencil which looms large in the mind of a craftsman, as an important instrument of accuracy.

VENUS Drawing Pencils are engineered to give you drafting perfection without failure: accurately graded to assure uniformity in all 17 degrees ... strong in performance ... smooth and clean in action.

Put VENUS to the test on your drawing board. Send us a postcard or a note for two free samples. Specify degrees wanted.

### VENUS

AMERICAN LEAD PENCIL COMPANY, HOBOKEN, NEW JERSEY

While we await the time when new houses can be built freely, let us not forget the needs of our present homes. Many of them require essential repairs now. A large proportion deserve modernization. Revere's current national housing advertisements (such as the one reproduced here from The Saturday Evening Post) are designed to stimulate the home owner to think about these things and consult the architect, builder, contractor. Many home owners have had unfortunate experiences with wartime substitute materials of poor durability; they will be that much more receptive to your recommendations of enduring copper and its alloys for roofing, flashing, gutters and downspouts, pipe, tube and architectural shapes. Thus all will benefit. Revere will gladly share with you its knowledge about these metals that save money in the long run and make buildings easier to rent or sell. Revere Copper and Brass Incorporated, 230 Park Avenue, New York 17, N. Y.

#### Chop away the undesirable...

It is true that we need millions of new homes as quickly as we can build them.

But, in the excitement of planning for them, let us not neglect the countless millions of sound, sturdy houses already standing, that are the cherished centers of our life. War, and its conservation of materials has left its scars on them too. Now is the time to plan to repair this enforced neglect ....

And, as you plan, to take advantage of the new developments in home design and equipment!

Here's what you can do for your home. First, repairs. It is possible roday to obtain paint, lumber, even metals for replacement, to stop leaks, to restore the appearance as well as the soundness of your house. See your local contractor now.

Second. Modernization. Perhaps an old wing should be chopped off, a new one added, the bathroom remodeled and an extra one installed, a partition removed to create one big room out of two small ones, a "picture window" put in one wall of the living room, all to make the house fit the needs of the family for pleasant, easy living. The kitchen may need redesign, re-building and re-equipping, to save steps, labor, time. Throughout, many small changes perhaps can reduce housekeeping to a minimum. All this calls for planning. See an architect now. Discuss with him what should and can be done while there is still time.

BUY WAR BONDS . . . Keep them for the future

When making repairs or planning for the future, specify sound materials. (Capper is the metal of permanence, auglets, non-rusting, used for enduring roofs and flashings, guiters and downspauts, termite shields, weather stripping. Both capper tube and red-bross pipe provide hat and cold water, heating and air conditioning lines which are non-rusting, non-clogging, which safeguard the color and flow of water, and prolet beams, walls, cailings against leaks. Capper and its allays give long service wherever they are used. Make repairs that and repairs by using capper and its allays. When peace comes, Revere will again be able to supply your feely.

25 M

REVERE
COPPER AND BRASS INCORPORATED

This advertisement appears in The Saturday Evening Post, January 13, 1945



When the 60-70 E. Scott St. Apartments, Chicago, were remodeled, Honeywell Personalized Heating Control was a "must" in this typical modernization program, even though all the apartments were leased in advance.

Originally containing 16 large apartments, this near North Side building has been converted into 64 one and two bedroom units. The owners, looking to the future and recognizing the advantages of added comfort and increased rentability, installed Honeywell Personalized

Heating Control, with a thermostat in each apartment.

You will find Personalized Heating Control of vital interest to your clients. Recommend and specify Honeywell Personalized Heating Control for every apartment job, whether it be a new building or a modernization program. Minneapolis-Honeywell Regulator Company, 2740 Fourth Avenue South, Minneapolis 8, Minnesota. Branches and distributing offices in all principal cities.



#### BUILDING REPORTER

(Continued from page 200)

TANKLESS WATER HEATER provides larger volume of hot water for periods of peak demand.

Name: Type HT Tankless Taco.

Features: This new heater, using boiler water as the heating medium, is designed to provide an adequate supply of hot water at all times, and is well adapted to meet the domestic hot water needs of apartment houses, clubs, smaller institutions and business buildings. Cylindrical in shape, and very

compact, type HT is installed below the water line of the boiler, with boiler water surrounding the tubes through which domestic water flows. Eight sizes are available with capacities ranging from 175 to 900 gals. per hr. of water heated from 40° to 140° with boiler water at 180° F., or 350 to 1,530 gals. with boiler water at 212° F.

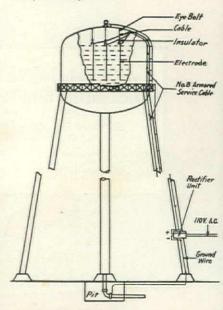
Manufacturer: Taco Heaters, Inc., 342 Madison Ave., New York 17, N. Y.

#### STEEL BLUEPRINT CABINETS available.

Features: This blueprint cabinet, designed for safe, flat storage of valuable drawings, tracings, blueprints, charts,

etc. is again available. It has a rigid frame for continuous alignment of drawers, and all compartments within the drawers are equipped with hinged paperweights in front and protecting hoods in the rear to keep the contents flat. Cabinets come in two sizes and prices are listed F.O.B. the factory. 40 x 23—3/4 x 17, \$48.90; 44 x 33—3/4 x 13, \$63.90.

Manufacturer: Lyon Metal Products, Inc., Aurora, Ill.



#### **ELECTRONIC METHOD** prevents rust.

Name: Rustop System.

Features: This electro-chemical method of rust prevention stops the formation of rust below water level. By means of electrodes suspended in the water, lowvoltage, low-amperage electric current prevents corrosion caused by oxidation and builds up a protective hydrogen film on the exposed metal surfaces. Individual jobs are engineered to provide the reaction required, and cost of operation is low. Installation of this system can usually be accomplished without draining the tank, and its use eliminates the need of draining for painting or removal of scale. It has many applications including elevated tanks, pressure tanks, and fire sprinkler tanks.

Manufacturer: Electro Rust-Proofing Corp., Dayton 10, Ohio.

CALCULATOR for finding correct sizes of grease interceptors.

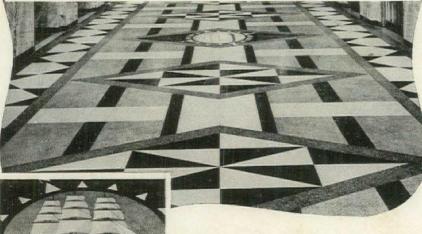
Name: Josameter.

Features: This handy pocket device automatically selects the proper size Josam Grease Interceptor for use with a particular sink or fixture. Listing a wide range of typical sink and fixture sizes used in various installations, it offers the user an easy solution to grease interceptor sizing problems.

Manufacturer: Josam Mfg. Co., 301 Empire Bldg., Cleveland 14, Ohio.

(Technical Literature on page 212)

# Brilliant designs in Terrazzo resist heavy foot traffic



Typical of the enduring beauty of fine Terrazzo made with Atlas White Cement is the lobby of the Administration Building, Boston University. Architect, Cram & Ferguson; Terrazzo Contractor, De Paoli Mosaic Co.; both of Boston. The fine detail and rich, delicate colors remain clear and unchanged despite the tread of many students.

A BRILLIANT MOTIF expressed in a fine Terrazzo floor becomes as lasting as the building itself. In entrances, reception halls, corridors and sales rooms, Terrazzo made with Atlas White cement retains its freshness of color and distinctive design without replacement or repair.

The beauty of Terrazzo depends upon a faithful reproduction of desired color tones. Craftsmen know that a matrix of Atlas White cement provides a background that fully brings out the beauty of marble chips used in the design.

Especially when delicate shades and tones are required, the true whiteness of Atlas White cement gives them full values.

For further information see Sweet's Architectural File, or write to the Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

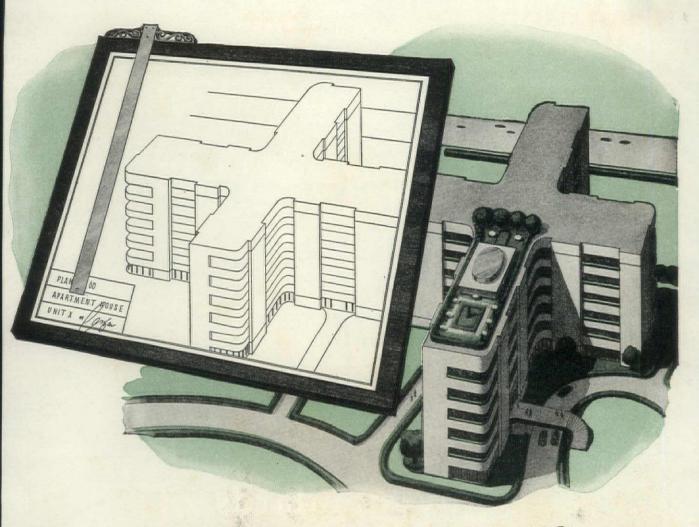
The matrix is as important as the marble chips

AF-T-E



#### ATLAS WHITE CEMENT

for FINE TERRAZZO



# Tomorrow's "No-Vacancy" Buildings are on Architects Drawing Boards Today

Tenants' demands have a great deal to do with the building and modernizing plans that many an owner has commissioned his architect to prepare, today.

Tenants want air conditioning! That was evident long before war cut off the supply of equipment for civilian use.

Undoubtedly you have your share of postwar building planning under way . . . and attach proper importance to Modern Air Conditioning, as you consider the problem of full-time rentability.

Modern Air Conditioning means Westinghouse—and its years of pioneering research and engineering experience.

For essential war uses in factories, hospitals, airports, military bases, etc., Westinghouse Air Conditioning and Industrial Refrigeration Equipment is available today.

For executives, architects and engineers now planning postwar building and modernizing, dependable data and competent application engineering assistance are ready.

Phone your nearest Westinghouse office, or write on your letterhead to Westinghouse Electric Elevator Company, 150 Pacific Avenue, Jersey City 4, New Jersey for your copy of a new booklet, "How To Plan Your Postwar Air Conditioning Today."

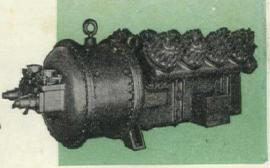
#### HERMETICALLY-SEALED FOR DEPENDABILITY

Westinghouse pioneered the Hermetically-Sealed Compressor. Hermeticallysealed means light weight • small size • low maintenance and operating costs • high efficiency • long life.



Air Conditioning

Westinghouse presents John Charles Thomas • Sunday 2:30 E. W. T., N. B. C.
Ted Malone • Mon. Tues. Wed. 8:00 E. W. T., Blue Net.



SHERRADUCT CONTRACTOR

ECONOMY

THE VERSONNUCT - 2 wires

333 Mr. M. Malling d wres

SSS BEEFE

888 WEIN WOLDING TO

As the shadows of War fade, Civilian requirements are quickly met by engineering years of experience safeguarded by standards of quality long proven.

CONDUITS - RACEWAYS



WIRES AND CABLES

Navy Cables • Signal Wires Industrial Cables Public Utility Power Cables Building Wires

National Electric PRODUCTS CORPORATION Pittsburgh, Pa.



That smart drapery is glass—a Fiber-glas\* fabric woven from yarn made entirely of fine fibers of glass. And, being glass, it is noncombustible—just can't burn. Another great advantage—these fabrics do not give off toxic fumes when exposed to fire. They are listed by the Underwriters' Laboratories as "Noncombustible Fabric".

Primarily because of this unique safety factor—but also because Fiberglas textiles have the brilliant sheen, the luster and sparkle of crystal — architects and designers are using these all-glass fabrics for decorative purposes in hotels, restaurants, theaters, schools, and other places of public assembly.

In addition to being noncombustible, Fiberglas fabrics have great tensile strength. They are unaffected by moisture—will not shrink, stretch or rot. They provide no sustenance for vermin. They resist oil, most acids, heat and cold.

If you are working on the design or redecoration of places of public assembly, you will want to consider the extra factor of firesafety provided by these all-glass noncombustible fabrics. For further information, write Owens-Corning Fiberglas Corp., 1830 Nicholas Bldg., Toledo 1, O. In Canada, Fiberglas Canada Ltd., Oshawa, Ont.

### FIBERGLAS



#### FIRE PREVENTION OFFICIALS WELCOME FIBERGLAS FABRICS

The firesafety of Fiberglas fabrics has won enthusiastic comment from fire chiefs, building commissioners, public safety directors and others to whom it has been demonstrated in cities from coast to coast. Listed by Underwriters' Laboratories, Inc., as "Noncombustible Fabric". SPECIFYING A VIEW

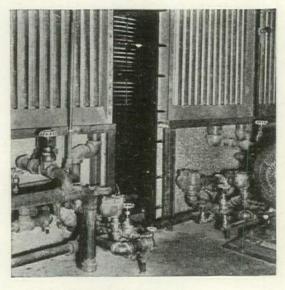
Andersen Casement Window Units, Including Picture Window Unit—P-35011; and Standard Ventilating Unit—45210

- 2'-1½" 4'-11¼"

\_\_\_\_1'-8½"\_\_



# AEROFIN Heat Exchange Surface



Aerofin Nonfreeze Coils in one of the main fan rooms of the Manufacturing Building of a large midwestern bomber plant.

## NON-FREEZE FOR UNIFORM TEMPERATURES

Your Protection — Against loss of production time and materials, due to freeze-ups, under any and all weather conditions.

Uniform Temperature Control—By steam throttling through entire range.

Non-Stratifying—Under all load conditions regardless of steam pressure.

Aerofin "Non-freeze" Coils have proven by experience to be efficient and to give uninterrupted performance.

Consult Aerofin's nearest office for complete details.

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## New way of sh-h-hushing FAST AIR!



CAREYDUCT "soaks up" sound ... hushes air noise ... won't "telephone" fan or other noises . . . is 40% to 50% quieter than ordinary duct.



#### EASY, LOW-COST INSTALLATION.

Careyduct eliminates six labor operations. Uses simple, factory or job-built fittings. No special tools. Adapts to standard grilles and dampers.

HIGH THERMAL EFFICIENCY!

Careyduct delivers either hot or cold air with a minimum change of temperature.



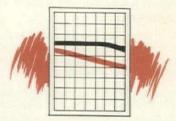
-an insulated duct made or asbestos-can be used in smaller sizes because it handles higher velocities quietly and effi-ciently. Careyduct—being 40% to 50% quieter—can handle 2500 cubic feet a minute easily and quietly compared with a maximum of 1400 cubic feet a minute for ordinary duct.

Careyduct is proving itself today on many large industrial and governmental installations. Write for engineering data on capacities, characteristics and specifications.





CAREYDUCT itself is trim, smooth, good looking. Or it can be painted or decorated to harmonize with any interior.



LESS FRICTION-LOSS BY TEST.

Careyduct's smooth surface and flush joints eliminate leakage, "breathing" or vibration. It's fireproof.

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Other Carey Products: Industrial Insulations \* Rock Wool Insulation \* Asbestos Shingles and Siding \* Asphalt Shingles and Roofings \* Built-up Roofing \* Roof Coatings and Cements \* Waterproofing Materials \* Asphalt Tile Flooring \* Pipe Line Felt \* Expansion Joint \* Asbestos Wallboard and Sheathing \* Miami-Carey Bathroom Cabinets and Accessories.

#### TECHNICAL LITERATURE

(Continued from page 204)

LIGHTING. Lighting for the Hospital of Today, 25 pp., 83/8x11. This booklet gives a clear, concise, discussion of hospital lighting requirements for various types of clinics, and describes the proper Holophane lighting equipment suitable for each purpose. Many photographs show this equipment installed in clinical service areas, and details illustrate its construction and installation. An impressive list of installations are included. Holophane Co., Inc., 342 Madison Ave., New York, N. Y.

SAFETY STANDARD. The American Standard Safety Code for Building Construction, A10.2-1944, Price \$1.10. The code applies only to building construction and contains the basic requirements for operations usually encountered in such work. It omits the regulations necessary for specialized types of work like highway construction. It does not duplicate contents of recognized codes for processes of operations common to construction, but in some instances, such as welding operations, reference has been made to the complete welding code. The pamphlet contains thirteen parts each of which covers the problems commonly encountered in the indicated phase of

-Photo, Courtesy of Rilco Laminated Products, Inc.

#### For Safety, Speed, Beauty— Arches of WOOD & LAUCKS GLUE

A natatorium for service men, 110'x200'—here's just one more spot where the glued-laminated arch met the requirements for sheltering a large area with plenty of head-room and without center supports.

And thanks to Laucks modern glues for construction, the special atmospheric conditions here will never affect the strength of the glue lines.

In your postwar blueprints don't overlook the advantages in design, economy, safety of "engineering with wood and war-improved glues." For community buildings, hangars, auditoriums, passenger stations, churches, garages, markets, pavilions, theatres, even in domestic architecture, the use of the

glued-laminated arch or beam is strongly indicated.

For full information on glues, come to "America's Glue Headquarters," where more than 20 years' experience has provided our organization with valuable technical information you may draw upon, whether you're interested in gluedlaminated arches, in plywood, stressed-cover construction or prefabrication. Write, wire or phone . . .

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A Subsidiary of Monsanto Chemical Company
LAUXEIN GLUES — LAUXITE RESINS

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operations. Titles of the parts are as follows: Demolition; Excavation; Welding and Cutting; Piling; Handling and Storing Materials; Blasting; Compressed Air Work; Derricks; Scaffolds; Ladders; Hoists and Elevators; Temporary Floors, Stairs, Railings and Toeboards; Housekeeping; Temporary Wiring and Lighting, Temporary Sanitation, Salamanders. American Standards Assn. 70 East 45th St., New York 17, N. Y. and the National Safety Council, 20 N. Wacker Drive, Chicago 6, Ill.

ELECTRIC SIGNALS. Catalog and Handbook of Electrical Signals No. 61. 103 pp., 81/2x11. This illustrated catalog presents much interesting information on new and redesigned signalling products, such as bells, chimes, buzzers, horns, transformers, etc. Also included are helpful engineering data and wiring diagrams. A convenient index system easily locates a particular type of merchandise, and a guide helps the buyer to select the proper type of signal. The guide also contains interesting facts about sound measurements. Tables of electrical characteristics are set up in such a manner that they are literally an index for selecting a signal of a certain resistance. Faraday Electric Corp., Adrian, Mich.

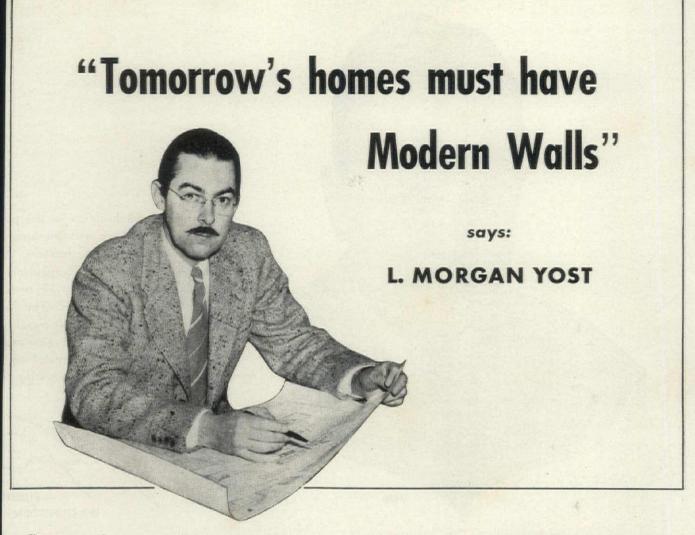
WINDOWS. Windowalls, 22 pp., 8½x11½. Eighteen different window wall effects, each made by combining stock sizes and designs of Anderson Complete Wood Window Units, are illustrated in this portfolio. Attractive corner arrangements, and fixed sash picture windows are among the collection, and specifications for each are included. Andersen Corp., Bayport, Minn.

NON-SLIP DECK COVERING. Ferrox Light Weight-Slip Proof Deck Covering, 4 pp., 8½x11. This illustrated folder describes Ferrox, a lightweight slip-proof plastic deck covering, its advantages, uses and applications. American Abrasive Metals Co., Irvington, N. J.

RESEARCH LABORATORY. Ilg Research Laboratory Devoted to the Scientific Study of Air, 8 pp., 8½x11. This colorful brochure presents the new Ilg Research Laboratory, a one-story, shake-proof and sound-deadening building, which is devoted to the scientific study of air. Workshop scenes show many testing and research processes which take place in the building. Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago 41, Ill.

PLYWOOD. Local Built Display Fixtures, With Douglas Fir Plywood, 20 pp., 8½x11. An attractive booklet, written by A. E. Hurst, illustrates the use of plywood for re-usable display fixtures.

(Continued on page 216)



"The Homes of tomorrow will present new problems in construction," says L. Morgan Yost, A. I. A., prominent architect of Kenilworth, Illinois, and author of many magazine articles on modern house design.

"Vapor condensation within the walls is a problem that must be faced squarely. Unless walls are so designed as to permit vapor to escape harmlessly to the outside, condensation within the walls will bring many 'headaches' to the architect."

Mr. Yost has designed many homes utilizing the Approved Insulite Wall of Protection. This wall effectively answers the condensation problem, as the drawings below, explaining the wall's scientific principles, will show. Send coupon today for free "Scientific Facts" booklet, quoting outstanding building authorities.



A recent example of Mr. Yost's designing—his own residence at Kenilworth, Illinois.

#### DOUBLE INSULATION plus VAPOR CONTROL

That's What The Approved Insulite Wall of Protection Gives You



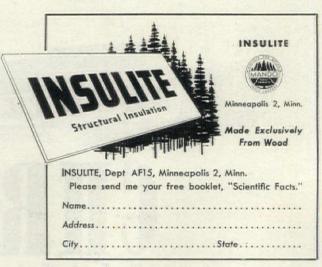




On outer-walls, Insulite Bildrite Sheathing builds a wind-proofed, weathertight wall of high insulation efficiency, superior bracing strength.

On inner-walls, Insulite Sealed Lok-Joint Lath builds a second wall of insulation, a rigid plastering surface. Lath marks are eliminated, plaster cracks reduced to a minimum.

Sealed Lok-Joint Lath, with asphalt barrier against the studs, retards vapor travel. Bildrite Sheathing, being permeable to vapor, permits what little vapor escapes the barrier to pass towards the outside.





"Competition among builders in the poperiod is going to be keen with the progreaddition of many new home features. On the best ways to meet this competition add summer cooling systems for air conding twelve months in the year. The bushose homes have year 'round air condition at an economic installation and operating has a plus sales factor, as technical impoments reduce installation and operating conditions."

Maouly Jaylo -BUILDI WASHINGTON,

## Build year 'nound comfor

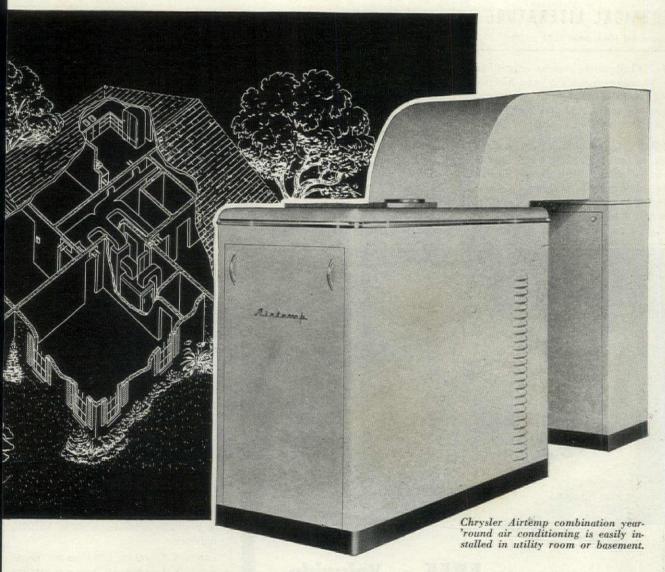
### Summer Cooling+Automat



The time-tested Chrysler Airtemp combinated heating and cooling unit for the home of builders a real plus sales factor. Chrysler Airte—long pioneers in the development of improbeating units—burning all types of fuels—l

See the Chrysler Airtemp Exhibit at the National H

## CHRYSLER CAIRTEN



## its your postwar homes!

### /inter Heating=Greater Sales Value

pioneered "Packaged" cooling back in 1937.

t is why you can build Chrysler Airtemp
'round comfort—greater comfort and health
to your postwar homes. Mass production
bring the cost within reach of home

buyers with modest budgets. • Airtemp Division of Chrysler Corporation, Dayton 1, Ohio. • In Canada, Therm-O-Rite Products, Ltd., Toronto

lers' Exposition, Jan. 15-20, 1945, Sherman Hotel, Chicago

## IRTEMP

Unite for this Folder

The Chrysler Corporation

The Chrysler Corporation Airtemp Division, 1119 Leo Street Dept. 10F, Dayton 1, Ohio

Gentlemen: Please send me the booklet containing questions and answers on year 'round air conditioning.

Architect Dealer Contractor or Builder

Name.

Address.

City, Zone, State\_

#### TECHNICAL LITERATURE

(Continued from page 212)

Detail illustrations present suggestions for 144 modern fixtures to be built of plywood in local display shops, cabinet shops, and stores. Douglas Fir Plywood Assn., Tacoma Bldg., Tacoma 2, Wash.

workshops. How to Plan a Home Workshop, 56 pp., 6x9. Price \$.25. This instructive manual, with ample illustrations, offers many helpful suggestions on planning the home workshop. Location, size and type of the shop, what to buy first, heating, wiring, and lighting the

shop, choice of tools, and many other workshop subjects are discussed and illustrated. The Delta Mfg. Co., 600 E. Vienna Ave., Milwaukee, Wis.

CIGHTING. Your No. 1 Load Building Opportunity, 24 pp., 12½x14½. This elaborate book predicts the brilliant future postwar lighting will have if all concerned in the lighting industry continue to develop present demands for higher lighting intensities. It advocates selling lighting on a mass merchandising basis, and maintaining lighting standards set up for wartime production in both residential and commercial fields. Lighting as a big market for kilo-

watt hours, and for providing a profitable load, is explained as an inducement to the utility, fixture and lamp manufacturer alike. The book announces the expanded facilities and broader functions of the Illuminating Engineering Dept. to help utilities with new ideas, information and sales training. Some of the new ideas are illustrated such as introduction of new terminology, guides for specific residential lighting problems, and development of the graded light meter. New fixture designs are also included. Westinghouse Electric & Mfg. Co., Lamp Div., Bloomfield, N. J.

PROTECTIVE PRIMERS. Red Lead in Corrosion Resistant Paints, 25 pp., 85/8x11. This booklet gives supporting proof of the excellence of red lead as a metal protective coating, and includes discussions of such points as inhibitiveness, "soap" formation, film impermeability, toughness, adhesion and elasticity. A section is devoted to well established and accepted formulas calling for red lead, and includes those in which lead is the sole pigment and several in which it is a compound pigment. National Lead Co., 111 Broadway, New York 6, N. Y.

#### REQUESTS FOR LITERATURE

HENRY J. TOOMBS, 706 Peters Bldg., Atlanta 3, Ga., requests data, samples and catalogs for an A.I.A. file.

EDWARD A. LASHINS, INC., 175 Main St., White Plains, N. Y., Contractors, would like to receive catalogs and information on products connected with the building industry.

ERICH A. COEBLER, 189 John St., Englewood, N. J., Architect, requests catalogs and printed matter for an A.I.A. file.

BLANCHE SAKER, 11 Park Crescent, Moonee Ponds, W 4, Victoria, Australia, architectural student, would like to receive literature, catalogs and data on plastics and prefabrication.

CHARLES A. PEARSON, JR., Radford, Va., Architect, would like to receive catalogs and other information on building materials.

GILBERT G. SATRANC, Architect, 3402 McFarlin Blvd. at Hillcrest Ave., Dallas, Texas, recently relieved of a war-time job as Architect-Engineer with the U. S. Corps of Engineers, would like to be placed again on the mailing list for building products literature, data and catalogs for an A.I.A. file.

EUCENE J. MACKEY, JR., Washington University, St. Louis, Mo., Architect, requests manufacturers' catalogs and building material data for his files.

HARRY A. GACE, Box 240, Pauls Valley, Okla., requests information on concrete building blocks. Specifically he wants to know about power machinery for making them, how to avoid inside moisture, and cost comparisons with lumber and brick construction.



## FREE...Valuable Booklet about "Spot" Ventilation

HERE'S a concise, easy-to-read booklet that is written and illustrated so the layman can understand the A-B-Cs of home ventilation.

It clearly explains basic facts on ventilation which every home owner will wish to know in connection with postwar home building and remodelling.

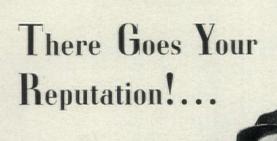
Architects, also, will find it helpful in explaining to clients the new ventilation problems created by forced-draft heating and air conditioning.

This booklet is yours for the asking—the coupon is for your convenience.

### "Spot" Ventilation means Blo-Fan

Clip and Mail Coupon NOW!

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More than shingles go on every roof you build.

Up the ladder, too, goes the customer's confidence in you.

Your promises, your guarantees, your integrity, your very reputation...nailed into place with every shingle.

And just so long as that roof lives up to expectations.. that long is your reputation secure.

You know this. We, at Flintkote, know it, too!

That's why...through painstaking years of laboratory research, thousands of tests and decades of matchless service in all climates...we have made resistance to weather and temperature extremes a built-in feature of every Flintkote shingle.

Flintkote's service is too broad to be defined by specifications...too vital to be written in terms of price.

It lies in the creation of products that safeguard the purchaser's investment. In products... and policies... that protect *your* reputation.

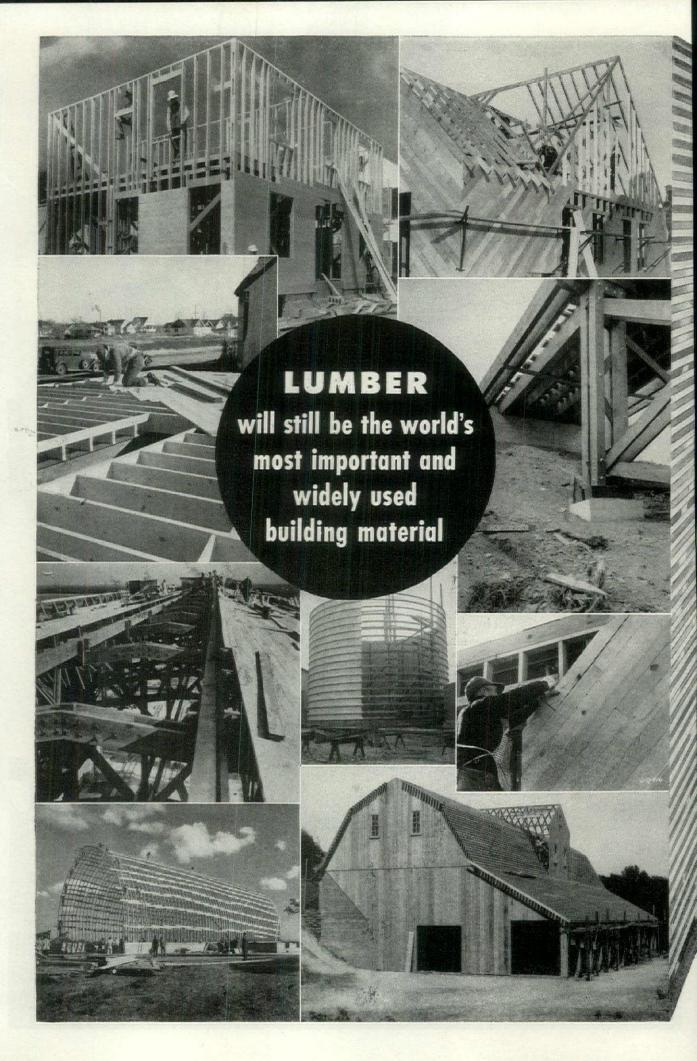
### FLINTKOTE BUILDING MATERIALS

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THE EXTRA YEARS OF SERVICE COST NO MORE!



## What about Lumber IN THE POSTWAR PERIOD?

We are all doing some sort of postwar planning.

G. I. Joe is thinking about what he wants to do when he gets home. The alert businessman is studying how he can improve his services to his customers. Other businessmen are planning to start planning some day. Governments are planning to reach and hold a favorable world position.

We all know, no matter how good the plans, they cannot become completely effective until the war is over. Every war-time effort and plan is a waste of time if it does not recognize the cold fact that for the remainder of the war only critical needs of civilians can be satisfied.

But facing this fact does not stop G. I. Joe from thinking, and the forward-looking businessman nor an ably directed government from planning. Take lumber, for example. The war needs for lumber are still pressing. Consequently, civilian supplies are now at an all time low. Yet, with reconversion such a simple matter, the moment war orders are filled, the production of lumber, which these orders commanded, will flow quickly and in great quantity to civilian markets. So builders are planning for brisk postwar trade.

Weyerhaeuser plans are rapidly taking shape—new services to aid our customers—a farm building service soon to be announced, the finest ever developed and most complete—a new home building service—new aids for wood engineers—and some new products which will follow along as the close of the war approaches.

Because lumber for civilian use is scarce now this does not mean that the lumber industry is through. The public should be told that in the postwar period, lumber will still be the world's most important and widely used building material.

#### WEYERHAEUSER SALES COMPANY

SAINT PAUL 1, MINNESOTA

EYERHAEUSER 4-SQUARE LUMBER AND SERVICES

JANUARY 1945 219

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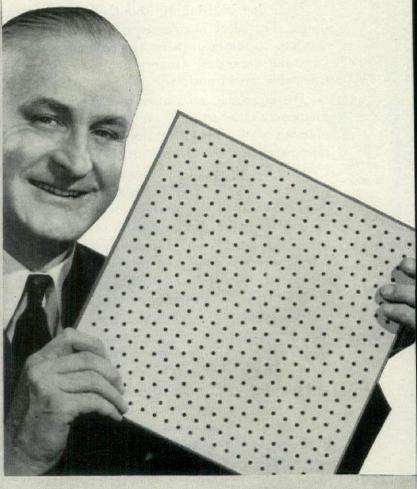
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• More than 1000 years of combined experience, gained in over 100,000 installations—this is the great reservoir of practical knowledge available to you only through the Acousti-Celotex\* Distributor Organization!

And this knowledge has been gained in good company. For the nationwide Acousti-Celotex group has collaborated with more architects than any other organization of its kind!

Every day, the men of this organization are helping architects solve such problems as:

- How to diagnose acoustical and noise quieting difficulties...
- How to design architecturally for optimum acoustics....
- How to be sure of mechanical perfection in the proper acoustical material and its application...
- How to make certain of the acoustical installation's perfect appearance and continued satisfactory performance through the years...

Every man in this nationwide organization is hand picked. He is thoroughly trained in sound

conditioning practice and in the Acousti-Celotex Service Ideals. He has had long experience in working harmoniously with other contractors. As a result, when you turn a job over to his company, you know it will be trouble-free.

A New York architect, says, "With competent sound conditioning men like yours, plus the world's finest acoustical materials—Acousti-Celotex products—any architect has complete assurance that the job will be well done."

No matter how much or how little assistance you may need, always feel free to call on the staff of your nearest Acousti-Celotex Distributor. The extra service he offers you in no way affects his ability to compete on the smallest or the largest job you may have. That service is the unwritten plus value that goes with every specification for a Celotex Acoustical Product. It is another reason why this nationwide organization collaborates with more architects than any other in the acoustical field.

NOTE: Contact the Acousti-Celotex Distributor nearest you. Or drop a note to us. It will bring a trained Sound Conditioning man to your desk. Write: The Celotex Corporation, Dept. AF-145, Chicago 3, Illinois.



### ACOUSTI-CELOTEX Service Ideals

We, the members of the world's most experienced acoustical organization, are dedicated to these Service Ideals:

- Proven ability to diagnose acoustical and noise quieting problems...
- Scrupulous honesty in surveys and recommendations
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• Timeless interest in the satisfactory performance of every job...

In more than 1000 years of combined acoustical experience, we have analyzed, engineered and installed Sound Conditioning in schools, offices, factories, banks, public buildings, stores, churches, hospitals, restaurants, theaters, and other buildings. This fund of knowledge acquired in over 100,000 installations is yours for the asking, entirely without obligation.

The Acousti-Celotex Distributor Organizations of U.S. and Canada

## The House that Sold





1. Here are two houses that look exactly alike. They are on similar lots in the same neighborhood.



4. One house sold in a hurry.



5. The other didn't.

ACCORDING TO MANY leading builders, that's going to be the sales story of postwar home construction.

#### Here's how they figure it

These are the facts:

First—Surveys by Fortune, U. S. Chamber of Commerce, and various government agencies all agree that electrical equipment is going to have pretty close to first claim on the postwar buying dollar.\*

Second—Home buyers have been conditioned to expect better-built—more complete homes after victory.

#### They're planning now

Market-wise construction men see built-in electrical

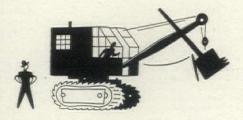
equipment in the kitchen and laundry as the means to insure a continued sale of new homes after the first buying rush has subsided.

Bankers in all parts of the country recognize that this trend to a better-built, complete home, giving satisfaction to its owner, is one of the best possible payment assurances.

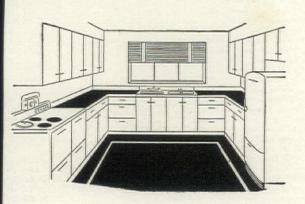
#### A helpful booklet

As an architect, builder, or banker, you've probably done some thinking along these lines yourself.

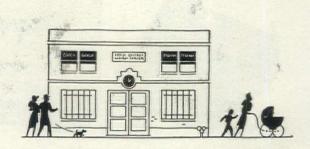
To assist you, the General Electric Home Bureau, which has been studying the all-electric home since 1936, will be glad to supply some figures on the cost of equipping and operating such a home.



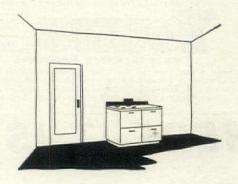
2. They were built by the same builder.



 The difference was simply this—built-in electrical equipment—electric refrigerator, dishwasher, disposall, range. The house that sold had them.



3. They were financed by the same bank.



7. The other had only a stove to offer.

Just write for our free booklet, "Your New Home and Your Pocketbook." Home Bureau, General Electric Company, Appliance and Merchandise Department, Bridgeport, Connecticut.

#### FOR VICTORY

General Electric is working night and day to back the attack. You can help, too, by buying and holding more War Bonds than before.

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\*In an independent survey, 54% of the women interviewed thought that General Electric made the best electrical equipment.

## WARM UP the COLD SPOTS

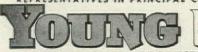
WITH YOUNG UNIT HEATERS



"Streamaire" Unit Heaters can be used to advantage whether the area to be heated is large or small. Their saving of floor space, ease of installation, efficient operation, low "first" and maintenance costs, make them desirable for existing or new buildings. If you have a heating or air conditioning problem write or consult the nearest Young representative.

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The advertising pages of FORUM are the recognized market place for those engaged in building. A house or any building could be built completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This FORUM does.

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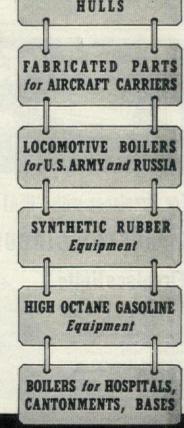
As another war year dawns, it finds Fitzgibbons maintaining the production pace which has earned to date three Army-Navy "E" awards. On every fighting front - and on the home front, too equipment by Fitzgibbons is serving vital military needs.

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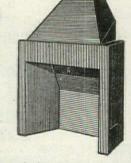


For Fireplaces with "HEAT-APPEAL"

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The heating efficiency postwar home-builders are going to demand from their fireplaces is built into the Majestic Circulator to stay! Ruggodly built, expertly designed, and thoroughly proved by years of performance, a Majestic Circulator makes it easy to provide a highly efficient fireplace with any type of mantel design! Simplifies masonry work, saves on materials, assures satisfactory



of mantel design! Simplifies masonry work, saves on
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be piped to other rooms if desired! Writs teday for
complete details on the full line of Majestic Circulator
Fireplace Units!

#### THE MAJESTIC COMPANY

968 Erie Street, Huntington, Indiana

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Opinions may differ as to the Architectural styles of tomorrow's homes . . . that's what makes a horse race—

But architects and builders, alike, will find quick agreement in the determination to specify modern heating equipment for the "homes of tomorrow"... whether the architectural styles of the projected dwellings be currently traditional or currently modern.

There will be definite agreement on such points as compactness, efficiency, economy, convenience and ease of installation, regardless of fuel used. And in the "house of tomorrow" unsightliness will not be tolerated; smartness, beauty and simplicity of design will rate high.

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9

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Flamenol\* Building Wire is available for use in all locations: Type SN for general purpose wiring; Type SNW for wiring in wet locations. Their thermo-plastic insulation has long life, is flame retarding and resistant to oils, acids, etc. Type SNW insulation also has a low moisture absorption rate. \*Reg. U.S. Pat. Off.





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#### ADEQUATE WIRING IN PREFABRICATED HOMES

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Adequate wiring will become a standard practice.



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Almost everyone agrees that the home should have a welcome touch . . And that statement immediately suggests what can be done in that direction with Lumarith Plastics.

Of course, this isn't an argument for the allplastics home . . . far from it. It is merely a reminder of the touch comfort to be had from Lumarith, and a reference to the many places where these Celanese plastics make a home "feel better."

In the bathroom, for example, Lumarith articles moderate the chill of porcelain and tile: luminated seat covers, switch plates, wall fixtures, towel bars, scale platforms, clothes hampers, door knobs, cabinet pulls, the electric shaver—all the contact

points between a home and its occupants.

And the kitchen, another spot of breezy efficiency, gets warmth and cheer through the liberal use of Lumarith items: cabinet handles, door and switch plates, refrigerator parts, the telephone handset, range controls, faucet handles and hundreds of kitchen tools and accessories.

From cellar to attic, the things around a home you touch should be made of Lumarith. If you would like to know more about these tough and colorful Celanese plastics, send for the file-size product designer's booklet. It is an idea-stimulator for those who deal in ideas. Celanese Plastics Corporation, a division of Celanese Corporation of America, 190 Madison Avenue, New York 16, N. Y.

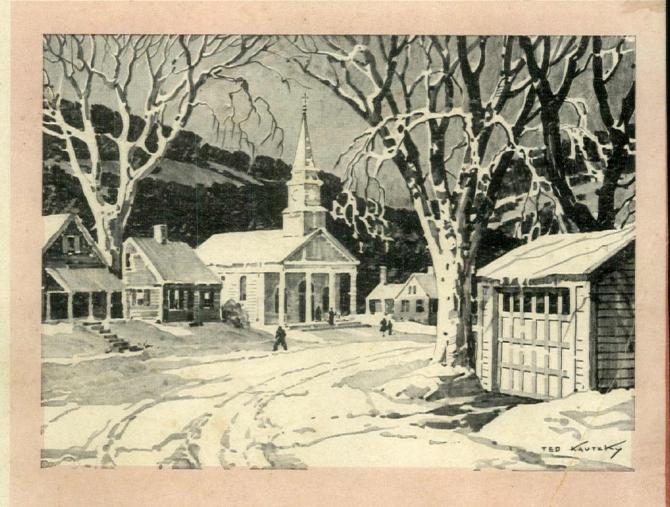


Filed in Stacks

Filed in Stacks

JUL 121949

For the NEW year



May 1945 be truly a BRIGHT NEW YEAR, bringing the dawn of Victory and Peace, that the contentment and well-being in scenes such as this may prevail throughout the world.

