

# RESEARCH ARCHITECTURAL FORUM



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Your sons, husbands and brothers who are standing today upon the battlefronts are fighting for more than victory in war. They are fighting for a new world of freedom and peace.

We, upon whom has been placed the responsibility of leading the American forces, appeal to you with all possible earnestness to invest in War Bonds to the fullest extent of your capacity.

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*W. Averell Harrington*  
*William H. Leahy*  
*Dwight D. Eisenhower*  
*Arthur H. Cofrancesco*  
*Arthur H. Cofrancesco*

# For MODERN Commercial Construction

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can be used with wood or steel construction. Simplification of framing, fire-and-moisture resistance—plus versatility—are major advantages of Cemesto. Made with core of Celotex rigid cane fibre insulation, sheathed on both sides with  $\frac{1}{8}$ " layer of asbestos cement bonded to core with bituminous asphalt adhesive. Sizes: 4' wide panels, 4', 6', 8', 10' or 12' long, in thicknesses of  $\frac{1}{8}$ ",  $1\text{-}9/16$ " and 2".

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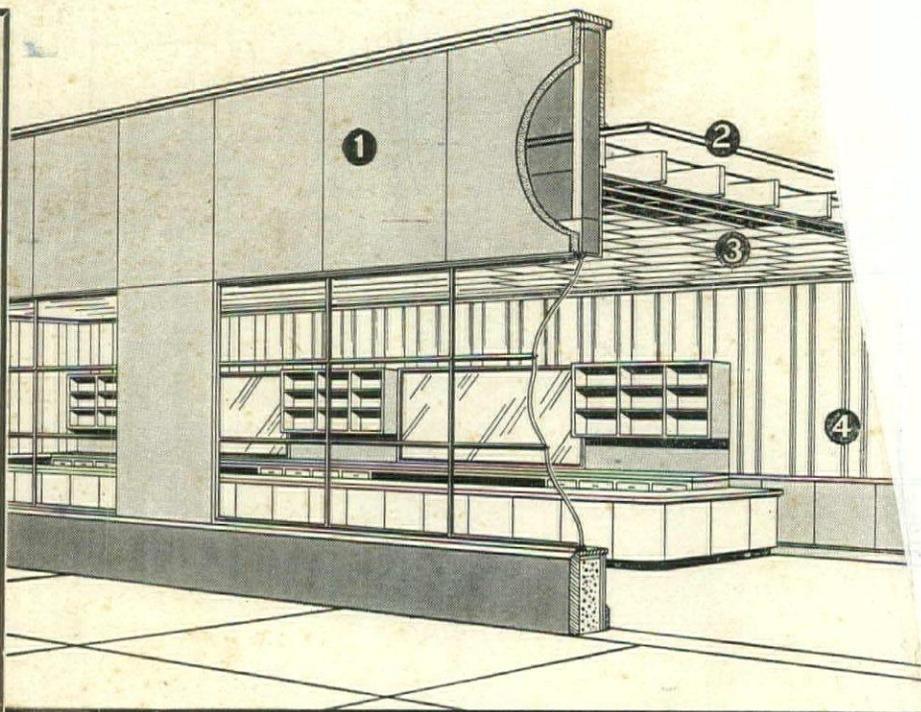
provide strong roof decks that save time and lumber—offer excellent bonding surface for built-up roofing materials. Inside surface has good light reflection value—can be painted if desired. Celo-Rok Roof slabs are laminated  $\frac{1}{2}$ " sheets of fire-proof gypsum wallboard—1",  $1\frac{1}{2}$ " and 2" thick. Width: 2 ft. Lengths 8, 9, and 10 ft. All thicknesses available with long edges shiplapped.  $1\frac{1}{2}$ " roof slabs also furnished with long edges T&G.

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# THE ARCHITECTURAL FORUM

JUNE

1945



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Mag. hb. Sup. 113509 5/19/47 hsh

# Only Glass Blocks serve

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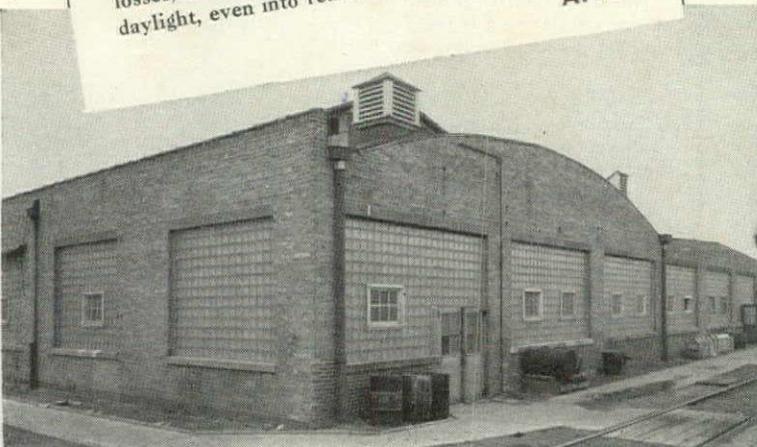
**WALLS, SCREENS, WINDBREAKS** of PC Glass Blocks bring added beauty as well as utility to outdoor living rooms, terraces, porches. They also increase privacy, mask unsightly views, bring a fresh modern note to lounging areas.



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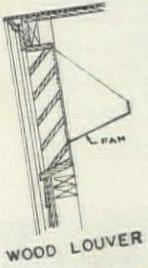
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Balsam-Wool  
APPLICATION  
DATA SHEET

SEC.  
E  
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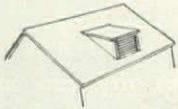
TYPES OF LOUVERS  
FOR VENTILATION



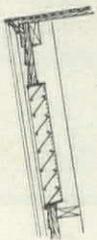
WOOD LOUVER



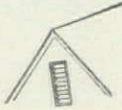
GABLE WALL LOUVERS



DORMER LOUVERS



METAL LOUVER



SPECIAL LOUVER

Louvers are the most common method of providing ventilation of attic space above the insulation. A few of the many types are illustrated here. Such ventilation is required regardless of the type of insulation used. The free open area of the louver in each gable wall should be  $\frac{1}{2}$  to  $\frac{3}{4}$  square inch per square foot of attic floor area. The latter is preferred as explained in Data Sheet E-1. Since the material used for the slots or louvers will obstruct some of the air flow, the total gross area of the louver should be more than the net free area required. For this reason most wood louvers are only about 50% efficient; therefore, they should be about two times the size of the free open area required. The effectiveness of metal louvers is approximately 70%; therefore, the gross area should be  $1\frac{1}{2}$  times the net free area.

For example, let's assume that an attic floor measures 24 ft. x 30 ft. The smallest standard size louver to be installed in each gable is figured as follows:

Wood 24 x 30 x  $\frac{1}{4}$  x 2-180 square inch gross area.  
Use standard wood louver 12' x 16" or larger.

Metal 24 x 30 x  $\frac{1}{2}$  x 1.5-135 square inch gross area.  
Use standard metal louver 12' x 12' or larger.

These are the minimum standard sizes to be used. Larger louvers offer greater summer comfort and may be partially covered in winter when less ventilation is needed. All louvers should be screened on the inside to keep out birds, bees and other insects. A sheet metal pan (upper left drawing) attached on the inside of the louver will catch snow or rain which may blow in.

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First National Bank Building  
Saint Paul 1, Minnesota

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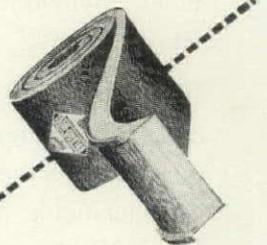
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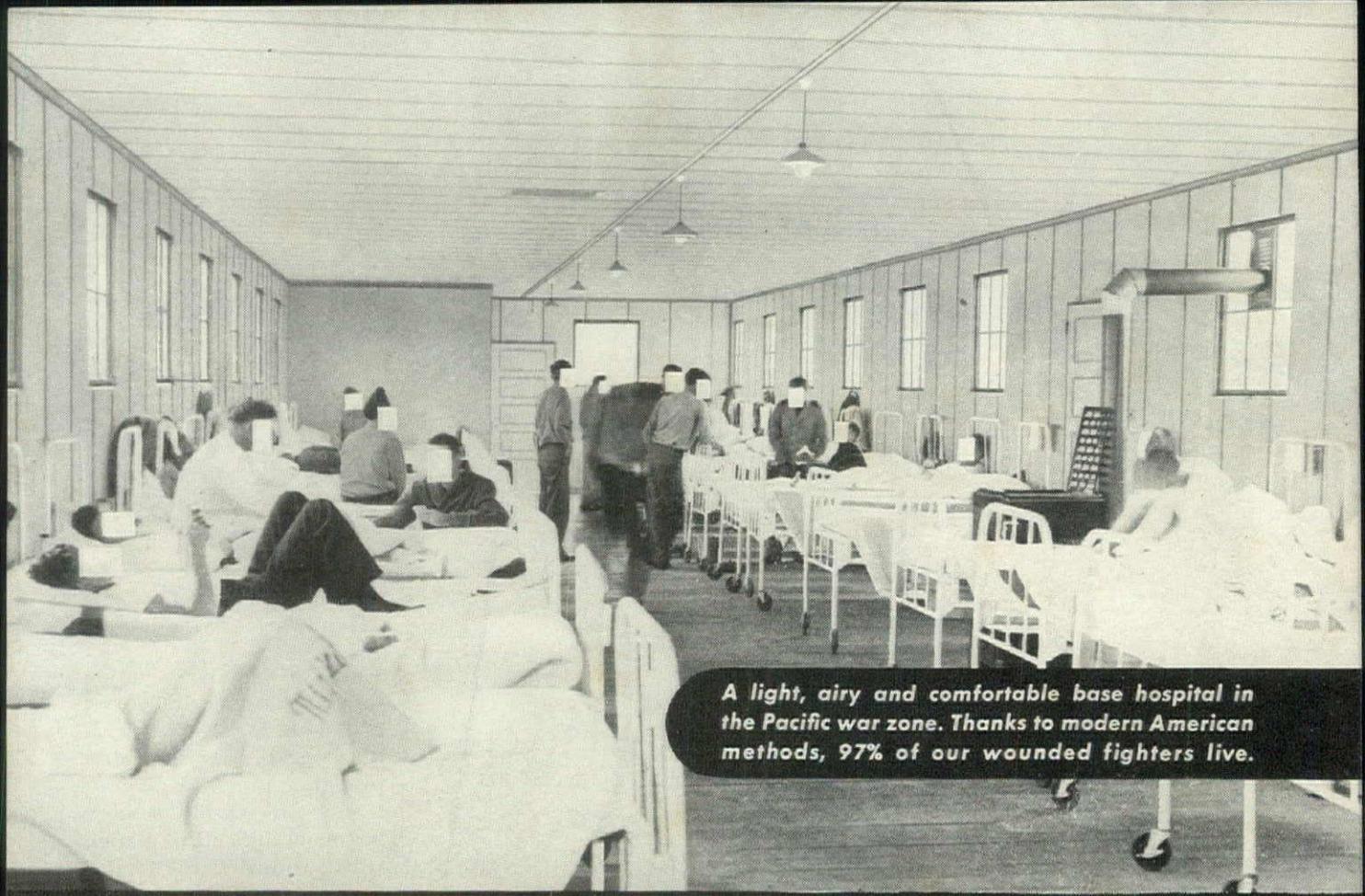
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has permitted us to better meet vital war assignments. Every day brings us nearer the time when we can resume intensive co-operation with architects and contractors. We are preparing now for that day.

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# UPSON

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## NEWS . . . Building lags as peace comes to Europe (this page) . . .

Vinson ups non-war housing and remodeling (this page) . . . Kaiser and Burns

team on large scale housing (page 7) . . . Russian-U. S. experts swap ideas (page

8) . . . Bankers move to save Brooklyn (page 12).

In Melbourne, Australia, a discharged airman picketed the City Hall parading a sign which read: "WANTED for wife and two children, house, flat or rooms!" In London, Britishers got their first look at German war prisoners clearing sites for new houses. On many a Pacific outpost Seabees produced many another miracle to the accompaniment of enemy mortar fire. In the U. S. the languishing Taft Committee report still languished behind the Senator's imperturbable facade. And the long-awaited Wagner-Ellender unified housing bill had not climbed even the first step into the Capitol. Thus, V-E day came to Building.

Nowhere was there enough housing. West Coast cities urged Washington to come to their rescue, reporting a tidal wave of home sales, a backwash of evictions, and nothing to offer returning veterans. In Portland a line-up that out-distanced cigarette queues formed when the regional FHA office handed out priorities for 300 nonwar houses. Builders reminded that 1½ million discharged veterans would soon be looking for homes, trying to unscramble doubled-up families.

The Federal Public Housing Authority started on what may be its last war job—22,000 temporary houses—setting off a flare of bad temper in Detroit. While shut-down at Willow Run threatened unemployment for 80,000, the Ford Motor Co. sought an injunction to prevent FPFA from starting a temporary housing project for Negro war workers. Rumbled Michigan's Senator Homer Ferguson: "FPFA seems to have a knack of starting to build from the ground up just when need has passed." Meanwhile, Detroit builders competed for allotments of 5 non-war houses apiece.

Reconversion headaches pushed aside United Auto Workers plans to build a 3,000-unit community outside Detroit, first of a nation-wide program, but Henry Kaiser joined with Fritz Burns in launching a national housebuilding organization by buying enough land in West Coast cities to build the first batch of 10,000 houses. Buckminster Fuller signed his first contract with the Army Air Force—an order for one Dymaxion airbarac. In Newark, the Prudential

Insurance Co. pondered a 25-block slum clearance project, while 15 Brooklyn savings banks decided to team together in rebuilding seven blighted blocks. Manhattan savings banks liked the pattern, thought of adopting it for a housing development in Harlem. As the reconversion door swung wider, building men optimistic on the supply of construction materials next year hoped that advance planning of projects would get a move on.

## NONWAR HOUSES

New housebuilding—now trickling slowly into a few communities badly pinched by housing lack—may soon be underway in enough volume to persuade many a builder to get his bulldozer out of storage. War Mobilization chief Fred Vinson said Building will have a chance to go to work on 250,000 nonwar houses over the next 12 months—and maybe as many as 400,000. No major easement in wartime building controls are in sight, but the go-ahead for nonwar housing means that more materials are available and that it will be much easier to get priorities for this kind of construction.

The National Housing Agency has programmed 48,473 units of nonwar housing in 247 communities but so far priorities have been issued to cover only about half of these. Everywhere scanty local quotas are oversubscribed. Builders' applications amounting to 22,594 units waited for priority clearance. Plan has been to spread the work around as much as possible. In Detroit, for example, no one builder can get authorization to start more than five non-war houses.

Last month NHA flourished a hopeful plan to boost the price ceiling on non-war housing to \$12,000. But WPB's reconversion eye—the Committee on Period One—voted to stick to the present limit of \$8,000 for a while longer. The Committee approved a big boost in repair and remodeling. Residential repair jobs amounting to \$1,000 or under may soon proceed with priority authorization, as will commercial remodeling up to \$5,000, industrial remodeling up to \$25,000. Present ceilings are set at \$200, \$1,000, and \$5,000.

# NEWS

Even lumber—Building's biggest re-conversion snag—was looking up. WPB said that lumber allotment for civilian use will be stepped up by 13 per cent over the next quarter of the year. U. S. building can expect to get 300-400 million board feet. With a 30 per cent decrease in military requirements, copper would be in good supply.

*"Given somewhere near the present family income after the war, or the incomes which might be associated with full employment . . . the increased demand for houses having a rental value of over \$40.00 per month would support a high rate of new construction for some years. At the same time the shrinkage in demand for dwellings with a rental value of less than \$30.00 would force the retirement of many undesirable dwellings because they would have no market."*

—Henry A. Wallace

## ROAD AHEAD

Senator James E. Murray's Congressional squad was on the job last month. How soon could Building, now at a 1933 low, be jacked back up again? Senator Murray's probings went deeper than immediate reconversion problems. For, as building pundit Miles Colean put it: "Even in times of prosperity the rewards of the construction industry as a whole can hardly be called lush."

Building men know that whenever their industry rides up a hill, there is sure to be a ditch not far ahead. Economists know that Building's ditches are deep enough to throw the whole U. S. economic cart off the road. Beardsley Ruml was on hand with his favorite solution (ARCHITECTURAL FORUM, Feb. '44): why not manipulate public works expenditure to moderate the violently fluctuating construction cycle? Miles Colean reminded that the government has in the past been one of the biggest contributors to the industry's disbalance. "Our greatest public works programs (with the exception of that which was finally gotten under way during the depression) have invariably been carried on during periods of prosperity. They have been slow in starting, have not reached their peaks until the resources and capacity of the industry were already badly strained."

But Malcolm Pirnie, chairman of the Committee for Economic Development's construction committee, pointed to a bump in this road to construction stabilization. "When private construction

expands, public construction also must expand. Indeed, there are numerous instances where expansion of public construction is prerequisite to expansion of certain types of private enterprise. The classic example is the automotive industry, which could not have been developed without new roads. That will be true of postwar aviation (see page 9). New homes require water and sewage lines, streets, schools and sidewalks. Industrial growth of a community creates a need for new public facilities of various types."

Pirnie's recipe for government action to open the way for a quick building start:

► Classification of the cost of private construction plans as current operating charges, exempt from federal income taxation.

► Gradual relaxation of building control order, L-41. "Past experience proves

that construction cannot step up quickly if the go-ahead signal comes all at one time."

► Immediate general tax reduction, or the incentive of exemption from surtax of income invested in construction.

► Increase of the \$17½ million public works planning loan fund administered by the Federal Works Agency (see below).

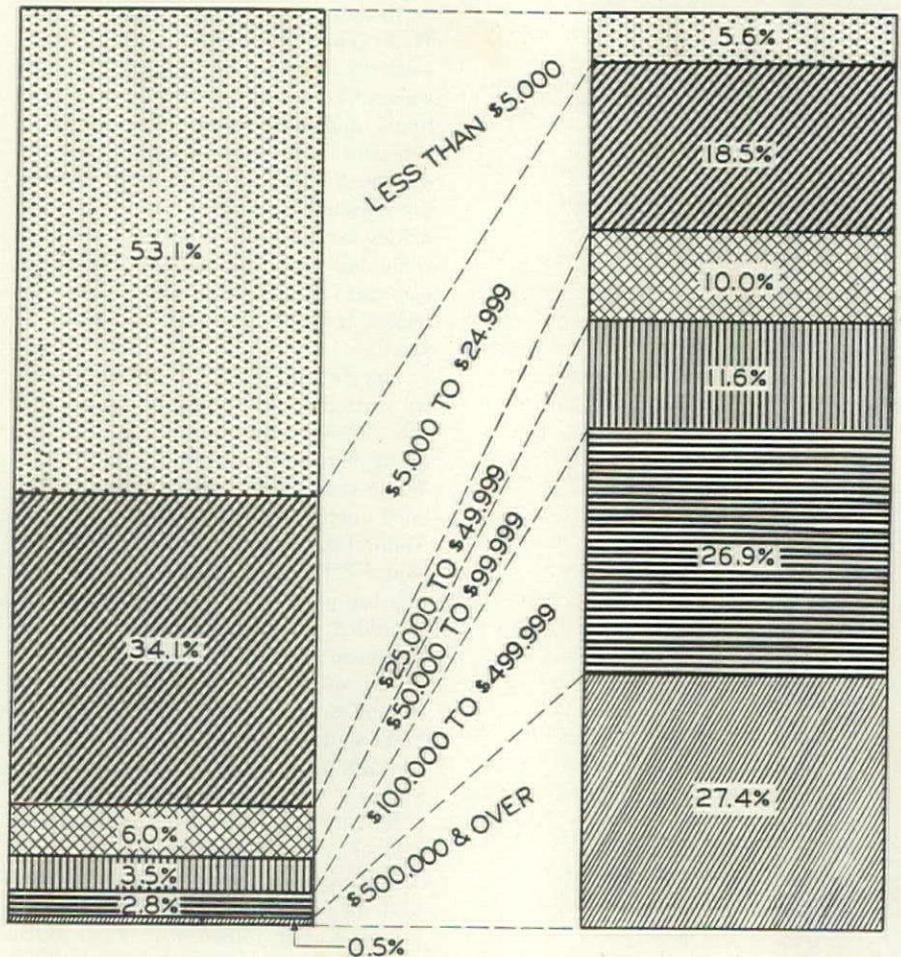
## BUILDING MONEY

### REAL ESTATE DEFLATION?

Housing shortage and building shutdown had been a potent yeast. Untended on the nation's shelf, real estate prices have risen higher and higher. Last month the long-ported lid for swelling real estate prices lay on President Truman's desk. At month's end,

ESTABLISHMENTS  
TOTAL : 215,050

WORK PERFORMED  
TOTAL : \$ 4,519,794,000



**SMALL BUILDERS** with an annual output of less than \$5,000 accounted for more than half of the 215,000 building organizations in business in 1939. There were only 27,956 builders whose output reached more than \$25,000, but this 13 per cent of the industry got 76 per cent of all building dollars. If Building reaches its postwar goal of a \$15-20 billion yearly volume (\$11 billion was the best prewar year), more than 100,000 new small builders will be needed, according to Senator James Murray's estimates. Right now only 140,000 builders and contractors are at work or 50,000 fewer firms than operated at the depression low of 1933.

no one knew whether he would choose to use it.

The lid was an executive order which would put real estate sales under "regulation W" credit controls, used to check inflationary buying throughout the war years. Backed by the Office of Economic Stabilization and the Federal Reserve Board, the order would require a 35 per cent down payment on all real estate purchases. Only construction built under priorities would be exempt. While builders, hoping for an end to priorities, glimpsed a possible new bogey, real estate dealers gloomily anticipated the imminent end of a long bonanza.

### KAISER-BURNS

Fritz Burns, who is responsible for three of Los Angeles' biggest prewar low cost housing developments and about 5,000 units of war housing, was tapped last month as the man to help Henry Kaiser execute his long-meditated plan to build postwar houses on the same spectacular scale he has built war ships. Kaiser Community Homes, which Burns heads as president, will—if it lives up to even half its announced prospectus—be an organization without parallel in the housebuilding business. In the first place, it may open large capital resources to an industry whose production has always been under-financed. It promises standardization and mass-production of the mechanical core of the house. It hopes to build a well-designed house of high-quality construction that will sell for \$5,000.

**10,000 House Start.** Best evidence that Kaiser was through talking and ready for action was the announcement that the organization has already acquired land for building 10,000 houses in West Coast cities and will start construction whenever materials are available. But this is only the initial bite out of a goal of at least 100,000 houses in the first building year.

Kaiser Community Homes may be the first U. S. housebuilding organization to operate on a nation-wide basis. To this end, it proposes to adapt some of the elements of the classic system of mass distribution—the franchise—to the peculiar necessities of an extremely durable commodity. Although Kaiser is more likely to compare his new housebuilding organization to the automobile industry, it really is closer to Howard Johnson Restaurants than to Ford. Those who have made the franchise system pay off—and it usually pays very well—have done so chiefly by specifying a uniform and high-grade product.

Like Johnson, the Kaiser firm will supply contractors with a standard recipe: a set of basic house designs adapted to regional needs. It will

specify high construction standards and planned communities of at least 200 houses. It will supply materials and acquire land. It will offer or arrange for construction loans. This nation-wide set-up offers the economy of volume purchase of materials. It provides for factory-production of certain structural elements and all mechanical parts, while making use of advanced techniques of site assembly. At the moment Kaiser plans no national advertising—he doesn't think he will need it.



10,000 HOUSES ARE ONLY A BEGINNING: Kaiser, Burns, Giannini

**Prefab Parts.** The basic Kaiser house plans—two- and three-bedroom houses to sell for \$5,000–\$6,000—offer no startling design innovations. A dozen or so basic plans will be varied by facades finished in Cape Cod, Rancho, Colonial styles. Floor area has not yet been announced. Some interior walls will be factory-built as storage units. Major emphasis will be on mechanical equipment, and a pre-assembled bath-kitchen unit will be an important feature. Independent producers are expected to supply this as well as heating and air-conditioning equipment. An hydraulic dishwasher is already in production as an exclusive Kaiser product.

If Kaiser had a plan to extend his housebuilding revolution to radical changes in the home mortgage system, he was not talking about it. But he promised to sell a \$5,000 house at \$150 down, with \$30 monthly payments to include health insurance. If consumer financing goes through the usual channels, Kaiser Community Homes will advance most of the standard 20 per cent down payment. Rumor had it that capital financing for the new enterprise came from the Bank of America, with a personal blessing from retiring board chairman A. P. Giannini, who has put many another young West Coast enterprise on its feet.

**Shrubbery to Airports.** The program represents an interesting amalgam of Burns' own successful building formula and Kaiser's heroic sense of housebuilding potentials. Whether Edgar Kaiser's investigation of prefabricated sectional construction (ARCHITECTURAL

FORUM, May, '44) was lost in the shuffle was not entirely clear. Burns, who has always used lumber framing, is sold on precutting and site fabrication. Kaiser, mindful of the Fontana steel capacity, is interested in developing a standardized steel framing system.

A realtor who sold a subdivision a month in the twenties, Burns got his housebuilding start by jumping in quickly to meet the big demand for the low cost house in the thirties. Characteristic of the Burns method, which early introduced amenities uncommon

in low cost building, is a trick that will be carried over in the new enterprise—sale of shrubbery and precut fencing to home buyers, who create their own landscape and what Burns calls a "psychological equity." Characteristic of Kaiser's interests is the proposal to give each community a medical center and maybe an airport.

To doubting Thomases, the Kaiser-Burns scheme was nothing more than shrewdly timed publicity. But to others who had seen many a Kaiser ship launched, many a Burns house sold, it was a major league opening to a new Building era.

*"Health is just as infectious as disease if it is given a chance to spread. I am deeply convinced today that the building of community centers is of even greater importance than housing itself, for these units represent a cultural breeding ground which enables the individual to attain his full stature within the community."*

—WALTER GROPIUS, architect

### NEEDED: PLANNING DOLLARS

It often takes longer to plan a big construction job than to build it. Building reconversion would not begin with the unwinding of war controls and access to materials and labor. It had started months ago—in field surveys, detailed construction plans, materials and equipment specifications, cost estimates. But so far only a far-sighted handful are ready with the plans that will soon put



**PREFAB PANEL:** (l. to r.) V. A. Myslin, Soviet Purchasing Commission; Interpreter Orlova; S. N. Dobrynin, P. N. Krshov, SPC; Morris Sanders, panel chairman. (standing) Clarence Farrier, Howard Vermilya, Gordon Lorimer, Marcelle Breuer, Tyler Rogers. (last row) Eugene Clute, Henry Wright, Robert McLaughlin, Robert Davison, Jose Sert, Corwin Wilson



**INDUSTRIAL BUILDING PANEL:** (l. to r.) Peter Novojilov, assistant chief, industrial installations, Soviet Purchasing Commission; A. I. Alikhanov, SPC; Roland A. Wank; V. I. Bogomolov, SPC; G. B. Panero, Ferguson Constr. Co. (standing) Simon Breines, Serge Chermayeff; J. H. P. Perry, Turner Constr. Co.; N. P. Remizov, SPC; C. P. Stolberg, Ferguson Constr. Co.



M. M. Gousev, Amtorg; Chairman Corbett, Commerce's E. C. Ropes, Peter Novojilov



Andre Fouilhoux, B. G. Skramtaiev



L. I. Smirnov, A. I. Vashchinin, Soviet Purchasing Commission

Myron Ehrenberg

## FRIENDLY ALLIES

Culminating its first year of existence, the Architect's Committee, newest offshoot of the National Council of American Soviet Friendship, Inc. staged an impressive display of international felicity last month in New York. The program, dedicated to cooperation between the building industries of Russia and America, opened with a formal dinner where representatives of both countries heard NH Administrator Blandford, E. C. Ropes of the Department of Commerce, and M. M. Gousev of Russia's Amtorg Trading Corp. At 8-hour discussion panels the day following, earnest Americans answered questions earnestly asked by the Russians and earnest Russians read papers answering the Americans.

Building men to work. While Building waited anxiously on the reconversion threshold, construction planning—both private and public—showed up as woefully inadequate to the size of the job ahead.

If the U. S. is to have jobs for everybody who wants one, annual income must amount to \$150 billion; of this, construction's share is estimated at \$15 billion. If prewar ratios are maintained, private construction investment would amount to two-thirds of this or \$10 billion. But—according to the Engineering News-Record-A. S. C. E. tabulation—private construction plans now ready for bids add up to only \$325 million worth of postwar building (including multiple housing projects over \$150

thousand), public works plans represent \$735 million.

Federal Works Administrator Philip B. Fleming, who has worried audibly for months about the pace of planning, worried even harder. "The outlook for construction in the immediate postwar period can hardly be described as bright. Nothing can be built without plans, and planning is time-consuming."

General Fleming's gloom increased when he looked at the small purse from which he must dole out funds for advance planning to clamoring state and local governments. President Roosevelt had recommended a planning fund of \$75 million to speed reconversion. (ARCH. FORUM, Feb., '45). But Congress decided that only \$17½ million can now

be spared to help cities get works plans ready for bids. Last month Fleming figured that this is enough to prepare only about \$350 worth of construction. Since 90 per cent of the money will be allocated to states on the basis of population, New York will get the lion's share—about \$1½ million. Some 16 states will get only about \$85 thousand each, which they will be obliged to divide among all cities and counties. Planning advances will bear no interest, but must be repaid in full out of the first funds available from any source for construction of the planned works. Any non-federal government agency with plans to build within three years after the war emergency is eligible to apply for a slice of the slim federal planning fund.

## CEILING HIGH

Many an earnest postwarrior has pondered the No. 1 question: how can the U. S. work as hard at peace as it has at war? The 20th Century Fund, which has for sometime been way out in front in the breathless ranks of the planning platoons, last month offered a new confirmation of an old answer. The answer: if the U. S. builds all the houses, highways, factories, and other things it needs, all of its war-expanded productivity can be put to use. The Fund's confirmation: the nation's need for new capital investment in the period 1946-1960 amounts to \$28 billion a year (1940 dollars)—or about \$8 billion more than gross capital formation in the boom year 1929.

Basing their estimates on careful assumptions about the size and rate of population growth, the labor force, the national income, amount of deferred replacement, etc., Fund economists Robert W. Hartley and Eleanor H. Wolkind present detailed projections of need for

capital outlay in four major fields, which normally account for about two-thirds of our total capital expenditure. Here are the average annual outlays the Fund thinks we will need to make (in millions):

<b>Urban redevelopment:</b>	<b>\$7,140</b>
Nonfarm housing	5,065
Schools	863
Streets	359
Hospitals	344
Water supply	263
Sewerage systems	246
<b>Commercial &amp; industrial:</b>	<b>\$6,088</b>
Industrial building	3,507
Electric power	1,477
Commercial building	680
Telephone facilities	424
<b>Transportation:</b>	<b>\$3,567</b>
Highways	2,208
Railroads	1,073
Waterways	150
Airports	100
Pipelines	36
<b>Rural development:</b>	<b>\$1,891</b>
Farm housing	384

Farm service buildings	280
Conservation, etc	1,227

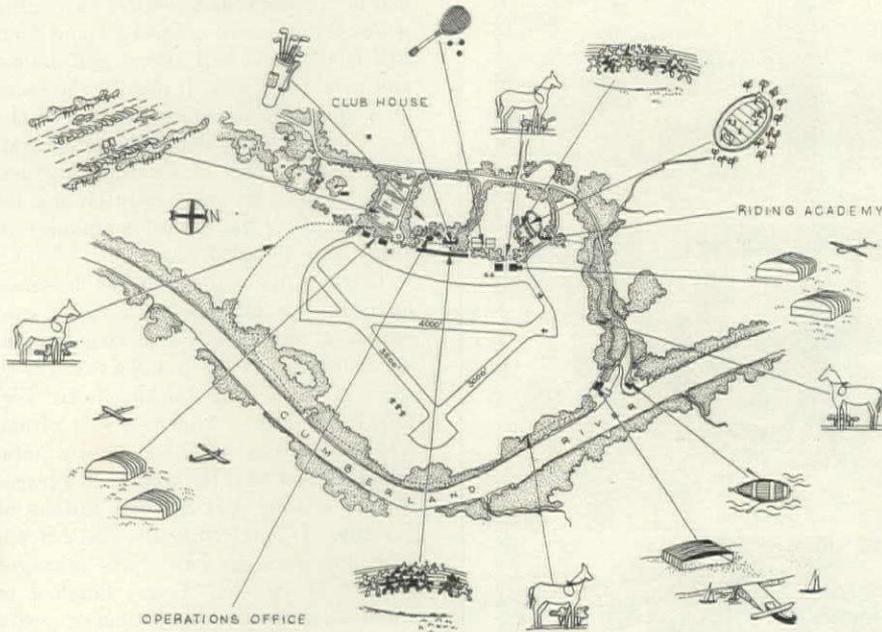
Major importance of the study is its expert testimony of a substantial need for capital outlay. As the Fund puts it, "repeatedly we have seen that a major factor in a general downswing is a lessening of money spent for capital equipment," while some determined viewers-with-alarm have argued that the U. S. economy has reached a maturity which will make another cycle of expanding capital expenditure impossible without recourse to artificial stimulation. But, as the Fund knows, need—whether for consumer goods or capital equipment—is not synonymous with demand. Whether the U. S. will build all the houses it needs to shelter its population in a way that belongs to the 20th century—or whether it will build 19th century houses for the top of the market that can afford 18th century financing and 17th century handicraft is a question that neither the 20th Century Fund nor any other postwarrior can answer.

## CITIES

### DESIGN FOR FLYING

Before the war there were 24,000 private planes in the U. S., and only 359 commercial planes flying scheduled routes. But not many private flyers owned their planes more than four years. About one-third quit after one year of flying; one-half quit after two years. (Continued on page 10)

**POSTWAR AIRPORTS** to serve private flyers may look like these sample plans. Francis B. Warfield & Associates, Nashville, designed the airpark-recreation center for a site along the Cumberland River, already purchased for private development. Below, left: airparks will open many new resorts to flyers. Right: placed close to the business center, this metropolitan airpark would serve both commuters and city dwellers.



# NEWS

The biggest reason, according to a Civil Aeronautics Authority survey: lack of accessible airports.

CAA experts think there will be more than 400,000 privately owned, family-size planes within ten years after the war. There is a big potential market among the thousands of Americans who now know how to fly—350,000 Army and Navy pilots, 150,000 civilian pilots and students, 250,000 young men and women who have had aeronautical courses in high school. And from an uneasy industry, eyeing the deflation ahead of its \$19 billion capacity, comes the promise of a \$2,000 family plane that will be spin-proof, stall-proof and even fool-proof. Almost anybody, manu-

facturers say, can learn to fly this Ford of the air in five hours—and almost everybody wants to. "I intend to learn how to fly," Secretary of Commerce Henry Wallace told the Senate Committee now pondering federal aid for airport construction.

But before the U. S. can take to the air, there is plenty of ground work to be done. Biggest shortage is the airpark—the small airport designed to serve private flyers. If there are to be 400,000 plane owners, there must be plenty of airparks—easy to reach, with adequate facilities for servicing and storing planes and for serving the personal needs of flyers. Showcase of private aviation, the small airport has so far failed to live

up to its job. Most have been located where land cost is low, miles away from urban centers. Few can boast more facilities than a few gasoline pumps and a ramshackle hangar. Building the airparks that a developing aviation industry demands will call for a complex of design, construction, real estate and merchandising skills.

Most of those interested in airport construction believe that public aid will be imperative to get the needed ground facilities built. But, unlike streets, highways, harbors and other public utilities, airports can earn their own support. Many a small prewar airport has been financed by hangar rent, repair service, sale of gas and oil. The postwar airpark will have all these income-producing enterprises on a much more adequate scale, will probably add restaurant, a hotel, shops, a show-room for airplane sales. The airpark may be a public or private playground with swimming pools, tennis courts, baseball and football fields, hand ball alleys, golf course and picnic grounds. It may be the focus of a mountain or seaside resort or the heart of a new residential development. Or it may be part of a nation-wide network of plane servicing installations, for which some of the big oil companies already have detailed plans.

There is no ceiling on the business opportunities inherent in airpark construction, and progressive airport management has already pointed the way to some of them. The Lockheed Air Terminal outside Los Angeles has a garage where air passengers leave their automobiles. Last year the combined garage-service station sold 800,000 gallons of gasoline. This terminal also has a steam bath and massage bar. Says manager Dudley M. Steele, "I was laughed at when we started it, but it has proved a good money maker."

Hundreds of cities are already making plans to pull in the airpark from the remote suburbs, make it a part of the public park system, supplement it with the recreation and service facilities that can make it a logical center of community activity. Low land cost has been the dominant factor in prewar airport location; there is much to indicate that accessibility may be the determinant in future airport building. Milwaukee's plan for a downtown airpark is an elevated landing deck, to be built over the railroad yards or one of the older light industrial areas. An alternative proposal, favored in Chicago, St. Louis, and many other cities, is to locate the downtown airpark where blight has put a neighborhood on the skids.

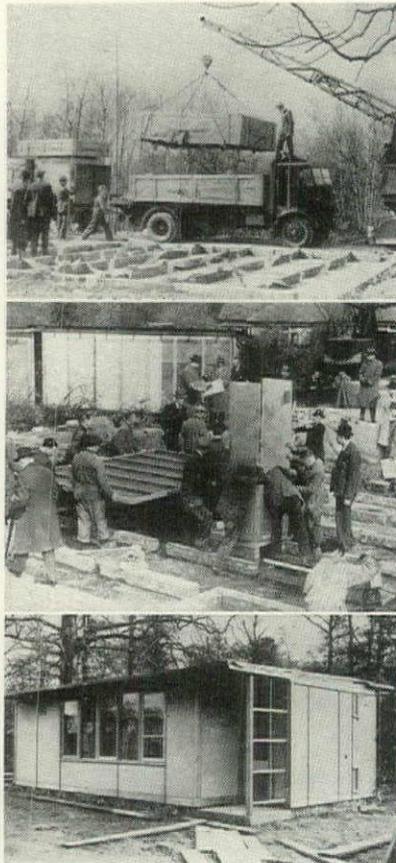
(Continued on page 12)

## BRITISH PREFAB

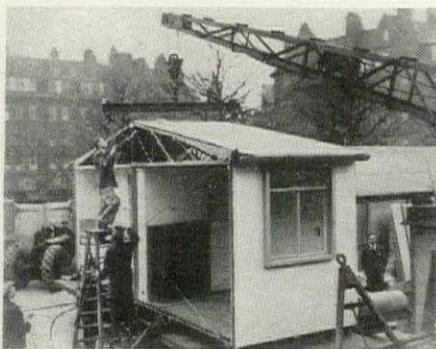
Last month Britishers were puzzling over erection of the first batch of temporary houses produced by U. S. manufacturers. British workman found the house, whose plan has been sharply criticized by the U. S. prefab industry (ARCH FORUM, April, '45), hard to assemble. Roof sections were especially difficult. Last month National Housing Agency technicians said the house is being re-designed in part. Photos at right show an experimental station where crews are trained to erect the U. S. house.

Some British aircraft plants are already turning out an aluminum prefab (below), and the government last month ordered 50,000. This aluminum house is delivered to the site in four sections, locked together in a few hours. The Germans may be called upon to furnish prefab houses to Britain as a form of reparations, Minister of Works Duncan Sandys said. Some 500,000 Germans may be put to work helping Britain to repair blitz damage.

British Combine



**BRITISH AIRCRAFT PLANTS** are already producing this aluminum prefab in quantity.





## *The Wood of the Masters*

In the golden age of woodworking, Thomas Sheraton wrote, "Of all woods, mahogany is the best suited . . . it works up easily, has beautiful figures, and polishes so well that it is an ornament to any room in which it is placed."

In the practical thirties, the Forest Products Laboratory reported, "No wood equals it (mahogany) in workability and resistance to warpage, shrinkage and expansion."

When Pearl Harbor sent scientists on a hunt for the best material out of which to build such new weapons as PT boats and gliders, mahogany again provided the answer.

Today, with a world to rebuild, architects, experimenting with structural qualities of plywoods, report mahogany the most satisfactory in stability and affinity for adhesives.

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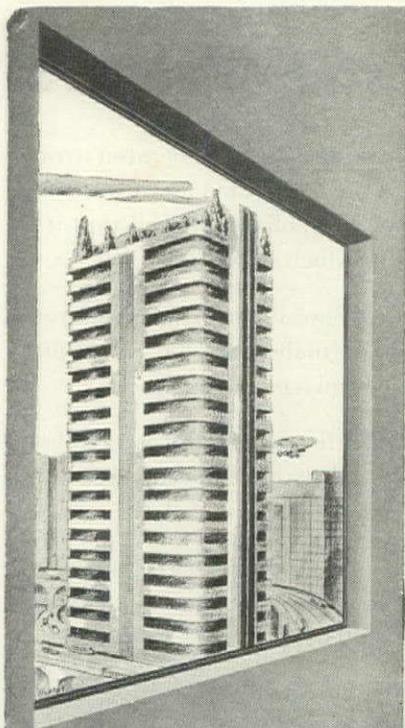


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(Continued from page 10)



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Although there is scarcely a U. S. town without an airport program, few are able to boast specific financing plans. Last month a subcommittee of the Senate Finance Committee considered a half-dozen legislative formulae, all intended to back local airport building dollars with federal funds. Major Congressional difference of opinion centers around local versus federal control. Bills sponsored by Senator Olin Johnston and by Representative Clarence Lea call for grants to be made by CAA directly to sponsoring municipalities. Senators Josiah Bailey, Pat McCarran and Representative Jennings Randolph are sponsoring bills that emphasize state control of all grants for local aircraft construction. Most Congressmen agree that CAA's national airport building plan is a feasible goal for the postwar decade.

The CAA program calls for construction of 3,000 new airports—the majority to serve private flyers—and improvement of 1,600 existing airports. Federal funds are sought to cover half of a total expenditure amounting to over \$1 billion. If Congress approves, the nation may embark on a building program that will, like the highway building of the inter-war period, reshape its urban pattern.

**TREES FOR BROOKLYN**

Some old residents can remember when trees grew in Brooklyn. Some can remember, too, when the Heights was the most aristocratic neighborhood in all of New York—a colony of financiers who took the Wall Street ferry every day to work. But in Brooklyn as in every other city long fingers of blight have reached

into once-sound neighborhoods. Dozens of boarded-up tenements, vacant lots where buildings have been leveled to wipe out taxes, a random jumble of obsolete housing and industry mark the borough's dying areas.

Last month fifteen Brooklyn savings banks—in a history-making agreement—stood ready to undertake a cooperative enterprise that will bring both trees and a healthy neighborhood back to Brooklyn. The banks plan to team together in building housing for 1,000 families on seven acres of blighted land that lies like an ugly scar across Brook-

Life photo: Ralph Morse



McGOLDRICK: method

lyn's heart. The banks know that commerce will follow the flight to the suburbs—unless Brooklyn finds the way to restore livable neighborhoods. The city knows that the cost of blight is far greater than the cost of getting rid of blight. With the help of some new legal tools and earnest plugging from City Controller Joseph D. McGoldrick (ARCH FORUM, Nov., '44), the banks and the city got together on a new way to attack blight—a plan that may well point a path for many another U. S. city.

Public-private teamwork at its best, the Brooklyn development program is a synthesis of New York's first integrated plan for public building and the nation's first plan which will enable savings banks to work together in building a large-scale housing project. Last month the Planning Commission approved a \$50 million building program that will house all of the public agencies now scattered throughout the borough in a civic center and provide arterial highways to draw through traffic out of Brooklyn's busy central area. The plan provides for plenty of park space, a complete rezoning to move industry outside the arterial highway ring, and an improved street pattern.

(Continued on page 16)

Blank & Stoll



**BROOKLYN BANKERS** back redevelopment with plans to build a \$6 million neighborhood. (l. to r.) Fred Gretsck, president, Lincoln Savings, Edward A. Richard, president, East New York Savings, Philip A. Benson, president, Dime Savings.

# Merely Hibernating...

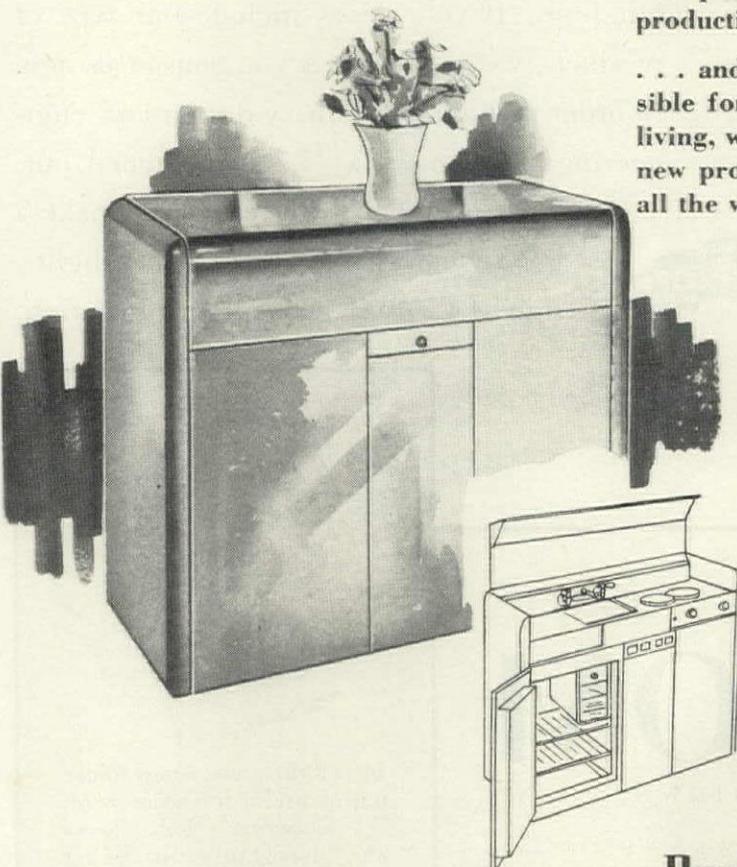
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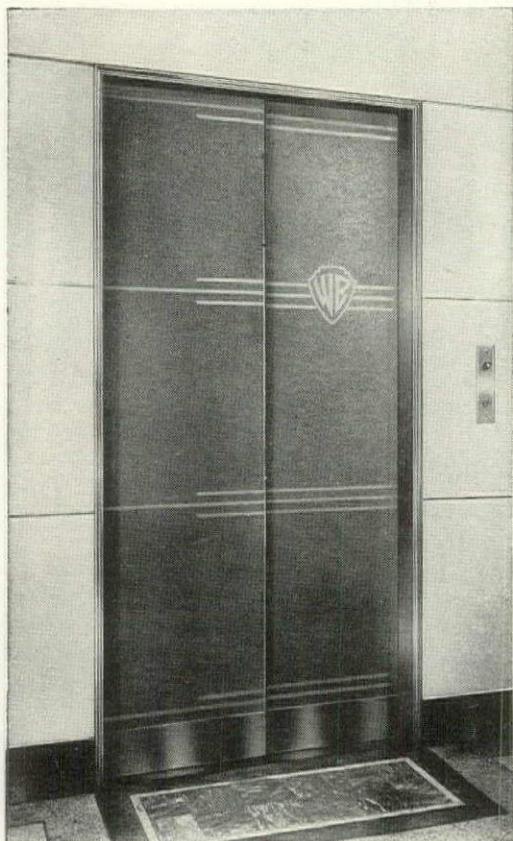
. . . and architects, who will be responsible for America's designs for postwar living, will be the first to learn about the new products . . . the finest kitchens in all the world.



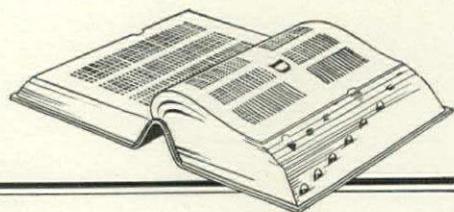
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Illustrated above, One of Seventeen Dahlstrom Elevator Entrances in the Warner Bros. Downtown Building, Los Angeles, Calif. Hammered bronze enameled units with bronze enamel striping.

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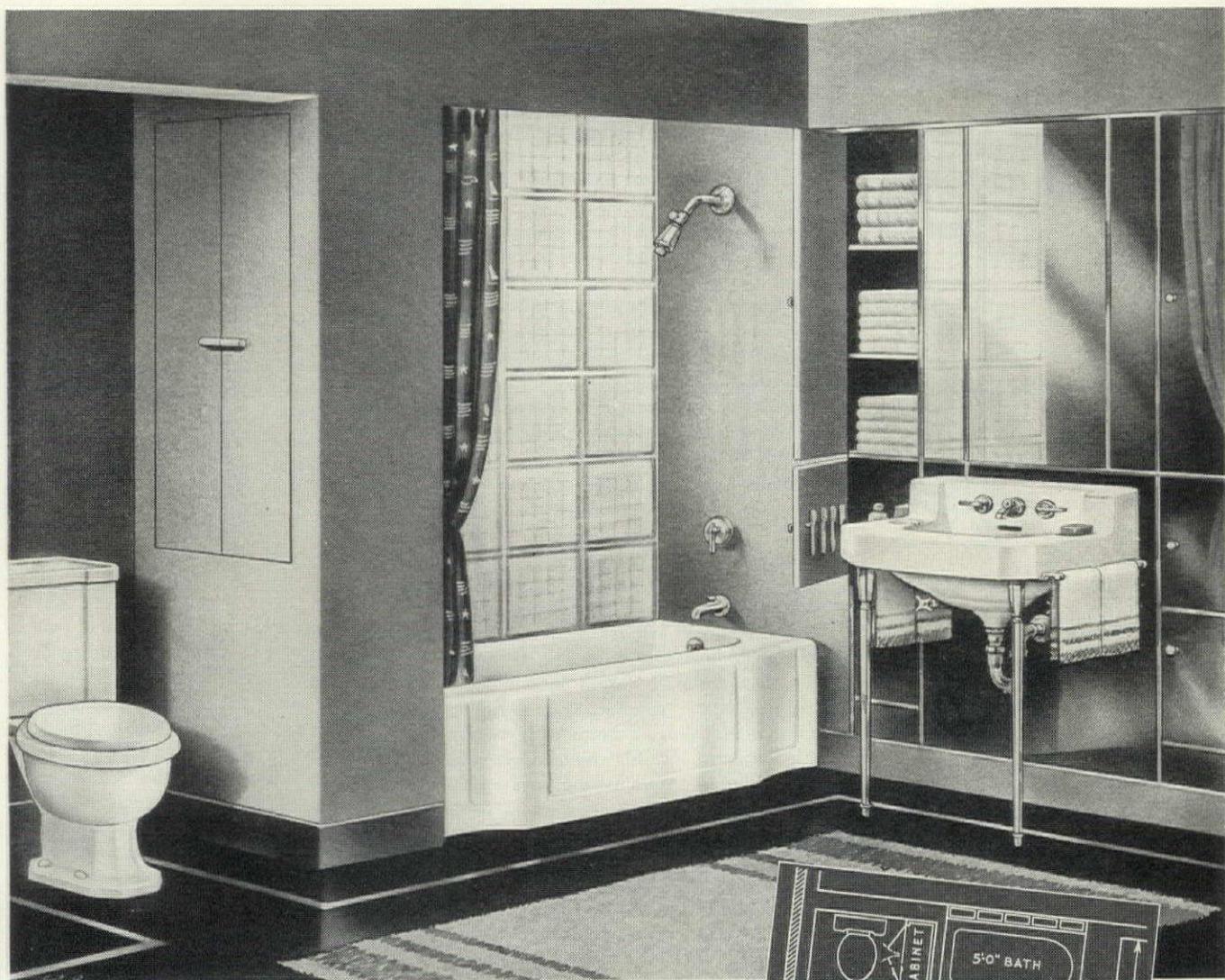
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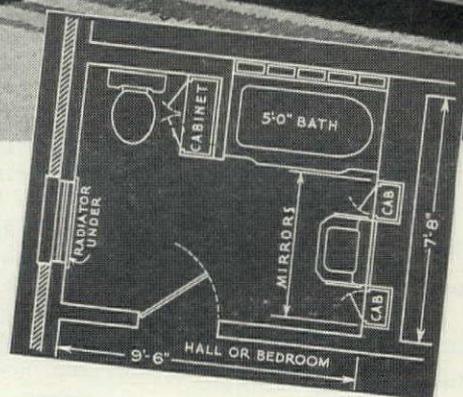
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(Continued from page 12)



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But some of Brooklyn's most run-down neighborhoods adjoin the site chosen for its glittering new civic center. Controller McGoldrick spoke for many a taxpayer: "I felt that to pour \$50 million in public improvements into this neighborhood and leave large parts of its deserts of blight and decay would be to miss a spectacular opportunity . . . Unless these areas can be rebuilt with private capital and put on a self-sustaining tax paying basis, it is difficult to see how the city could afford the contemplated improvements."

Months ago McGoldrick, now touted for New York's next Mayor, proposed that the city use \$20 million to condemn land suitable for redevelopment, rezone the area and offer the new super-blocks for sale to private building. But Mayor Fiorello LaGuardia determinedly thumbed-down the proposal. Only reason on record: "It would put the city in the real estate business." Equally determined, McGoldrick bolted 11 years of Fusion to back his rebuilding plan. Soon Planning Commission backing and the boost of a recent amendment to the state banking law opened the way for this kind of enterprise. Governor Thomas Dewey gave pointed approval to a new law clearly establishing the city's right to acquire property for neighborhood rehabilitation "free of any narrow restrictions as to the type of use to which the cleared property should be put."

Four leading Brooklyn banks had already agreed, pending legislative approval, to buy 5 square blocks at about \$3.50 per sq. ft., or 105 per cent of assessed value, if the city would use its power of condemnation to assemble the site, now split among hundreds of small owners. Last month the four banks—the Dime Savings Bank of Brooklyn, the Lincoln Savings Bank, the East New York Savings Bank, the Williamsburgh Savings Bank—were joined by eleven others, who will participate in setting up a housing corporation to undertake a \$6 million development.

Only public aid the banks seek is land assembly. Unlike some of Metropolitan Life's postwar projects, this development will get no tax exemption. There will, therefore, be no limits on either rentals or on investment return. Room rents will probably average about \$20 a month, and hope is to bolster the neighborhood's financial stability by attracting families of moderate income. Apartments will likely be 12-story buildings and land coverage will be not more than 25 per cent. According to the city's plan, new park space and a new high school will adjoin the site, the new highways

will be within easy access, a shopping center and subway are nearby.

Controller McGoldrick hopes that the savings banks' enterprise is only the first of many large-scale rebuilding enterprises in Brooklyn. "We have tried low-cost housing successfully and hoped that the clearance of slums would encourage private capital to clear the surrounding areas. Decent housing for the white collar workers, the professional worker, the medium income group, is not available in our city. If good housing is to be provided for this group, it must be done with private capital. Our hope lies in a broad slum clearance program whereby the city will step in, acquire the land, clear the slums and make it possible for private capital to take on the task from that point."

*"Regardless of the present unpopularity of anything having to do with esthetics, the public still responds to the appeal of beautiful and orderly public spaces and buildings. 'Public Works' of a spectacular nature are readily accepted, regardless of cost; the most frequently heard criticism of public housing projects is not their cost but their banality and even ugliness. To a remarkable extent people prefer stones to bread, if only the stones are those of Venice."*

—Henry S. Churchill

#### BILLION FOR REBUILDING

How far can cities pay for their own rebuilding? How much federal aid will they need? Some proponents of large-scale urban redevelopment argue that city pocketbooks are in better shape to stand the expense than the federal pocketbook, already strained by war expenditure amounting to \$276 3/4 billion. Others point to cracks already apparent in the municipal revenue base, gloomily predict that the real estate tax structure will crumble under any extra stress.

Last month the Municipal Finance Officers Association took one measure of the ability of the nation's larger cities to finance postwar improvements: a survey of legal debt limits. Checking 65 cities, MFOA found that local governments have a potential \$1 1/2 billion to spend on postwar building — or about one-half of one per cent of what the U. S. has so far spent for World War II. This is the legal margin above the cities' outstanding bond debts of \$2 1/2 billion. Whether these cities have the economic or tax collecting ability to service \$1 1/2 billion additional debt, MFOA made no attempt to estimate.

(Continued on page 18)



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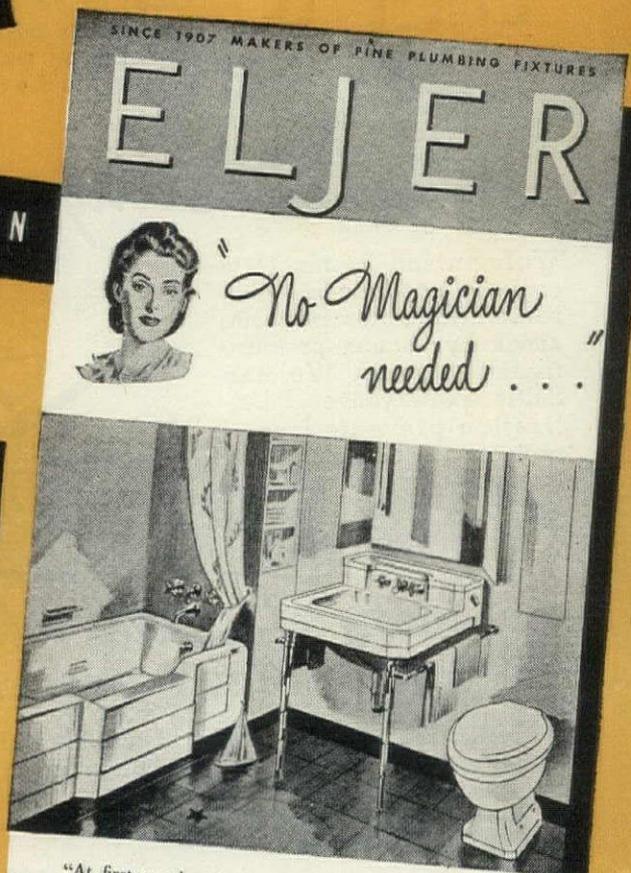
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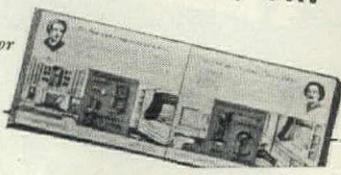
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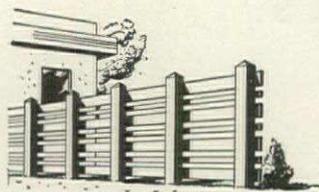


ELJER CO., Dept. G-20  
Ford City, Pa.

(Continued from page 16)

**DON'T BE FENCED IN BY  
OLD-FASHIONED IDEAS ABOUT**

*Wood*

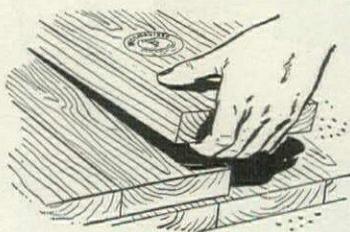


Wood gave the designer an effect he was seeking here — good looks and security, continuing the feeling established by the building. Savings made possible by the use of wood were especially pleasing to the owner.

**THIS WOOD IS**

*Long Lived*

Wolmanized Lumber\* is ordinary wood made highly resistant to decay and termite attack by vacuum-pressure treatment with Wolman Salts\* Preservative. Fiber-fixation prevents loss of protection when the wood is exposed to the weather.

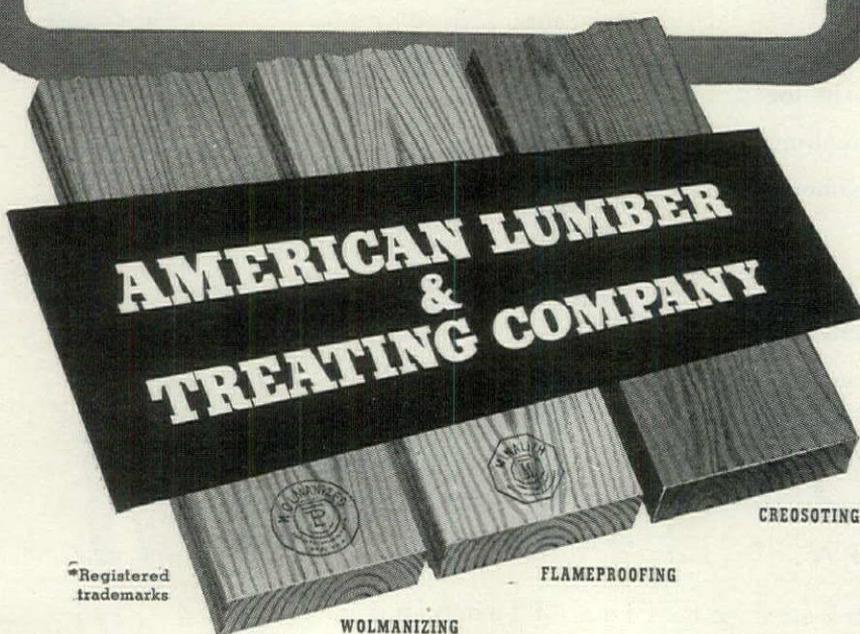


**SPECIFY**

*Pressure Treated*

**WOLMANIZED LUMBER**

All of the usual advantages of building with wood are retained: paintability, lightness, strength, resilience, excellent insulating properties.



\*Registered trademarks

WOLMANIZING

FLAMEPROOFING

CREOSOTING

1647 McCORMICK BUILDING, CHICAGO 4, ILLINOIS

**DIVIDENDS**

In Newark, the Housing Authority, headed by able Frank Wenrich, took its first measure of the social effect of its operations, proudly reported community-wide dividends. Residents in housing projects have better health, fewer accidents and fires, less juvenile delinquency than other residents in the same neighborhood.

Myron Ehrenberg



WENRICH

Comparing three housing projects with the rest of the wards in which they are located, the Newark study found that rehoused tenants contract tuberculosis only about half as often as residents outside.

In 1943, three times as many infants died and there were twice as many cases of communicable disease in the surrounding neighborhood. There was not a single fatal home accident in the projects during the two-year period covered by the survey, while in the rest of the neighborhood there were 2.5 per 10,000 persons. There were 7.9 fires per 10,000 project residents; the rate was 28.2 in other dwellings. If the projects' fire record had been city-wide, the report estimates, Newark would have in one year saved \$574,200 — the cost of fighting fires, not counting life and property loss. Juvenile delinquency was lower among project families, and children showed better school records after families were rehoused.

Observed the *Newark News*: "From the results reported, it is obvious that there is only one thing wrong with low-cost housing projects. There are not enough of them."

**SURPLUS**

Someday Vancouver will have on its hands 12,000 units of family war housing, 10,000 units of dormitories, and about 2,000 acres of land. But Vancouver is one city determined not to wait until "someday" to decide what to do about this war surplus. Already local government agencies and civic organizations have teamed together to draw up a plan to forestall indiscriminate dumping of the property and land upon the post-war market.

The Vancouver Housing Authority is asking Congressional approval (required under the Lanham Act) of its plan to acquire the three federally-owned permanent war housing projects in the area and to operate them as low-cost

(Continued on page 24)

# EVERY 90 SECONDS...



## SHEETROCK *Fireproof WALL and CEILING PANELS*



WOODGRAINED



BEVEL EDGE



TILE BOARD



"WELDED WALLS"

Every 90 seconds, fire attacks a home, an office building, or a factory... and no one knows when, where or who is next. Protect against fire! One way is to use fireproof Sheetrock\* wall and ceiling panels. For they are made of gypsum, the fire-resisting mineral that cannot burn. In a building they shield the framework over which they are applied till help has a chance to arrive.

You can decorate Sheetrock with any type of finish... the minute the last panel is nailed up. Choose sweeping, unbroken surfaces — welded with joint-concealing Perf-A-Tape\*—or feature the joints with the Bevel Edge method. Or if you want ready-finished walls, use Sheetrock woodgrain finishes that are faithful reproductions of Knotty Pine, Walnut and Bleached Mahogany. Write today. 300 West Adams Street, Chicago 6, Illinois.

*Reg. T. M.*

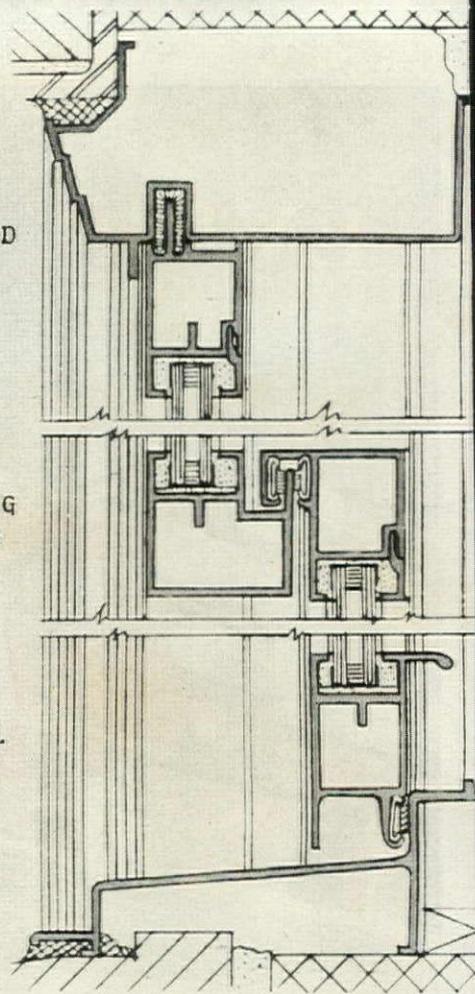
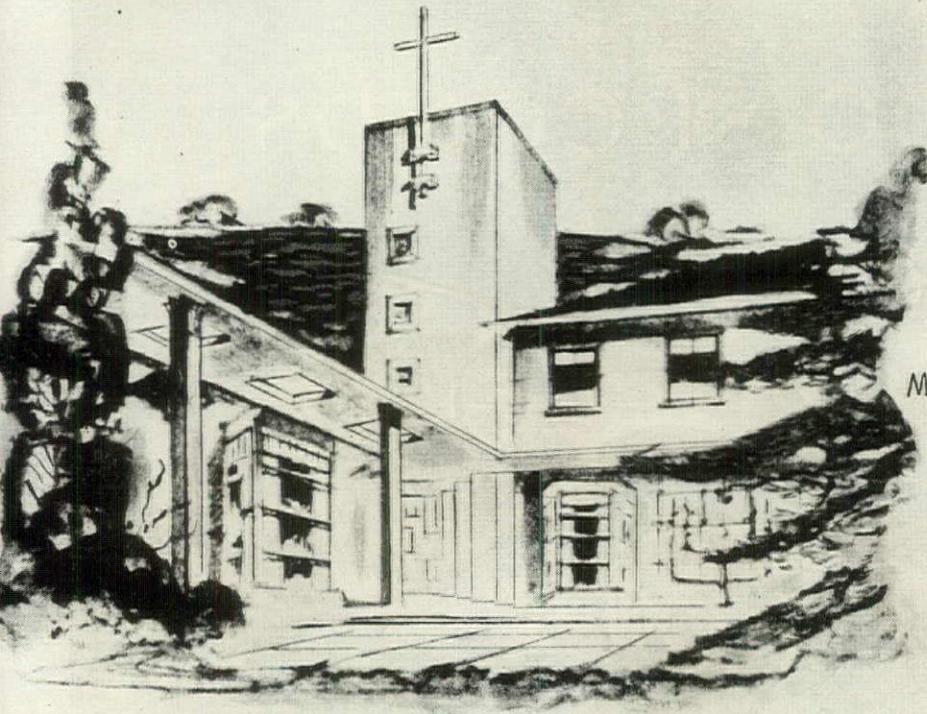


## United States Gypsum

**For Building • For Industry**

Gypsum • Lime • Steel • Insulation • Roofing • Paint

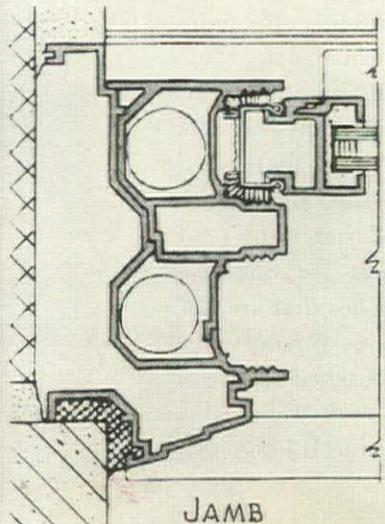
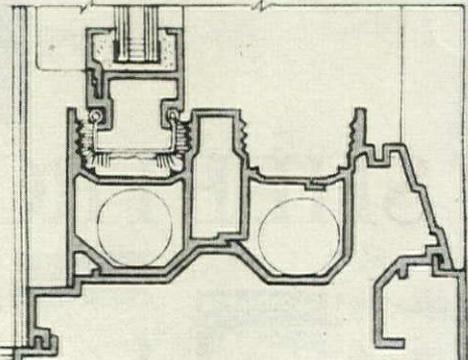
# POSTWAR DETAILS



## MEMORIAL CLOISTER

ADLAKE ALUMINUM DOUBLE-HUNG WINDOWS--STANDARD OR BAY-- WILL BE ESPECIALLY SUITABLE FOR A MEMORIAL CLOISTER... BECAUSE... LIGHT AND VENTILATION CAN BE EASILY CONTROLLED BY MOUNTING THE ROLLER-SHADES AT THE MEETING RAILS.

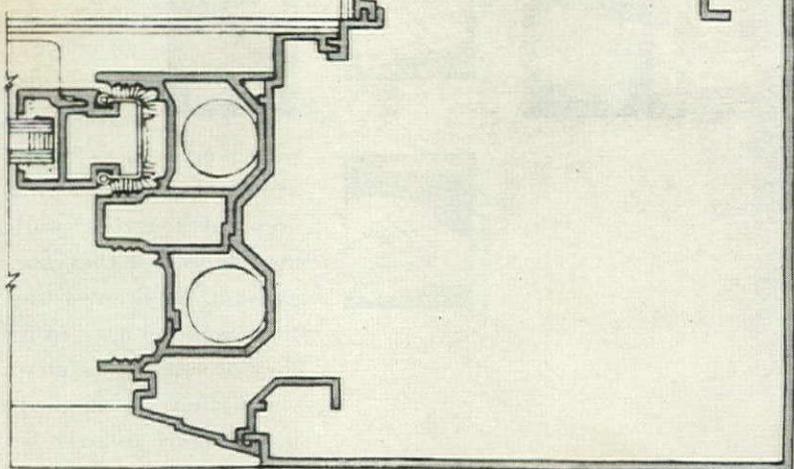
ADLAKE ALUMINUM WINDOWS GLIDE SO EASILY ON THEIR NONMETALLIC WEATHER STRIPPING THAT THEIR OPERATION IS PRACTICALLY EFFORTLESS. ADLAKE ALUMINUM DOUBLE-HUNG WINDOWS COST LITTLE IN RELATION TO THE LASTING SERVICE THEY GIVE.



JAMB

HALF-SCALE  
DETAILS

DOUBLE GLASS  
SHOWN



CORNER MULLION

SPECIFY  
AND  
DETAIL

# Adlake

ALUMINUM  
DOUBLE-HUNG  
WINDOWS

THE ADAMS AND WESTLAKE CO. ELKHART, IND., U.S.A.

**What Percent of  
Building Costs should be  
spent on HEATING ?**



**W**ITH Victory will come a rushing flood of people who have a certain sum of money to invest in a home. To many, this sum will represent life savings. They will need sound, dependable advice on how best to spend that money to receive full value in long-lasting home comfort.

When they ask you, their designer and builder—"what percent of my building costs should be spent on heating?" tell them this: From 6 to 9 percent is about the average being spent on the heating system. But the *most important factor* in selecting a heating system is to be sure you're getting *fully adequate heating comfort*—along with economy. No home, no matter how beautifully decorated or perfectly arranged, can be really liveable without clean, comfortable automatic heat.

So, if some of your clients suggest sacrificing the quality of their heating system in order to afford some other desired feature, remember...*the right kind of heating system can provide more long-lasting comfort to the home owner than any other single factor.*

Specify Janitrol to give your clients the very best in clean, comfortable, fully automatic gas heating when new home building is again resumed. Janitrol incorporates more new advancements in design and engineering—the result of more than 30 years continuing research devoted solely to the development of gas heating equipment. You can be assured that whatever your post-war houses require in heating, Janitrol will have the most modern equipment that Surface Combustion's complete engineering facilities can provide. For full descriptive and specification data on the complete Janitrol Gas-Fired line, write to Surface Combustion, Toledo 1, Ohio.

★  
**Janitrol**

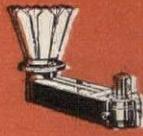
**GAS-FIRED  
HEATING EQUIPMENT**



Winter Air Conditioner



Gravity Furnace



Conversion Burner



Unit Heater

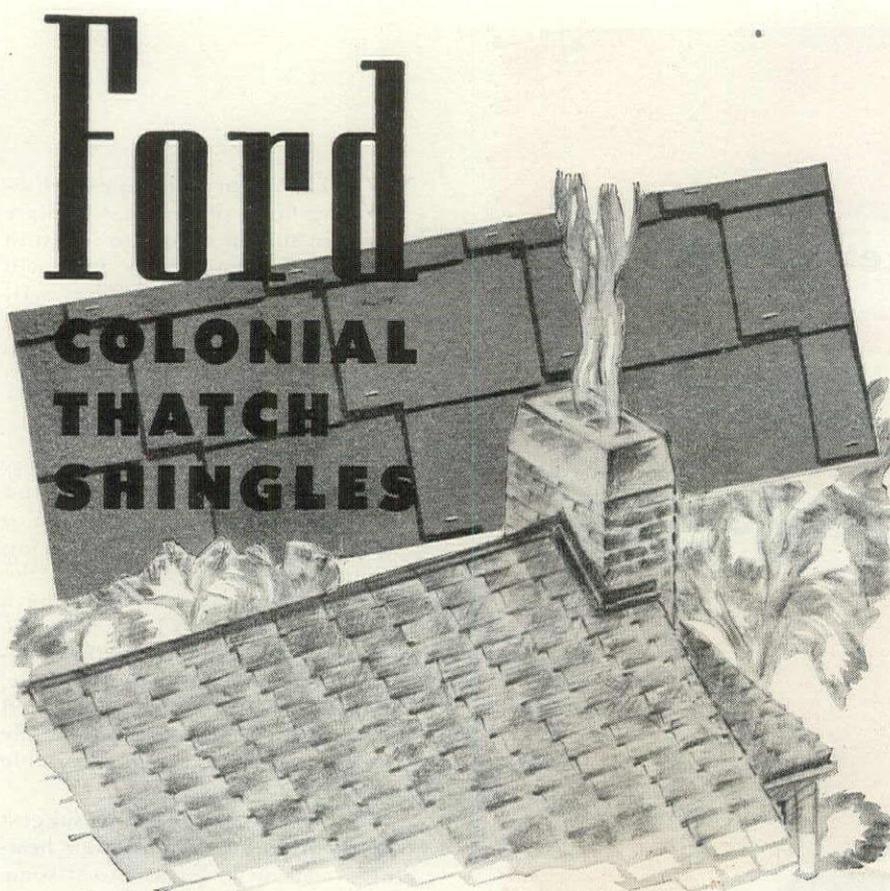


Boiler



Floor Type Blower Unit

(Continued from page 20)



Many home owners are familiar with the beauty and distinctive charm Colonial Thatch Shingles give to the typical American home, but Ford is not satisfied with beauty alone. The ultimate in weather protection is built into Ford's Colonial Thatch Shingle by a combination of high grade time-tested materials and manufacturing methods perfected through 80 years' experience in making roofing products. The basic structure of the Colonial Thatch Shingle is composed of extra heavy felt impregnated with Ford's specification asphalt and surfaced with fire resistant mineral granules firmly embedded to make a durable, weatherproof shingle.

Colonial Thatch Shingles retain their original colors, no fading or washing out to mar the color harmony of the roof; they keep that fresh new look for many years. The deep shadow line of the side and head lap gives a rugged character to the roof not obtainable with other types of shingles.

In addition, Colonial Thatch Shingles are wind and storm resistant. Each tab is locked securely to the roof by a rustproof metal staple, machine applied, to form a firm integrated roof structure. This modern locking feature makes the Colonial Thatch Shingle particularly adapted for applying over old roofs. Ford's Colonial Thatch Shingle is one of the most popular roofing products ever made.

FORD ROOFING  
PRODUCTS COMPANY

Chicago 2, Ill.  
York, Pa.                      Vandalia, Ill.



ASPHALT ROOFINGS • SHINGLES • SIDINGS • FORD-V-NEER

housing. The developments total 1,000 units, which the authority believes is enough to take care of all the city's low income families.

The school district plans to use surplus federal lands for a postwar building program, expanded to meet the needs of the 50 per cent of all immigrant workers who hope to stay in Vancouver after the war.

The health department hopes to build a tuberculosis sanatorium on the site of one temporary war housing development. Parks, a golf course, a riding academy and a cemetery are planned for other surplus lands. After these community needs are cared for, the remaining lands will be replatted for sale to private home builders. According to the Planning Commission, about 1,000 home sites can be sold without flooding the real estate market through excessive subdivision.

PEOPLE

PRESIDENTS

Last month these Building men stepped to the front:

**James R. Edmunds, Jr.**, Baltimore, new president of the American Institute of Architects. Edmunds, whose long list of civic jobs includes the chairmanship of the Baltimore Housing Authority,



believes it is high time "to widen the scope of our activity as individuals beyond the narrow confines of our own little practice and to make more adequate contribution to the ends of public common good — each in his own community."

**L. C. Hart**, just-elected president of the Producers' Council, already busy plugging for priorities to assure retooling for materials manufacturers. Now vice-president and general sales manager of the building materials department, Hart went to work for Johns-Manville 31 years ago as an acoustical engineer.



**Kenneth K. Stowell**, new president of the Architectural League of New York. Urbane editor of the *Architectural Record*, Stowell succeeds Hugh Ferriss.



OLD, HOMELY HARMONY

New York's reliably provocative Park Commissioner Robert Moses accepted the National Sculpture Society's medal of honor for civic achievement, promptly

(Continued on page 28)



The *substantial savings* made with Reading Anthracite Barley in heating and power plants of any size are a welcomed discovery to many architects, design engineers, realty maintenance engineers and purchasing agents. For in many instances these savings are running over 10%.

But economy is not the only advantage of this small-size hard coal. Let's examine *other* advantages:

**AVAILABILITY**—There's *never* a supply problem. You can purchase next winter's requirements of Reading Barley now—and store it safely. It's not subject to spontaneous combustion or deterioration.

**EFFICIENCY**—Reading Barley is top quality, smokeless Pennsylvania anthracite—highly efficient in hand-fired equipment, either forced or induced

draft as well as on traveling or chain grate stokers.

**CLEANLINESS**—Dirt and other impurities are removed from Reading Barley by our modern laundering methods—making it as clean as any coal you can buy.

Reading Anthracite Barley is not a "substitute" fuel. Hitherto overlooked by many, it is becoming recognized as a coal of exceptional merit—deserving of every consideration as a *permanent* means to economy and efficient service.

Whether your future plans include the use of present equipment or a new installation—we believe that Reading Barley Anthracite would give you the same gratifying results that others are experiencing. You are cordially invited to use the coupon.



**THE PHILADELPHIA AND READING COAL AND IRON COMPANY**  
READING TERMINAL, PHILADELPHIA, PENNA.

BOSTON, MASS.    BUFFALO, N. Y.    CHICAGO, ILL.    DETROIT, MICH.    MILWAUKEE, WISC.  
MINNEAPOLIS, MINN.    NEW YORK CITY, N. Y.  
ROCHESTER, N. Y.    ST. PAUL, MINN.    SUPERIOR, WISC., DOCKS    WASHINGTON, D. C.

READING ANTHRACITE CANADIAN COMPANY, Limited, Toronto, Ontario; Montreal, Quebec

Philadelphia and Reading Coal and Iron Company,  
Reading Terminal Building,  
Philadelphia 5, Pa.

Please send complete information on Reading Anthracite Barley.

Heating Equipment (type and make) .....

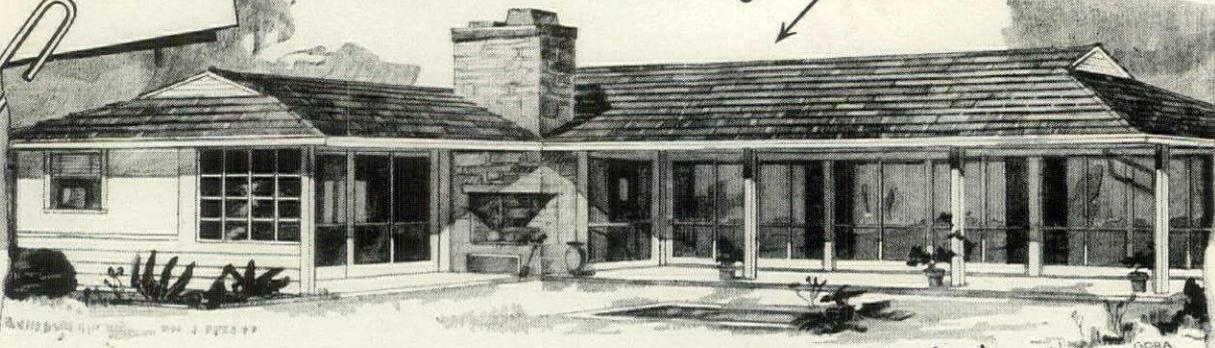
NAME .....

STREET NO. ....

CITY ..... STATE .....

Notes for  
Tomorrow's  
Homes

*Let's get this deep shadow-line  
effect.. adds to massive  
appearance of roof*



*(better specify Bird Master-Bilt Shingles)*

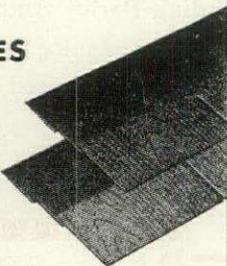
**Explanation:** Extra-thick butts of Bird Master-Bilt asphalt shingles cast deep shadow lines and give envied massive appearance, matched by practical gains in extra years of wear. The thickness of shingle where exposed to weather results from double layers of asphalt and granules. While the top layer of granules protects the surface from damaging sunlight, the extra inside layer acts as reinforcement between the layers of asphalt to resist checking and cracking. Available in a variety of colors, with quality assured under Bird's exclusive method of Controlled Production.

**P. S.** These shingles meet all F. H. A. requirements, and are approved by Underwriters' Laboratories, Inc., as fire-resistant.

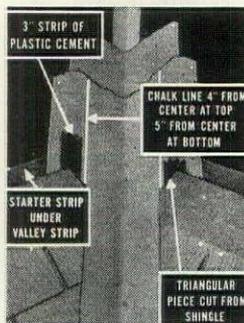
**N. B.** Get full details from Sweet's File, Architectural, catalog 8 b/1. Send for a descriptive folder to Bird & Son, inc., East Walpole, Massachusetts, Dept. CD-56.

### Master-Bilt SHINGLES

Master-Bilt Shingles, in a wide variety of colors and blends, are only one of Bird's many quality products for building, repairing and modernizing homes and industrial buildings. See also Sweet's File, Architectural, 8 a/3 for Bird Built-Up Roofs, 9 b/1 for Bird Neponset Black Building Paper for use as vapor barrier with insulation.



### TIME-SAVING SPECIFICATION DETAILS FOR BIRD Master-Bilt ROOFS — Valley Treatment



Fit snugly into valley, 2 layers of 90-lb. Mineral Surfaced Roofing, the bottom layer 16" wide, the top layer 20" wide, both centered on valley. Nail along edges. Snap chalk line each side of valley, 4" from center at top, 5" at bottom. Cut edges of shingles bordering valley to fit chalk lines. Cut 2" triangular piece from top valley corner of each shingle to prevent seepage at tips bordering valley. Embed valley edge of shingle in Bird Plastic Cement applied in strip 3" wide, 1/2" from chalk line.



SINCE  1795

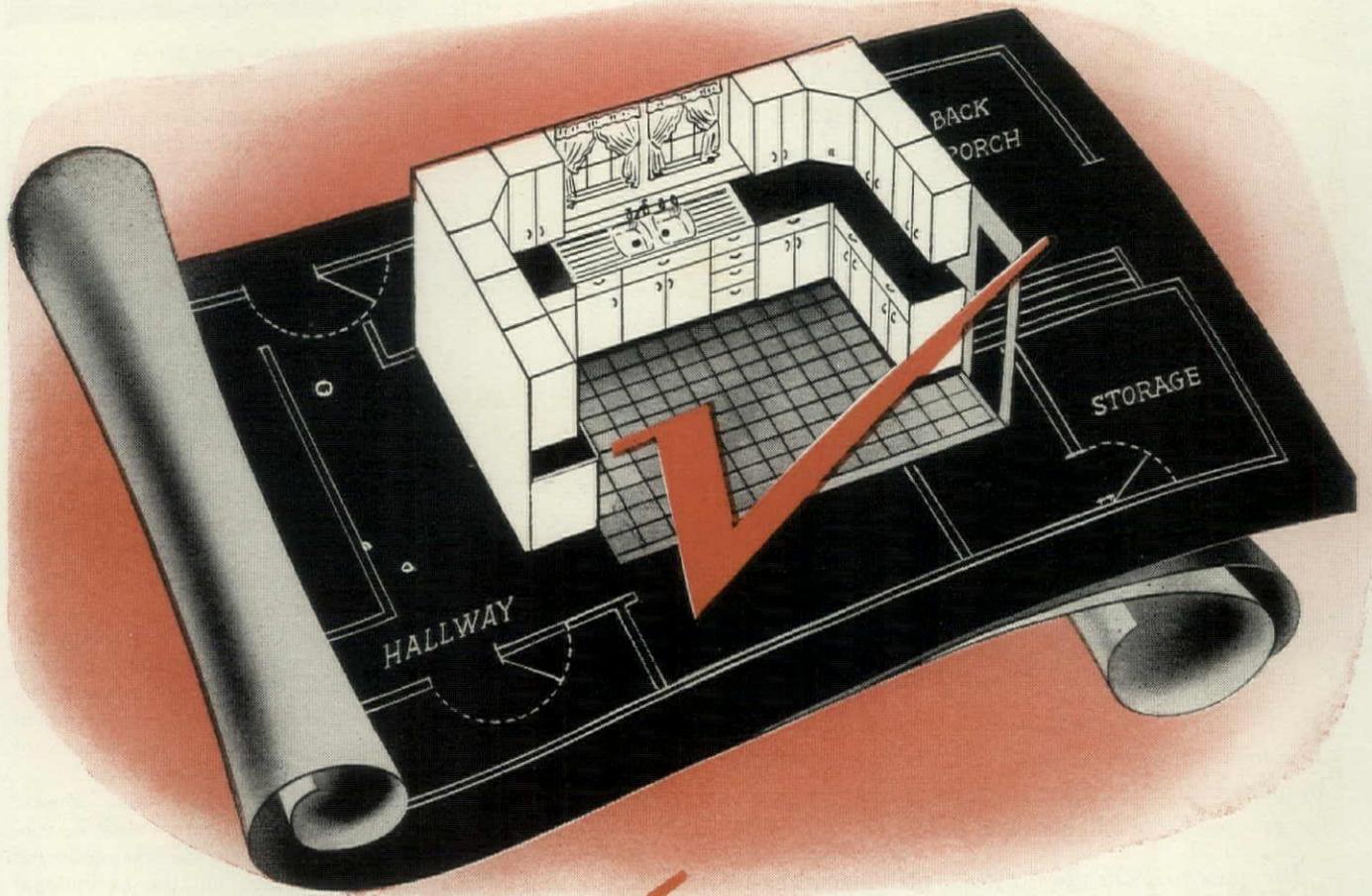
*Men who know  
the best know*

**BIRD**

1795 — OUR 150<sup>th</sup> ANNIVERSARY — 1945

ASPHALT SHINGLES • INSULATED SIDINGS • INSULATION BOARDS  
FLOOR COVERINGS • WALLBOARDS • BUILDING PAPERS  
RUBBERLIKE FLOOR RUNNERS • INDEX PRESSBOARDS • SHIPPING CONTAINERS  
SHOE CARTONS • BUILT-UP ROOFS • BIRD-FIBRE WOOD FRAME CASES

BIRD & SON, inc., East Walpole, Mass. • NEW YORK • SHREVEPORT, LA. • CHICAGO, ILL.



## THE EASIEST ROOM TO SELL

You sell a house as a whole, but the prospect is sold on it ROOM BY ROOM.

- ◆ When the kitchen is modern, all-steel by Youngstown, there is little left to be said about that room.
- ◆ The imposing, glistening, Youngstown Kitchenaid, instead of an old fashioned

sink, catches every woman's fancy. The streamlined, sturdy, sound-insulated cabinets are quality to the eye and to the touch.

- ◆ Send for the new "Builder's Kitchen" catalog and see what builders all over the nation say about Youngstown Kitchens.

Until the last shot is fired  
— buy bonds — give  
blood — salvage fats and  
paper — work for Victory.  
Then do your part to . . .



**MULLINS MANUFACTURING CORPORATION**  
WARREN, OHIO

Design Engineering Service · Large Pressed Metal Parts · Porcelain Enamelled Products



**Youngstown Kitchens**  
by Mullins

YOUNGSTOWN KITCHENS

MULLINS MANUFACTURING CORPORATION  
Dept. AF-645, Warren, Ohio

Please send me booklet entitled, "Builder's Kitchen"  
Builder  Contractor  Architect

Name .....

Street .....

City and Zone ..... County ..... State .....

(Continued from page 24)



IN most industries there are definite standards of leadership. In many industries these standards are known, accepted, even taken for granted by middleman and public.

Previous to 1935 the only accepted signalling instrument for the modern home was the common door bell. With no pre-established standards of research, engineering, construction or performance of electric door chimes to work by, Rittenhouse did much to lay the foundation upon which the standards of the industry have been built.

Since December 1935, when Rittenhouse designed, produced and promoted the first electric door chime on a national scale, Rittenhouse has continuously built toward a standard of leadership in product engineering, design and performance. And with comparable consistency has promoted consumer chime acceptance through nation-wide advertising, in keeping with the best practices of merchandising.

War production techniques have given both inspiration and impetus to these standards of leadership. In the interim period between war and peace, time has been found to improve the design of chime mechanisms from the "base plate" out. Tomorrow's Rittenhouse chimes will reflect this influence in fine engineering and in the character of a *custom-made* product.

Leadership, and the standards which it imposes, carries with it two moral commitments, "Obligation" and "Responsibility"—to user and dealer.

Rittenhouse will continue to adhere to these standards of leadership in the young, but growing, electric door chime industry that it has helped to create.

**Rittenhouse**  
*Tomorrow's Better Door Chimes*

THE A. E. RITTENHOUSE COMPANY, INC., HONEOYE FALLS, N. Y.

moved his ancient war with federal bosses into an esthetic dimension:

"God forbid that the atrocities of WPA art should be repeated after this war — stylized, symbolic, dehumanized people representing Fishing, Farming, Fire Insurance, Pan Americanism, Peace and Penicillin, or what not, who look as if a drunken woodsman had hacked them out of an old oak with a dull axe, inanimate frozen eagles with bell-bottom trousers, bronze Mongoloid cigar store Indians, gaudy, abstract, geometrical horrors, distorted freaks, and barroom frescoes. I do not say that no good was to be found in WPA art. I merely insist that the search was like getting nourishment out of an artichoke or mining for a pinch of radium in the side of a mountain. Let us, in Heaven's name, have no more talk of a cabinet post for the fine arts, because government control, as distinguished from government encouragement, means the triumph of the lowest common denominator."

Appended municipal boss Moses: "... public administrators must be conservative . . . they use the taxes collected from the average not the exceptional citizen . . . what they do must wear well, and . . . they have no right to introduce new and discordant notes into old and homely harmonies and architectural eccentricities into established neighborhoods merely because they think that the public ought to change its taste and get up to date."

#### PUBLIC ADMINISTRATION PIONEER

In 45 years of active public service, Louis Brownlow has probably told more memorable stories and done more to improve municipal administration than any other man in the U. S. Last month Brownlow moved out of "1313," Chicago headquarters of the Public Administra-

*Wide World*

*NHA*



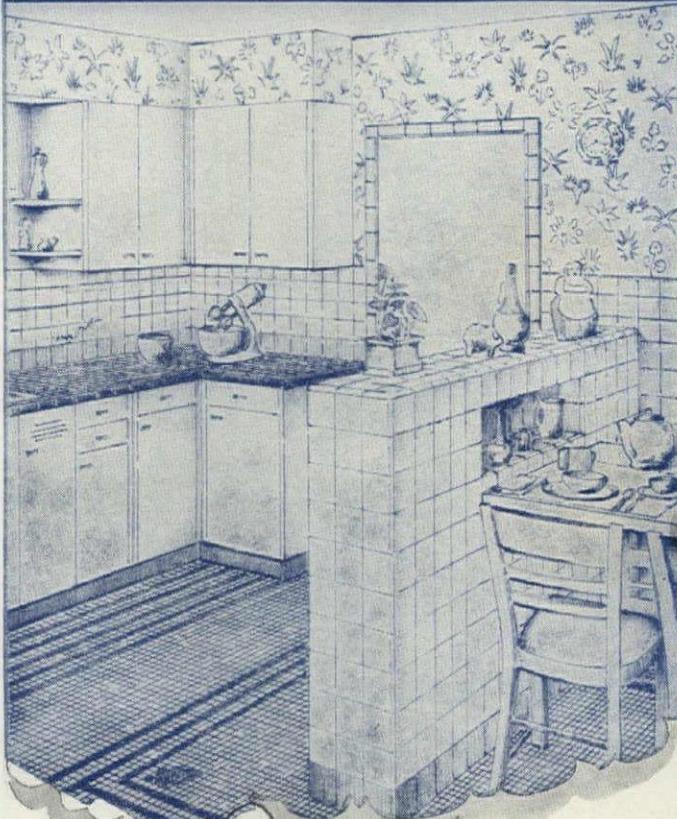
**BROWNLOW, EMMERICH**

tion Clearing House. Into his place as director stepped his longtime friend and colleague, Herbert Emmerich, who served as Federal Public Housing Authority Commissioner in 1942 and 1943.

When Laura Spelman Rockefeller funds were made available to set up the Public Administration Clearing House

(Continued on page 32)

★ *What they dream about*



"This place reeks with atmosphere, but for my part I'll take a Suntile kitchen. It's COLOR BALANCED!"

★ **WHAT THEY SEE ...**



What is Suntile color balance? It is the scientifically balanced relationship of the colors in the Suntile palette. Recognizing the importance of color in everyday living, seven years ago Suntile pioneered the way in color selection and introduced its now famous principle of color balance.

The Suntile palette is based on long years of research in the field of color. The endless variety of color combinations possible with Suntile provides the architect with the maximum number of artistic and authentic arrangements. Suntile's color glazes are all scientifically selected for distinctive and lasting beauty.

Suntile will be made again when our war assignment is completed. Plan now to include the color-balanced beauty of Suntile in your blueprints for tomorrow.

THE *Cambridge*



Suntile Was  
FIRST  
With Color Balance

**TILE MFG. COMPANY**

MEMBER OF THE PRODUCERS' COUNCIL  
MEMBER OF THE TILE COUNCIL OF AMERICA

CINCINNATI 15, OHIO

★ THIS SERIES IS BASED ON AN IDEA SUGGESTED IN LETTERS WRITTEN BY CPL. LOUIS A. PERKOVIC OF THE ARMY ENGINEERS IN THE SOUTH PACIFIC ANOTHER GOOD SUGGESTION: BUY YOUR SHARE OF WAR BONDS DURING THE SEVENTH WAR LOAN AND KEEP THEM INTACT UNTIL THEY REACH MATURITY

# How do you rate with your neighbors?

You design their homes . . . their churches  
. . . their schools. You help plan their  
town. Your town.

And, on these buildings, your reputation  
rests. You know this . . . and you plan well.  
We, at Flintkote, know it too. And we  
know that good design demands the com-  
plement of good building material.  
That's why every Flintkote product is

**THE EXTRA YEARS OF SERVICE  
COST NO MORE!**



carefully pre-tested to insure extra years  
of peak service.

That's why materials, manufacture and in-  
spection must meet rigid Flintkote stand-  
ards . . . why, at Flintkote, skilled labor  
works under expert, experienced super-  
vision.

We've been making building materials for  
a long time at Flintkote . . . almost 50  
years. And all we've learned about making  
better shingles, better sidings, better in-  
sulations, is passed on to you in every  
Flintkote product . . .

Passed on to you . . . to protect your repu-  
tation with your neighbors.

## THE FLINTKOTE COMPANY

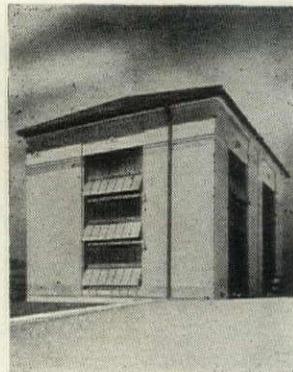
50 Rockefeller Plaza, New York 20, N.Y.

*Atlanta • Boston • Chicago Heights  
• Detroit • East Rutherford •  
Los Angeles • New Orleans  
• Waco • Washington*





10 feet



Or a mile

of light and air

## with Truscon Continuous Windows and Operators

*(not available until our wartime obligations are fulfilled)*

Here's your answer to the problem of getting maximum daylight and positive control of ventilation for industrial buildings with saw-tooth or monitor type roofs.

The use of Truscon Continuous Steel Windows and mechanical operators assures the delivery of ample light and fresh air to production floors, even during inclement weather.

Truscon Continuous Steel Windows are hung on a continuous hinge, an exclusive time-proved Truscon feature, which insures straight alignment, positive weathering, and complete freedom for expansion and

contraction. There is no binding, wear on pins, hinges or other fixed parts and no flashing is necessary.

For more than twenty-five years Truscon has coordinated the design and manufacture of mechanical operators with its complete line of steel windows, and has made constant improvements to meet the ever changing problems of industry. The benefit of all this experience is available to you now. Request a Truscon window engineer to help you adapt these windows and operators to your post-war jobs.

**TRUSCON**  
**STEEL COMPANY**

Youngstown 1, Ohio

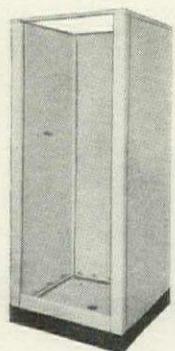
*Subsidiary of Republic Steel Corporation*

(Continued from page 28)

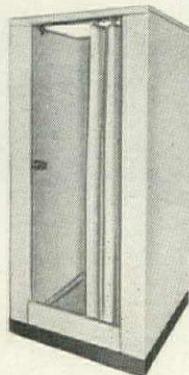
*A step forward . . .*

# STANDARDIZATION OF SHOWER CABINET AND GLASS DOOR SIZES

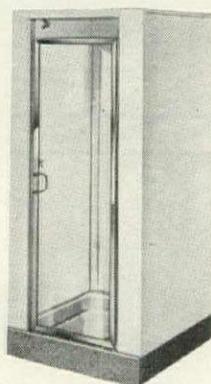
The standardization of shower cabinet and glass door sizes announced by Fiat marks a step forward in the industry that will be of definite benefit to the architect, builder, jobber and plumber. Standardization will expedite bathroom planning, make possible bigger values in showers, simplify jobbers stocks, and promote uniformity in installation methods. Fiat showers are classified into four groups with six basic sizes.



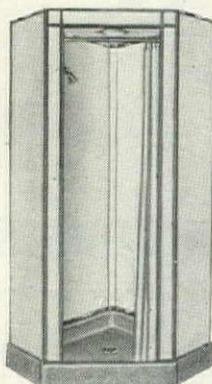
... **GROUP NO. 1**  
Skipper type, low cost showers  
32 x 32 x 76



... **GROUP NO. 2**  
Cadet type, medium priced showers  
32 x 32 x 80  
36 x 36 x 80  
36 x 36 x 80 (corner)



... **GROUP NO. 3**  
Marine, Ensign type, for "above average" installations  
32 x 32 x 80  
36 x 36 x 80  
40 x 40 x 80 (corner)



**GROUP NO. 4**.....  
Admiral type, de luxe class  
32 x 32 x 80  
36 x 36 x 80  
40 x 36 x 80  
36 x 40 x 80  
40 x 40 x 80 (corner)

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

**Glass Shower Doors**  
One standard size—  
24 x 72

**AVAILABLE FOR DELIVERY NOW**

**NO. 85**—Recommended for homes, clubs, hospitals or public buildings. Size 36 x 36 x 78. Deep type receptor—heavy 1/4" MASONITE walls.

**NO. 80 Volunteer**—has remarkable strength and is easily erected. A good shower for economical installations. Size, 32 x 32 x 76 and 30 x 30 x 76.



# FIAT

**METAL MANUFACTURING COMPANY**

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in 1930, Louis Brownlow saw the realization of an idea for which he had been a consistent missionary: the improvement of administrative methods by exchange of ideas among public officials themselves. A one-time Washington correspondent, Brownlow began his career as a public administrator when President Woodrow Wilson, impressed by some Brownlow articles on administrative management, appointed him Commissioner of the District of Columbia. Emmerich and Brownlow got acquainted when both were officers of the City Housing Corporation of New York, a private limited dividend company which developed Radburn, N. J.—the famous community which has set a pattern for municipal planning over the last 15 years. Emmerich was associate director at PACH until he was appointed executive secretary of the War Production Board in 1941.

Among the PACH organizations are the American Society of Planning Officials, the National Association of Housing Officials, the American Public Works Association, the Governors' Conference, the International City Managers Association. Retiring director Brownlow will continue to serve as consultant.

## MATERIALS

### EARNINGS UP

Although this year Building dropped to its lowest level since the beginning of the war in Europe, the expected decrease in materials' manufacturers earnings has so far failed to show up generally. First-quarter reports showed a slight increase for a majority of producers. Net earnings:

	1st Qt. 1945	1st Qt. 1944
Amer. Home Prod.	1,333,000	1,203,000
Amer. Radiator	1,224,000	1,114,000
Atlas Plywood	300,000	250,000
Central Foundry	82,000	25,000
Chapman Valve	119,000	230,000
Dresser Industries	735,000	389,000
Flintkote Co.	325,000	318,000
Holland Furnace	4,000	39,000
Johns-Manville	1,396,000	1,452,000
Kalamazoo Stove	211,000	124,000
Libby-Owens-Ford	1,903,000	2,412,000
Long Bell Lumber	534,000	443,000
Masonite	295,000	227,000
Minn. Honeywell	887,000	747,000
National Gypsum	281,000	234,000
Otis Elevator	704,000	638,000
U. S. Gypsum	1,396,000	1,452,000
Wallworth Co.	278,000	473,000
Westinghouse	4,008,000	4,604,000



## Only a Bird in a Gilded Cage

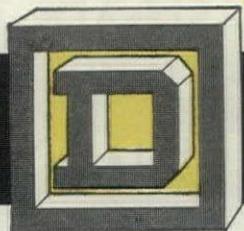
Unless they're counselled wisely, far too many home builders, sooner or later, will find themselves in gilded cages. Beautiful to look at but miserably disappointing because of a basic functional shortcoming. Here's what we mean—

People who build now or in the near future should provide for reserve electrical capacity to take care of the many appliances they'll want in the days and years ahead. Air-conditioning units, all-electric kitchens, deep-freeze cabinets, television, motor-powered work shops—eventually, they're going to want such electrical servants in their homes. If they do it later, they'll have a major and costly re-wiring job on their hands.

You'll be doing your clients a lasting service by showing them how full comfort wiring with spare circuits, combined with Multi-breaker convenience and protection, will keep them out of a "gilded cage."



*The **MULTI-BREAKER** eliminates fuses completely. When a short circuit or dangerous overload occurs, the circuit is cut off automatically. A simple movement of the lever restores current after the cause of the overload has been removed. There are no delays—nothing to replace.*



# SQUARE D COMPANY

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LOS ANGELES

# This is our choice of floors for

## APARTMENT HOTELS



**Standard Asphalt Tile** is ideal for halls and stair landings, as well as for office, store, and laundry. It's a good-looking floor, economical to maintain. Armstrong's Asphalt Tile may be used on suspended, on-grade, or below-grade floors.



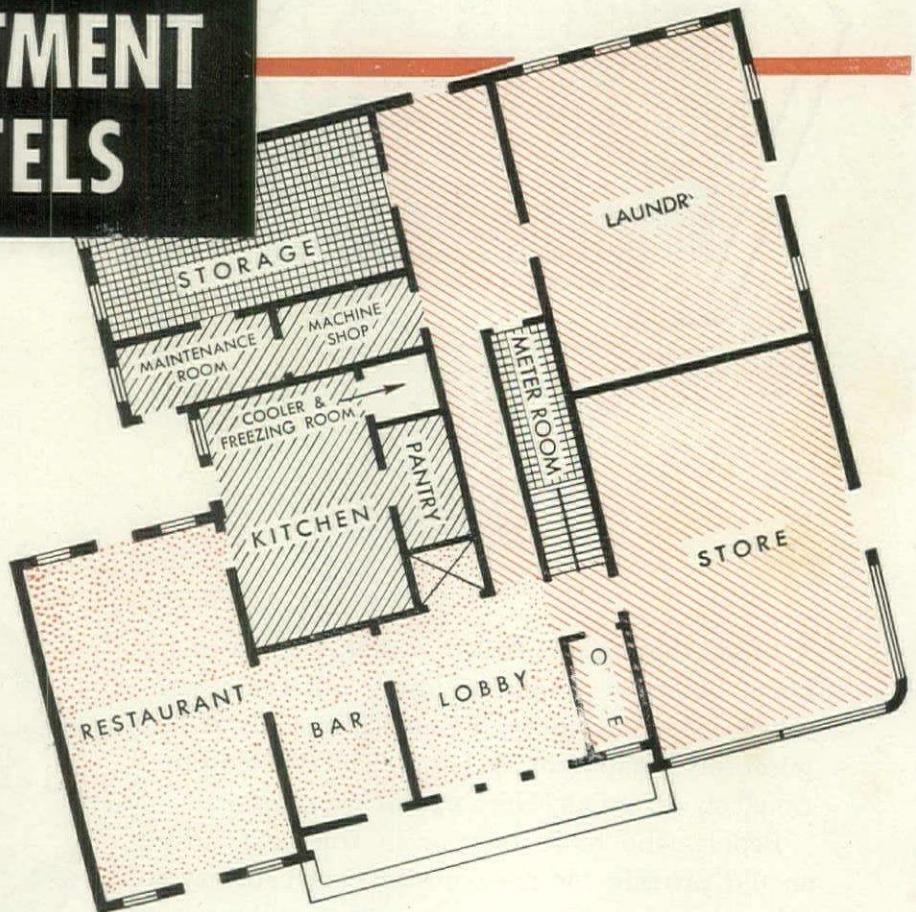
**Industrial Asphalt Tile** offers a rugged, low-cost flooring for storage rooms and meter rooms. It's nonsparking, non-slip, and fire resistant. Like Standard Asphalt Tile, it resists moisture and alkali. It can be installed over concrete floors on- or above-grade.



**Greaseproof Asphalt Tile** is a desirable floor for areas which are subject to spilled grease or oil, as in the kitchen and pantry or around equipment in the machine shop. It has all the advantages of Standard Asphalt Tile, too—including use on every type of floor—on grade, below grade, or suspended.

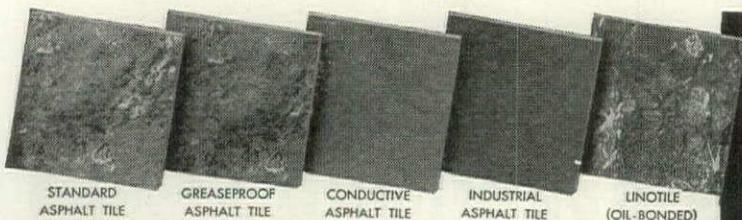


**Linotile (Oil-Bonded)** combines two qualities which make it especially suitable for the lobby, bar, and restaurant—distinctive appearance and high resistance to denting and wear. Available in a wide range of marbled colors, this exclusive Armstrong Floor is easy to clean.



*P.S.*

For full information about the complete line of Armstrong's Resilient Floors—including Armstrong's Conductive Asphalt Tile, a floor that prevents the accumulation of static electricity—and Armstrong's Safety Floor Coating, a new, non-slip ramp covering—consult Sweet's or write to Armstrong Cork Co., Resilient Tile Floors Department, 2306 Duke Street, Lancaster, Pennsylvania.



### ARMSTRONG'S RESILIENT TILE FLOORS

ARMSTRONG'S CORK TILE AND RUBBER TILE CURRENTLY ARE NOT AVAILABLE



Easy to look at . . .  
 Easy on Fuel Bills too!

# KEWANEE

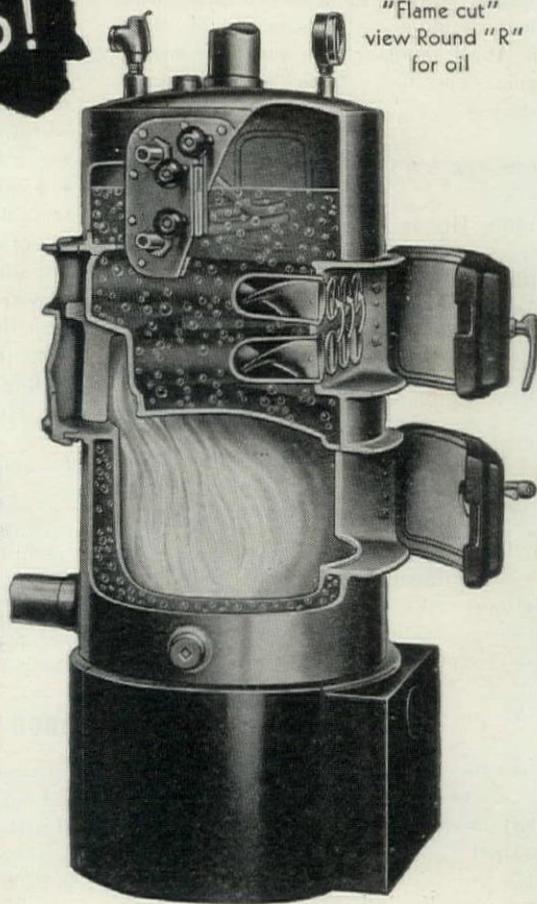
## ROUND "R" STEEL BOILER

One look at the Kewanee Round "R" in its trim insulating jacket will prove its attractiveness. BUT, even more important, a look inside that jacket shows a healthy heart of steel which provides extra years of service . . . and saves fuel every year.

NOTE the "Flame Cut" cross section showing the proportionately high firebox for complete combustion . . . the two-pass travel of gases from the rear to the front, then to the rear again . . . the Spinner Blades which fling the hot gases against the tubes. Note also the large water content and unobstructed waterways which permit steam to rise without unnecessary turbulence. YES . . . the Round "R" is a "Saving" boiler.

*For Oil, Gas, Stoker, or Hand Fired*  
 Sizes to Heat 225 to 1737 Sq. Ft. Steam

"Flame cut"  
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**75 YEARS  
 BOILERMAKERS**

House Omnibustle . . . Royal Barry Wills on nostalgia . . . Puerto Rican blast . . . Letter from France.

## APRIL ISSUE

Forum:

Speaking as the head of an organization which, for more than a quarter of a century, has specialized in good residential development in Los Angeles and in the San Francisco Bay District, I am impelled to say that the "House Omnibus," central theme of your April issue, is by far the most expert, authoritative and informative exposition of the present trends of postwar housing that I have yet seen.

Inasmuch as several hundred families have acquired home sites in three or four of our large, better-type projects, we believe it would be immensely helpful if, in endeavoring to answer the avalanche of questions which are constantly heaped upon us by these prospective home owners, we could place in their hands this clear and invaluable exposition of the whole postwar subject . . .

WALTER H. LEIMERT

Los Angeles, Calif.

YOUR HOUSE OMNIBUS TERRIFIC. CAN WE BUY TEN THOUSAND COPIES OF ENTIRE SECTION AND/OR GET ORIGINAL ARTWORK FOR A STOREWIDE DISPLAY GIVING FULL CREDIT TO VARIOUS MAGAZINES AND ARCH FORUM. ENTIRE BOOK SIMPLY OUT OF THIS WORLD.

DAVID ARONS,

GIMBEL BROTHERS

PHILADELPHIA, PA.

Forum:

THE FORUM does it again! Congratulations on the only realistic estimate of postwar housing trends any magazine has yet published.

HANSEL STACK

Chicago, Ill.

Forum:

. . . expert analysis of what builders may expect in the postwar homes market.

ALFRED JUBENICK

Indianapolis, Ind.

## LAMENT FROM BOSTON

Forum:

*Nostalgic — Nostalgic — Nostalgic!* (ARCH FORUM, Apr. '45, p. 135) "Homesickness to the point of melancholia" says Webster's. And in Roget's Thesau-

rus, bracketed under "Homesickness," "repine, regret, bewailing, lamenting, maladie-du pays, infandum renovare dolorem" and last of all, "cast a longing, lingering look behind me," to say nothing of "leaving an aching void."

Anyway, is there no kindlier word?

Ten years ago we started banging our heads against a stone wall trying to do modern houses, and we worked hard at it and did some that were considered very good by the powers that be. And still clients come in for traditional houses about 40 to 1. And it would be about 80 to 1, if we could find the time to do the other 40.

Honestly, do you really believe that people are ever going to take to modern houses? Sometimes I think the magazines are out of step with the public. I feel that when someone takes a poll like Mary Davis Gillies that it is far from correct. You know somebody took a poll on automobiles to be used after the war and 90 per cent of the people were going to buy Packards. Well, you and I know that they will probably buy second-hand Fords. I believe it is the same way with the house polls. Everyone votes for a "modern" house, because they are building an up-to-date one. And then the polls show a modern trend.

Actually, it is harder now to persuade people to build modern houses than it was ten years ago.

ROYAL BARRY WILLS

Boston, Mass.

To architect Wills, outstanding authority on Cape Cod houses, a reprimand for low-rating the human and universal emotion of nostalgia. THE FORUM views with skepticism his figures as proving anything except that "the best colonial houses of all come, not from Carnegie Hall, but from Royal Barry Wills."—Ed.

## GOOD OMEN

Forum:

I approve very much of your series of articles on postwar building methods, materials and equipment . . . It should be continued at frequent intervals so that we less technical people can take stock of all the miscellany that will be thrown at us in increasing quantities.

My friends have been reading these articles and feel as I do that too many new things are taken for granted without knowing much about them or their best applications or their best qualities impartially analyzed without the bene-

fit of advertising blurbs which are glitteringly general, but vague on actual facts . . . This series is a good omen and a step in the right direction.

VICTOR TARA

Flushing, New York

## WEST INDIAN HEAT

Forum:

I have just received my copy of THE FORUM for March, containing the article on the work of Mr. Richard Neutra in Puerto Rico. Permit me to identify myself. I am Stephen V. Arneson, shown as Program Director in the list of personalities at the top of page 121.

The article to which I refer is the biggest blast of hot air I have ever encountered in any magazine and that is saying something in this world. I am sure you would never have published it if you had asked for and received comment from any of the people associated with the work in Puerto Rico . . . Only one carpet-bagger in the United States could have written such a self-laudatory article and it is no credit to THE FORUM that you published it.

STEPHEN V. ARNESON

Panama, R. de P.

THE FORUM regrets that Mr. Neutra's excellent designs do not please everyone in Puerto Rico.—Ed.

## NEVER-ENDING WINDSOR

Forum:

As a furniture manufacturer of fine maple reproductions, we were particularly interested in the article entitled, "The Windsor Chair" on p. 113 of the March issue. This is both interesting and educational but, at the same time, controversial. On p. 116, the last paragraph headed "end of the Windsor chair era," contains the following few sentences:

"No Windsor chair, pure or decadent, is adaptable to modern production methods or living standards. Steam heat dries out its numerous joints, renders the entire structure brittle and shaky. In colonial times, the selection of the wood, careful shaping and delicate joinery were decisive factors in the quality of the product. Mass manufacture can afford neither the time nor the facilities for such methods."

(Continued on page 38)

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*Reduce your overhead-*

on Store-Front work!

THE **Kawneer** MAN



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Over 250 Kawneer distributors will assist Kawneer field men in these new services to architects. Write today for new booklet, "The Architect and Machines For Selling". THE KAWNEER COMPANY, 206 FRONT STREET, NILES, MICHIGAN. (Western Factory, Berkeley, Calif.)

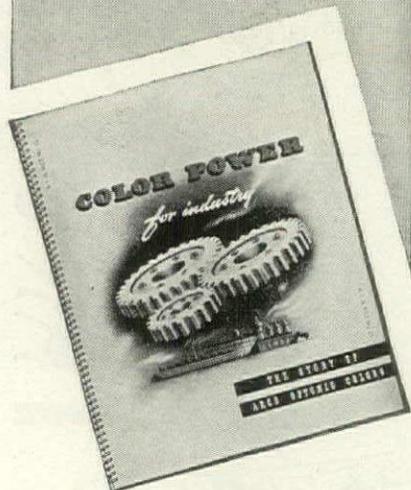
**Kawneer**  
STORE-FRONTS

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✓ THERE'S NEW OPPORTUNITY FOR ARCHITECTS  
IN THE STORE-FRONT FIELD!

*(Continued from page 36)*LEARN  
ABOUT

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"COLOR TONIC"  
Method of  
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SEND FOR THIS Booklet

• You'll want to be posted on the ever-increasing importance which science attaches to the FUNCTIONAL use of color as a "tonic" in industry—to improve production, safety conditions and employee morale and to reduce absenteeism. A new book, "Color Power for Industry", tells you how the Optonic Color System operates. Just a note on your business letterhead will bring you a copy with our compliments.

THE ARCO COMPANY  
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**ARCO**  
Paints for Industry

We strongly object to the wording and the thoughts expressed, on the grounds that we do know how to make Windsor chairs that are adaptable to modern methods and practical for present-day living standards, much more so than several of the contemporary examples illustrated. All of the lumber used in our product is kiln-dried, joints are both glued and held together with blind wedges which insure a tight fit even if the glue does dry out. These, together with good tight joints, make a fine Windsor chair—much better we think than chairs our grandfathers made by hand with careless construction and ill-fitted joints whittled out with a not-so-sharp knife.

We do not mean to imply from the above that we are unsympathetic toward contemporary design as 40 per cent of our production is given to a line known as "American Modern." We are sure, however, that we have the "know-how" to make really fine Windsor chairs.

CHARLES C. BROOKS, JR.  
Vice Pres. Conant Ball Co.

Gardner, Mass.

The Conant Ball Co., fine copyists of fine 18th century Windsor chairs, could probably reproduce Conostoga wagon wheels but we doubt if Henry Ford would use them—except in his museum. Ed.

### VITRIOLIC FLAILING

Forum:

I feel it necessary to voice a protest to some of the remarks contained in W. L. Pereira's letter published in the April issue of THE FORUM.

Mr. Pereira, after viewing some of the postwar projects on the boards of local architects, is disgusted. Since I have not had the opportunity of seeing these designs I cannot agree—nor conversely, disagree—with his opinion. No doubt Mr. Pereira is thoroughly sincere in his unhappiness, but I find it most unfortunate that he chooses to make an overall criticism of not only the work he saw, but of the professional integrity of the designers themselves. If this is Mr. Pereira's method of aiding the cause of modern design, he is defeating his purpose, for I find it difficult to believe that all those designers left traditional work for the sole reason that "it was profitable to 'go modern'." No doubt that stigma applies to many, but there must be a few

who have seen the light and are sincerely trying to make good.

If Pereira is noting with apprehension the tendency of traditional designers to turn "modern," then I note with apprehension the tendency of many modern designers to indulge in wholesale condemnation of work that does not parallel their particular design philosophy. I would think that anyone sincerely interested in promoting the cause of modern work would welcome converts, and through a judicious process of elimination would sort the sincere from the insincere. Perhaps Mr. Pereira agrees, but I can find nothing in his letter that would make me think so.

I too deplore the "phonies" who are willing to accept the Form of modern work, but who reject the Function of contemporary planning. But, vitriolic flailing will not discourage them one bit and will, I am afraid, discourage the sincere traditional designers from becoming converts just when they need all the encouragement we can give them.

We must exercise a degree of selectivity based not so much on immediate design results, but on the sincerity of purpose of the designer.

ROBERT E. FAXON

Beverly Hills, Calif.

A commendable attitude but somewhat tough on clients.—Ed.

### SOLAR MIO

Forum:

I should like to tell you how much help THE FORUM has been to my husband and me in the planning of our future home. As soon as we began the negotiations for the purchase of our land we started a subscription and have written to many of your advertisers for booklets and information. Now many of my husband's shipmates (he is an officer in the Coast Guard) come to borrow from his expanding library of building information. We have been amazed when talking with other home-planning couples at their complete ignorance of such things as radiant and solar heating taken for granted in your pages.

We feel that, thanks to THE FORUM, when the time comes for building a home we will be able to cooperate fully with our architect, so that he will know exactly what we want and will be able to give it to us.

MRS. RODNEY PAIN

San Diego, Calif.

*(Continued on page 40)*

Since January 1, 1943, TIME, LIFE, FORTUNE and THE ARCHITECTURAL FORUM have been cooperating with the War Production Board on conservation of paper. During the year 1945, these four publications of the TIME group are budgeted to use 73,000,000 lbs. (1,450 freight carloads) less paper than in 1942. In view of the resulting shortage of copies, please share your copy of the FORUM with friends.

## PREDICTION:

Laucks Construction Glues will be used in thousands of tomorrow's homes just as effectively as they are used today in America's largest housing project.



## TODAY

World's largest housing project: 24,000,000 ft. of plasterboard glued to studding with Laucks 888-P Glue.



Architects, builders, contractors and prefabricators have proved to themselves and to the building world, the strength, durability and practicality of wartime's new building techniques using Laucks Construction Glues.

In all types of tomorrow's homes, factories, hangars, warehouses and public buildings, war-proved engineering-with-wood-and-glue will be inevitably adopted. And as usual Laucks will be there to deliver proved products for the job, and the engineering "know-how" for utilizing them successfully in prefabrication, stressed-cover construction, dry-wall building, cabinet and built-in-work, laminated arches and beams.

## TOMORROW

Plywood walls and ceilings, laminated and glued to studding with Lauxite Resin.

### LAUXITE RESIN PF-90C

Completely waterproof, weather-resistant, boil-proof, phenolic type liquid resin adhesive to which a separate catalyst is added at mixing time. Sets at room temperature (70°F.) on softwood. Slightly higher for hardwoods (110°-140°F.) for laminating, veneering, and assembly gluing. Especially adapted for aircraft and marine construction, arches, beams, prefabricated units subject to exposure and water.

### LAUXITE RESIN 77-X

Urea formaldehyde resin glue in powder form with catalyst incorporated. Mixes quickly in tap water; no heating, no waiting. Highly water-resistant. Recommended for use on prefabricated units, arches and beams. For hard or soft woods.

### LAUXEIN GLUE 888-P

High quality casein glue in powder form. Meets U.S. Navy Specification 52G8b (with Amendment C) and A.A.F. Spec. 14122, for dry strength, water-resistance and working life; makes unusually strong, quick bonds. Used on either hard or soft woods. Excellent results at low pressures. Contains a preservative to inhibit mold growth. Used for prefabricated walls, laminated arches, beams.



For complete information write:

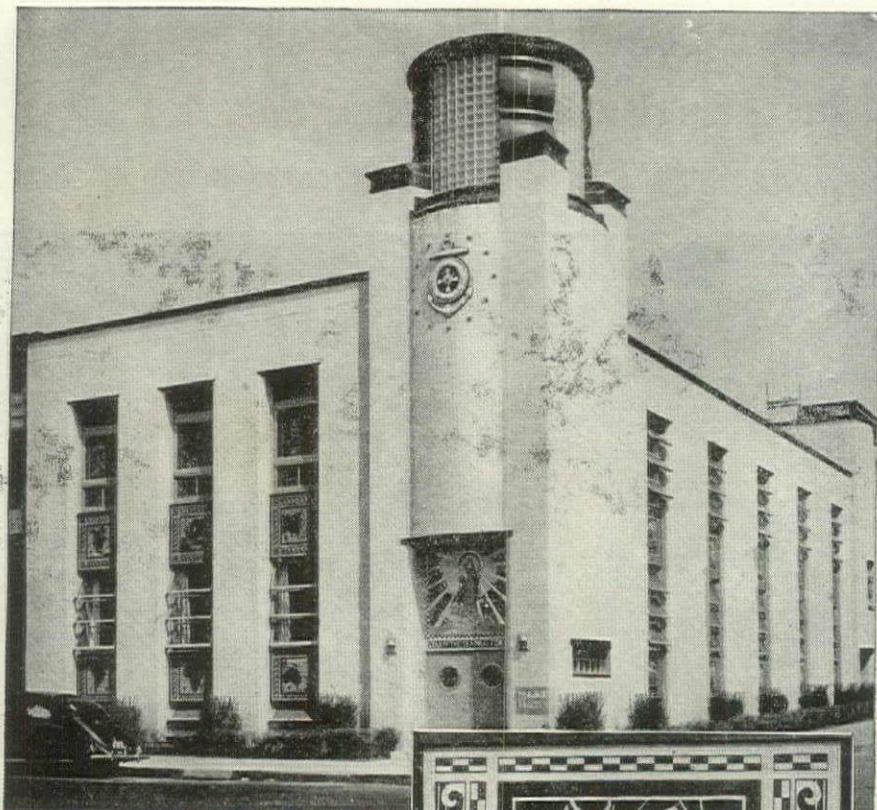
**I. F. LAUCKS, INC.**

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Seamen's Institute, Brooklyn, N. Y., Henry V. Murphy, Architect. Sand-blasted Black Serpentine spandrels on street sides of building show appropriate maritime subjects.

Close-up of one of the decorative Black Serpentine spandrels, Seamen's Institute.



## Sand-Blasting Opens NEW VISTAS of Decorative Utility for BLACK SERPENTINE

The wide range of decorative possibilities in sand-blasted ALBERENE Black Serpentine is demonstrated in the spandrels, designed for Catholic Seamen's Institute, Brooklyn, N. Y., by Henry V. Murphy, Architect. These are typical of the many new treatments and interesting finishes that ALBERENE has developed for the enrichment of current and post-war buildings.

Wherever a design calls for stimulating contrasts or accents, Black Serpentine is preeminent . . . a most practical choice from the standpoints of economy

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A request on your business letterhead will bring samples, conveniently boxed, of Black Serpentine, Tremolite Green and our mottled 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.

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**BLACK SERPENTINE**

PERMANENT, NON-REFLECTIVE, ECONOMICAL

## LETTERS

(Continued from page 38)

### DEPARTMENT OF CORRECTION

Forum:

I've seen the April issue of THE FORUM and am pleased, of course, to note my *Better Homes & Gardens* efforts reproduced therein.

However, I must call your attention to an error. The "Children's Bedroom" on p. 100 was designed and painfully supervised by me—not by my good friend Morris Ketchum.

MORRIS SANDERS

New York, N. Y.

Forum:

Correction please! THE FORUM in its April 1945 issue p. 108, ascribes Badgley's bedroom to us and vice versa. I'm surprised.

SIMON BREINES

New York, N. Y.

### LETTER FROM FRANCE

This letter from a FORUM staff writer now in the army vividly describes France as it is today.

Forum:

It still isn't too easy to land in France. A great many of its ports are held by the Nazis, and most of the ones that have been liberated were blown to bits in the process. None of this can really be put into words: but if you image the aftermath of a tornado that has ripped through miles of steel girders, concrete frame bridges and rails and left them all twisted, smashed, garbled and strewn about grotesquely; if you imagine scraggy fingers of bent iron and blasted chimneys pointing out of this jungle against the sky; and if you imagine a race of starved and hollow-eyed children—and shadows of men and women—flitting through this labyrinth—well, then you have the picture, more or less. Except, perhaps for the maimed and crippled, and starving. That you will have to see for yourself—or perhaps you'd better not: it isn't a pretty picture.

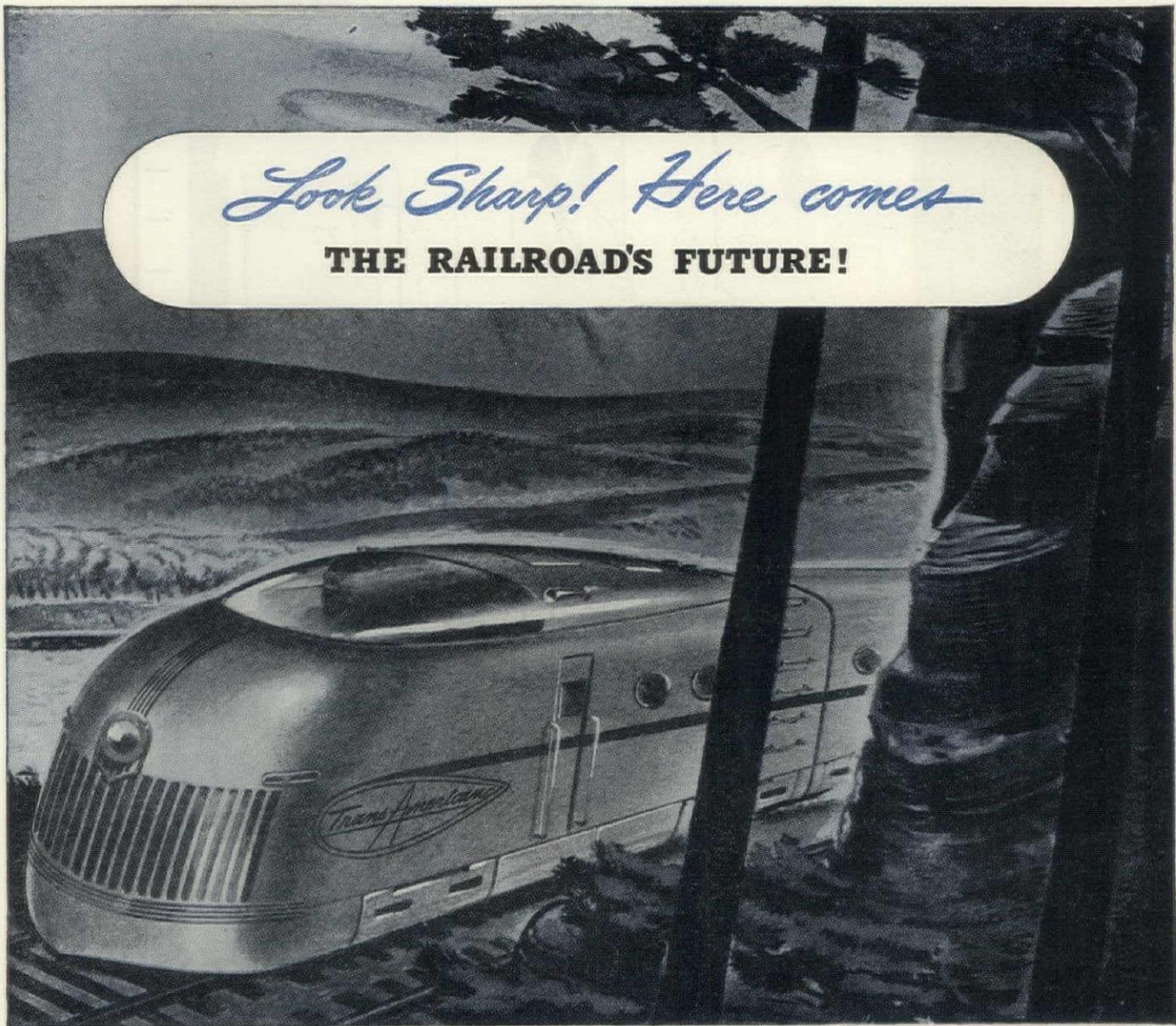
Among all this there is some feverish activity: the work of the armies. Their efficiency is a miracle. Hundreds of miles behind the front the Allied Forces have constructed a brand-new administration—a new state—superimposed upon the wreckage, and it operates like a charm. France is, for us, a base of operations—and only that.

Many Frenchmen don't understand that yet. They compare the effects of our presence with those of the German occupation. There is no comparison. The Nazis intended to make France part

(Continued on page 44)

*Look Sharp! Here comes*

**THE RAILROAD'S FUTURE!**



**MERITS OF  
ALLEGHENY METAL**

- ★ Great strength, retained at extremes of heat and cold.
- ★ Tough and impact-resistant.
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**S**TAINLESS STEEL diesel-electric streamliners aren't drawing-board dreams. They're tangible, self-proved successes with a ten-year operating record from coast to coast—and from war's end on, they're due to go places in earnest.

Why? Because these stainless speedsters have demonstrated—in good black ink on the books—their ability to slash expenses, attract customers and boost income, and you can't beat that for a success formula.

It is a formula, what's more, that applies clear across the transportation field. The same qualities in Allegheny Metal that the railroads value are of

equal advantage to the builders of buses, truck trailers, airplanes and ships. It all comes back to the tremendous strength of the steel—insured strength, protected by Allegheny Metal's high resistance to corrosion and complete uniformity . . . to its lustrous beauty, requiring no other finish or consequent refinishing . . . and to its ease of welding and fabricating.

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**Allegheny Ludlum Steel Corporation**  
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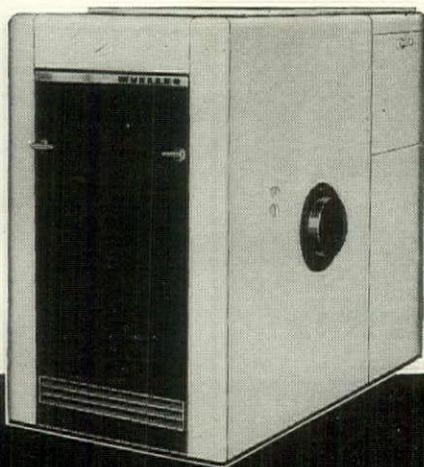
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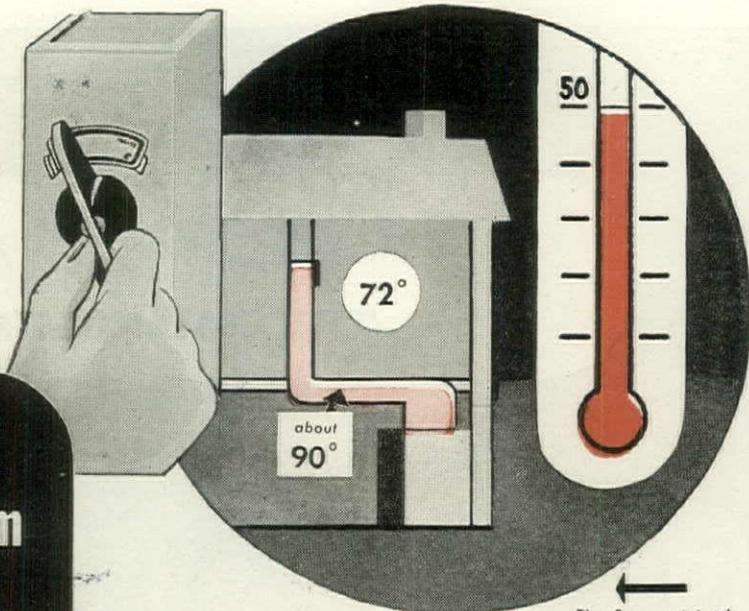
## A Mueller Climatrol System to condition the air



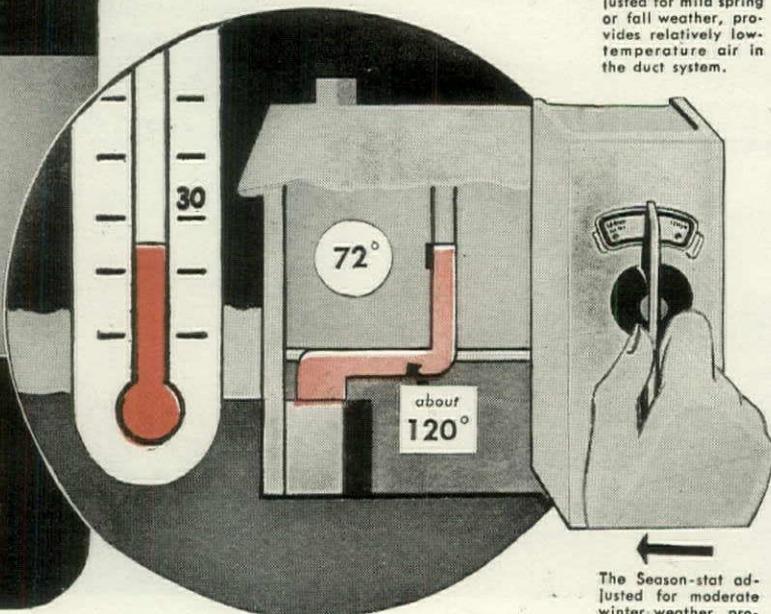
... A Mueller Season-stat  
to keep the system in  
step with the weather



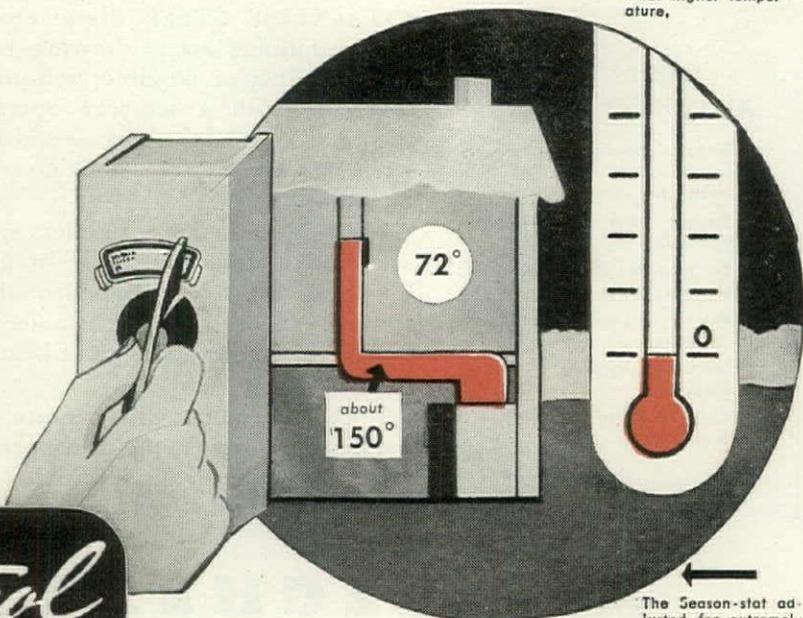
True Indoor Comfort  
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The Season-stat adjusted for mild spring or fall weather, provides relatively low-temperature air in the duct system.



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There are many factors required to provide Indoor Comfort. They are all dependent upon the treatment and circulation of air. Continuous circulation of air, heated to a temperature in relation to the outdoor temperature, is attained with the Mueller Season-stat throughout the heating season. A simple adjustment does it. . . . You are providing an installation whose basic function is the treatment and circulation of air when you specify Mueller Climatrol Winter Air Conditioners, equipped with the Season-stat — for gas, oil or coal. Mueller equipment is nationally-known, nationally-advertised, backed by an 87-year performance record. Write for bulletins. L. J. Mueller Furnace Co., 2001 West Oklahoma Avenue, Milwaukee 7, Wisconsin.

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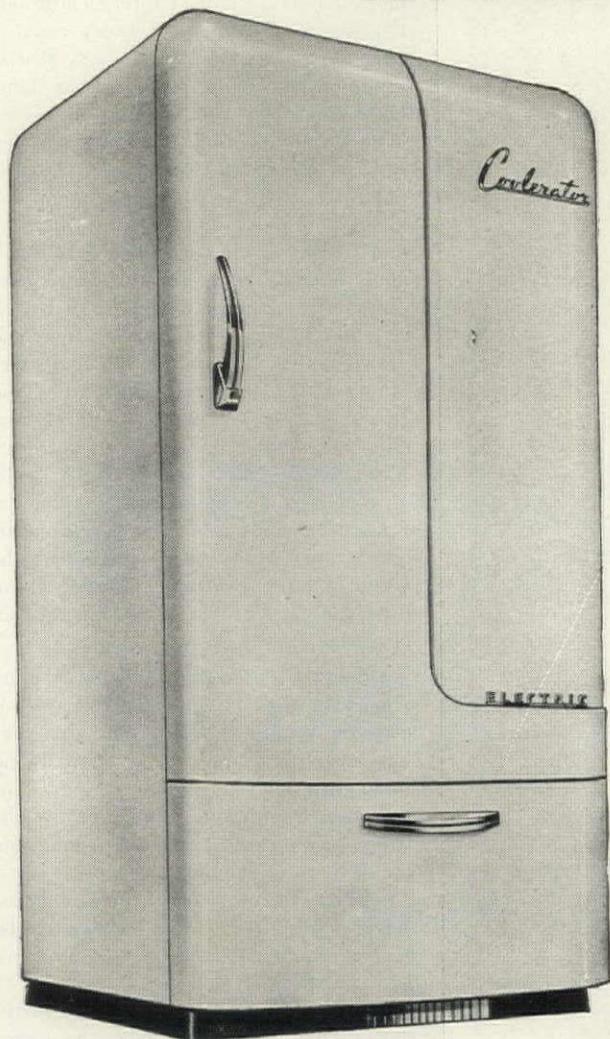
B-23



Famous Industrial Designer  
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## for Postwar Homes

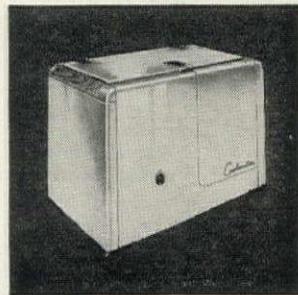


Here's an electrical refrigerator that's *styled right* for the postwar kitchens of tomorrow! Brooks Stevens and his staff worked for months before submitting 60 beautiful, workable designs. These 60 designs were then consumer tested and the design for the New Coolerator Electric was found to be the favorite of women everywhere!

When you design tomorrow's kitchens, remember the Coolerator Electric,—*the only refrigerator with the exclusive MAGIC FLAVOR-SAVER!*



**ICE-CONDITIONED COOLERATOR**—Available in 5½ and 6½ cu. ft. Models. The perfect refrigerator for women who prefer ice.



**COOLERATOR HOME FREEZER** Available soon in 6½ and 16 cu. ft. size. Contains compartment for freezing foods as well as storing frozen foods.

**BUY MORE WAR BONDS**

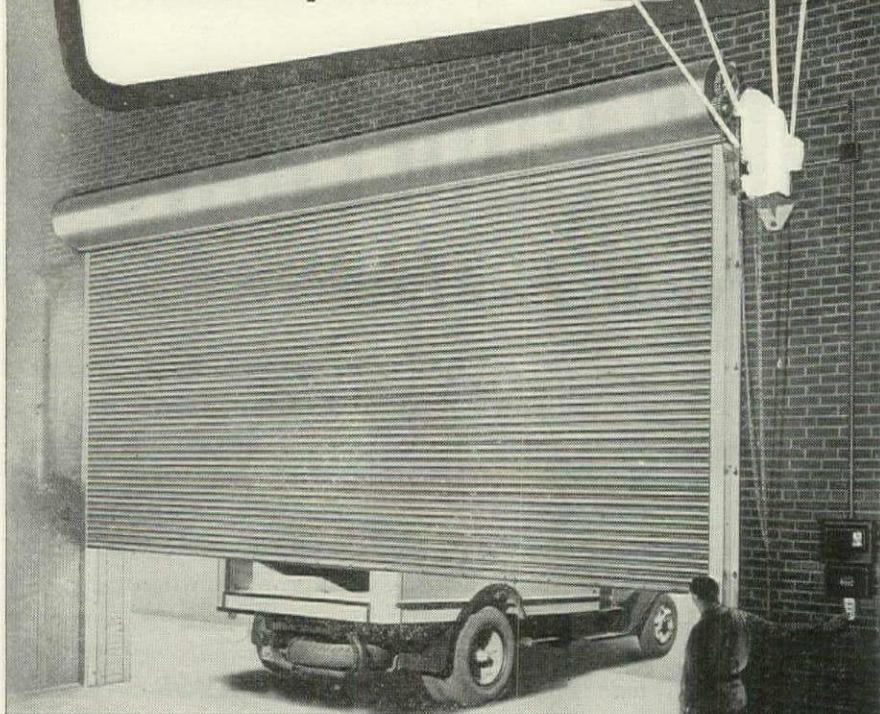
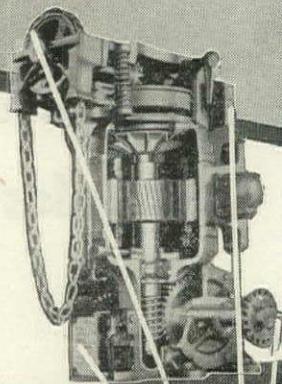
# Coolerator

The Coolerator Company, Duluth 1, Minn.



(Continued from page 40)

**KINNEAR DOORS**  
offer **ADDED**  
**SAVINGS** with  
this **KINNEAR**  
**Motor Operator**



Just touch the button and the KINNEAR Motor Operated Rolling Door coils upward without further effort or attention. Touch the button again and the door closes smoothly. The door can be quickly stopped and reversed at any point in its travel. The "attention-free" operation of the KINNEAR Motor Operated Rolling Door assures added savings in manpower, in heating and air conditioning costs, and in time. Remote control switches, permitting the door to be operated from any number of distant points, may also be used.

The KINNEAR Motor Operator is an integral unit, insuring accurate alignment, quieter operation, greater efficiency and minimum maintenance. The motor is a specially designed high torque output unit, matched to the load requirements of the door. Worm gears are of bronze and the worms are of polished, hardened steel; both are machine cut. Precision ball bearings, graphite oilless bearings, bronze bushings and large sealed oil reservoir for adequate lubrication with minimum attention, are incorporated in the KINNEAR Motor Operator.

For complete information on KINNEAR Motor Operated Rolling Doors, write today! The KINNEAR Mfg. Co. Factories: 1640-60 Fields Ave., Columbus 16, Ohio; 1742 Yosemite Ave., San Francisco 24, Calif.

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**OTHER KINNEAR  
FEATURES INCLUDE**

- ...Flexible steel slat curtain that coils up out of the way, clearing the opening completely.
- ...Helical spring counterbalance that assures smooth, easy operation.
- ...Kinnear "tough" all-steel construction stands up under hard night - and - day service.
- ...Wall, floor and ceiling space around door always usable.
- ...Many others.

of a thousand-year empire. We are using France as we used the temporary, makeshift harbors which we floated across the channel to the Normandy coast on D-day. We will be gone quite soon. And the French Government is going to have the job of the century. We don't envy them.

Today Frenchmen are colder, hungrier, less looked-after than they were under the Germans. These are facts. They don't reflect on anyone. The French will learn again to run their own country. We are helping them now, but that is second only to our prime purpose. That again is a very difficult thing to explain to starving children.

Paris is quite different. Except for its industrial suburbs, it has not been touched by the bombs at all. It has none of the somber heroism of English towns. Paris is a little shabbier and a little more colorful than before. There are thousands of soldiers of every conceivable Army—with the U. S. and British predominant. The French wear lend-lease uniforms, which are distinguished from ours by their brightly colored berets. The doughboys wear practically anything at all. The paratroopers are about the most flamboyant—and the most rowdy. It is hard not to get a soft spot in one's heart for the drunk and disorderly American soldier. He is charmingly impossible. The Metro is crowded to a bursting point, and there is no surface transportation at all. That is, except for old diacres and phantastic "taxi-cab" contraptions that look like baby carriages drawn by a bicycle. Drink is either cognac or vin blanc or rouge. The beer is almost unretainable. There are two types of Calvados: the white and the brown. The white kind kills you; the brown gives you an even chance.

Oscar Wilde said that when a good American dies he goes to Paris. But even the breath of spring here this year has a touch of halitosis. Paris is no longer all heaven. There is a lack of direction somewhere, and the angels' wings have begun to droop—and some are attempting reincarnation of sorts. Josephine Baker is here, and Lucienne Boyer, and Mistinguette, who must be 70 if she is a day. And Gertrude Stein had a birthday a couple of days ago (I am not sure whether it was on her birthday). Then there are the sinners—semi-collaborationists—like Guitry, Chevalier, Charles Trenet, who are trying to come back into favor. The political heat of the liberation is cooling off—the last tragic example of it, probably, was

(Continued on page 48)

**SAVING WAYS  
IN DOORWAYS**

**KINNEAR**  
**ROLLING DOORS**

# WHAT'S NEW IN POSTWAR LIBRARIES?

The impact of technological improvements during the war will be felt in the design and construction of postwar libraries. To guard against costly, often irreparable mistakes, all revolutionary innovations should be viewed against the secure background of long experience. Snead & Company offers you such a background.

Many of today's outstanding developments in library design, such as the steel stack which supports the library walls, floors, and roof, the open-bar and hinged bracket shelves, book conveyors, and the convertible stackroom were pioneered by Snead engineers.

By consulting Snead library engineers during the early plan stage substantial savings of time and money may result. We will gladly assist in preparing plans and specifications, and submit a mutually protective bid, so that your project can be started as soon as materials become available. Now, while our manufacturing facilities are still engaged in war production, our engineers can give your problems careful study.

Whether you plan a new building or modernization of an existing structure, write for our illustrated catalog containing valuable planning data for every type of library, large and small. No obligation.

The new Library of Congress Annex, Washington, D. C., costing \$10,000,000, is equipped with Snead bookstacks. Snead & Company also built the bookstacks for the original Library of Congress in 1889. Snead floor and column construction permits easy conversion of any portion of the stack for other library purposes. These columns are also utilized as air ducts for the air conditioning system.



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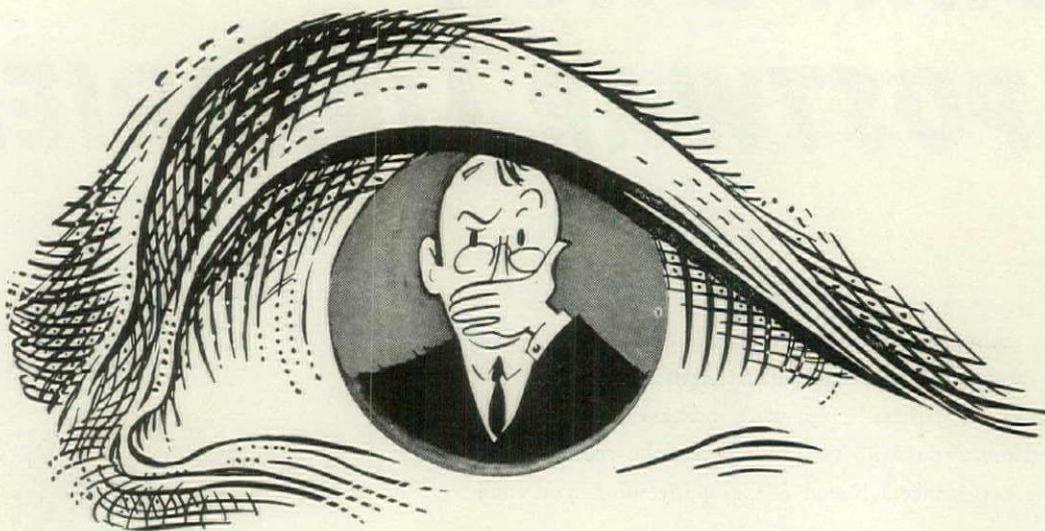
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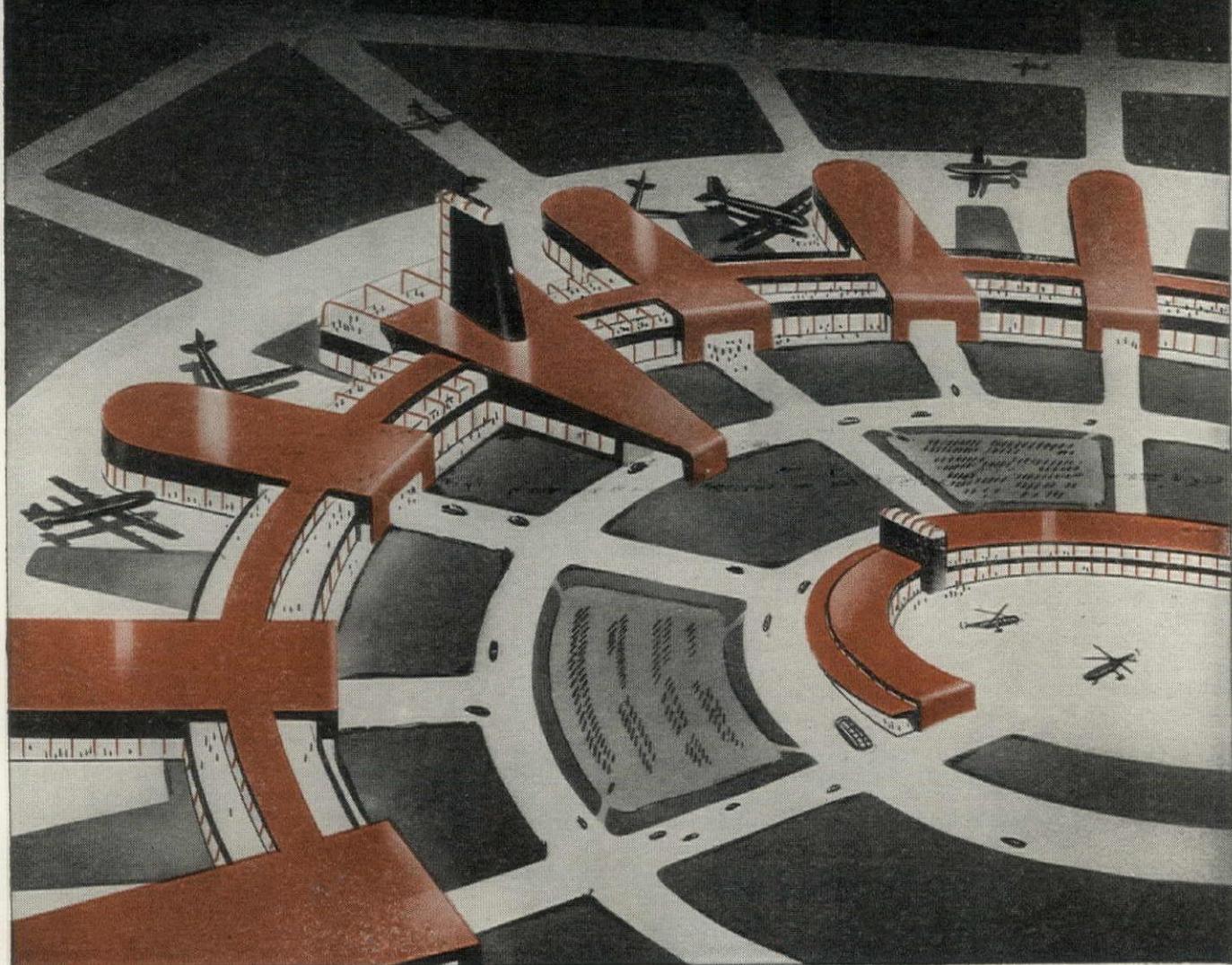
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# BOHN



## LETTERS

(Continued from page 44)

the death of the old sculptor Maillol, announced as natural in the U. S. press, but rumored here to have been brought about by the FFI. All the names are coming back, but their momentum seems spent.

All, that is, except Picasso's. I have seen recent paintings of his which are indescribable. He is no longer a painter: he has become a violent natural force, an earth tremor, a dynamo of pent-up power. No one who has seen these paintings can deny it. He is utterly magnificent, and, by virtue of his unassailable political stand during the occupation, he is for the first time close to being popularly "accepted."

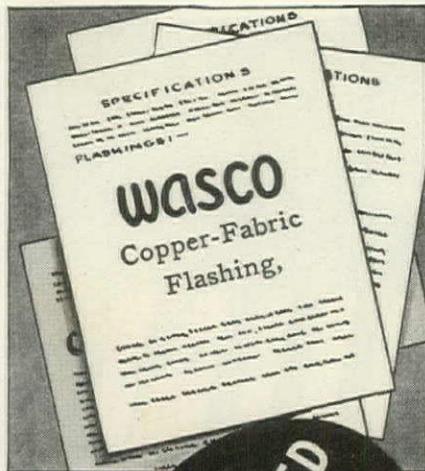
Of Le Corbusier there is little news. He still seems to be in Switzerland. However, even his political enemies admit that he was no collaborationist. This rumor was probably founded in his well-known Soviet-phobia. It is believed that he will be working in the deGaulist set-up on the reconstruction of French cities.

The Pavillion Suisse was used during the occupation as a Nazis officers billet, where they had some wild parties. Since it is a concrete structure, the Nazis concluded that its roof was a good place to mount two 20mm Bofors guns. Their recoil shook up the place a little, and it needs some superficial repairs—otherwise it is as beautiful as ever. U. S. officers who inhabit it now as probably better housed than any other men in the Paris area. At least it was about the only warm building in Paris this winter, since the glass front literally absorbs the sun.

What else is there to tell? Oh yes: Paris is flooded with American movies, whose titles are not always literally translated. Off hand, "The Lady is Willing" would not necessarily mean "Madame Veut Un Bébé." That title ought to scare the hell out of the U. S. Surgeon General if nothing else will.

The sun is coming out now, and it breaks through shattered roofs all over France, and into bluntly exposed houses and factories. The railway stations without their roofs are, for the first time, really beautiful. The sun is streaming into Paris, and the other night they even turned the lights on the Arc de Triomphe. This summer Paris will be on its way back, with parades and flags. And perhaps there will be more food, and it's bound to be warmer. That's about the temper of the people—that, and quite a lot of hope, I guess, and quite a lot of determination.

PETER BLAKE, 2d Lt. A.U.S.  
c/o Postmaster, New York, N. Y.

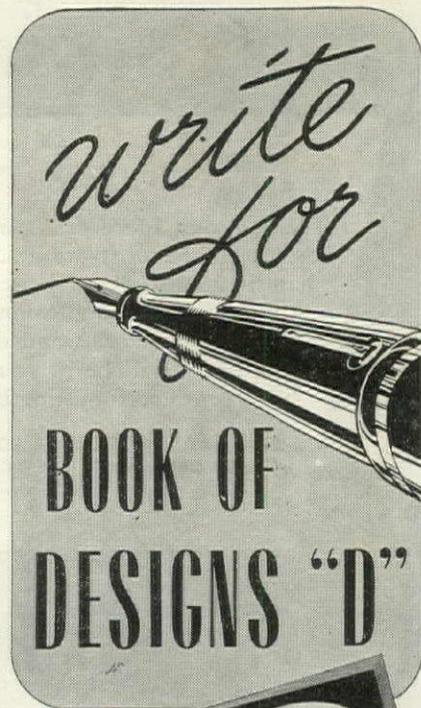


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*William Lescaze, Architect*

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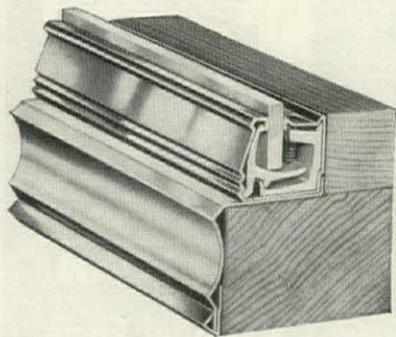


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Structural strength is built into all units to safely withstand every strain of weather and traffic... our exclusive patented features assure glass safety. Sound engineering, smart styling and thirty years experience make Brasco today's leading store front construction.



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★ *A COMPLETE LINE FOR EVERY DESIGN* ★

**BRASCO MANUFACTURING COMPANY**

HARVEY

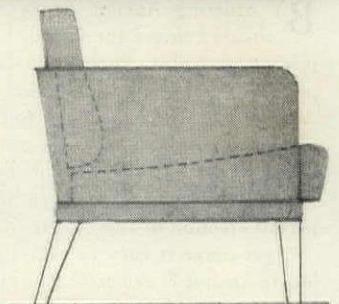
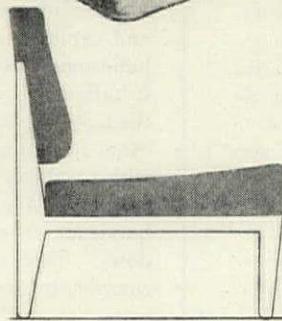
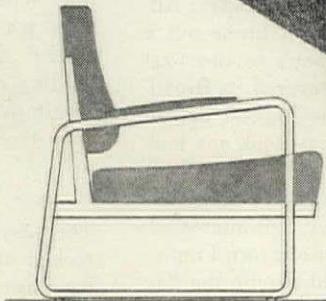
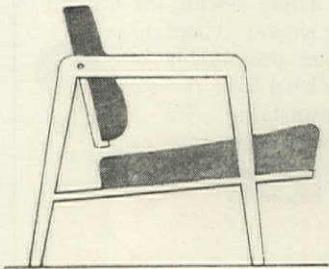
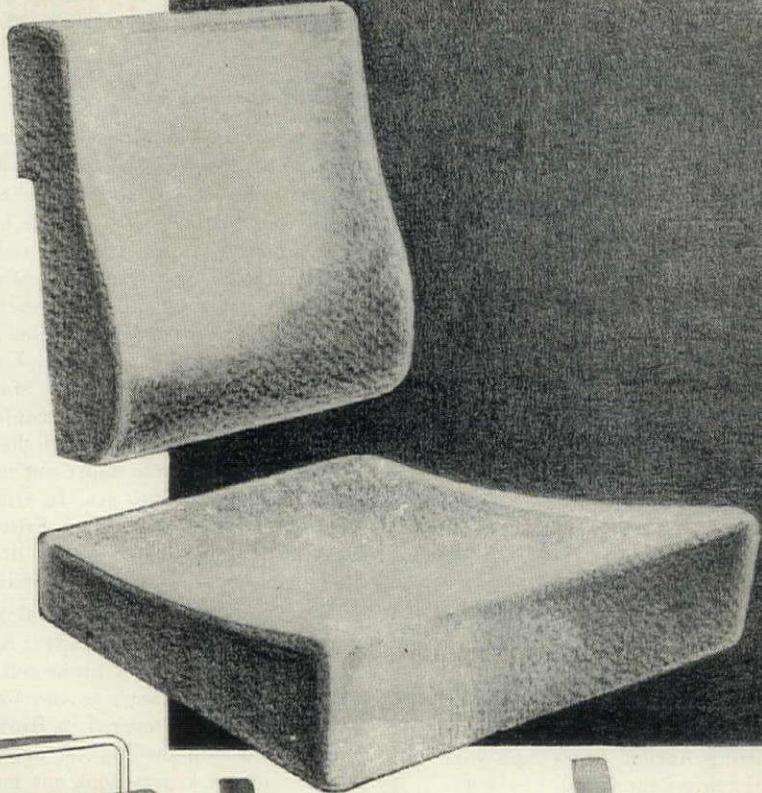
[Suburb of Chicago]

ILLINOIS

*National Distribution Assures Effective Installation*

# For Decorating Purposes... KOYLON IS TOMORROW

For lowering costs of seating furniture, Edward J Wormley, New York homefurnishings designer, suggests the use of standardized seat and back elements of Koylon Foam which can be used in a variety of frames.



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## A LETTER FROM THE PUBLISHER

Dear Reader:

Our post-V-E Day impressions are here recorded for posterity. We reached the office in time to see the first paper blizzard swirl outside our fiftieth floor windows. A midget radio in the drafting room kept repeating "... this is not official." But everyone smiled knowingly. There was no complete elation. At 11:30 both *FORTUNE's* and *THE FORUM's* staffs gathered for a drink in the conference room on the forty-ninth floor. No one seemed able to figure out just what to say or how to act. In a few minutes, one by one, they drifted back to their offices or out to drift for themselves. That was Monday.

When the anti-climatic official announcements came on Tuesday, Altman's across the street broke out a 125 ft. flag but Macy's to the west almost completely covered its Broadway facade with the biggest flag of all. One of our experts took one look and rapidly calculated that to fly it handsomely would take a pole 320 ft. tall, and if you are still interested, the mooring mast on our own Empire State Building could handle the flag with plenty to spare. A block above us on 5th Ave., carpenters put up a barricade covering Best's show windows. This unheroic action went completely unrewarded. There never were any milling crowds to go berserk.

We thought a good deal about the fourteen *FORUM* service people and wondered where they were at that moment. As closely as we could figure, five were in the U. S., four in England, France or Germany and

five in widely scattered parts of the Pacific. A better celebration will wait until they all come home.

\* \* \*

Limited to borscht and vodka, we found some difficulty in carrying on an animated conversation with our



Gregoriev

leading global visitor last month — Tovarisch Gregoriev of the Russian Purchasing Mission. However, there was plenty of bowing and grinning.

and he left us with the equivalent of a 25-gun handshake. Bob Frantz of Saginaw stopped by, looking the way all architects should, closely followed by Roger Allen, looking the way all humorists should. Came Corwin Wilson, presumably having parked his two-story trailer downstairs. We are holding over others until next month to say a word about G.I. Jobs (see below).



Wilson

\* \* \*

The service camp newspapers have picked up this idea, and fine pieces have appeared in the *Lee Traveller* of Petersburg, Virginia, *High Score* of the Army Air Field, Avon Park, Florida, and *Army & Navy Review* of the New York Veterans Association. Requests for personnel to fill jobs are flooding in and as the news of this service reaches more soon-to-be discharged veterans, we should be able to start fitting together some of these men and jobs. You can help by telling your own friends in the service who hope to work in the building field.

H. M.

## G.I. JOBS

### FORUM'S FREE PLACEMENT SERVICE FOR DISCHARGED VETERANS

To aid discharged veterans secure professional and executive employment in the building industry and affiliated branches, *THE FORUM* will publish without charge classified advertisements not exceeding 40 words, giving the applicant's qualifications and stating his preferences in occupation and location. All advertisements will be keyed by number only.

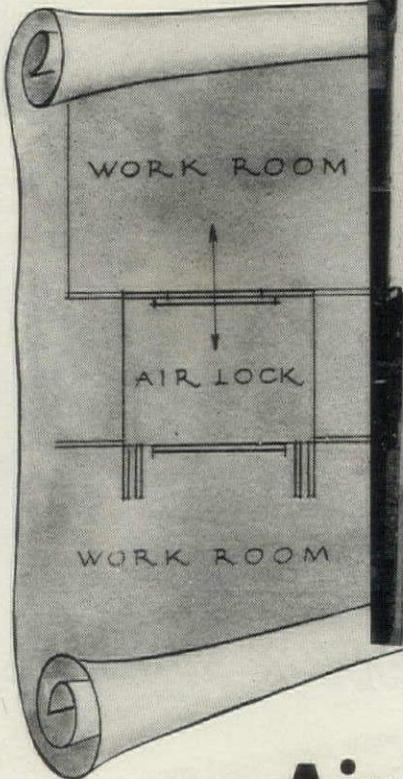
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Gentlemen: Please send full information on Stanley Magic Doors for  
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*On this air lock vestibule, the Stanley Door Control is actuated manually through pull cord switches. Safety rays control operation cycle of doors so that traffic must clear a door before it can close; also limit operation to one opening at a time.*

The use of air locks is a solution to the elimination of drafts, fumes or dust that interfere with manufacturing processes or impair the health of employees.

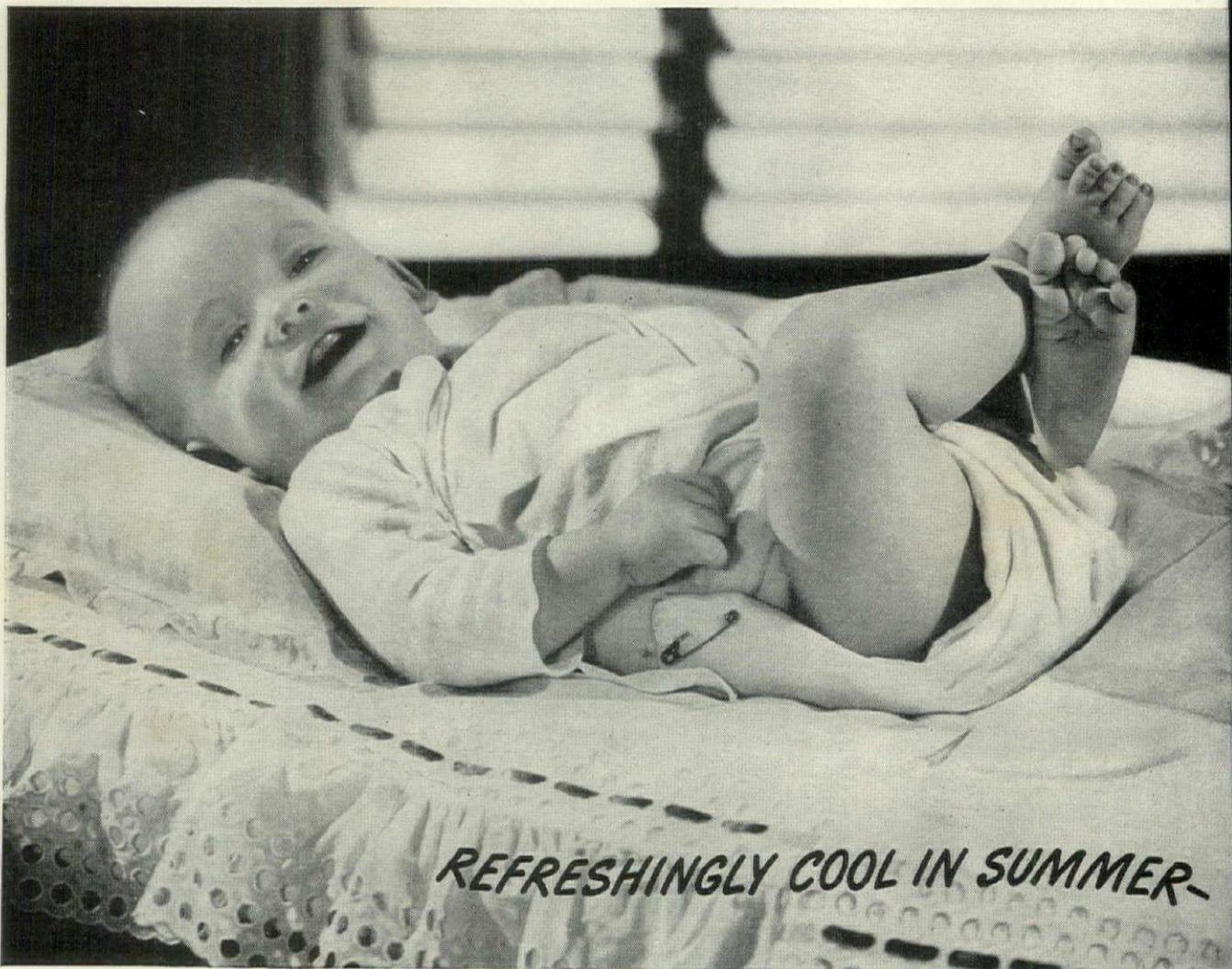
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In busy industrial plants or commercial buildings, Magic Door action speeds up traffic, saves worker time, reduces accidents and door repair bills. They repay their original cost many times over!

Innumerable door problems have been successfully met by the adaptability of Stanley Door Controls. Keep this fact in mind when starting plans for construction or modernization. Stanley will cooperate with you in preparing plans and specifications. Fill out and mail the coupon now.

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REQUIRE NO HAND TO OPEN



*REFRESHINGLY COOL IN SUMMER—*

# Ideal indoor climate, year round

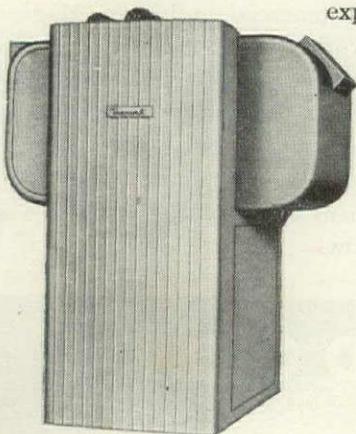
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THE SERVEL GAS REFRIGERATOR**

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As soon as war-time restrictions permit, this method will enable you to give your client a home of any size, any type, anywhere—with greater dollar value than ever before.

*In Precision-Built Homes, the interior walls and ceilings are finished with Homasote—the oldest and strongest interior building board on the market.*

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## IN THE FORUM

**Alonzo J. Harriman** who designed the Memorial School in Bath, Maine (p. 126) recently had the pleasure of remodeling a church his great grandfather went broke building. Somehow this righting of an old wrong inspires nostalgia and the familiar thought that one can go bankrupt in the building business as easily as make a nickel. What intrigues us, however, is that Harriman dealt sharply with a band of overseers who may well have been descended from the crew that fleeced gran'pappy. Fearful of retribution, they plied him with rum, but fell into their own trap while a sober Harriman emerged top dog from a 100 yr. old situation.



**Time Inc's** new reception center (p. 102) plunged headlong into impassioned controversy when it commissioned abstract sculptor Isamu Noguchi to design its ceiling and lighting fixtures. Bumbled one irate staff member: "We simply cannot countenance those dinosaurs' teeth."



Hard-boiled union men, unimpressed with Noguchi's creations past and present, took one look at his designs, decided they weren't sculpture, insisted that the whole thing be executed by a card-carrying plasterer.

**Paul Beidler** who designed the doctor's house and office (p. 96) has twice circumvented the ills which beset his profession. Graduated in the depths of the depression, he joined a troop of archeologists and spent the lean years happily exploring the shape of things gone by. Last summer, to recover from an acute case of priority jim jams, he joined a commercial mackerel fleet operating out of Barnegat City. Beidler rates his second escape technique best, offers his boat to the highest bidder, so far has had no takers.



**Dave Bohannon**, whose west coast building business (p. 133) has made him pin-up boy of the trade journals, refuses to be stumped by the impossible. We suspect that his fantastic feats are traceable to a solid grounding in paper doll cutting practised in early youth. Whether true or not, his building methods have more than a family resemblance to such a pastime. A recently erected 700 house project took him just 700 hours. His secret: build one house, knock it down and use it for a pattern.

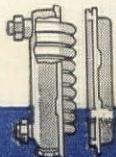




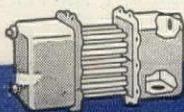
*It takes  
more  
than crossed fingers*

After you specify or install a Taco Water Heater or a "Taco-One" Venturi Heating System, you don't have to cross your fingers for luck! You can count definitely on satisfac-

tion for the home owner—legitimate profit for the contractor. You can depend on Taco engineering, knowledge, experience and responsibility.



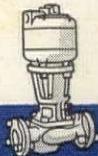
Domestic Taco



Tankless Taco



Taco Tempering Valve



Taco Circulator



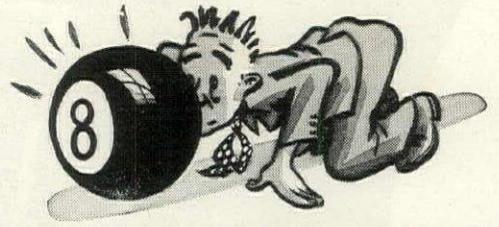
"Taco-One" Venturi Fitting



TACO HEATERS INC.  
342 MADISON AVE., NEW YORK 17, N. Y.  
TACO HEATERS OF CANADA INC., ADELAIDE ST. W., TORONTO

SOMEDAY YOUR NEW HOME MAY  
PUT YOU "BEHIND THE EIGHT BALL"

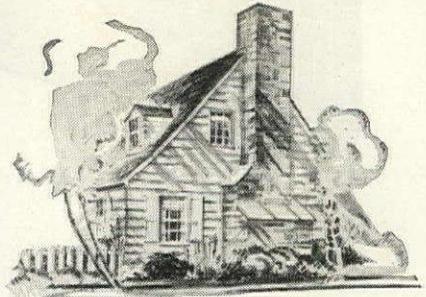
... unless you take this precaution!



● Many a man may build or buy a new home only to find himself "behind the 8 ball" when he tries to sell or rent—all because of a skimpy chimney! You see, a small chimney is good for burning only the most expensive fuels. Once you've got it, you're "stuck." You can't easily switch to coal. But someday you may want the big economy advantage and the dependable, even, healthful heat of Bituminous Coal. For remember, today's expensive fuels may be still more costly in the years ahead!

The extra cost of an adequate chimney—one that can efficiently handle any fuel—is small. Only about \$16 for the average 7-room house! And should you decide on Bituminous Coal, you'll find it can save you enough to pay a good part of your taxes or mortgage interest. Yet economy is only one reason why 4 out of 7 homes in the U. S. heat with coal!

But no matter what kind of heat you plan for the present, be sure you get an adequate chimney—so you'll be free to switch to any other fuel you may choose in the future. It will pay you to talk this over with your architect or builder!



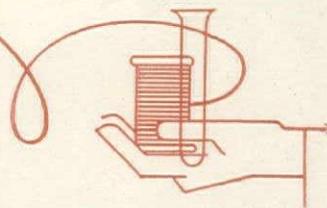
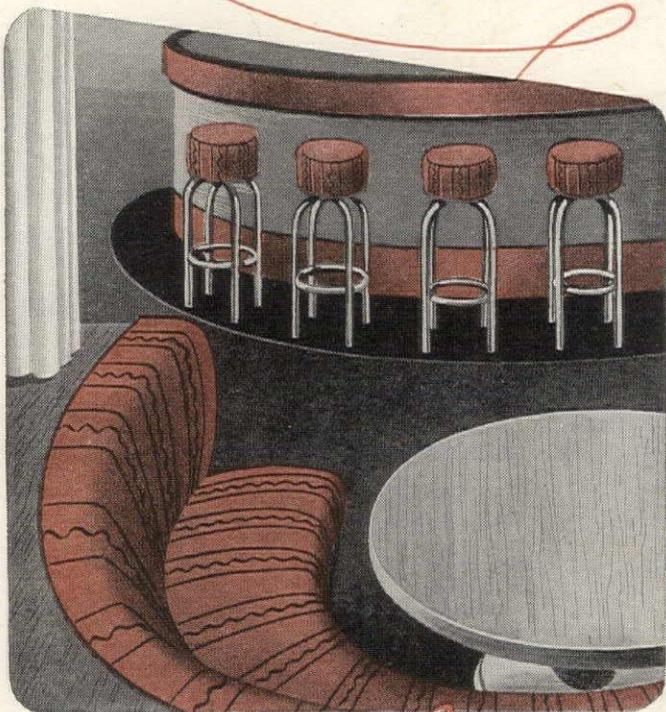
**AN ADEQUATE CHIMNEY**—one that's efficient for burning Bituminous Coal—is also efficient for any other fuel you might choose. And Bituminous Coal—when used with a modern, automatic stoker—gives the most uniform as well as the most economical heat—clean, steady, odorless, smokeless.

**BITUMINOUS COAL INSTITUTE, 60 EAST 42ND STREET, NEW YORK 17, N. Y.**

(This is one of a series of advertisements now appearing in home-makers' magazines)

Beautiful new, lighter, brighter colors...  
 NOW PRACTICAL EVERYWHERE WITH UNSOILABLE, DURABLE

**VELON\***



Now, there's not a single upholstered piece that you won't be able to glorify with a touch of magic color.

Now, for the first time, you can dare to use *any* color anywhere—from the palest of pastel tints to the deepest of deep, rich, jewel-like tones—in an infinite variety of textures, weaves and patterns!

It can be done with Firestone's amazing new fabric, *Velon*—unlike any other material ever created.

Because, in even the lightest shades, the mere touch of a damp cloth or cleaning fluid restores *Velon* to all its original colorful glory. Dirt and grease can't cling to it. Drinks can't stain it. It's waterproof, non-inflammable. And it will never fade.

Moreover, *Velon* is so durable that after years of rugged abuse in trains, cars and planes, it has yet to show the slightest sign of wear.

No wonder *Velon* is called the most practical upholstery fabric ever made. Right now, most of the *Velon* made goes to the armed forces. But you can't afford to overlook its endless possibilities for your postwar plans.

P.S. For completely modern seating use Foamex cushioning, Firestone's rubber latex foam.

 Listen to the Voice of Firestone Monday evenings over NBC.

ANOTHER CONTRIBUTION TO A BETTER WAY OF LIFE by

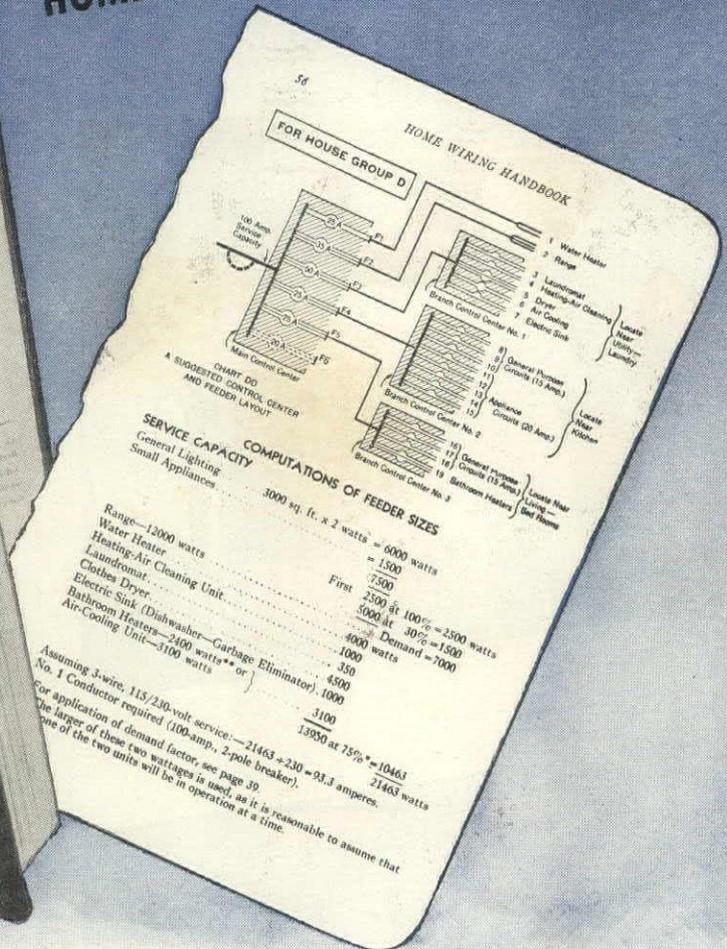
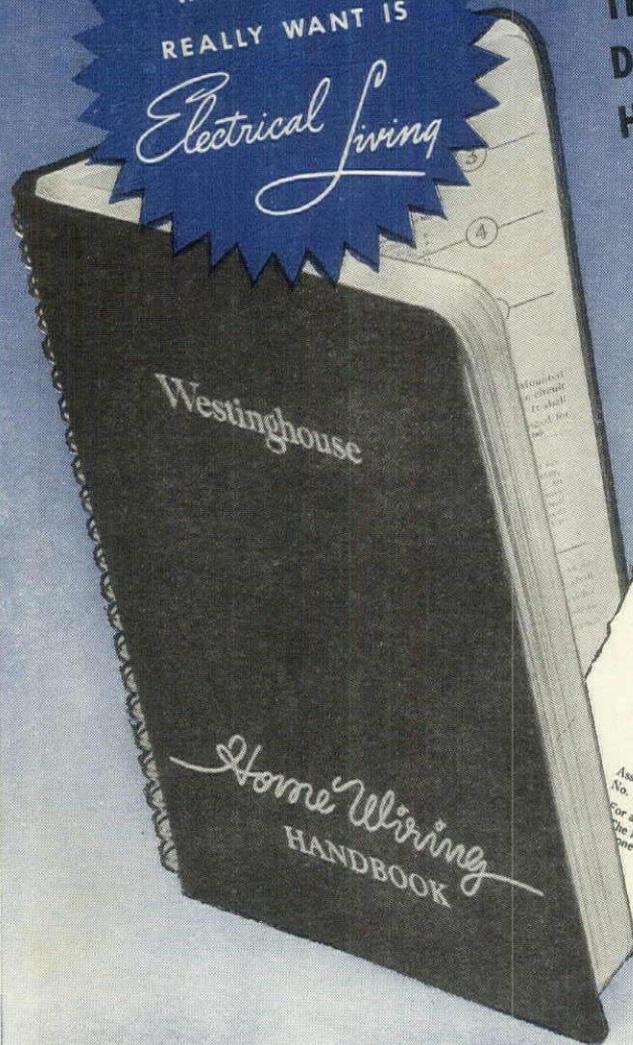
**Firestone**

\*Trademark—Pronounced VEL-LON

WHAT PEOPLE  
REALLY WANT IS

*Electrical Living*

THIS NEW BOOK MAKES IT EASY TO  
DETERMINE ELECTRICAL LIVING NEEDS FOR  
HOMES IN THE POPULAR-PRICE GROUP



For full convenience *Electrical Living*, where should control centers for a house be located? What size feeders should you install? What is the minimum number and size of circuit breakers to use?

Complete data is contained in the new *Home Wiring Handbook* to enable you to design the most modern and efficient electrical installation for homes

in the popular-price group. Examples are given to make easy the entire computation of distribution systems.

Throughout this 120-page book you will find valuable data assembled to save time and assure a well-engineered installation. Costs one dollar. Send with coupon below.

J-91528



**Westinghouse**  
PLANTS IN 25 CITIES... OFFICES EVERYWHERE

**BETTER HOMES DEPARTMENT**

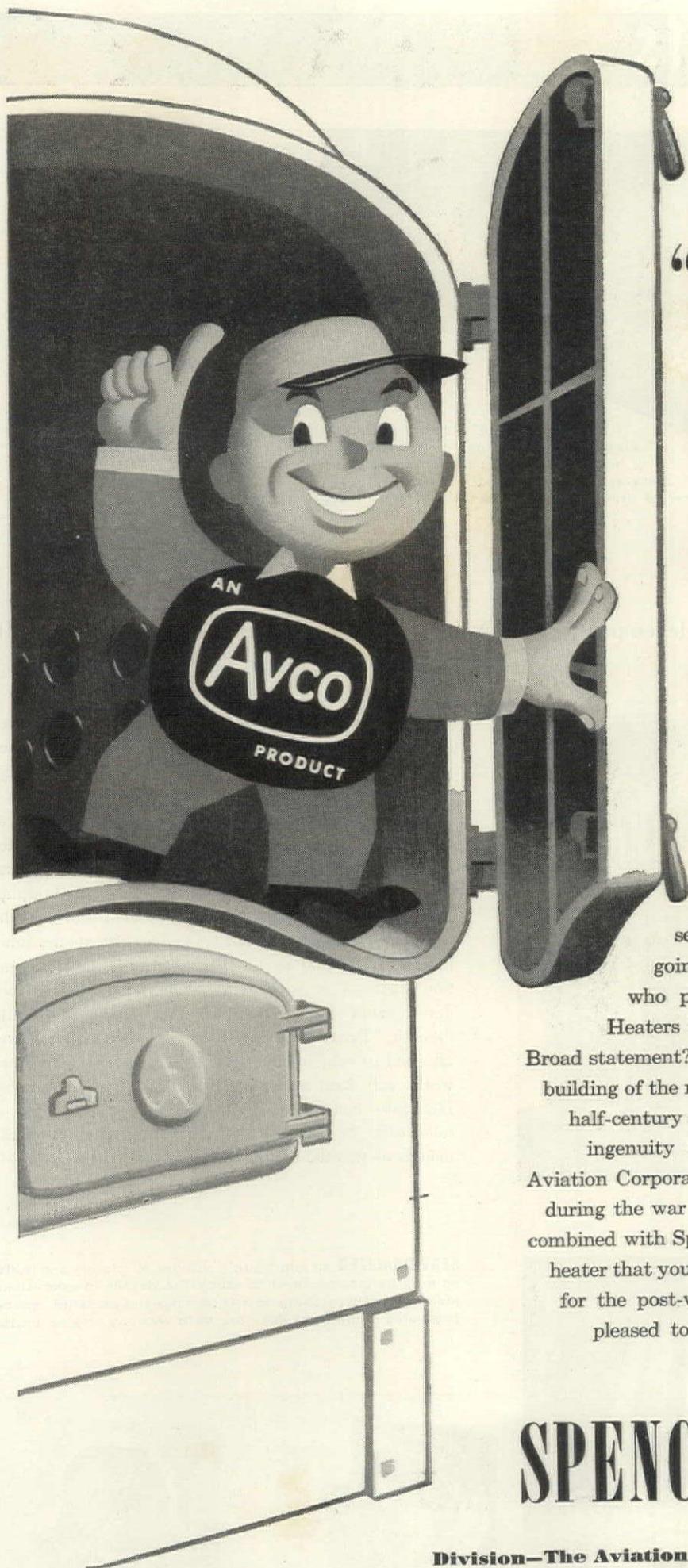
as a part of its consulting service, offers you the following FREE BOOKS: *Electrical Living in 194X* (Professional Edition); *Manual of Better Home Wiring*.

**ORDER YOUR COPY NOW**

Westinghouse Electric Corporation  
Extension Training—Industrial Relations Department  
306 Fourth Avenue, Pittsburgh 30, Pa.

Gentlemen:  
I enclose \$1.00 for a copy of your "Home Wiring Handbook".

Name.....  
Street.....  
City..... State.....



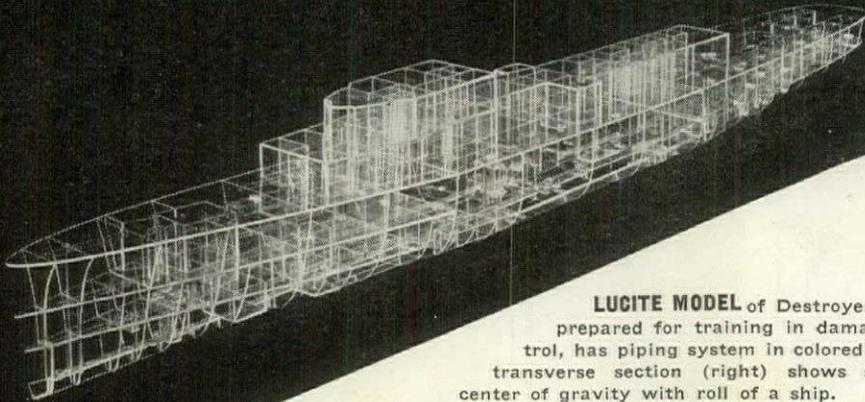
**“We’ve got the  
answer when  
the heat’s  
turned on!”**

You know . . . we know . . . that the heat of post-war competition is going to be *something!* Now is none too soon to set your sights on solid selling points for the homes you are going to build. We predict that the man who plans homes equipped with Spencer Heaters is going to have a happy time of it. Broad statement? Not when you consider that into the building of the new Spencer Heater line will go over a half-century of heater experience *combined with* the ingenuity and engineering knowledge of The Aviation Corporation . . . skills developed and proved during the war years. New economy and utility . . . combined with Spencer dependability, will bring you a heater that you’ll want to include in the specifications for the post-war homes you’re planning. We’ll be pleased to furnish you with more information.

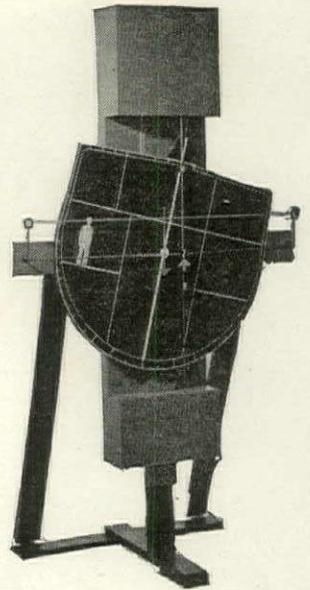
## **SPENCER HEATER**

**Division—The Aviation Corporation, Williamsport, Pa.**

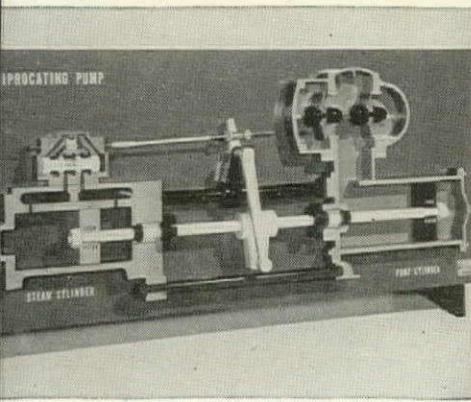
# FORUM OF EVENTS



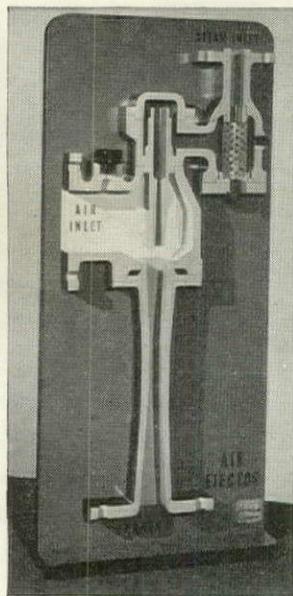
**LUCITE MODEL** of Destroyer Escort prepared for training in damage control, has piping system in colored plastic: transverse section (right) shows shift in center of gravity with roll of a ship.



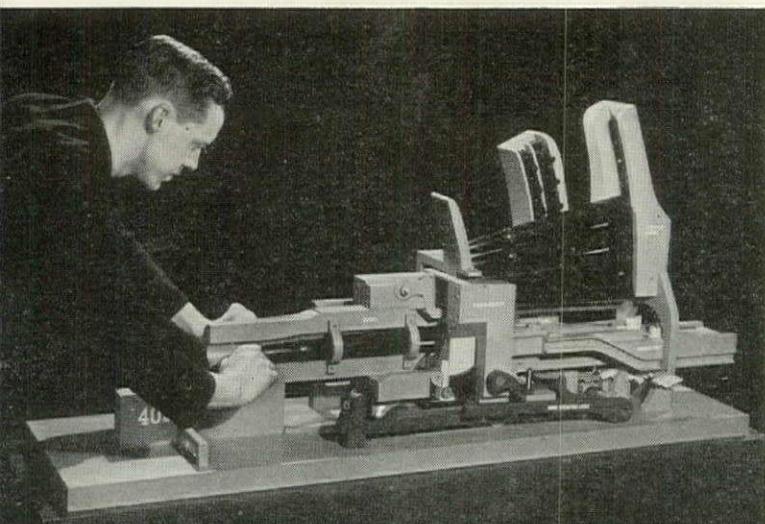
Three-dimensional training aids developed by the Navy are found to cut learning time in half.



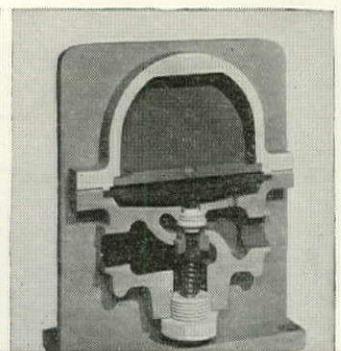
**RECIPROCATING PUMP** and air ejector are part of a series of panel mock-ups of engine units. Parts are color coded, may be dismantled and adjusted like real machines.



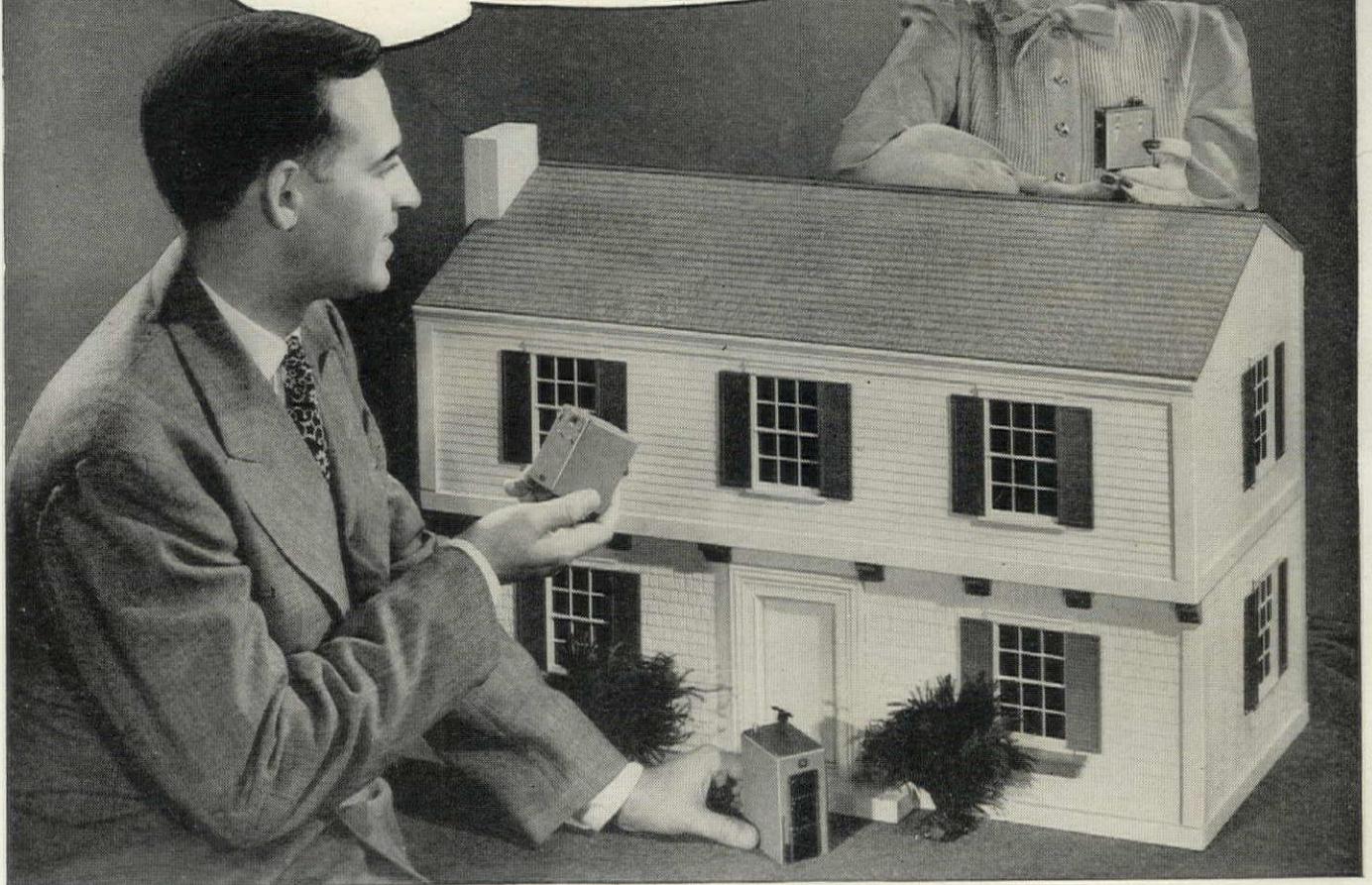
Just when visual aids were adopted as training devices is not certain, but the Navy did not take long to discover that a scale model of a ship made of transparent plastic and three-dimensional mock-ups of engine parts took the place of pages of printed or spoken words. Physical educational aids cut learning time in half, besides eliminating a tremendous amount of needless confusion. The models pictured here, the work of the Training Aids Division, are operable, color-coded and may be completely demounted in order to demonstrate the functions of individual parts. The success of such instruction methods is without question and their further development for postwar civilian education should flourish. Progressive educators, realizing the clarity afforded to subjects by motion pictures and laboratory work, will want architects and engineers to take this fact into consideration in designing the school of tomorrow, or even participate in the design of the models as was the case here. *(Continued on page 64)*



**SECTIONALIZED** 40 mm "gun" will fire 60 rounds a minute or may be slowed down to study the details of operation. Mock-ups of Kingsbury thrust bearing and pressure reducing valve familiarize trainees with various engine units.



THEY'RE PLANNING *Now* FOR  
TOMORROW'S COMFORT

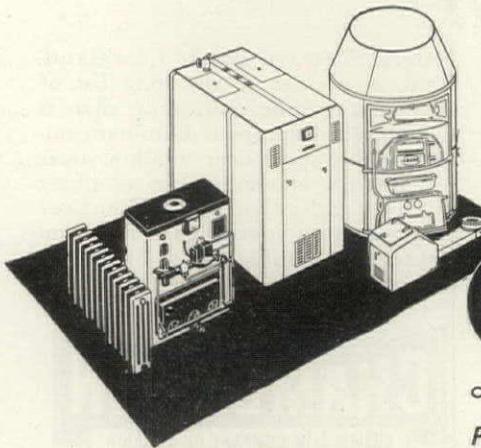


**T**HOUSANDS of American families are planning now to build or buy a new home as soon as the removal of war restrictions makes construction possible. They are looking for quality in their home—they recognize that one of the things that can mean much to their future comfort is the heating system.

You will find that a complete Crane heating system will mean much to your prospects. They recognize the name of Crane as standing for tops in quality; and on the heating systems you install, it will add sales value to your homes.

To the builders of tomorrow's homes, Crane Co. will offer a complete line of boilers for steam and hot water; furnaces for warm air; radiators, controls, valves, fittings, oil burners and stokers—everything necessary for every type of heating system.

Right now there are necessary limitations on heating equipment; however, by the time it is possible for you to start construction, your Crane heating dealer will be able to offer the latest and most advanced types of heating from the complete Crane postwar line.



# CRANE

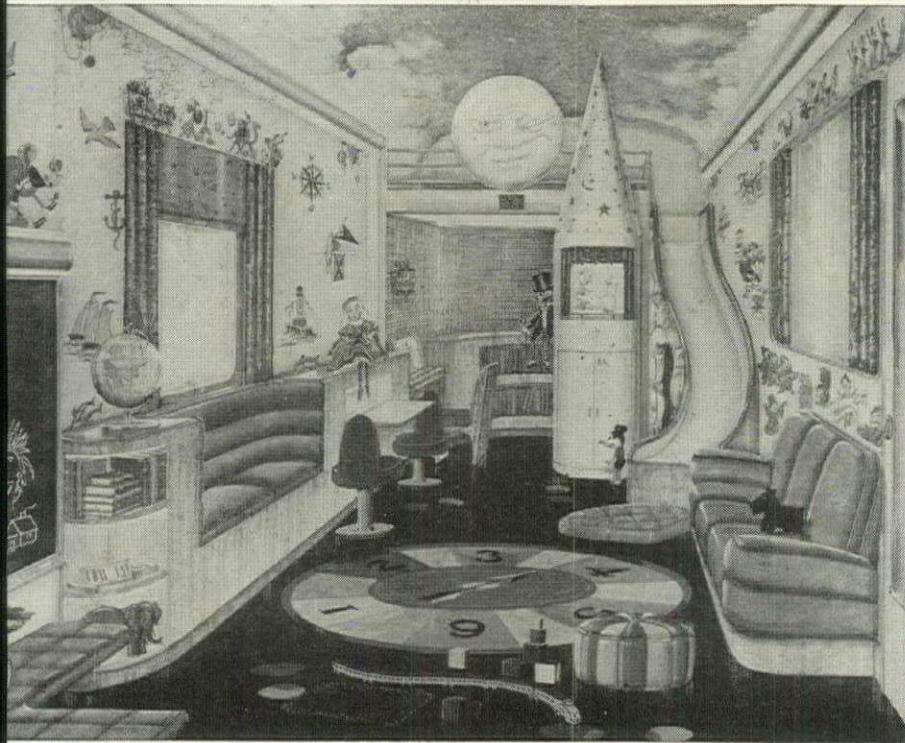


CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5, ILL.

PLUMBING • HEATING • PIPE • FITTINGS • VALVES

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALEERS AND HEATING DEALERS

(Continued from page 62)



**POSTWAR DESIGN OF THE MONTH**

Lilliputian travelers on postwar railways will have a club car of their own complete with an expert stewardess. The amusements provided in the "fun house on wheels" designed by the Pullman-Standard Manufacturing Co., will cater to almost any childish whim. A slide reached through a cave with concealed stairs, a miniature piano, marionette show, writing desk, etc. are offered. A kneeling sofa is placed longitudinally along the side of the car so that the child can assume his favorite position for looking out of the windows. Plans for appeasing the child once the trip is over are not disclosed.

(Continued on page 68)



**THE NEW FREEDOM GAS KITCHEN featuring a fine ROPER GAS RANGE**

The modern ROPER GAS RANGE is designed to fit tomorrow's kitchen --- designed, as well, to fit the housewife's ideas of what a cooking appliance should be. It's a range you can specify with the full assurance that it will provide the ideal answer to every cooking problem. Write today for Roper's free kitchen booklet.

GEO. D. ROPER CORPORATION, Rockford, Illinois, manufacturer of ROPER, "America's Finest Gas Range" for all gases including L.P. (Liquefied Petroleum) gas.



**Specify Chamberlin Metal Weather Strips**



Architects—Walker & Weeks  
Builders—John Gill & Sons

**GREATER FUEL ECONOMY**  
•  
**MAXIMUM COMFORT**

**"Proper Installation is Half the Job"**

Federal Reserve Bank, Cleveland, Ohio, is another in the long list of important public buildings that is Chamberlin equipped. Eliminate uncomfortable spots near window areas . . . provide maximum fuel economy with Chamberlin Metal Weather Strips. Factory controlled installation insures best results. For complete details call nearest Chamberlin office.

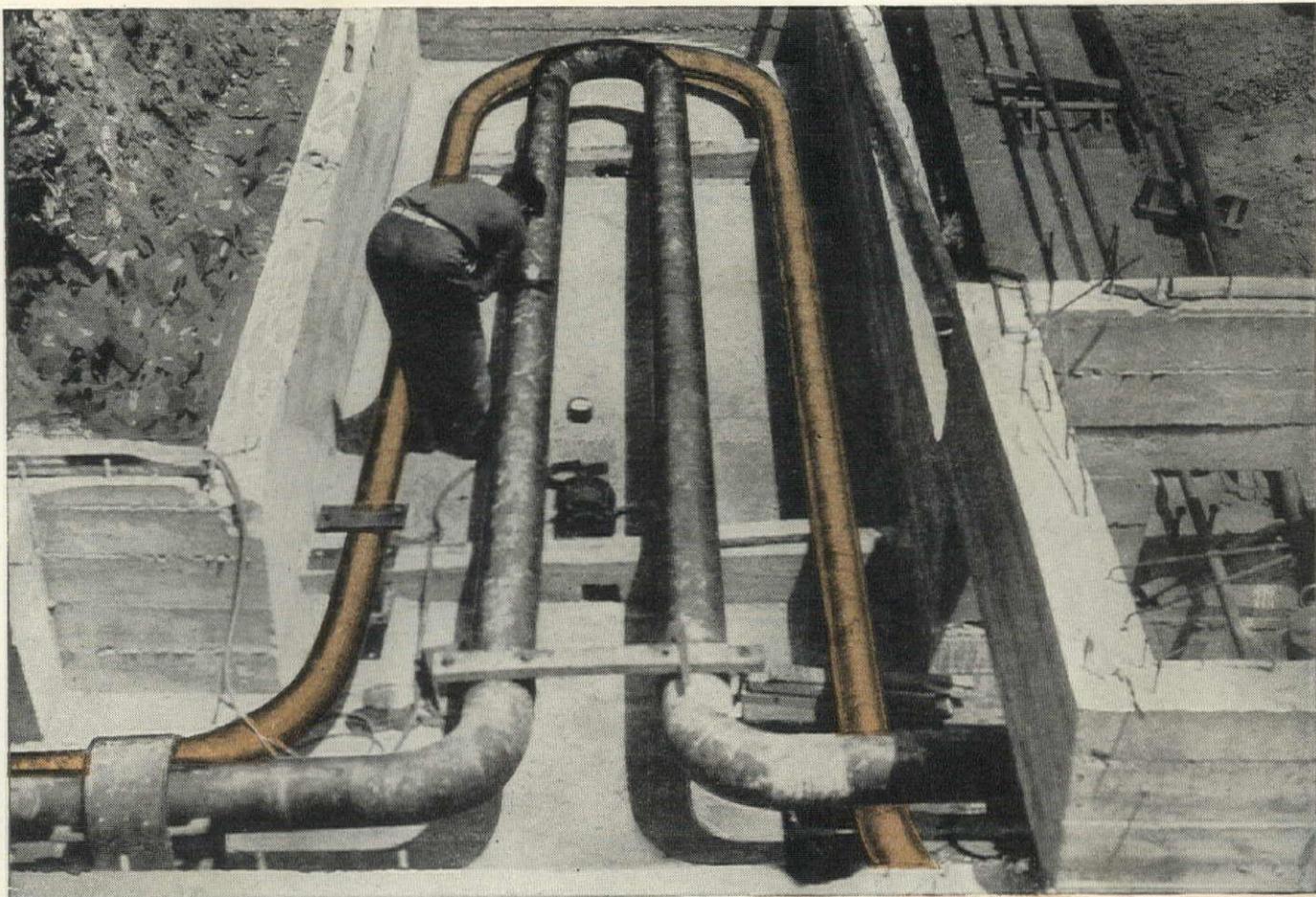


See Insert in Sweet's Catalog

Formerly Chamberlin Metal Weather Strip Co.



Home Office: 1232 LaBrosse St., Detroit 26, Mich.



## The Trend Toward Permanence

### EMPHASIZES THE ECONOMY OF LONG-LIFE MATERIALS

MORE AND MORE, civic and industrial planning inclines toward the long range viewpoint. Permanent construction—using quality materials—gains in favor over the practice of building for immediate needs only. This type of planning emphasizes the economy of using long-life Anaconda Copper Tubes and Red Brass Pipe to resist corrosive conditions in air conditioning, heating, plumbing and industrial piping installations.

Experience over the past few decades stresses the dependability and durability of copper and brass in these

Illustration shows expansion joint for heating lines laid in 8,800 feet of concrete conduit at the University of Connecticut, Storrs, Conn. Condensate return lines, subject to the corrosive action of the boiler water, are of Anaconda Red Brass Pipe welded with Tobin Bronze\*. Sixty thousand pounds of Red Brass Pipe, from 1½" to 6" S.P.S., were furnished by Crane Co., New Haven, who made the bends for the expansion loops.

Consulting architects and engineers to the State of Connecticut, Westcott and Mapes, Inc., New Haven. Contractor, C. N. Flagg & Co., Inc., Meriden. All welded joints were supervised and approved by Hartford Steam Boiler Inspection and Insurance Company.

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

applications. The extension of chemical treatment of domestic waters further increases the need for these non-rust materials.

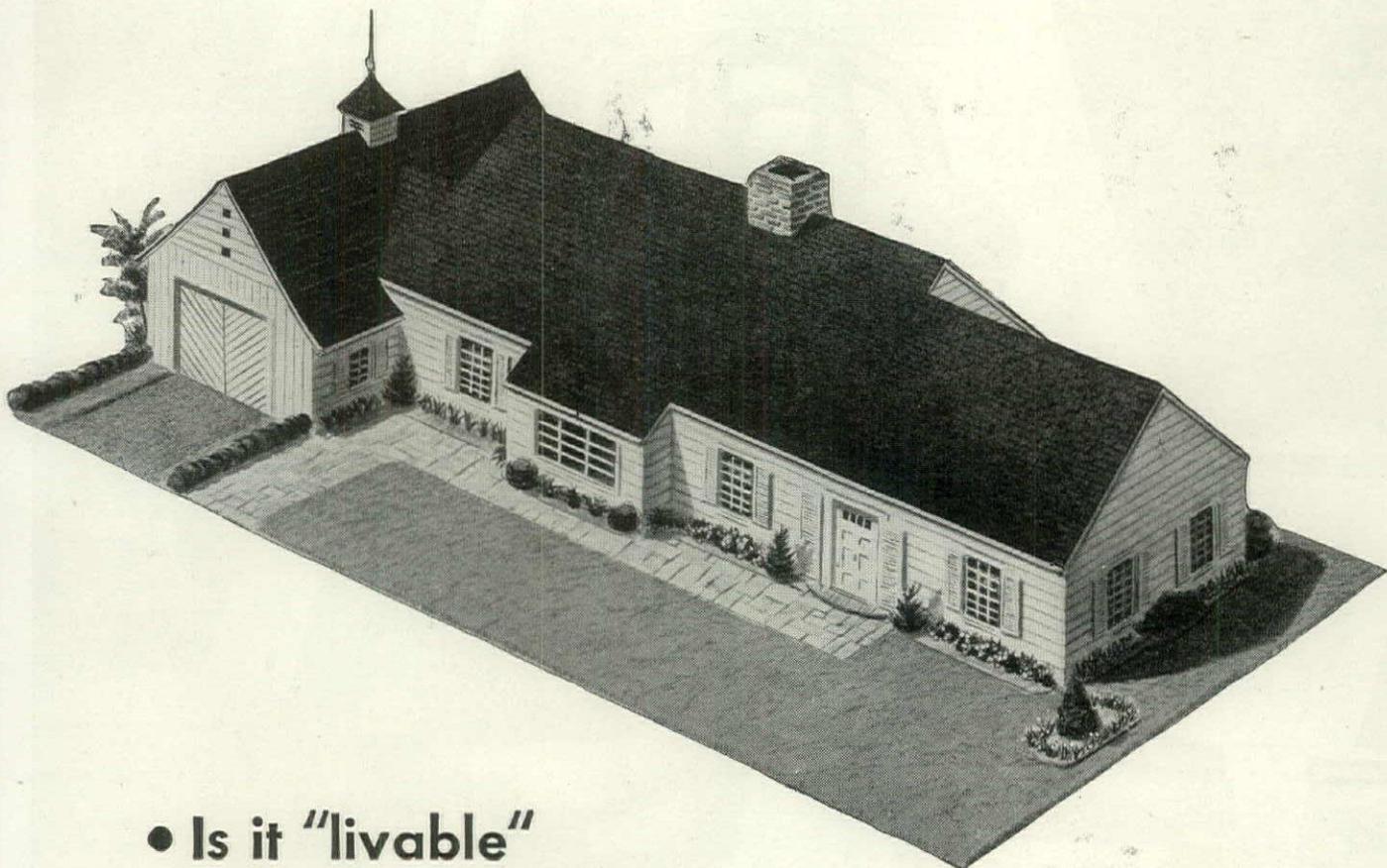
Anaconda Copper Tubes and Red Brass Pipe are furnished in a standard range of sizes and wall thicknesses and allow the architect or engineer a choice of threaded fittings, solder-type connections or welded assemblies.<sup>4072</sup>



Buy War Bonds  
Buy more  
... HOLD ALL

# Anaconda Copper & Brass

THE AMERICAN BRASS COMPANY—General Offices: Waterbury 88, Connecticut  
Subsidiary of Anaconda Copper Mining Company—In Canada: Anaconda American Brass Ltd., New Toronto, Ont.



## • Is it "livable" as well as "lookable"?

**N**O QUESTION! There's a lot of sales appeal in the very appearance of a brand-new home!

But any prospective owner may be sold on its looks . . . and still have two big questions before he buys.

*How is it built?* Is it scientifically designed, soundly constructed, and made of good materials?

*How will it live?* Is it completely equipped with the best in home appliances? Does it have *all* these aids to *better living*?

- Adequate wiring with plenty of convenient outlets for proper lighting.
- Automatic heating with air conditioning, and automatic hot water.
- An all-electric kitchen with refrigerator, range, dishwasher, garbage Disposall, exhaust fan, and clock. And roomy steel kitchen cabinets.
- An all-electric laundry with washer, dryer, and ironer.

Such a house will combine *better living* with *better appearance* to bring you *faster sales!*

And this home can still be competitively priced.

When complete electrical equipment is included in a single long-term mortgage, the difference in initial cost is relatively minor.

This cost actually may be *less* than for an unequipped house, where initial cost must include down payment *plus* the price of separate equipment.

And savings in operation and maintenance with dependable G-E Appliances can more than offset the surprisingly small increase in monthly payments.

For the story of these savings, send for your free copies of General Electric's booklets, "Your New Home and Your Pocketbook" and "Castles in Foxholes." Write direct to—Home Bureau, General Electric Co., Appliance and Merchandise Department, Bridgeport, Conn.

**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.

**TUNE IN:** "The G-E House Party," every afternoon, Monday thru Friday, 4 p. m., E.W.T., CBS. "The G-E All-Girl Orchestra," Sunday, 10 p. m., E.W.T., NBC. "The World Today," News, Monday thru Friday, 6:45 p. m., E.W.T., CBS.

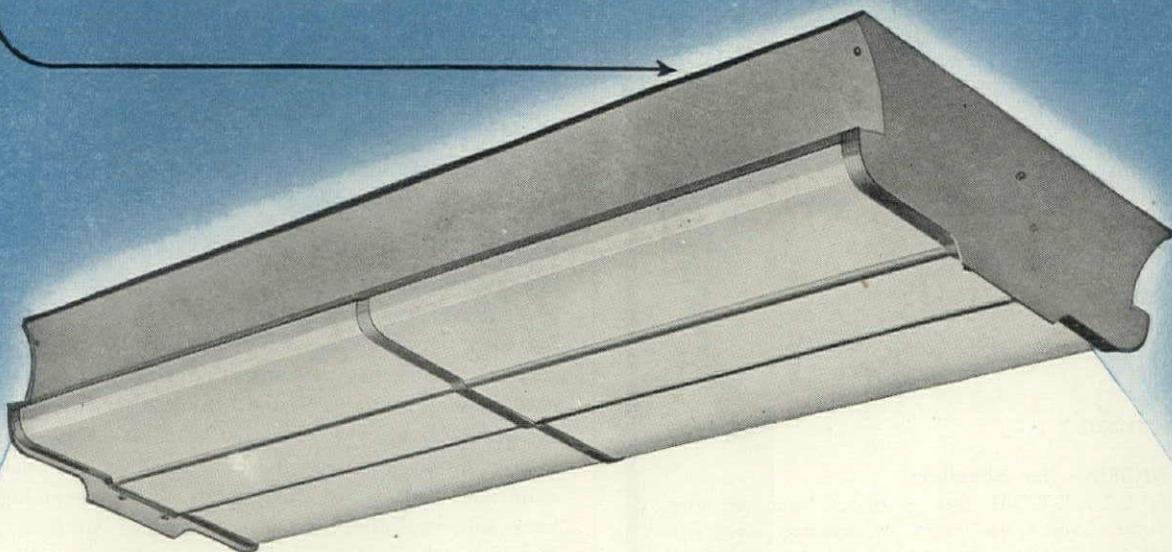
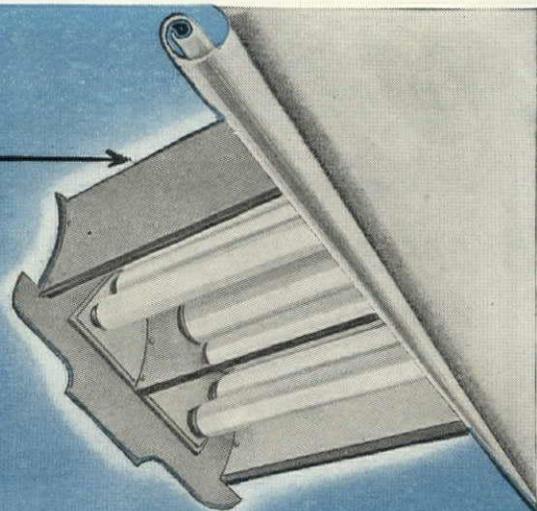
EVERYTHING ELECTRICAL FOR HOMES AFTER VICTORY

**GENERAL  ELECTRIC**

Tandemlamp Features

ALZAK\* ALUMINUM

REFLECTORS



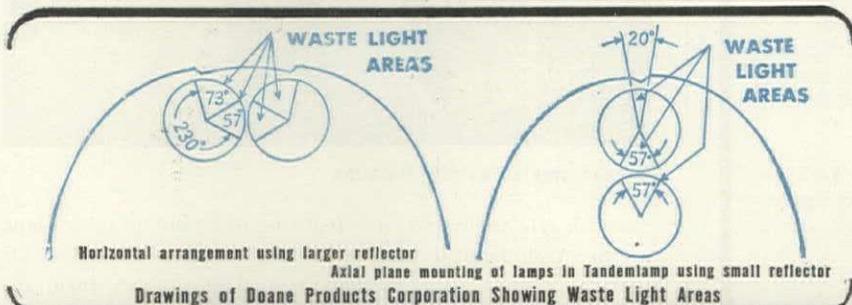
Alzak\* aluminum specular reflectors are used to obtain maximum efficiency and control, in the new Tandemlamp patented by The Doane Products Corporation, Meriden, Conn., represented by Ivan T. Johnson Company, Inc., New York.

This interesting fluorescent lighting fixture uses an axial plane mounting which places one lamp

in front of the other instead of a horizontal arrangement. This mounting, the manufacturers say, permits the light from each lamp to be reflected symmetrically from a smaller reflector as illustrated in the drawings.

Alzak\* aluminum reflectors were selected to assure permanence and high reflectivity. An oxide coating provides surface protection and the high reflection is the result of a special electrolytic treatment\*\* of suitable aluminum sheet prior to applying the anodic finish. ALUMINUM COMPANY OF AMERICA, 1944 Gulf Building, Pittsburgh 19, Pennsylvania.

\*Registered trade mark  
\*\*Patented Process. A. C. of A.



ALCOA FIRST IN ALUMINUM



# Angier

OF FRAMINGHAM

**OFFERS TWO NEW FOLDERS  
FOR POST WAR BUILDERS**

50th Anniversary  
1895-1945



**Describing . . .**

**BROWNSKIN — for Sheathing**

Its S-T-R-E-T-C-H sets it apart from ordinary sheathing papers, as does its special treatment against deterioration, passage of water or moisture. As long as a building lasts, so will BROWNSKIN.

**BROWNSKIN VAPORSEAL — for Vaporsealing**

Protects all kinds of insulation. Use on the warm side of insulation, leaving cold side free to breathe. Thus ideal dry conditions will be maintained.

**ECONOMY BROWNSKIN — Protects Flooring**

One side is crinkled BROWNSKIN, the other flat kraft. Between flooring, the BROWNSKIN side goes down. Also unexcelled as a protector of finished floor surfaces in rooms where men are working. Here the BROWNSKIN side goes up.

**ECONOMY BROWNSKIN REINFORCED**

An extra-strong, all-purpose waterproof paper for temporary partitions, coverings, and the protection of all types of floors during construction.

**COPPERTON — Protects Hidden Places**

Electro sheet copper, bonded to BROWNSKIN by asphalt. Use in concealed places to protect insulation, for drip pans, and to flash windows, doors and all exterior openings.



In writing for samples and literature please mention by name this magazine.

**ANGIER CORPORATION**

CORROSION PREVENTIVE AND WATERPROOF PAPERS  
FRAMINGHAM, MASSACHUSETTS

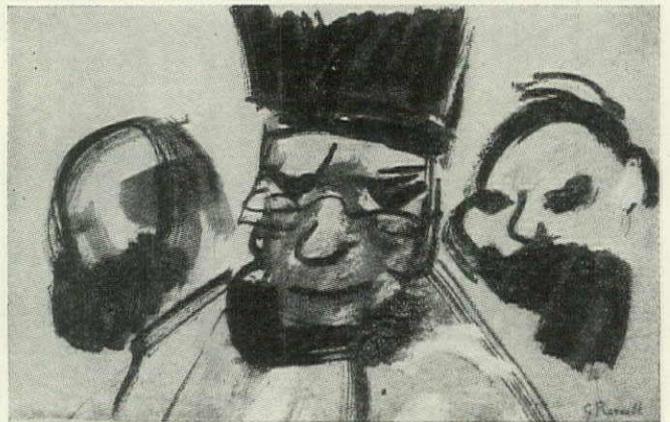
**FORUM OF EVENTS**

(Continued from page 64)

**EXHIBITIONS**

The work of Georges Rouault, from 1893 to 1939, is on exhibit at the Museum of Modern Art. The exhibit, which closes June 3, includes some 161 items: oils, pastels, gouaches, watercolors, etchings, lithographs, ballet designs, books and

Collection Samuel A. Marx, Courtesy Museum of Modern Art



Three judges, 1907

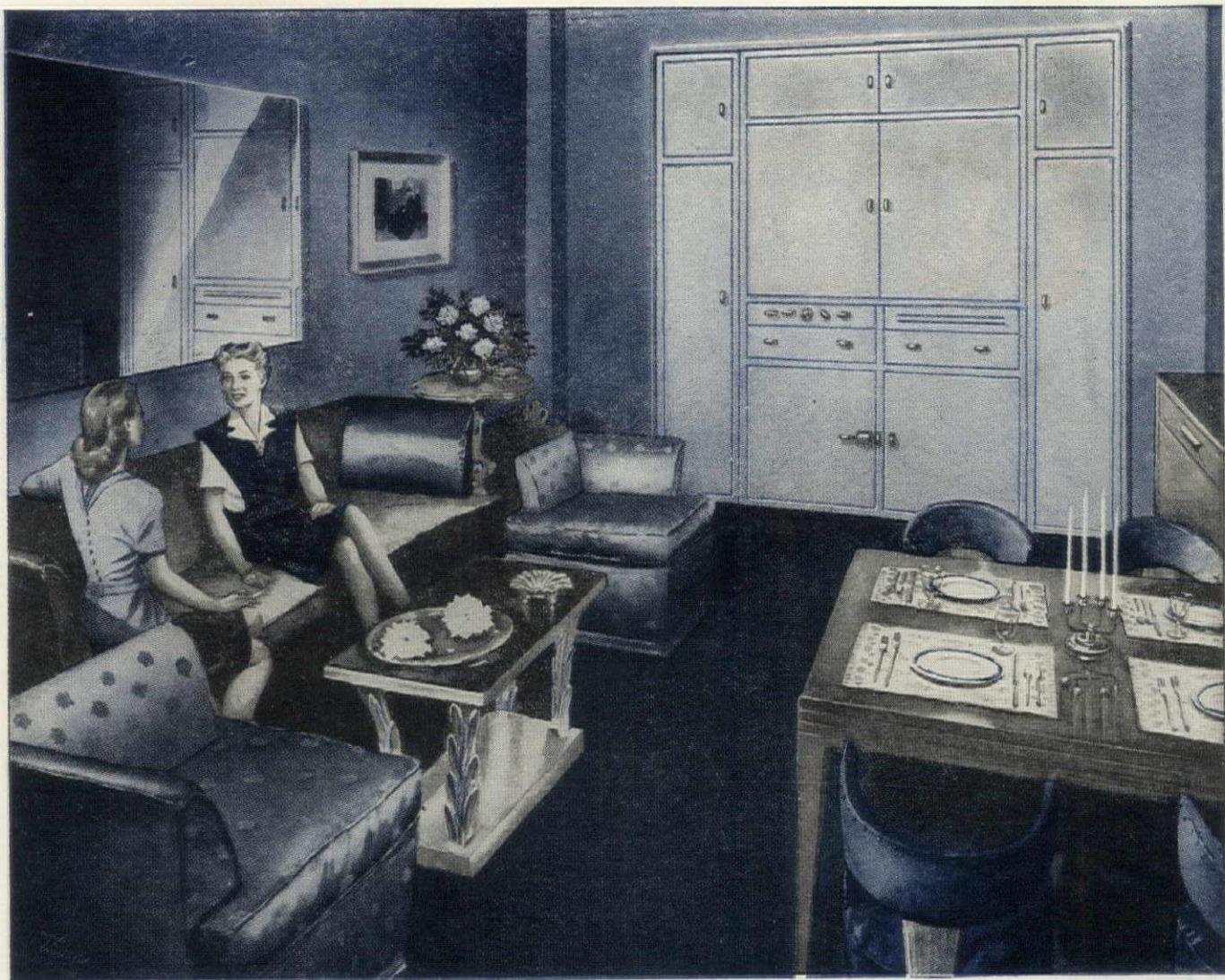
ceramics. Rouault, one of eight surviving masters of Post-Impressionism, was apprenticed at the age of 14 to a stained-glass maker. The leaded black outlines and medieval spirit prevalent not only in his religious works but also in his circus pictures, landscapes, costume designs and prints clearly indicate the stamp of this period. Rouault's method of painting is completely his own—it is not unusual for him to use several media on one piece of work—but from this confusion of materials and colors, he creates from seemingly ordinary subjects, glowing and vital work. Rouault indicates that his work is perhaps taking a new direction: "I spent my life painting twilights. I ought to have the right now to paint dawns."

Max Peter Haas



Sweden creates despite isolation

Swedish arts and crafts were featured in a photographic show at the Architectural League of New York last month. Of particular interest was the low-priced factory-made furniture including modern demountable cabinets and chairs manufactured by Nordiska Kompaniet. The architecture featured was the simple, white, unpretentious modern type commonly associated with Scandinavian countries. The buildings shown consisted primarily of housing, schools and restaurants. A good bit of Tyra Lundgren's fancy sculpture and ceramic (Continued on page 72)



## Yes! Beefsteak with onions can be a complete surprise!

Apartment cookery is often a smelly operation. Long before serving, everybody in the apartment—or in adjacent hallways—knows the bill of fare.

But not so with Parsons Pureaire Kitchen!

For Pureaire cooks **BEHIND CLOSED STEEL DOORS**. Its patented ventilation feature pulls all odors, vapors and surplus heat into a flue and the outer air. Even beefsteak with onions can be a complete surprise.

Tenants also like the amazing completeness of Pureaire. With all its compactness—it uses less than 8 sq. ft. of floorspace—Pureaire does everything a conventional kitchen will do.

Yet Pureaire cost—thanks to standardized volume and expert production engineering—is little if any more than that of an old-style kitchen of scattered units.

Save room, increase revenue, **HOLD TENANTS** by planning Pureaire Kitchens into every apartment of 3 rooms or less.

*ARCHITECTS:—Your Sweet's Catalog carries full Pureaire specifications. Or write us.*

### THE PARSONS COMPANY

15000 OAKLAND • DETROIT 3, MICHIGAN



# COLD CATHODE



LIGHTING DIVISION

## FEDERAL ELECTRIC

8700 S. STATE STREET, CHICAGO 19, ILL.  
TELEPHONE VINCENNES 5300

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... (2nd of a Series)

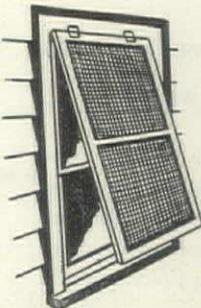


..... "Gentlemen . . .  
these standards  
will endure!"

There was nothing dramatic or spectacular about that meeting of the NDMA Advisory Committee in 1937. But the standards which the committee set up were designed to benefit generations of architects, builders and home owners. For these standards established, for the first time, minimum specifications for the toxic preservative treating of building woodwork . . . treatments which supplement the natural lasting qualities of wood products such as windows, doors, frames, screens and storm sash.

Ever since this country was founded, wood—warm, lasting, durable wood—has been a chosen building material. Today, the toxic preservative standards set up by the NDMA—based on the recommendations of leading technological authorities—provide public assurance that wood will continue to demonstrate its long life, its enduring value, in the homes of America.

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 68)

relief, mainly birds, flowers and fish was exhibited along with some stoneware crockery from the Upsala Ekeby works. In addition to photographs of pieces from both the Orrefors and Kosta glass works there were some showing construction processes. The Orrefors glass is of a decorative type with surface etchings while the Kosta glass concentrates on the exploitation of form. The textile design section comprising prints and woven materials is perhaps of especial interest because of the wartime material substitution; cellulose, Cellophane, artificial silk and cotton.

The Committee on Fields of Practice of the New York Chapter, AIA will sponsor soon after V-E Day a public exhibit providing visual evidence of the contribution which architects have made to the war effort and the extent to which they are prepared to make an even greater contribution to peace.

### DIED

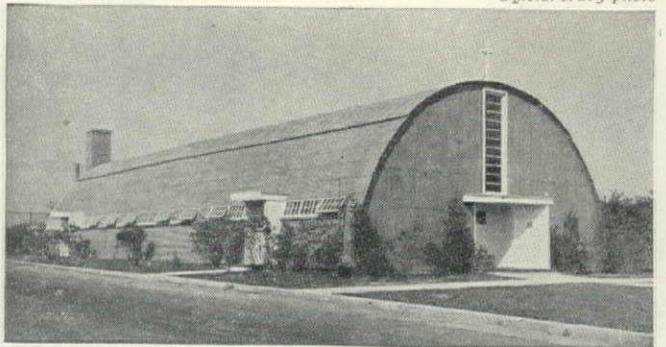
DR. EDITH ELMER WOOD, author and housing authority, in Morristown, N. J., at the age of 73. A graduate of Smith College, Dr. Wood obtained her master's and doctor's degrees from Columbia University and was also graduated



Dr. Edith Wood

from the New York School of Social Work. An expert in the field of slum clearance and low-cost housing for over 30 years, she was at the time of her death a consultant to the U. S. Housing Authority and a director of the National Public Housing Conference. Dr. Wood published four books and numerous pamphlets and magazine articles all making an informed and insistent plea for slum clearance and livable homes. Her exhaustive report on slum conditions in leading American cities, prepared for the Housing Division of the Public Works Administration in 1935, revealed that a third of the country's population was ill-housed, and was quoted in Congressional hearings on the setting up of the permanent housing division in the Department of the Interior. Her last task for the government was a nationwide survey of war-time housing conditions made in 1942.

Official Navy photo



Chapel converted from steel warehouse

### THE NAVY WORSHIPS

The barrel vault of a standard steel warehouse developed by the Navy has lent itself admirably to the nave of this little chapel at the Naval Advance Base Depot, Davisville, R. I., designed by Lt. Glenn E. Miller. Seating for approximately 350 persons is provided.

(Continued on page 76)

# FLUORESCENT ...

a definite answer  
to *Better* lighting!

Any modern system of fluorescent illumination means infinitely better lighting. But of the two recognized systems, Cold Cathode fluorescent is *best*. ZEON Cold Cathode is preferred because it means far longer lamp life, lower maintenance cost, instant starting, constant light flow, fewer auxiliaries and greater flexibility in shapes, sizes, colors, and output.

Federal Electric Company, Inc. has pioneered in the development and use of gaseous discharge lamps. In creating and perfecting ZEON Cold Cathode fluorescent lighting, Federal Electric found new and highly practical methods for its adaption to industrial, commercial, and decorative display illumination.

In planning for post-war installations, specify FEDERAL ZEON. You, your architect, or contractor are invited to submit your lighting problems in a detailed letter. Our engineers will be glad to give it thorough and immediate attention. Address Lighting Information Service, Federal Electric Company, Inc., 8700 South State Street, Chicago 19, Illinois.

*Remember* there are 2 kinds  
of fluorescent lighting!

"Hot Cathode" is the common heater filament type of fluorescent lamp; "Cold Cathode" is the improved shell-electrode type, of which Zeon is the outstanding example. Long life, lower maintenance cost, greater flexibility are some advantages of Zeon Cold Cathode fluorescent lighting.



  
ELECTRIC  
**ZEON**  
CATHODE  
LIGHTING

The mark of lighting quality

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# SYLVANIA NEWS

## ARCHITECTURAL EDITION

JUNE Published by SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1945

### 21-INCH FLUORESCENT LAMP HAS MANY USES

#### New-Size Light Fits Into Small Spaces

The architect will be interested in the applications possible with Sylvania Electric's new 21-inch slim fluorescent lamp.

Particularly for those formerly hard-to-light spots—steps leading into the home, the doorway itself, stair landings,



Entrance illumination and built-in step lighting made easy with 21-inch Sylvania Lamp.

bathroom medicine chest mirrors, basement playroom sections, and many more well known to architects—this convenient length lamp is designed to fill the bill.

Not only is this latest addition to Sylvania's miniature fluorescent line adaptable because of length but also because it measures only five-eighths of an inch in diameter. And yet it uses a standard miniature bi-pin base and an FS-4 starter.

## PUBLIC MOST RECEPTIVE TO FLUORESCENT LIGHTING

### Survey Shows Postwar Trend To "Fluorescents-For-Every-Room"

When homes are again being built, fluorescent lamps will take a great part in lighting them up.

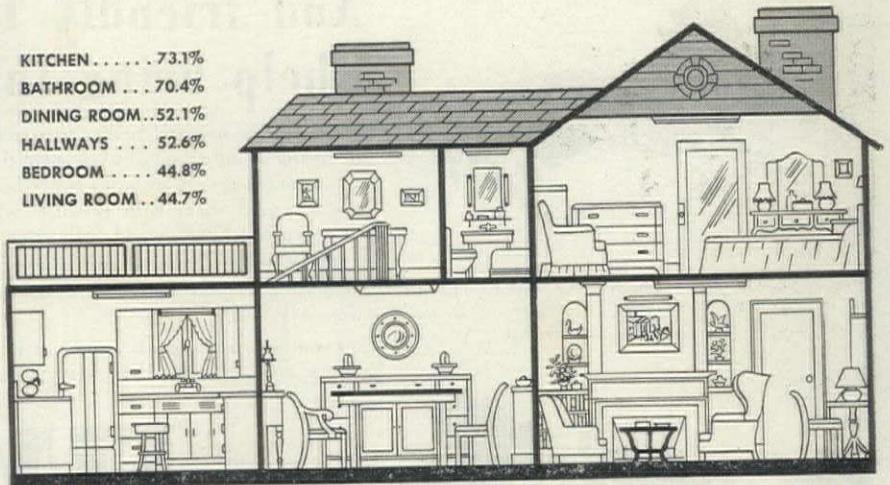
This statement is backed by the replies to one of the many questions asked the public through a nationwide, impartial survey conducted—at the request of Sylvania's Sales Research Department—by one of America's leading market research organizations:

"In what rooms do you think fluorescent lighting is suitable?" The answer is, in effect, "Every room"—with the following prefer-

ences: Kitchen, 73.1% — Bathroom, 70.4% — Dining room, 52.1% — Hallways, 52.6% — Bedroom, 44.8% — Living room, 44.7%.

Obviously, architects will be interested in noting this public receptiveness to fluorescent lighting—as a help in keeping one step ahead when it comes to postwar home planning. The prevailing feeling is that fluorescent lighting is desirable and may be used effectively in almost any room of the house.

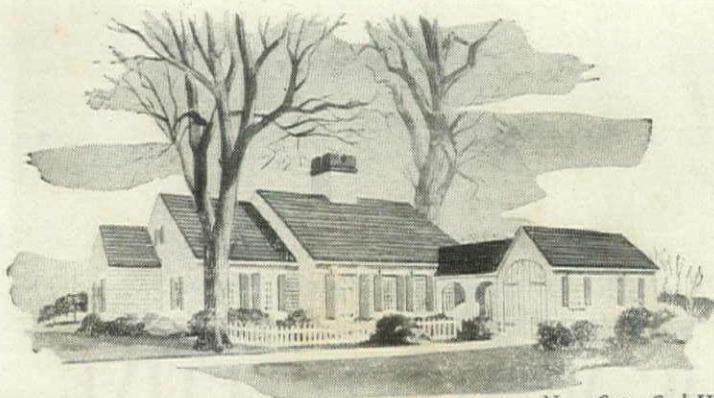
KITCHEN . . . . .	73.1%
BATHROOM . . . . .	70.4%
DINING ROOM . . . . .	52.1%
HALLWAYS . . . . .	52.6%
BEDROOM . . . . .	44.8%
LIVING ROOM . . . . .	44.7%



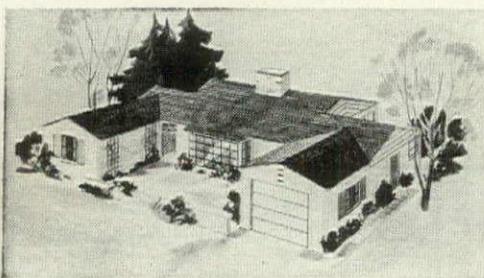
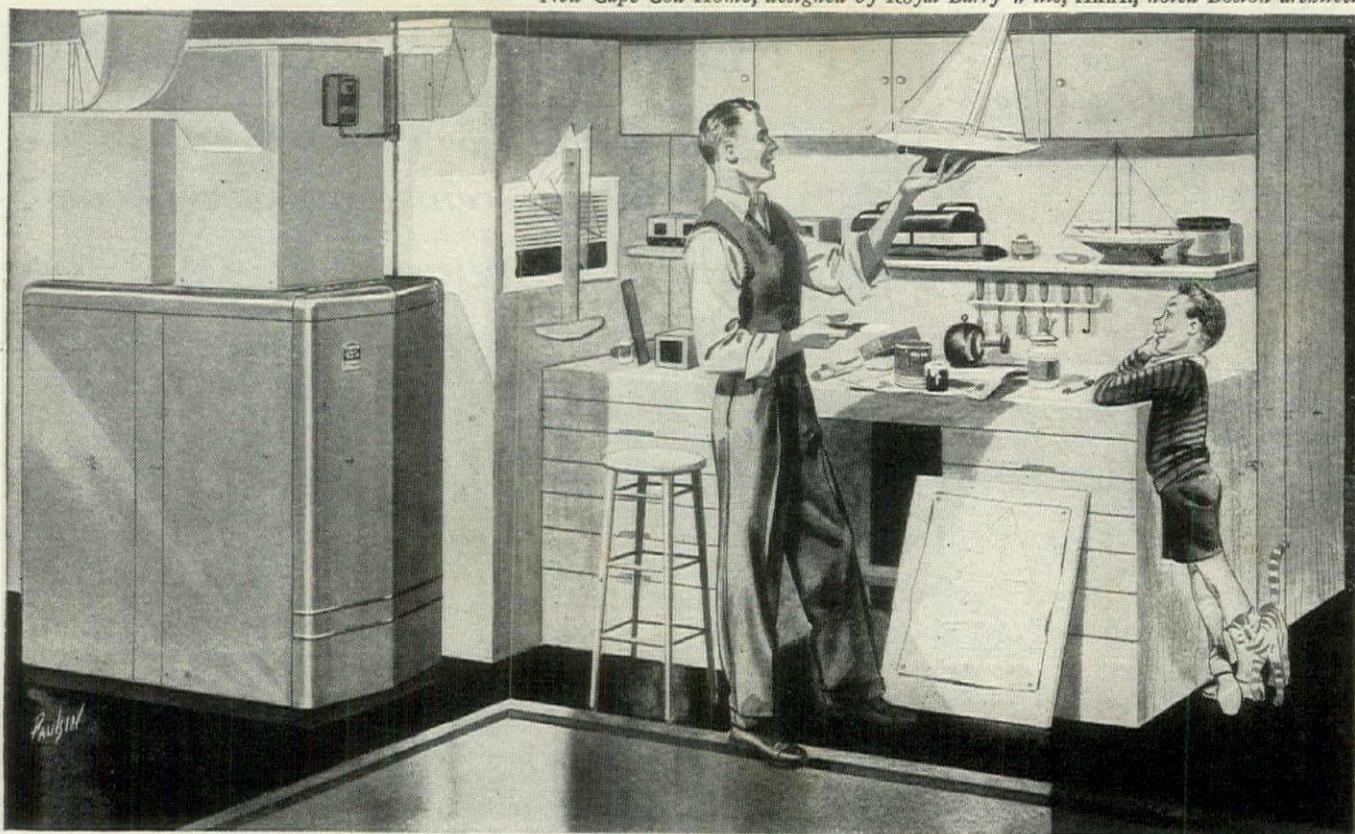
# SYLVANIA ELECTRIC

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

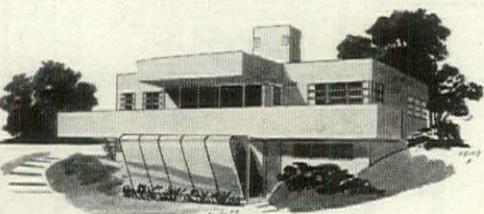
# MILLIONS WANT NEW HOMES LIKE THIS



*New Cape Cod Home, designed by Royal Barry Wills, A.I.A., noted Boston architect.*



*The U-Shaped Home above, designed by Harold H. Ehlert, A.I.A., Detroit architect, is heated with a new Timken Radiant Heating System.*



*This modern Hillside Home is heated with a new Timken Oilboiler and a Radiant Heating System which does not require registers or radiators.*

## And friendly Timken Dealers will help bring this business to you

The architect-designed homes shown here are being featured in Timken advertising to encourage people to build better homes and to equip them with products which will insure greater owner satisfaction.

These efforts, promoting interest in good architectural design, are definitely helpful to you.

Even more helpful is the friendly service and co-operation every Timken

Dealer offers you in selecting the type and size of heating equipment, in figuring and furnishing heating plans, in installing quality-built Timken Silent Automatic equipment with factory-trained mechanics, and in seeing that your client receives the proper service after the sale.

This, we know, is the kind of cooperation you want, and the kind Timken Dealers are factory-trained to perform.

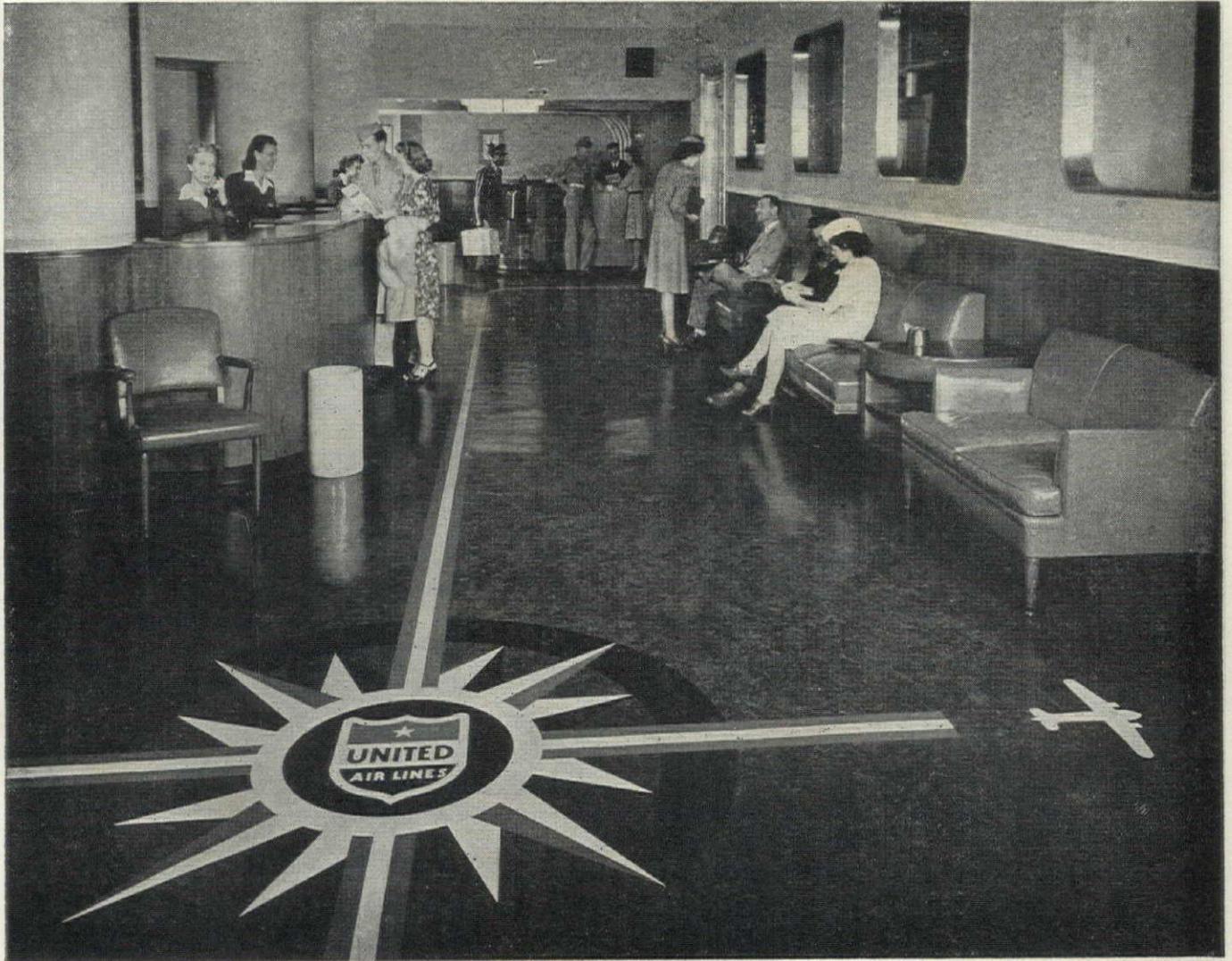
# TIMKEN

## *Silent Automatic*

Quality Home Appliances for Comfort, Convenience and Economy  
20 Years of Faithful Service to American Homes

Division of THE TIMKEN-DETROIT AXLE CO., Detroit 32, Michigan

HUNDREDS OF PASSENGERS DAILY pass to and fro through this busy United Airlines Ticket Office, in Los Angeles. But the floors of Nairn Linoleum look just as fresh and new as on the day they were laid.



## United Airlines chooses America's most modern floor . . .

Appearance, resilience, durability,  
ease-of-maintenance—those are the  
qualities which make Nairn

Linoleum such a first choice for floors.

Colorful, readily "styled" or designed for any desired effect, Nairn Linoleum offers unique opportunities to the airport designer and architect. And its well-proved wearing qualities insure long, trouble free, and economical service, even in areas of heaviest traffic.

A handbook on linoleum specifications has been prepared for your use. May we send you a copy?

CONGOLEUM-NAIRN INC., KEARNY, N. J.

### **NAIRN LINOLEUM**

**easy to maintain,  
colorful, permanent, resilient.**

FOR THE HOUSE THAT'S TO BE

# Completely MODERN



That "dream house" of tomorrow is to be modern in fundamentals too, of course. For house-to-sewer connections and other non-pressure uses outside, ORANGEBURG PIPE will be specified . . . for ORANGEBURG is the root-proof, non-metallic pipe equal to a lifetime of trouble-free service. Its long, lightweight lengths are easily handled, easily installed. The TAPERWELD joints are quickly assembled, stay permanently tight *without* cement or joining compound, keep out root growth.

ORANGEBURG is strong, non-rigid—doesn't crack with temperature or soil changes—doesn't chip or break easily—is readily sawed—can be joined to other pipe. The PERFORATED type, joined with snap couplings, is widely used for septic tank filter beds, foundation footing drains and subsoil drainage.

Millions of feet of ORANGEBURG, in service all over the country, have proven the long life, dependability and economy of this modern pipe. Let us send you complete information. Write today. Dept. AF-6, THE FIBRE CONDUIT COMPANY, ORANGEBURG, N. Y.

## ORANGEBURG

The Root-Proof Pipe



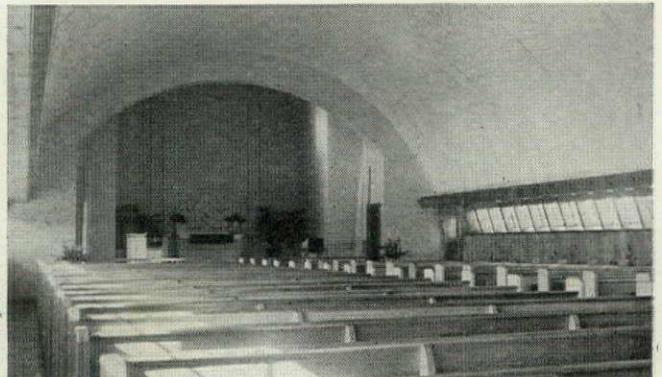
### ORANGEBURG

WITH 50 YEARS EXPERIENCE IN THE MANUFACTURE OF NON-METALLIC CONDUIT AND PIPE, SERVES THE POWER AND LIGHT, TELEPHONE, GENERAL CONSTRUCTION, CHEMICAL, PETROLEUM, PLUMBING AND BUILDING SUPPLY FIELDS WITH ELECTRICAL FIBRE CONDUIT . . . ELECTRICAL UNDERFLOOR DUCT SYSTEMS . . . AND FIBRE PIPE FOR NON-PRESSURE USES.

## FORUM OF EVENTS

(Continued from page 72)

Official Navy photos



Interior looking toward chancel



Choir loft overlooks nave

The plan of this Navy chapel provides a confessional, coat room and wash-room at the entrance with a choir loft above. Offices for the priest, minister and rabbi flank the chancel with heating facilities behind. Side windows which line the walls are conveniently hinged at the top. A nicely handled wood wainscoting enriches the simple nave. The customary trend of directing all sources of light toward the chancel is absent here, but perhaps is out of order in this friendly little design. Indirect light troughs, extending the length of the window heads, replace the elaborate fixtures prevalent in civilian churches. The simple vertical window above the entrance supplies light for the choir loft and gives this non-ecclerastical chapel an ecclesiastical touch.

### COMPETITIONS

A \$20,000 award program for textbooks covering machine and structural design for modern processes including welding is being sponsored by the James F. Lincoln Arc Welding Foundation. The authors of the first award manuscripts will be entitled to the royalties from their texts. The rules and conditions governing the competition can be secured from the secretary of the James F. Lincoln Arc Welding Foundation, Cleveland 1, Ohio. Any person in the teaching profession, in industry, or engaged in private consultation is eligible. Entries should be mailed not later than midnight, May 15, 1946. The American Institute of Decorators have announced the 1945 Rorimer competition open to students in schools and colleges in the U. S. in which courses in interior design and

(Continued on page 80)

# The VISUAL FRONT

## DRAWS ATTENTION ...DRAWS BUSINESS



The Visual Front makes capital of the fact that brightness, color and motion attract attention. It turns interest of passers-by to the services or merchandise you have to sell.

This recreation center by Architect Theodore Erbach, of Chicago, illustrates the point. The colorful Vitrolite Structural Glass and the openness of the front catch attention, stop passing traffic. People are drawn toward the clear glass, where the panoramic view of the bowling alleys impels people to come in and join the fun.

The business place looks easy to enter... for there is no visual barrier between sidewalk and

**IDEA FOR RESTAURANT DESIGN.** This suggestion for a bowling alley embodies many ideas equally suitable for a restaurant. Tables can be placed on the lower level, with a waiting lounge on the upper level. Note that the diagram shows a coffee shop at left and a cocktail lounge at right for additional profit-building units.

interior. The doors are clear Tuf-flex, the L-O-F Plate Glass that's tempered for extra strength.

Before you plan your next storefront, consider the many ways the permanent color of structural glass and the smartness and transparency of plate glass can be used to build sales. Send now for our illustrated book of Visual Front designs. It's packed with ideas. Write to Libbey-Owens-Ford Glass Co., 7165 Nicholas Bldg., Toledo 3, Ohio.



**LIBBEY • OWENS • FORD**  
*a Great Name in* **GLASS**

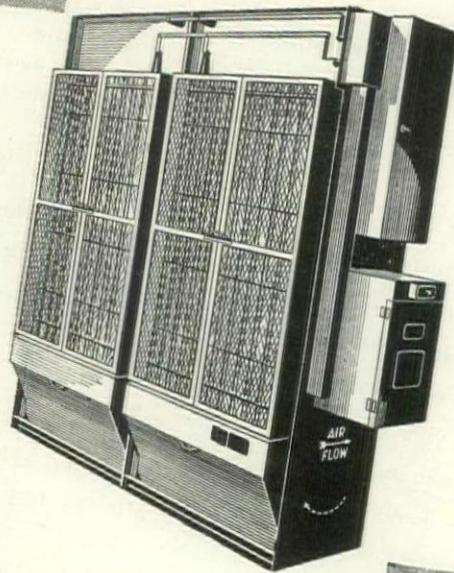
# Dust, Soot, Smoke

## VANISH

WHEN THE AMERICAN  
**ELECTRO-MATIC**  
SELF CLEANING ELECTRONIC FILTER

*is on the job*

The AAF Electro - Matic Air Filter removes particles of dust, smoke and soot from the air that are so fine that they can be seen only through the new electronic microscope. By first giving these particles an electrostatic charge, then attracting them electrically to viscous plates with an opposite polarity, the Electro-Matic makes



possible a degree of air cleanliness unapproachable by other means. Continuous operation at peak efficiency is guaranteed because of its automatic self-cleaning feature which is an exclusive AAF development. Write for Bulletin No. 250C. Please send your inquiry to 427 Central Ave., Louisville 8, Ky.

**AMERICAN AIR FILTER CO. INC.**  
INCORPORATED  
LOUISVILLE, KENTUCKY



... **PERMANENTLY!**

**T**HAT'S what a Federal Roof Deck means to architects and owners alike—dependable, fireproof, non-maintenance protection for the life of the building. There's never "time out" for painting, repairs or replacements—never a dollar to be spent for upkeep.

In addition to the enduring qualities of concrete, Featherweight Precast Roof Slabs afford substantial savings in structural steel because of their extreme lightness in weight. Factory precast to fit perfectly, they are laid on the purlins with ease and speed in any weather thus reducing construction time.

Channel slabs are then ready for the composition covering. Featherweight NAILING Concrete Slabs have an integrated surface to which slate, tile, copper or other ornamental roof can be securely nailed. Either type of roof deck provides economical, all-time protection for industrial, institutional, railroad and government buildings.



## **FEDERAL CEMENT TILE COMPANY**

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For Over 38 Years . . . . Sales Offices in Principal Cities

# Give Your Clients Modern Improved Window Insulation

specify  
**RUSCO**  
 PATENTED ALL-METAL  
**Combination  
 Screen and  
 Storm Sash**



**I**NCLUDE RUSCO in all your building plans for new construction and remodeling. Give your clients "more for their money" in modern convenience, comfort, fuel economy. Provide them with these outstanding advantages:

- year-round rainproof, draft-free ventilation
- self storage that eliminates all changing and storing of insulating sash and screen
- increased year-round comfort, cleanliness
- increased efficiency of air conditioning systems
- lower maintenance cost
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RUSCO is the *first* practical Insulating Sash for large buildings—"tailor-made" for commercial construction and every type of home. RUSCO has provided outstanding service to the building industry since 1937.

Investigate RUSCO now. For engineering specifications see Sweets' 18a-7 or write direct for free booklet and name of nearest distributor.

**RUSCO patented adjustable closure or subframe weatherstrips entire outside opening and permits installation on old or new buildings without altering existing window construction.**

# RUSCO

PATENTED ALL-METAL

## COMBINATION WINDOWS

THE F. C. RUSSELL CO. • 1836 - A Euclid Ave., Cleveland 15, Ohio

## FORUM OF EVENTS

(Continued from page 76)

decoration are offered. The subject of the competition is "Space for Living" and great freedom is allowed in working out the disposition of the problem. All drawings must be delivered by June 1. Entry blanks may be obtained by writing to the American Institute of Decorators at 41 East 57th St., New York 22, N. Y.

### ANNOUNCEMENTS

THE INSTITUTE OF DESIGN, 247 East Ontario St., Chicago, announces a special course in photography, under the direction of L. Moholy-Nagy, for students with a limited time in which to become proficient in photography. Tuition and laboratory fees for the summer term are \$145 for the full-time course and \$115 for the part-time. The six weeks session runs from July 2 to August 11 and the regular summer semester to August 31.

THE COLLEGE OF ARCHITECTURE AND DESIGN, 207 Architecture Building, Ann Arbor, Mich., announces that a limited number of copies of the papers presented to the Ann Arbor Conference on architectural design and practice are available to those interested. Requests should be sent to the above address.

THE BROOKLYN MUSEUM LIBRARY is making a collection of photographs of interior decoration, furniture and accessory design to aid the buying public. Those interested in contributing should contact the Brooklyn Museum Library, Eastern Parkway, Brooklyn 17, N. Y.

HENRY S. CHURCHILL and KLINE FULMER announce the establishment of the firm of Churchill-Fulmer Associates at 56 West 45th St., New York 19, N. Y. Associates are Homer Hoyt and Raymond A. Bowers. A complete service extending from preliminary economic analysis through planning, architecture, engineering, construction and management is offered.

HOWARD MOISE, architect, AIA, announces the reopening of his offices at 71 Panoramic Way, Berkeley 4, and 260 California St., San Francisco 11, Calif.

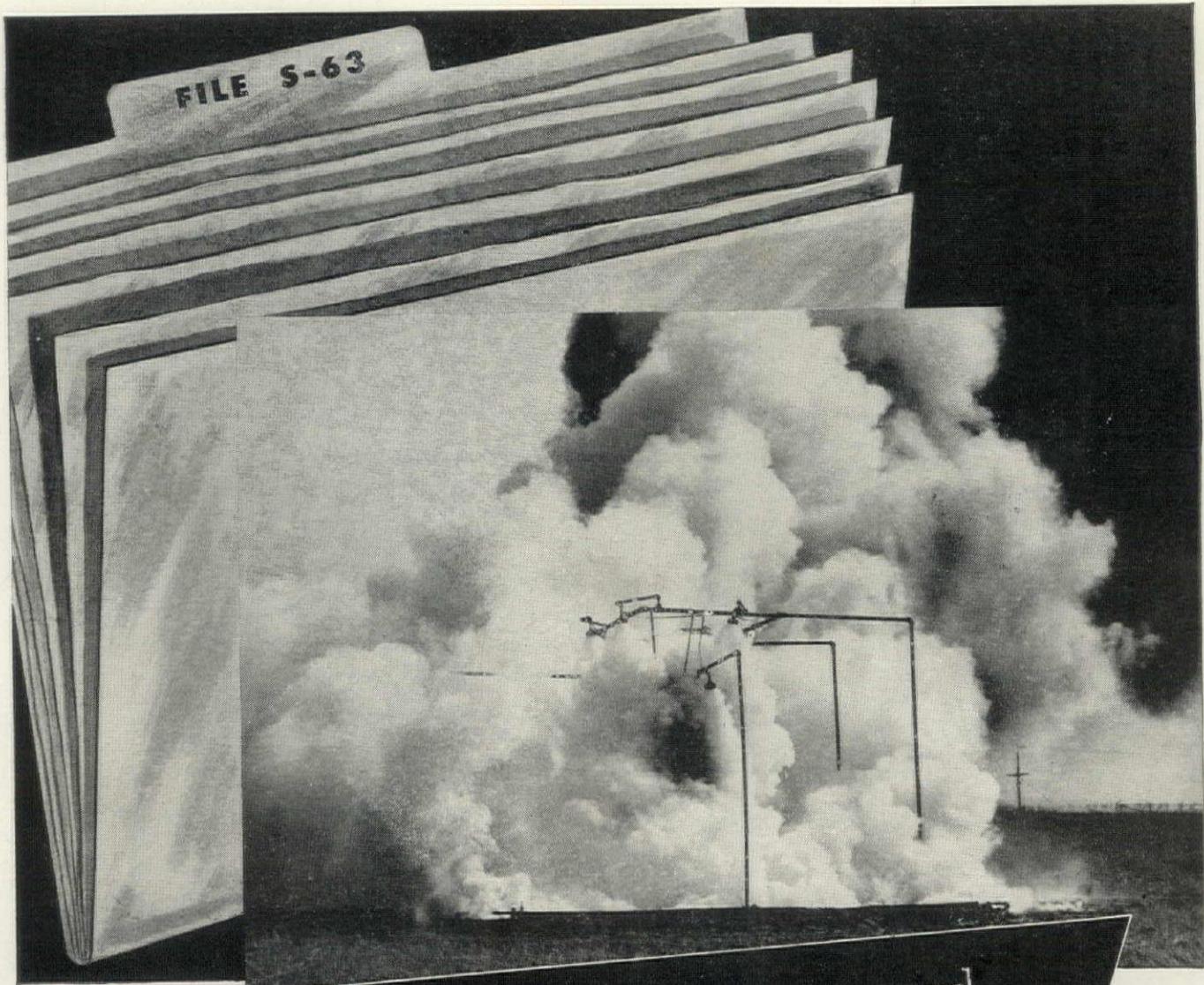
BURTON ASHFORD BUCBEE, architect, has reopened his office at 121 East 54th St., New York 22, N. Y.

RICHARD HAWLEY CUTTING, architect and engineer has removed his office to Room 405, 4900 Euclid Building, Cleveland, Ohio.

SHIRLEY and FRANCES SUMMON, industrial and interior design, packaging and advertising design, announce the opening of their office at 114 East 54th St., New York 22, N. Y.

UNITED STATES PLYWOOD CORP., announce the removal of their executive offices to the Weldwood Building, 55 West 44th St., New York 18, N. Y.

G. HOLMES PERKINS, architect, has been appointed chairman of the Department of Regional Planning at the Graduate School of Design, Harvard University. Previously he was Acting Director of the Urban Development Division of NHA.



## from the CARDOX case record . . .

Out of actual on-the-job fire experience comes evidence of the ability of Cardox Fire Extinguishing Systems to stop even *big fires fast*. File No. S-63, taken from an investigator's report on Cardox extinguishment of a tough transformer fire is a typical example:

"The fire occurred in the outdoor transformer area. It was caused by a short in the 2500-volt bus section and quickly ignited a protective screen above the busses. This protective screen consisted of burlap, rubber sheeting and plywood.

"The Cardox System was actuated automatically and worked perfectly . . . in less than a quarter of a minute (after mass discharge of Cardox CO<sub>2</sub> began) the fire was extinguished. No serious damage was done and operations were resumed after a very small delay. The swift and efficient operation of the Cardox System prevented at least \$150,000 damage."

The danger spots in your plant may not be similar to the one described in FILE S-63. But, if for example they involve flammable liquids or electrical equipment of any kind, Cardox offers maximum protection with fast-acting, non-contaminating carbon dioxide . . . in *pounds* for small fires . . . and *tons* for large ones!

For all Cardox Systems have one outstanding characteristic which greatly increases the scope of usefulness and performance value of carbon dioxide in protecting *large* and *small* hazards!

This characteristic is the distinctive Cardox method of control and engineered application of liquid carbon dioxide, stored at 0° F. and 300 p.s.i. in a single storage unit containing from 1/4 to 125 tons of fire-de-

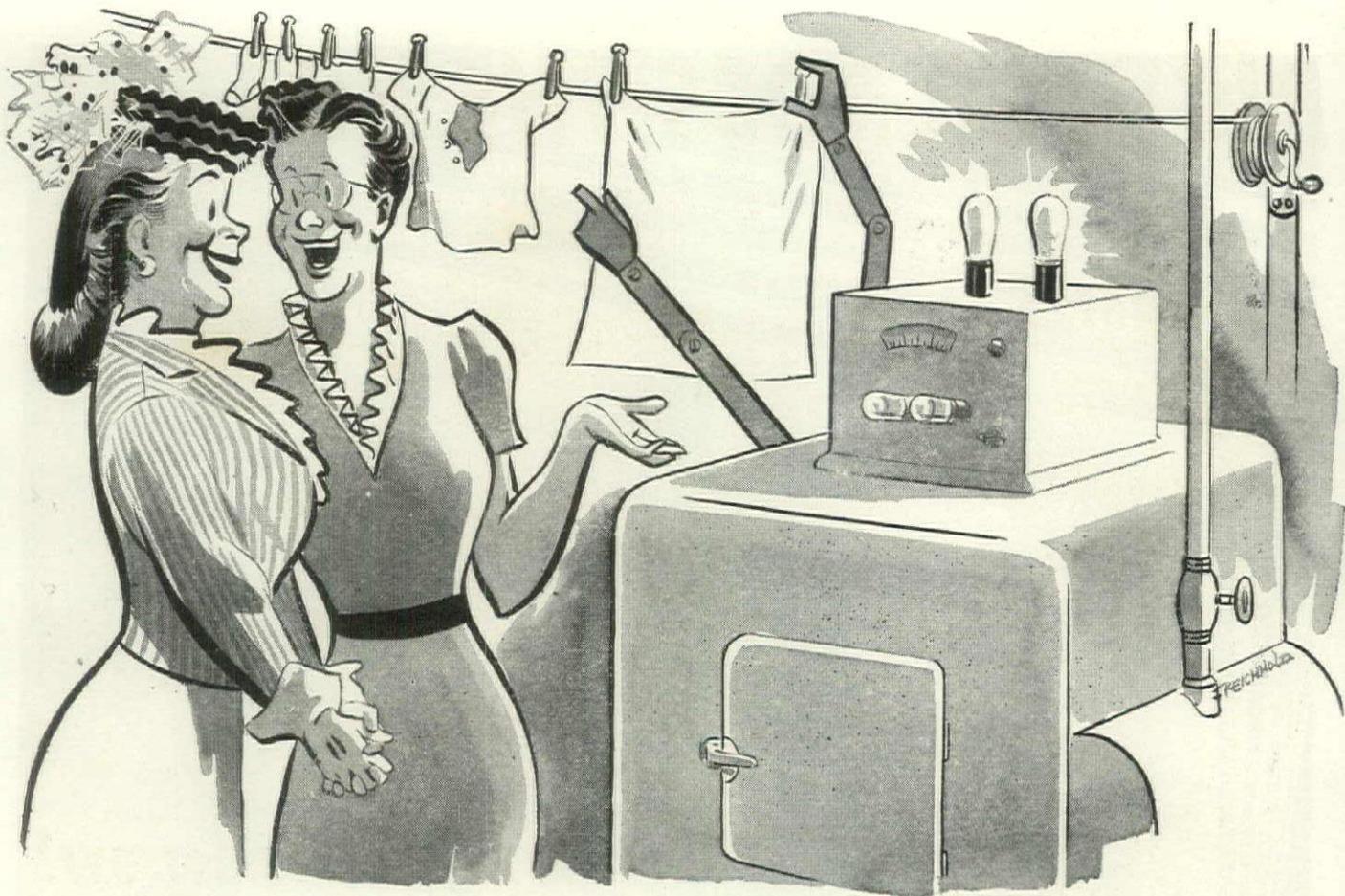
stroying Cardox CO<sub>2</sub> . . . enough to handle large fires in single or multiple hazards and leave an ample reserve for new emergencies!

If you have fire problems that are hard to handle, low pressure carbon dioxide can frequently provide the effective answer. A study of your specific fire hazards by Cardox Research Division and Engineering Staff puts you under no obligation. Write for Bulletin 665.

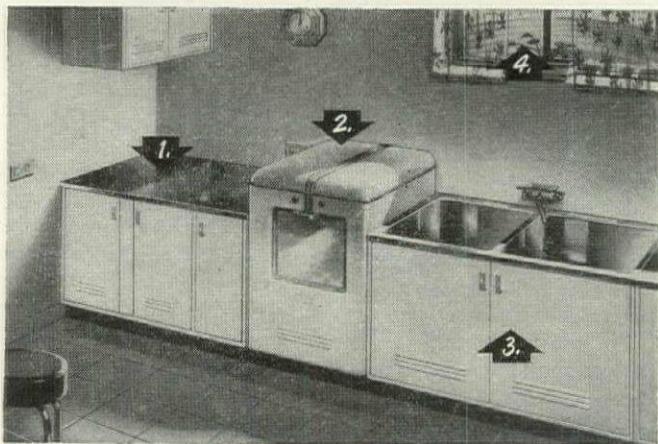
**CARDOX CORPORATION**  
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*District Offices in*  
 New York, Washington, Detroit, Cleveland, Atlanta,  
 Pittsburgh, San Francisco, Los Angeles, Seattle



Cardox CO<sub>2</sub> is supplied instantly in pounds or tons from a single Storage Unit containing 500 pounds to 125 tons at controlled low temperature of 0° F. and 300 p.s.i.



*"They say the new model changes the baby, too!"*



**NEW STEEL LAUNDRY SAVES A DAY'S WORK**

1. U-S-S Stainless Steel for work surfaces and sinks lasts forever—never rusts.
2. Porcelain enamel on a U-S-S VITRENAMEL base. Swish and it's clean. Comes in many brilliant colors for washing machines, hot-water heaters, tables, sinks and wall tile.
3. Enameled steel (painted) for sanitary storage space and cabinets.
4. U-S-S Galvanized Steel for area wells, ducts, gutters and downspouts.

WE'VE seen some marvelous plans for postwar automatic laundries . . . but in most homes today, the laundry is still the forgotten room.

Pictured at left is a laundry of tomorrow, that not only saves work but is both practicable and good-looking. It makes extensive use of steel—for steel does so many jobs so well. When planning your new homes don't neglect the laundry. Our new booklet, "85 Ways to Make a Better Home," will give you many usable ideas. It will show you how to build better homes at low cost—with steel.



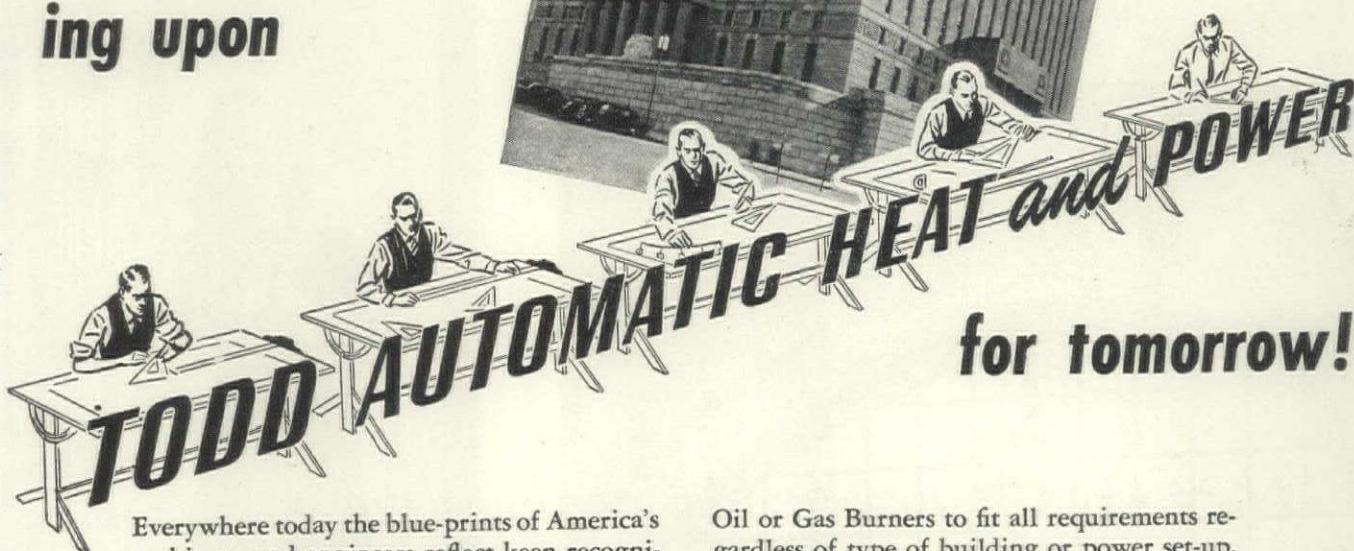
ONLY STEEL  
CAN DO SO MANY  
JOBS SO WELL

CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago  
COLUMBIA STEEL COMPANY, San Francisco  
TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham  
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UNITED STATES STEEL

# RIGHT ACROSS THE BOARDS

far-sighted  
architects  
are depend-  
ing upon



Everywhere today the blue-prints of America's architects and engineers reflect keen recognition of the decisive part cheaper power and heat will play in fixing tomorrow's price structures.

More clearly than most, these same men can foresee that automatic power and heat through liquid and gaseous combustion is the *correct* answer to true boiler plant economy.

And they've been quick to learn also that Todd, accepted leader in the combustion equipment field because of thirty years of successful experience, offers three distinct advantages:

1 An economy-proved line of Todd Automatic

Oil or Gas Burners to fit all requirements regardless of type of building or power set-up.

2 An invariably efficient burner that provides the maximum in flexible response to rapidly changing power and heat needs, and insures definite fuel savings and lowered maintenance costs.

3 A trouble-free Todd installation tailored to meet your exact specifications.

In planning the construction of post-war factories, commercial and institutional structures—or for modernization of existing types—it always pays to call in a Todd engineer for consultation. He's ready today to help *you* get your client's boiler plant ready for tomorrow.



## COMBUSTION EQUIPMENT DIVISION TODD SHIPYARDS CORPORATION

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NEW YORK, BROOKLYN, ROCHESTER, HOBOKEN, NEWARK, BARBER, N. J., PHILADELPHIA,  
SO. PORTLAND, ME., BOSTON, SPRINGFIELD, MASS., BALTIMORE, WASHINGTON, CHICAGO,  
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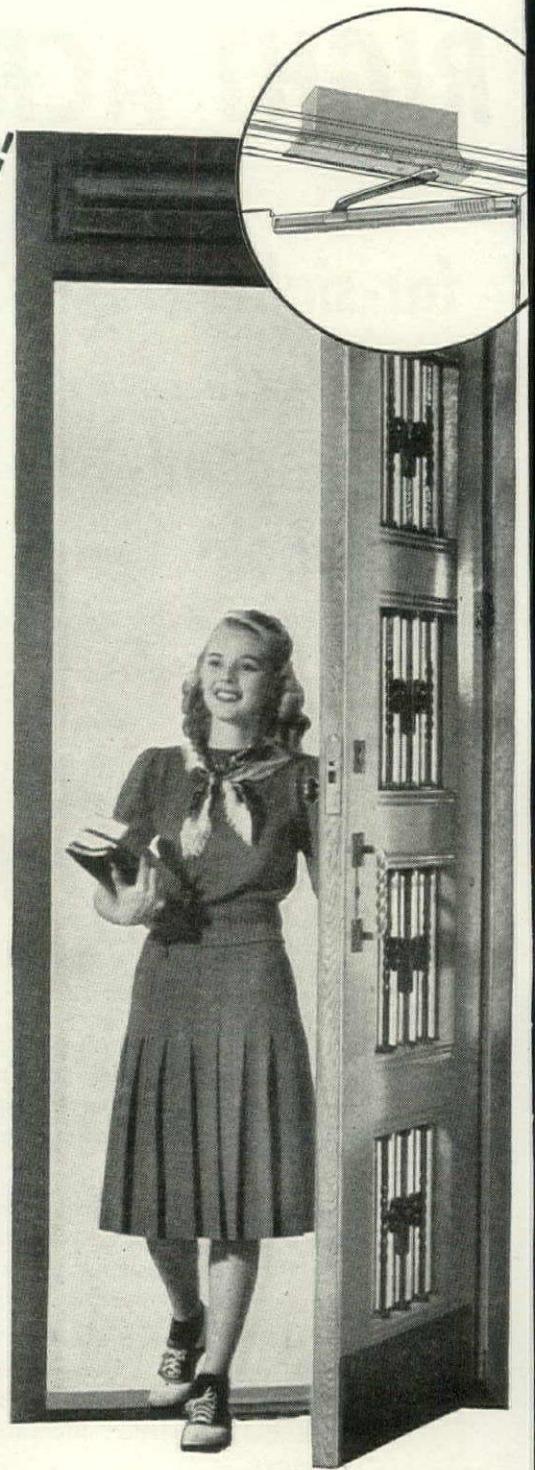
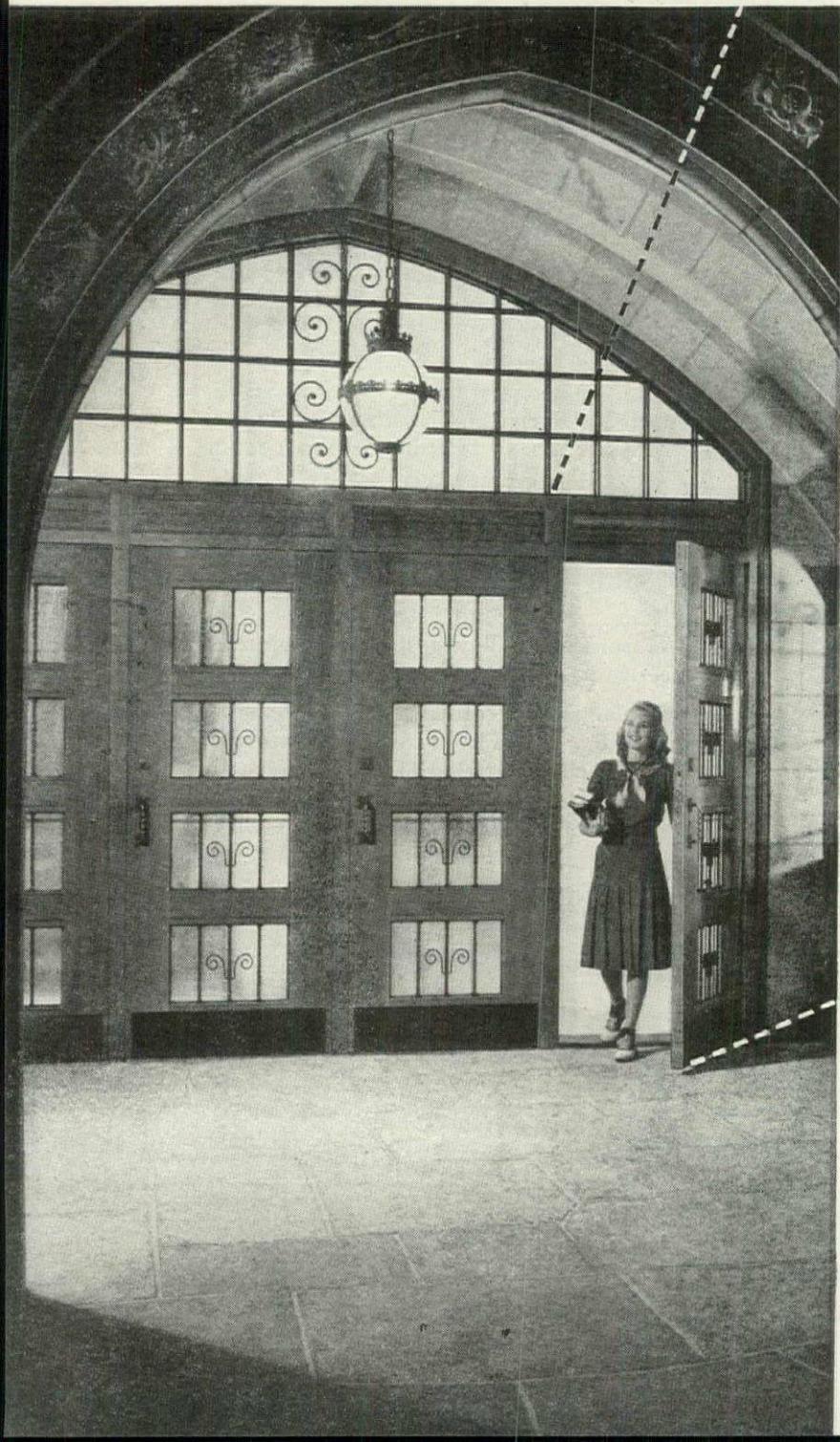
TODD  
NEW YORK, U.S.A.

ON THE FIRING LINE OF AMERICA'S WAR PRODUCTION FRONT

# University Doors

JAMES GAMBLE ROGERS • ARCHITECT

LCN DOOR CLOSER NO. 206 SPECIFIED



Control by LCN overhead concealed method adds fluidity of line and motion to the quiet dignity of the entrance doors at Northwestern University's Scott Hall. NORTON LASIER COMPANY, CHICAGO.

DOOR  CLOSERS

# ASHORE OR AFLOAT

Hoffman Traps save fuel by preventing steam waste!

Heating equipment, like people, can be judged by the company it keeps. Measuring Hoffman Traps and Steam Specialties by this standard gives them the highest possible character rating. Ashore and afloat, Hoffman Traps are found in an impressive number of the most modern heating installations . . . because they are noted for fuel-saving performance . . . and because they cost no more!

Any heating plant is sparing of fuel in direct ratio to the efficiency and condition of its equipment. The tiniest steam leak, when multiplied over a year's operation, can total up to an incredibly large waste of fuel. Replacement of worn-out equipment, therefore, cannot be considered as an expense, but rather as an investment paying a substantial return.

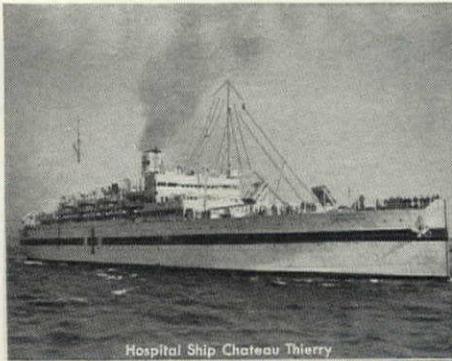
For your fuel conservation program, depend on Hoffman Traps! They restore a run-down steam-wasteful system to economical operation . . . enabling it to do the required job on less fuel. These traps can be maintained at full efficiency for years by inexpensive replacement of those parts in which long usage is bound to cause wear.

Hoffman engineers are always at your service for consultation on your specific heating problem. Your inquiry will receive prompt attention.

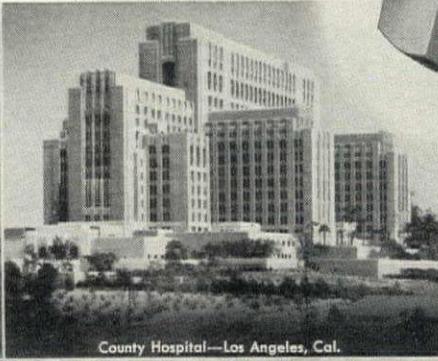


**BRASS TRAPS ARE BACK AGAIN!**

Release of previously restricted material enables Hoffman to again offer a complete line of low, medium and high pressure traps, with body, nut and tailpiece of best quality brass. Equipped with renewable Thermostats and Seats and Special Alloy Pins.



Hospital Ship Chateau Thierry



County Hospital—Los Angeles, Cal.



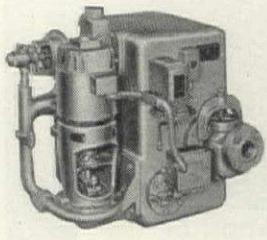
Airplane Carrier Saratoga



Department of Commerce—Washington, D. C.



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### HOFFMAN HEATING PUMPS

Hoffman-Economy Pumps, both Vacuum and Condensation types, eliminate common causes of half-effective heating system operation. They have established a sound reputation with exacting engineers for their ability to keep a heating plant clear of condensate and air—quietly, economically and dependably. Condensation Pumps are built in capacities to 200,000 sq. ft., Vacuum Pumps to 300,000 sq. ft.



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# ARCHITECTURAL METALS

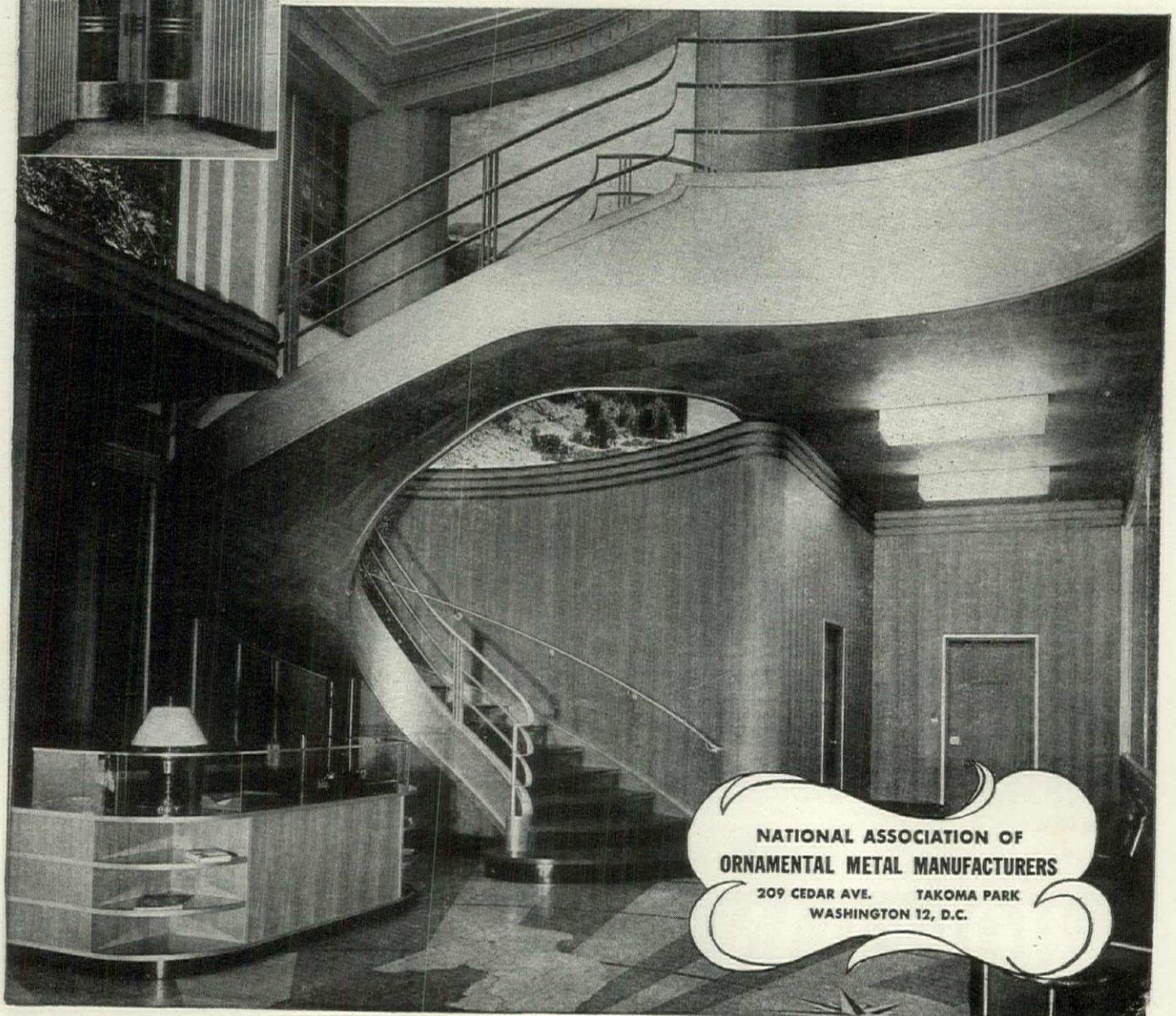
*...add distinctive beauty to any structure you design!*

There's no limit to the ways you can use architectural metals to add to the beauty and utility of any structure you design.

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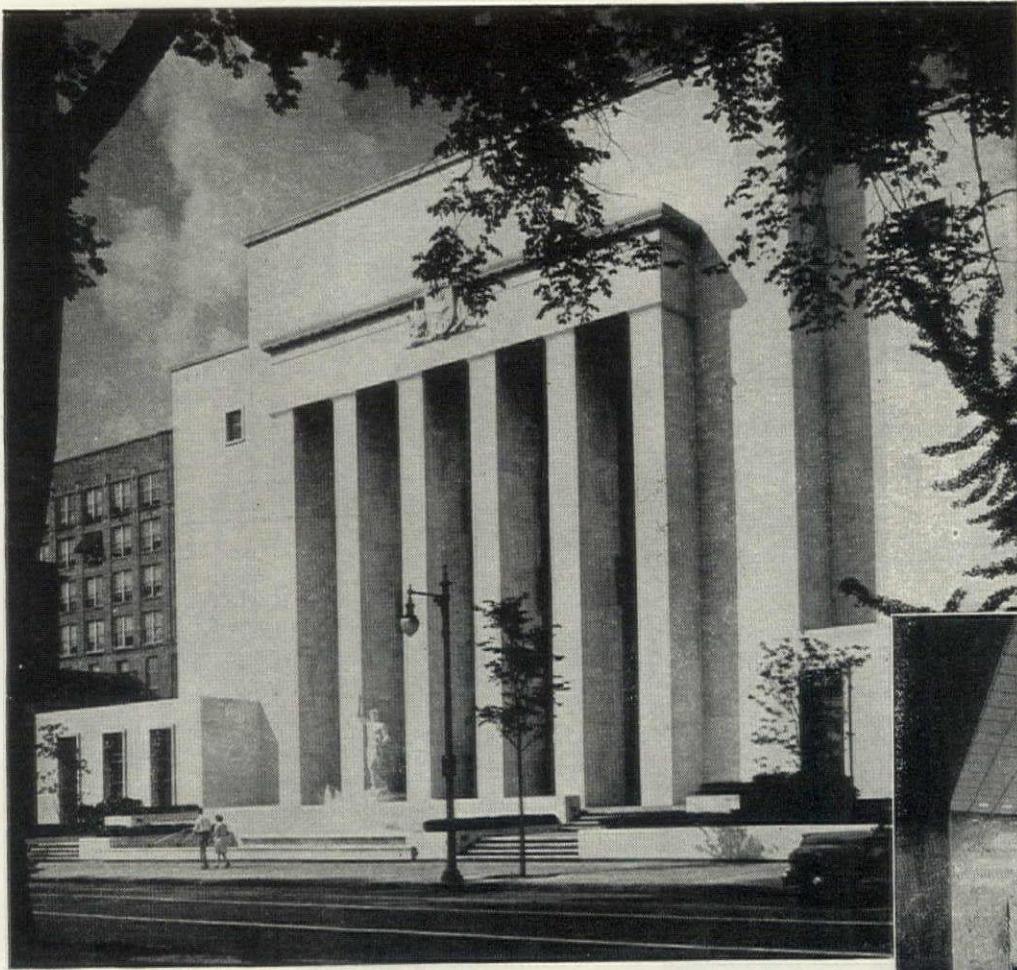
As you design for tomorrow make full use of architectural metals in the entrance, in stairways, balustrades, doors, windows, grilles, and all types of exterior and interior decorations. Use them, too, for structural and protective building devices, fire escapes, coal chutes, and a hundred other service equipment items.

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**NATIONAL ASSOCIATION OF  
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**Dauphin County Court House,**  
Harrisburg, Pa. Architects: Lawrie  
& Green, Harrisburg, Pa. General  
Contractor: Wm. A. Berbusse, Jr., Inc.

★

**Interior view of Court Room  
No. 1** on fifth floor. Note concealed  
ducts at side of the ceiling panel.



## Already Built... a County Court House of the Future

Architects Lawrie and Green, of Harrisburg, can point with pride to the Dauphin County Court House in the capital city of Pennsylvania. Completed in 1943, but designed with an eye on the future, the architects state that the modern simplicity of this structure will lead to economy in maintenance.

The three top floors of the 2,100,000-cubic-foot building are air conditioned. A Chrysler Airtemp 50 H.P. Compressor and two conditioning units manufactured by J. J. Nesbit Company are located in the basement. Fifteen similar conditioning units are installed on the sixth floor. These units vary in size and type and are operated by motors ranging from 3 to 10 H.P. "Freon" safe refrigerants are used exclusively.

In designing the system, particular attention was devoted to the elimi-

nation of drafts and noises . . . and to present and future needs for conditioned air throughout the building. Concealed ducts designed to permit the most economical circulation of fresh air in the various chambers are a feature of the installation.

Here is another fine example of a building designed to meet tomorrow's conditions. Whenever you plan a building for postwar, don't overlook the advantages and benefits of air conditioning . . . now a necessity

rather than a luxury. Recommend systems built to utilize "Freon" safe refrigerants . . . they'll help assure maximum satisfaction. Write for complete information on "Freon" for your own postwar data files. Kinetic Chemicals, Inc., Tenth and Market Sts., Wilmington, Delaware.

• • •

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

**WAR BONDS HELP BRING VICTORY NEARER  
... BUY THEM REGULARLY**

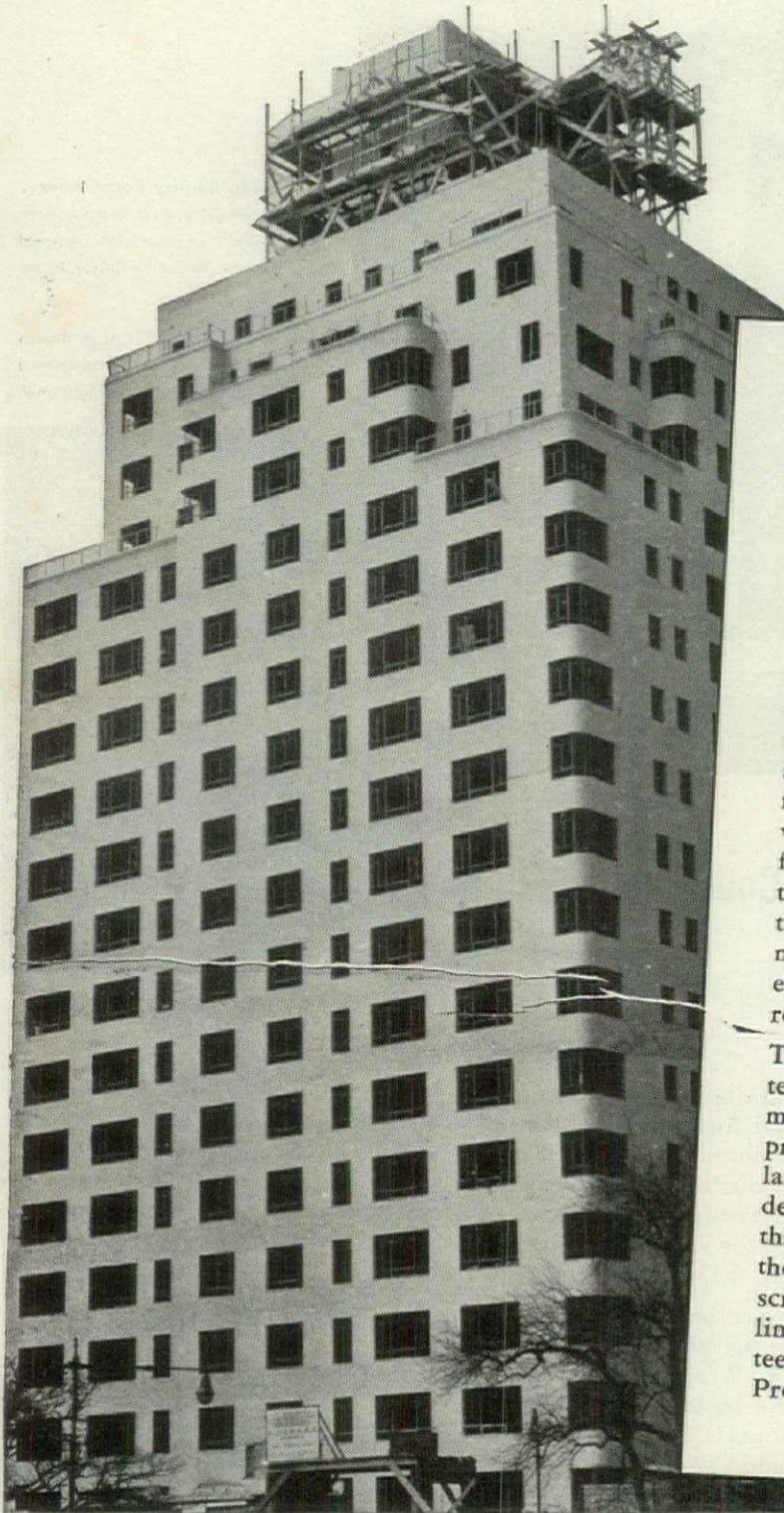


# FREON *safe refrigerants*

REG. U. S. PAT. OFF.

*"Freon" is Kinetic's registered trade mark for its fluorine refrigerants.*

# HOW TO MAKE A WALL PAY RENT!



**T**HIS is the Emory Roth apartment building in New York. It was built just before the war. And the architect saved as much as 7% in space—enough for 260 extra rooms. How? By using the Gold Bond 2" Solid Partition System with its special adjustable base which simplifies installation and speeds completion.

All component parts of this system are Gold Bond Metal Products, designed and precision-made for quick accurate assembly on the job. When finished with fireproof gypsum plaster, the resulting wall is extremely durable with a 1-hour fire rating. Besides saving space (2" thick as against the usual 4" to 6" wall), this system is crack-resistant and with a noise reduction factor of 39 decibels, it effectively cuts sound transmission from room to room.

The Gold Bond 2" Solid Partition System will be available again as soon as our metal lath plant is released from its present vital assignment of making metal landing mats for portable airfields. Full detailed drawings and specifications of this system are given in our section in the 1945 Sweet's, together with a description of the complete line of over 150 guaranteed Gold Bond Building Products.



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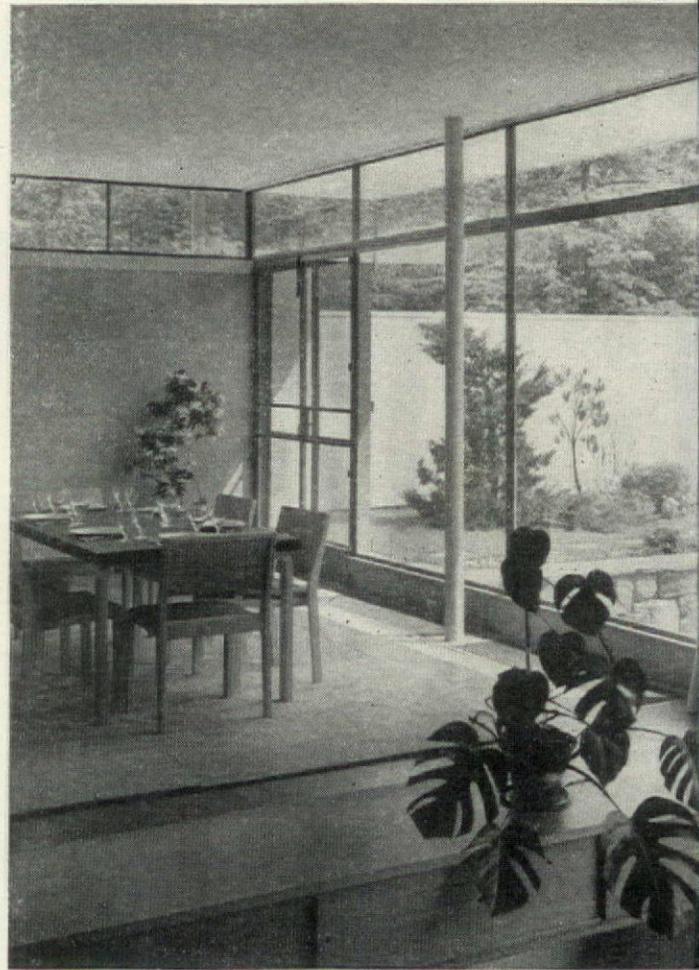
HOUSES

# HOUSE IN LINCOLN, MASS. A luxurious, truly modern home by G. Holmes Perkins.

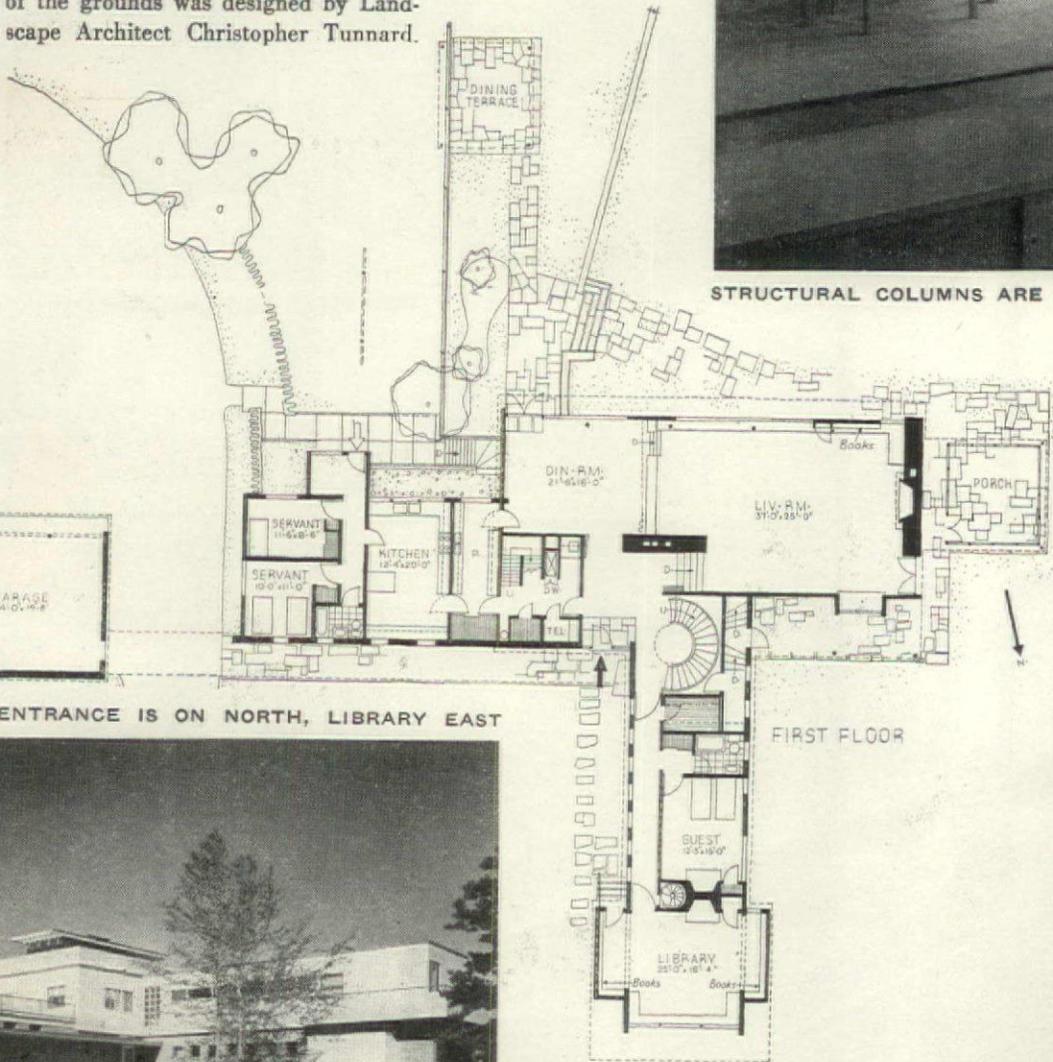
Cushing-Gel

The International Style, as imported from Europe in the late twenties, introduced an open, simple concept of architecture where the sun streamed in through large expanses of glass, where outdoor landscaping was part of the living area, and where the clutter of traditional design was swept away to be replaced by a severe, frank expression of structure. Paradoxically, this ideal of spacious, sunny living was not applied to the low-cost house, but was introduced here in homes of the well-to-do—from whence its influences are gradually seeping down to lower levels. Despite this inconsistency, there are many lessons to be learned from the design of elaborate residences of this kind, where the architect can afford to experiment with simplicity. In this instance, the most interesting feature of the design, the fenestration, could be applied equally well to houses of any size, and to other building types as well.

Located on a 50-acre estate, the house crowns the highest point in the area and has magnificent views all around the compass for 50 miles. The eastern end of the main ground floor section is made up of servants' quarters, kitchen and pantry; a whole wing is devoted to a library, guest room and circular stair; and the remaining portion consists of a large, open living and dining room. Treatment of the grounds was designed by Landscape Architect Christopher Tunnard.



STRUCTURAL COLUMNS ARE FREE OF FIXED GLASS WALL



ENTRANCE IS ON NORTH, LIBRARY EAST

FIRST FLOOR

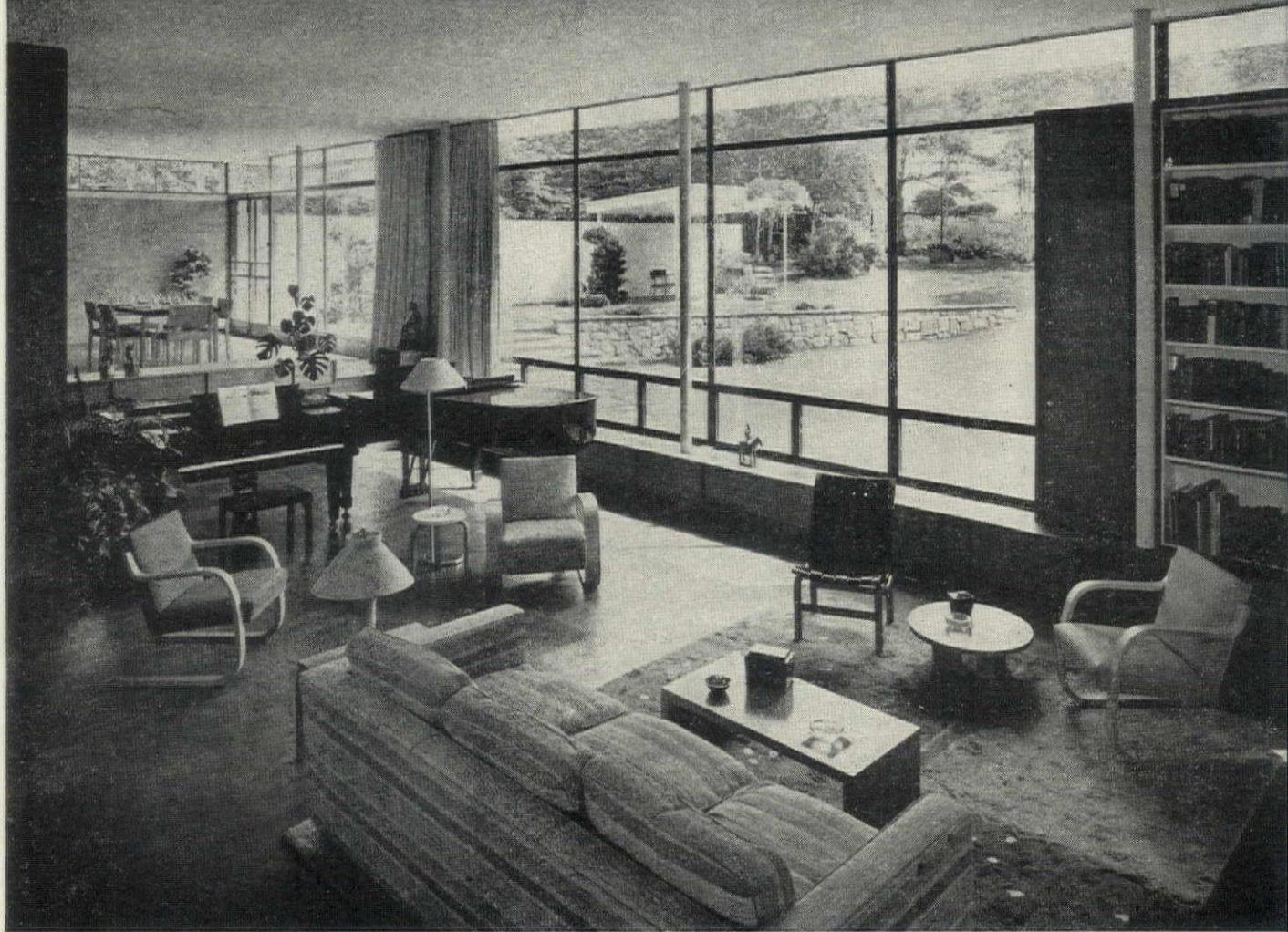
PRIVATE LIBRARY ENTRANCE



Esra Stoller



Esra Stoller



LIVING ROOM IS OPEN TO RAISED DINING AREA AND OUTDOOR LANDSCAPED TERRACE, FURNISHED INFORMALLY

EXTERIOR IS FRANK, VAQUELY NAUTICAL EXPRESSION OF THE PLAN



BOOKCASE WALL REPLACES PART OF WINDOW



King-Gallati

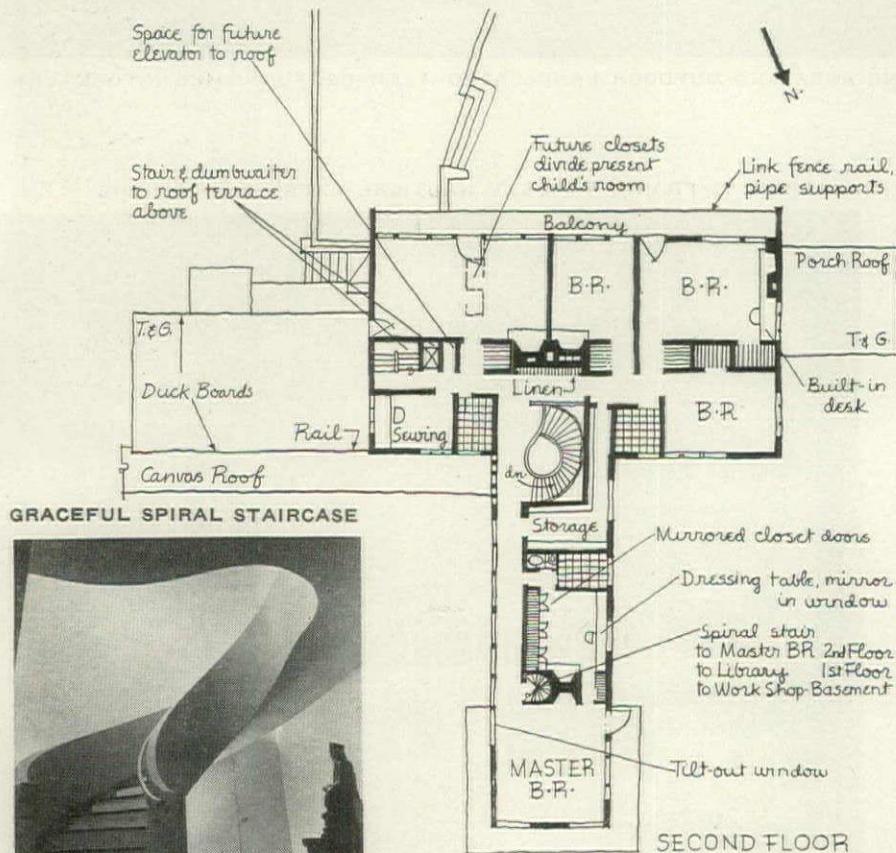
Esra Stoller

## HOUSE IN LINCOLN, MASS.

The upper level of the house, like the lower level, was planned with an eye toward cold New England winters. Major requisite was that each room should receive sunshine all day long and, in addition, should be equipped with fireplaces. With the exception of one bedroom, therefore, all the rooms on this floor have been provided with their own "radiant" and solar heating. Three of the bedrooms, facing toward the rear and overlooking an expanse of lawn and trees, open onto a balcony which runs the width of the house, giving a look of horizontality to the entire design.

Because of the T-shaped arrangement of rooms, an excellent plan for providing privacy, two stairways have been included to segregate traffic from the lower floors. One leads to the major grouping of rooms at the rear. A smaller one services the master bedroom. In addition there is a stair and dumbwaiter which connects with the roof terrace. This deck is one of the most pleasing aspects of the plan since it is high enough to command distant views of the New Hampshire mountains. Equally important if more plebian is the ample storage space located in bedrooms and near the baths.

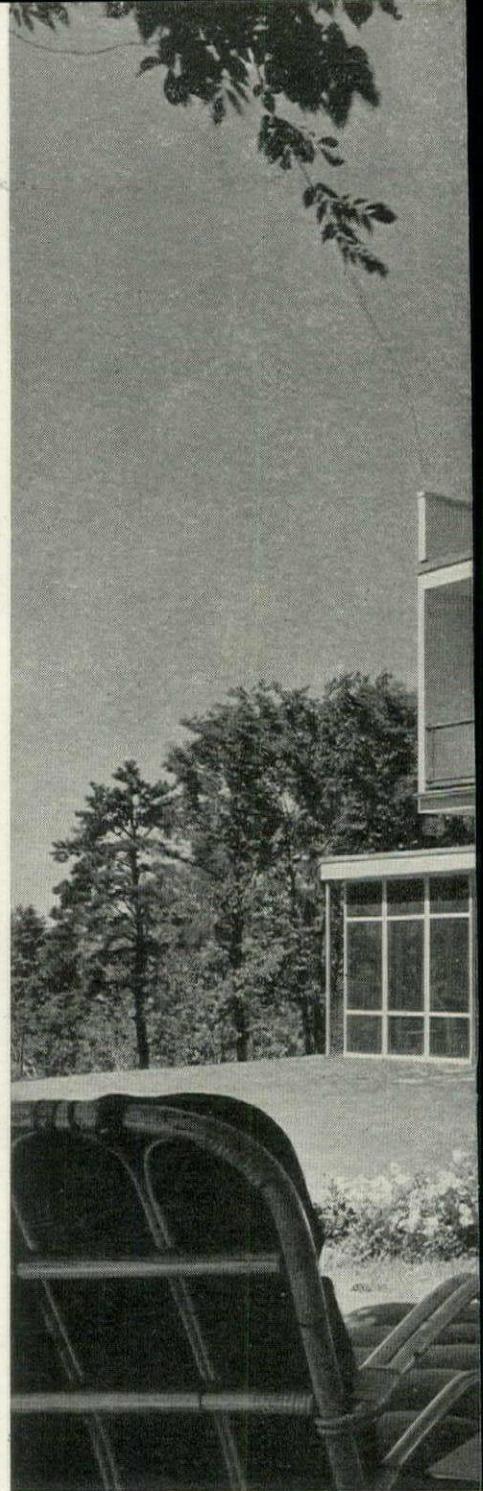
**CONSTRUCTION OUTLINE:** STRUCTURE: Exterior walls—brick, wood; inside—studs and sheathing. Floors—ash and oak. ROOF—Koppers Co. INSULATION: Outside walls and roof—Red Top Insulating wool, U. S. Gypsum Co. FIREPLACE: Damper—H. W. Covert Co. SHEET METAL WORK—lead coated copper. WINDOWS: Sash—steel casement, Hopes Windows, Inc. Glass—plate and quality A, Pittsburgh Plate Glass Co. FLOOR COVERINGS: Kitchen and bathrooms—linoleum, Armstrong Cork Co. KITCHEN EQUIPMENT: Range—General Electric Co. Refrigerator—Frigidaire Div., General Motors Corp. BATHROOM EQUIPMENT—Kohler Co. HEATING—hot water system. Thermostat—Minneapolis-Honeywell Regulator Co.



GRACEFUL SPIRAL STAIRCASE



Esra Stoller



SECOND FLOOR BALCONY OVERHANGS THE

LARGE FIREPLACE IN CHILDREN'S ROOM



Cushing-Geldtly



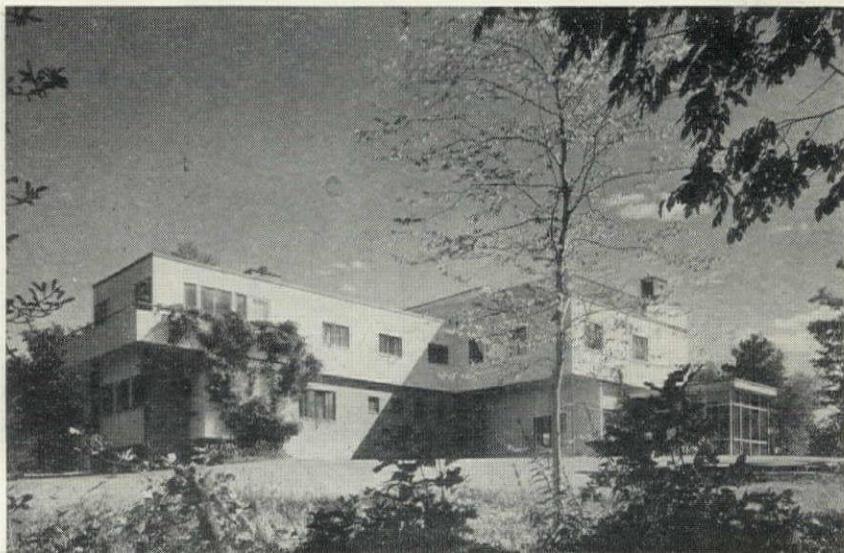
LOWER STORY, SHIELDS WINDOWS FROM DIRECT SUN. SHELTERED TERRACE IN FOREGROUND IS FOR OUTDOOR RELAXATION

SIDE VIEW OF HOUSE SHOWS SMALLER WINDOWS ON NORTH CORNER

G. HOLMES PERKINS, Architect

CHRISTOPHER TUNNARD, Landscape Architect

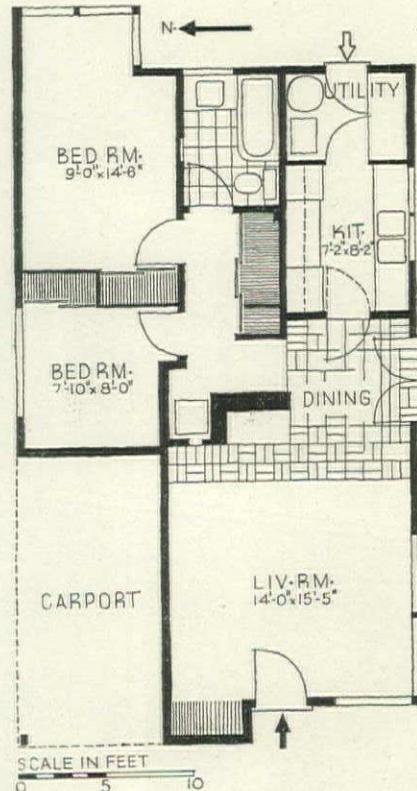
CHENY-RICE INC., General Contractor



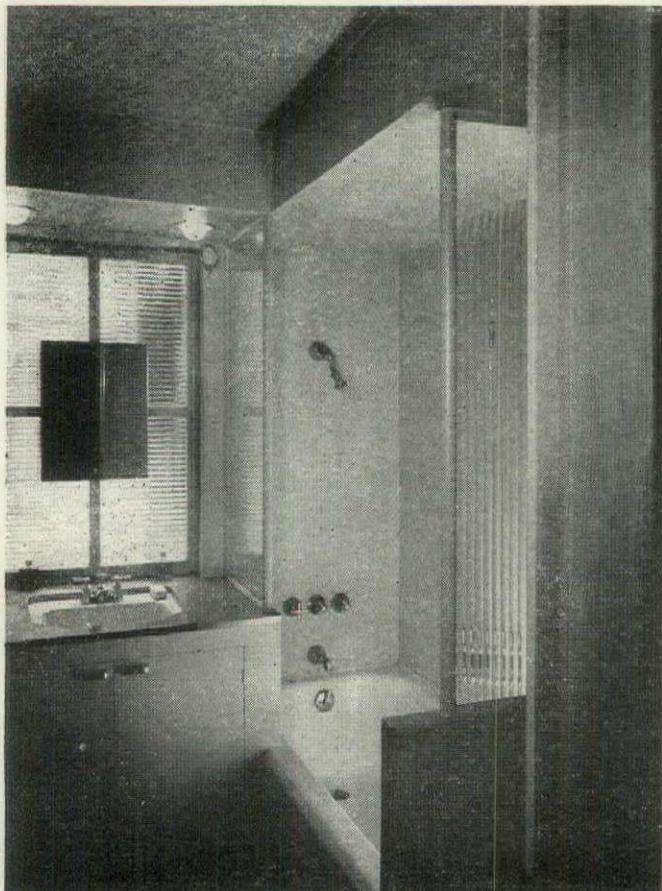
# HOUSE IN SEATTLE, WASH. Architect Paul Kirk's plan substitutes for apartment.

This small, compact house owned and designed by the architect takes the place of the proverbial apartment which young couples for financial reasons are obliged to occupy. Long and narrow, the house is placed only 3 ft. from the north lot line, thus taking advantage of a large side yard which is heavily wooded in some sections. The open ceiling under the pitched roof increases the feeling of space in dining and living quarters and affords space for storage closets which are accessible from the bedrooms. Squares of masonite are used for all the floors and are cemented to a wood sub-floor which in turn is laid on 2 by 4 sleepers over a concrete slab. The sleepers are blocked up 2 in. to allow a continuous duct space under the entire floor. Cold air returns are cut into this space and the furnace fan, which is mounted at the bottom, sucks the air up and discharges it out into the rooms through the hall, which acts as a plenum. The corner fireplace is desirable in this small house as it gives extra sitting space and serves both the living and dining areas. The colors are exciting; dull transparent pink is used on living room walls and chartreuse for the ceiling, while the kitchen has yellow linoleum on counters and vermillion floors.

**CONSTRUCTION OUTLINE:** Exterior walls—T. & G. cedar, building paper, shiplap, studs; inside—plywood or wood. Floors—Masonite, Masonite Corp. Ceilings—Thermax, Thermax Co., or plywood, U. S. Plywood Co. ROOF—cedar shingles. WINDOWS: Sash-awning type with Kawneer Co. projectors. Weatherstripping and screens—Chamberlin Metal Weather Strip Co. KITCHEN EQUIPMENT: Range—Hot Point, Edison General Electric Appliance Co. Refrigerator—Frigidaire Div., General Motors Co. BATHROOM EQUIPMENT—American Radiator-Standard Sanitary Corp. HEATING—warm air system. Oil burner—Perfection Engineering Co.

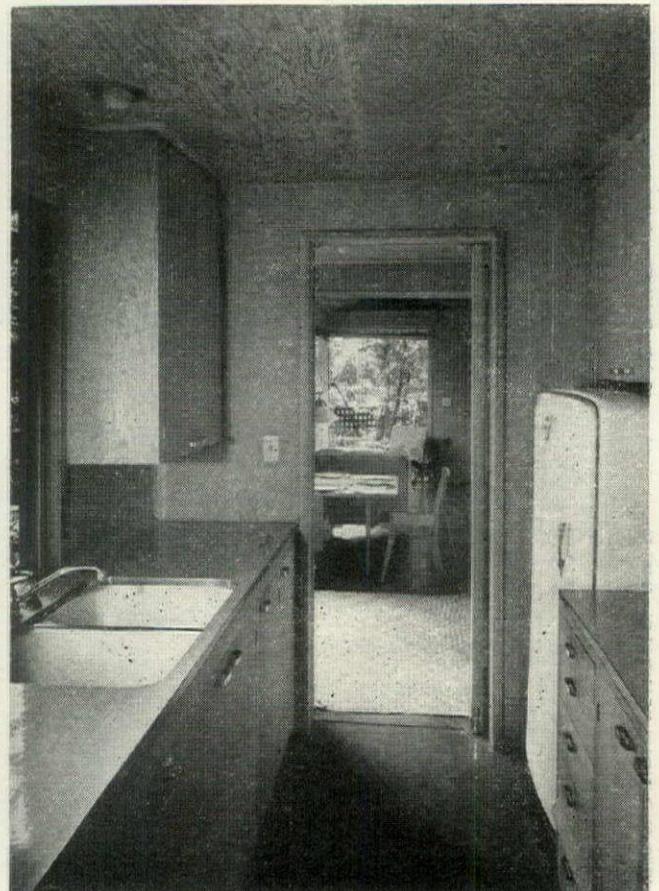


CUSTOM BASIN HAS STORAGE SPACE, WINDOW MIRROR



Photos: P. A. Dearborn

CABINET AND CEILING ARE BLEACHED FIR PLYWOOD

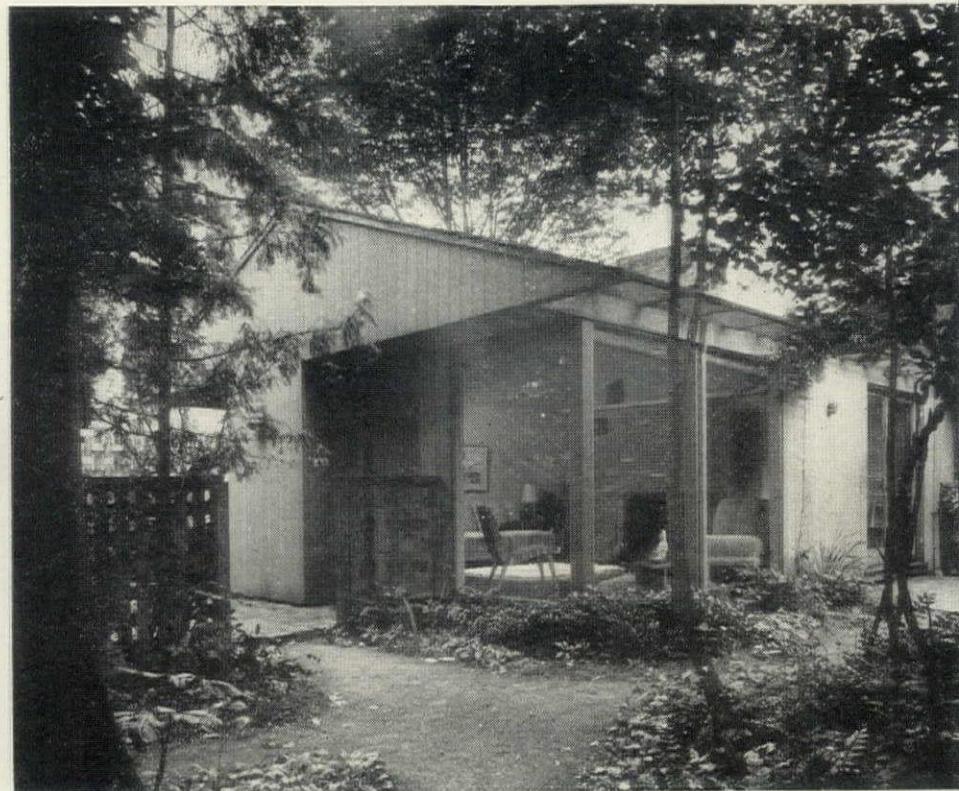




FLOOR TO CEILING WINDOWS, PITCHED ROOF AND OPEN PLANNING GIVE LIVING-DINING AREA A SPACIOUS APPEARANCE

MAIN ROOMS FACE 50 FT. WOODED YARD AND HAVE SOUTHERN EXPOSURE

CAR PORT IS NOTCHED OUT OF STRUCTURE



# HOUSE IN BOWMANSTOWN, PA. A combined office-residence by Paul Beidler.

In a small country village inhabited chiefly by Pennsylvania Dutch with leanings toward the Colonial style, this architect successfully urged modern on a doctor who started out wanting his office and living quarters combined behind a Colonial facade. The result is the only modern house within 100 miles.

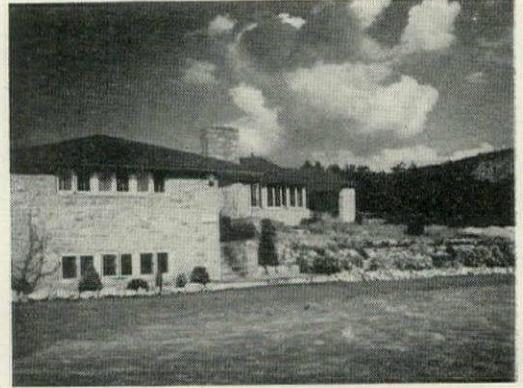
Another problem the architect faced was difficult terrain, which determined many of the peculiarities of the plan. The one-acre plot was sharply sloping, half of it gouged out for a sand mine, and was rumored to have tunnels underneath. Torrential spring rains used the area as a watercourse, and protection from washout and erosion was essential.

Since the client wanted a definite barrier between his living quarters and office, living rooms were placed on a higher and separate level for privacy and a magnificent view. Office, waiting room and laboratory were placed in a lower wing extending toward the highway, for easy access by patients. Foundations for the basement underneath were shallow scrapings, and foundation walls were waterproofed and arranged to divert seasonal torrents.

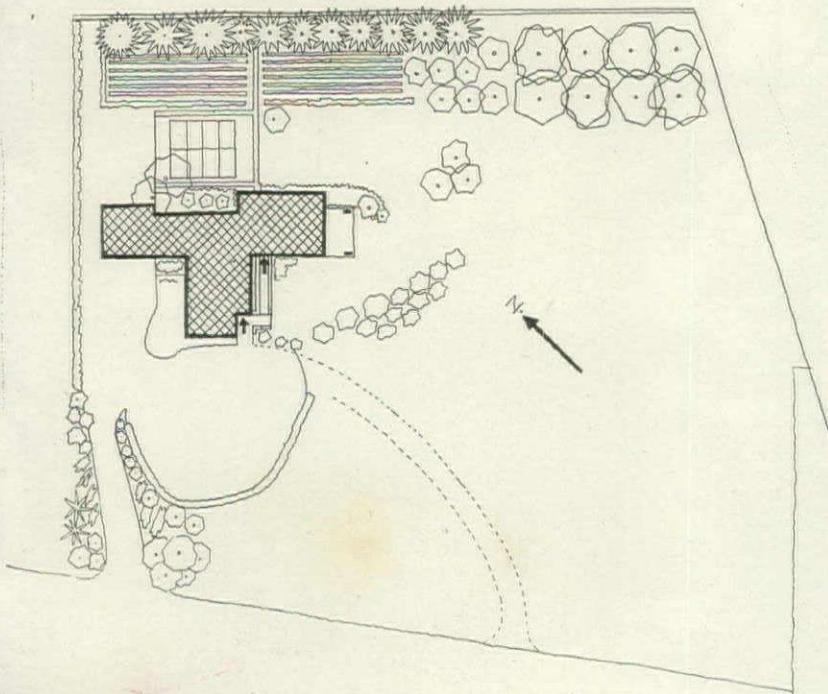
Nearby stone and slate quarries were a final deciding factor in the design, for the architect made use of indigenous materials reminiscent of the early settlers. In many ways, the result is more nearly a return to a native tradition than a revolutionary shock to lovers of traditional design.

**CONSTRUCTION OUTLINE: STRUCTURE:** Exterior walls—stone; inside—furring and Celotex, Celotex Corp. Floors—oak. **ROOF**—slate. Decks—composition roofing, Johns-Manville. **INSULATION**—Red Top insulating wool, U. S. Gypsum Co. **WINDOWS**—Andersen Frame Corp. **KITCHEN EQUIPMENT:** Range, refrigerator and dishwasher—Westinghouse Electric & Mfg. Co. Ventilating fan—American Coolair Corp. **LAUNDRY EQUIPMENT:** Washing machine—Maytag Co. **BATHROOM EQUIPMENT**—Crane Co. Showers—Pittsburgh Plate Glass Co. and Kohler Co. Cabinets—Columbia Metal Box Co. **HEATING**—warm air system. Burner—General Electric Co. Grilles—Tuttle & Bailey Mfg. Co. Thermostat—Minneapolis-Honeywell Regulator Co.

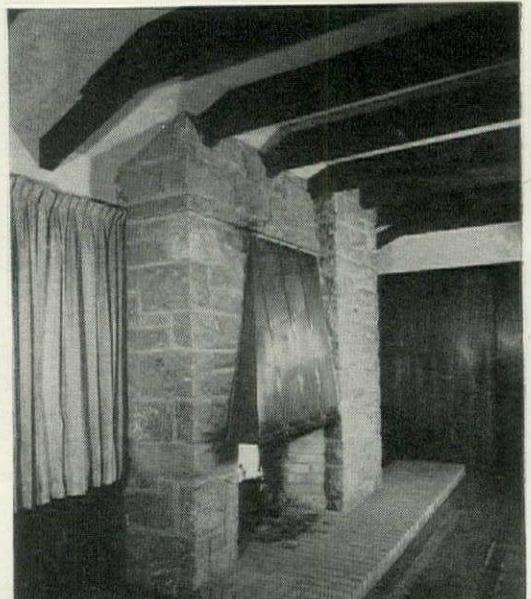
Photos: P. A. Dearborn

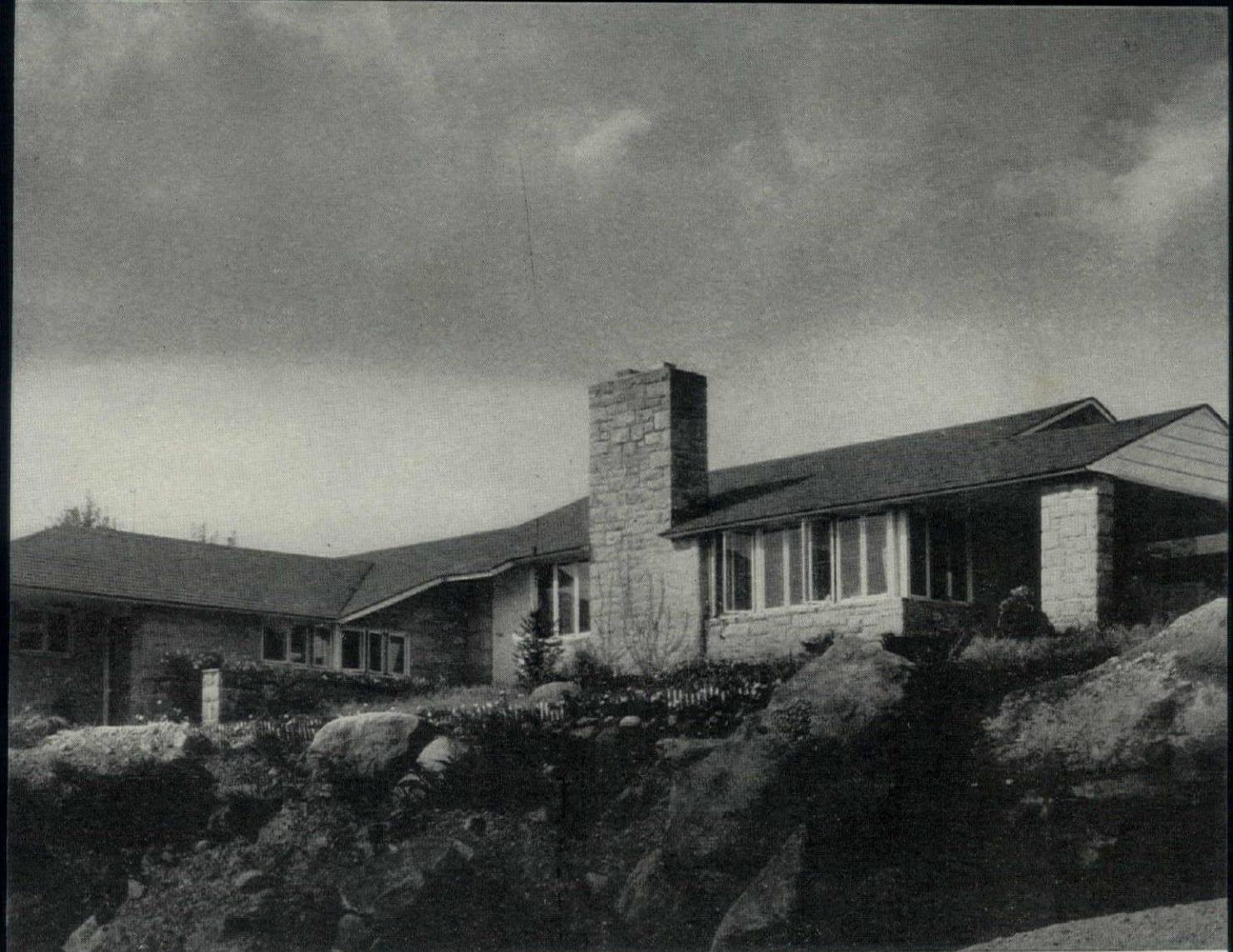


PARKING AREA ADJOINS DOCTOR'S OFFICE

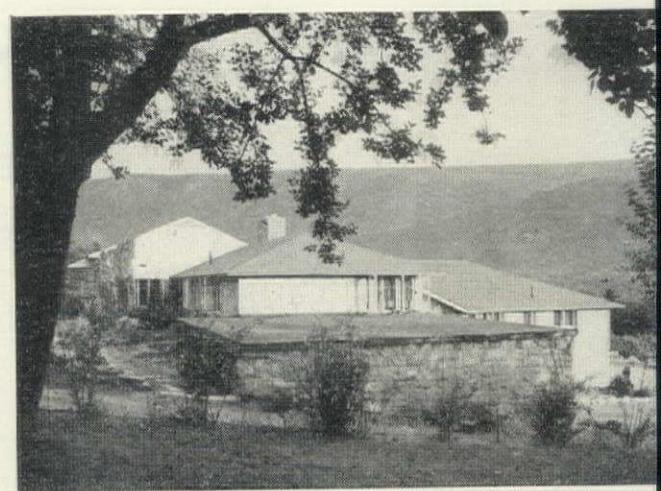
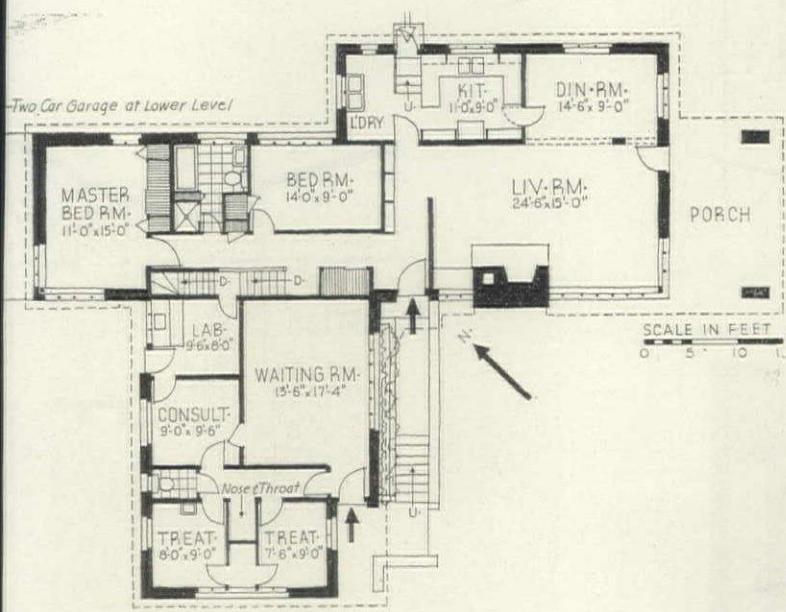


METAL FIREPLACE HOOD RADIATES HEAT





THE LAY OF THE HOUSE FOLLOWS THE LAY OF THE LAND, BUT THE ROOFLINE FALTERS SLIGHTLY IN CHANGING LEVELS

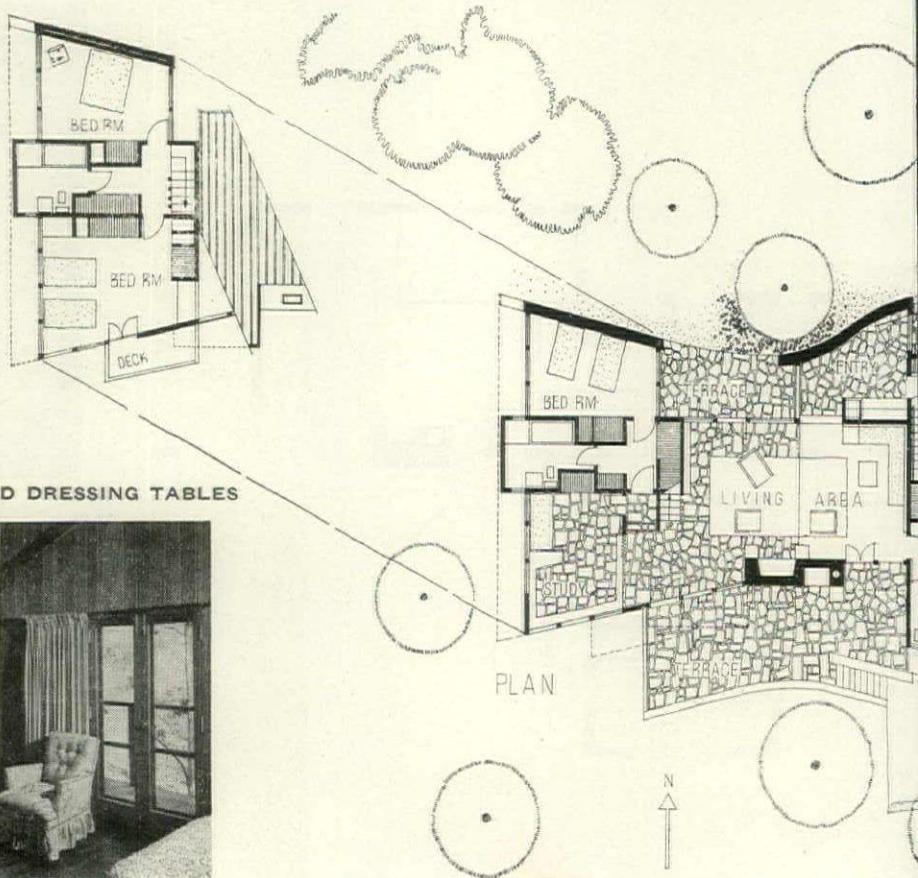


VIEW IS OF MOUNTAINOUS LEHIGH VALLEY  
HIGHER BEDROOM WING ADJOINS THE OFFICE

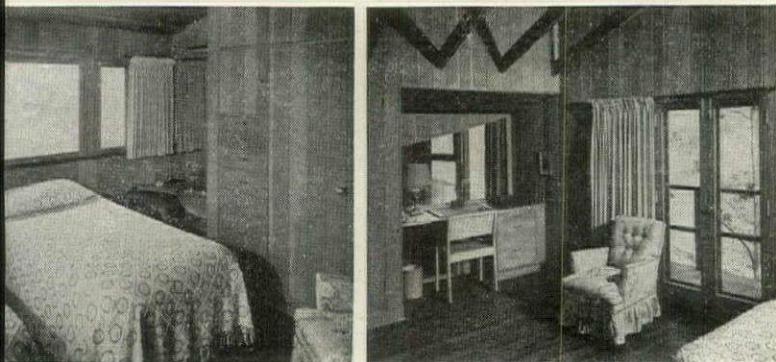




"HEN COOP" ROOF SECTION LIGHTS INTERIOR AND ADMITS MAXIMUM SOUTHERN SUNSHINE. STEPS LEAD TO RAISED TERRACE



BEDROOMS HAVE BUILT-IN DRAWERS AND DRESSING TABLES



# HOUSE IN STEVENS POINT, WIS. has expansive glass areas and sloping roof.

GEORGE F. KECK, Architect

WILLIAM KECK, Associate

N. W. BRITZ, General Contractor

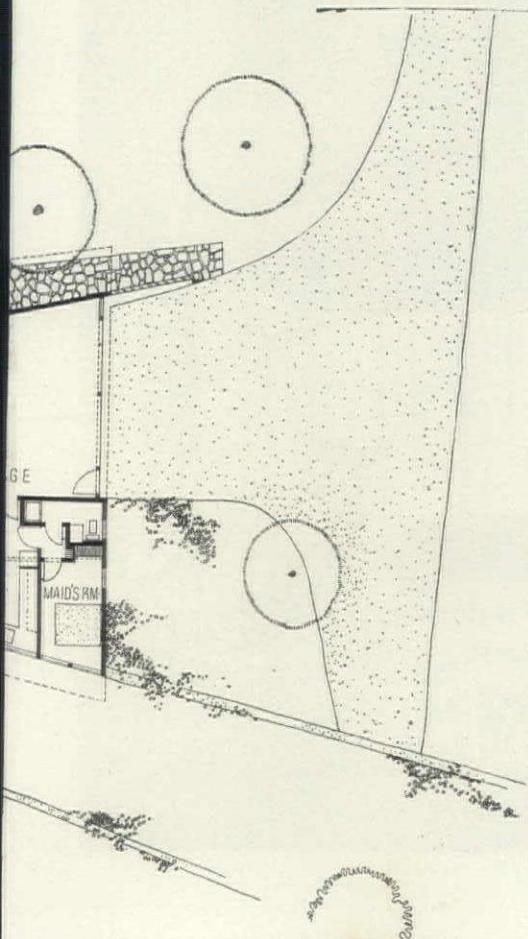
Photos: Hedrich Blessing

The plan and appearance of this solar house, designed for a family of four, was principally determined by the cold climate. It is protected on the north side by sloping the roof down to a single story, and virtually eliminating all windows. All of the other sides are open. The plan spreads to the east to give a more spacious entry to the garage and to the south and west to take full advantage of the sun and the view of the valley. The large two-story living room is flanked on the north and south by terraces paved with flagstone. This paving extends into the study, which by virtue of sliding doors can be turned into a guest room. The bedrooms have generous windows and custom built storage cabinets. A small, secluded dining room is provided in addition to the dining space in the living area. This room is for the owner, a physician who often takes his meals at irregular hours. One of the most interesting features is the radiant heat. It is a force flow hot water system with pipes laid in floors at various levels and in various types of construction. In the flagstone sections, such as the entrance hall, part of the living room, the study and downstairs bedroom, the pipes are laid in concrete slab finished with the topping of stone. Elsewhere they are laid between the subfloor and finished wood floor.

**CONSTRUCTION OUTLINE:** STRUCTURE: Exterior walls—wood and stone; inside—studs, sheating, fir and plaster, U. S. Gypsum Co. ROOF—built-up asphalt, Johns-Manville. INSULATION: Outside walls and roof—Red Top Insulating wool, U. S. Gypsum Co. WINDOWS: Sash—wood, Vetter Mfg. Co. Weatherstripping—Monarch Metal Weatherstrip Co. Glass—Thermopane, Libbey-Owens-Ford Glass Co. FLOOR COVERINGS: Kitchen and bathrooms—Armstrong Cork Co. LAUNDRY EQUIPMENT: Sink—Crane Co. Washing machine—Bendix Home Appliances, Inc. BATHROOM EQUIPMENT—Kohler Co. HEATING—radiant heating system. Pipes—A. M. Byers Co. Pumps—Bell & Gossett Co.



LIVING ROOM FIREPLACE USES LOCAL STONE



NORTH SIDE IS SHELTERED BY LOW-HANGING EAVES AND TREES



SOUTH SIDE IS HIGH AND OPEN AND HAS RAISED STONE TERRACE

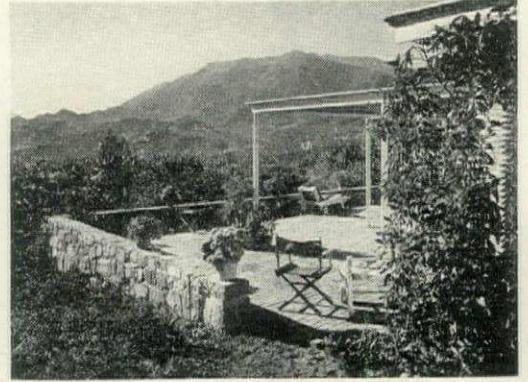
## HOUSE IN OJAI, CALIF. Austin Pierpont's design fits any weather, any function.

Photos: Phillip Fern

This flexible house, designed for simple country living, but expandable for entertaining guests, consists of a series of sheds and lean-tos arranged in a conventional U-plan. The core of the house is the music-living room and the adjacent dining-sun room which can be thrown together by sliding back the 16 ft. glass doors between them. Sliding glass panels also separate the sun room from a patio, making indoor-outdoor dining a pleasant reality. When both sets of doors are opened at once, a clear sweep is obtained from the patio through the living room, obviously a tremendous advantage during stifling summer weather. If seclusion is desired, however, the living room can be shut off completely and the sun room used as a passage between the kitchen on the left and the bedrooms on the right. Exposure of these two bedrooms and their private baths is planned to catch the all-day sun in winter and a direct breeze in summer. On the opposite side of the house a small office, required by the present owner, could become an extra bedroom if occasion demanded. High clerestory windows have been provided to siphon off the blanket of hot air which accumulates under the ceiling during the day, and which is not always carried away by the night breezes. The shed ceiling of exposed celotex used in the living-music room has excellent acoustical qualities and in the adjoining sun room an open ceiling gives an appropriate sense of space.

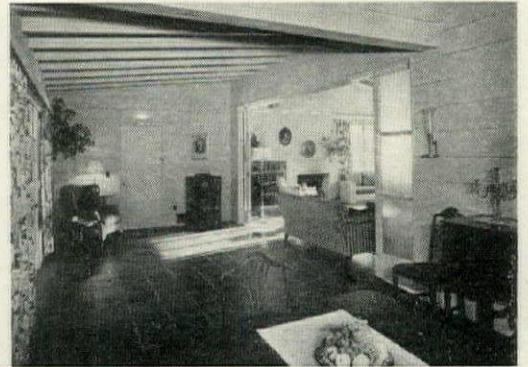
**CONSTRUCTION OUTLINE:** STRUCTURE: Exterior walls—studs, 1 in. mesh, waterproof cement plaster and stucco paint. Interior—plaster. Ceilings and insulation—Celotex, Celotex Corp. KITCHEN EQUIPMENT: Range—Hotpoint, Edison General Electric Appliance Co. Cabinets—Central Cabinet Co. Fan—Ilg Electric Ventilator Co. LAUNDRY EQUIPMENT: Washing machine—Norge Corp. BATHROOM EQUIPMENT—Washington Eljer Co. Cabinets—Dura-Steel Mfg. Co. Shower—Crane Co. HEATING—forced warm air, gas fired system. Water heater—Mission Water Heater Co.

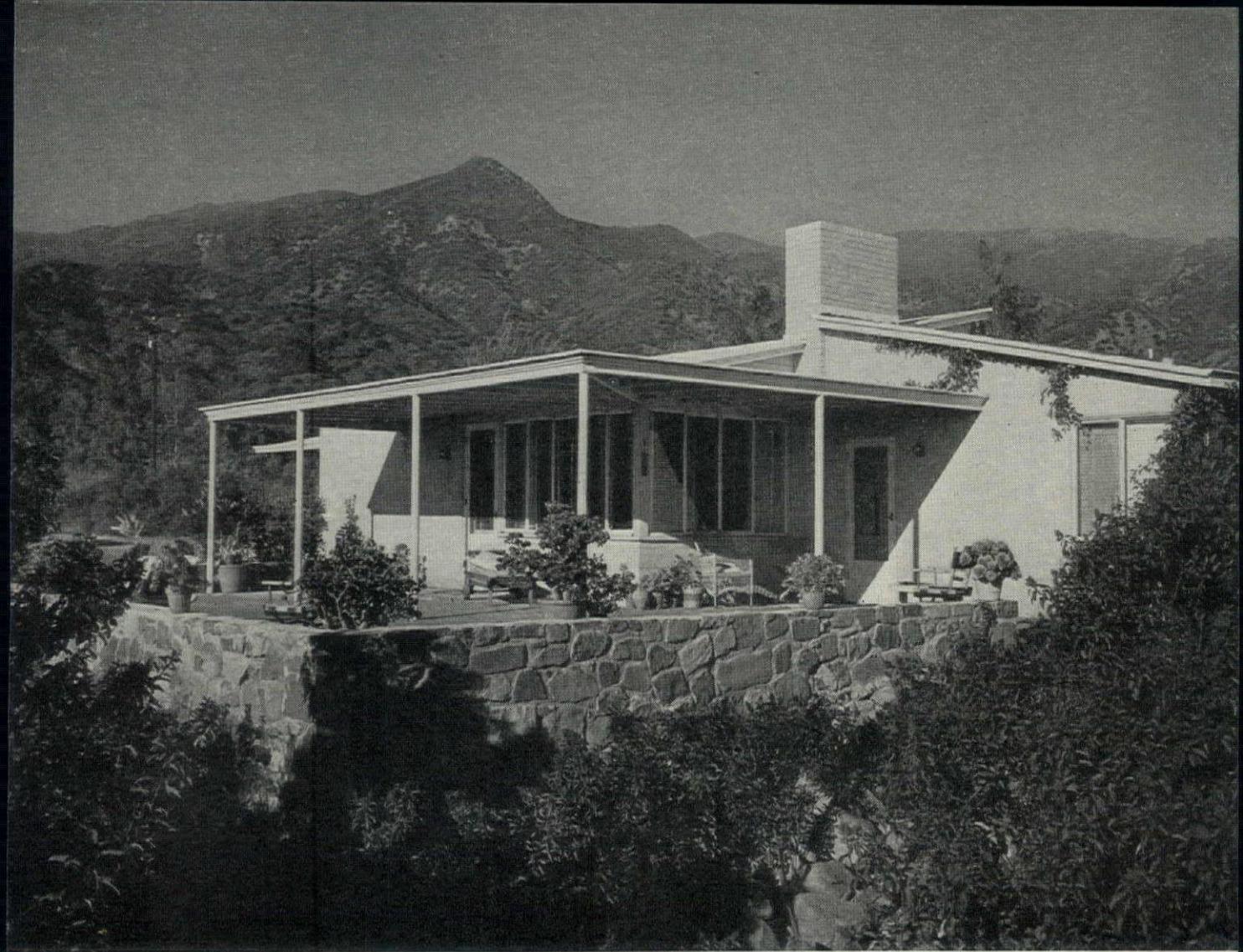
SLIDING DOORS SEPARATE OR COMBINE LIVING ROOM AND SUN ROOM



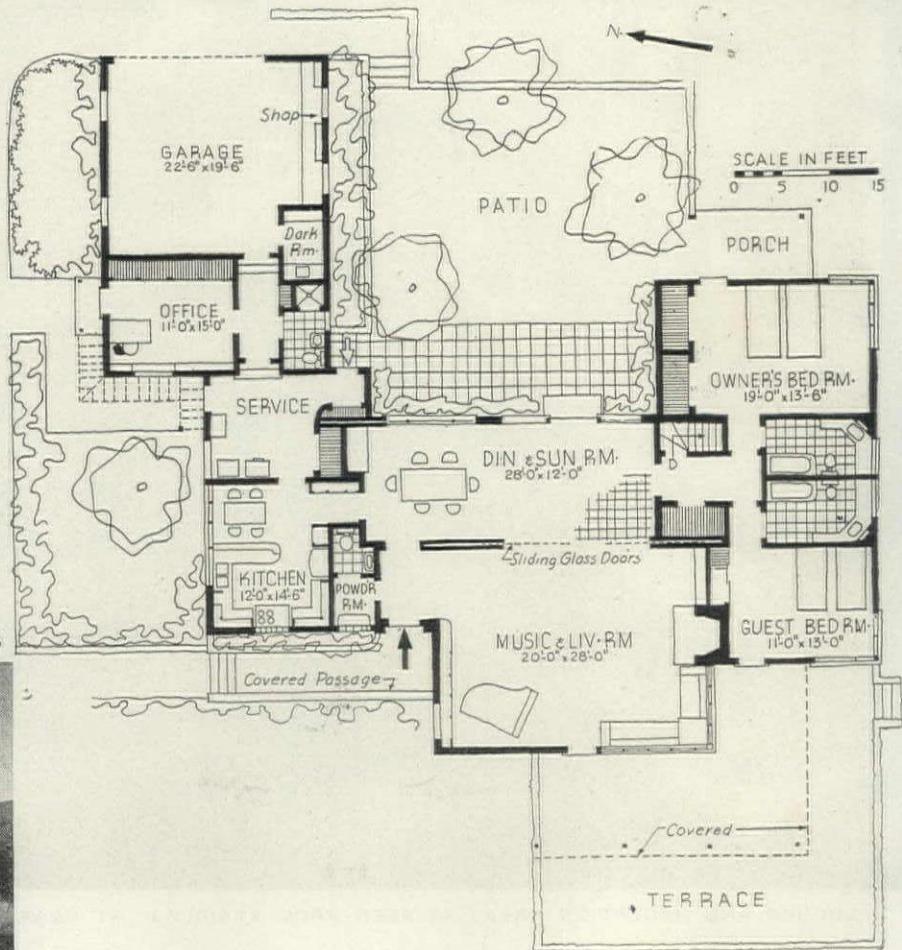
TERRACE IS USED FOR OUTDOOR LIVING

DINING-SUN ROOM CAN BE OPEN TO PATIO





THE EXTERIOR OF THIS COUNTRY HOUSE CONTRASTS EFFECTIVELY WITH MOUNTAINOUS, SHRUBBERY-TANGLED SETTING

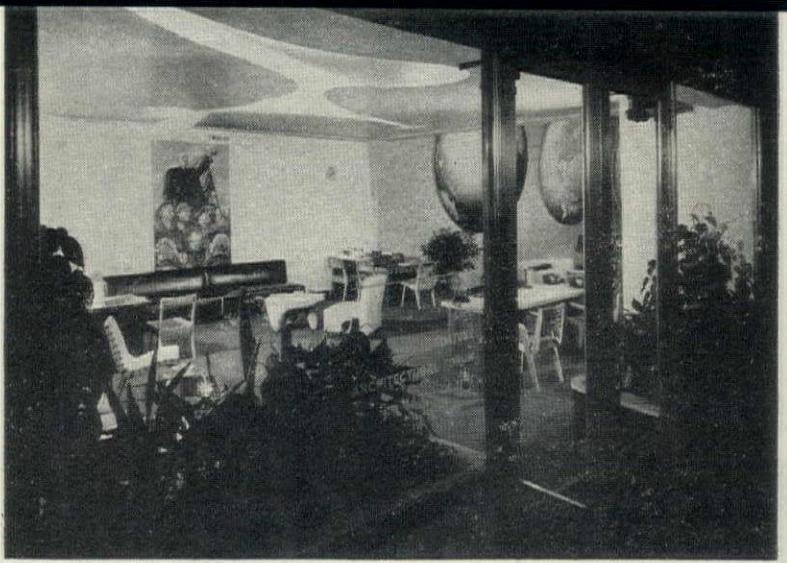


THE Y-GREEN FINISH PICKS UP NATURAL COLORS



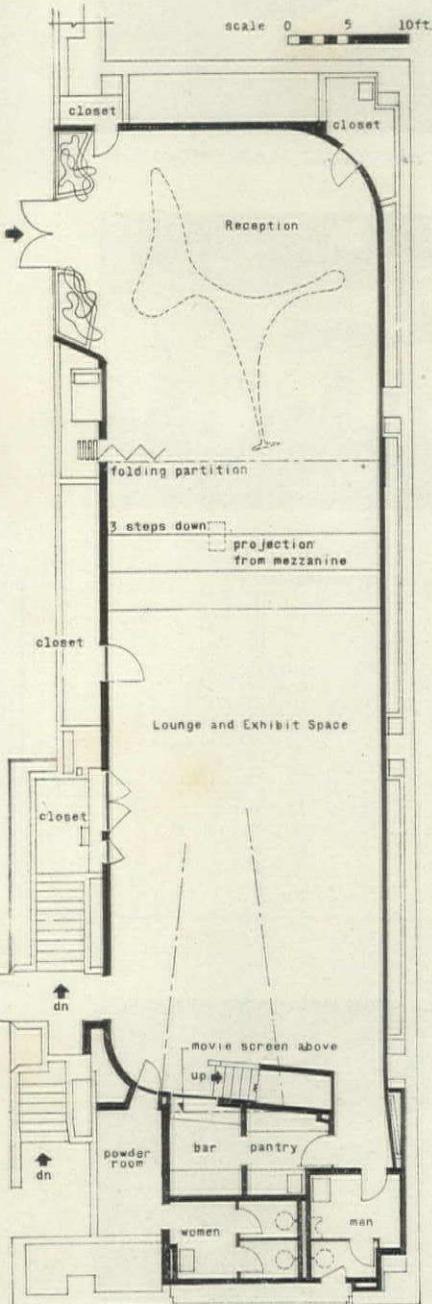


LOUNGE AND RECEPTION AREAS AS SEEN FROM STAIRCASE AT REAR OF ROOM. NOTE PLASTER SPOTLIGHT FIXTURE



INTERIOR OF CENTER VIEWED THROUGH GLASSED-IN ENTRANCE

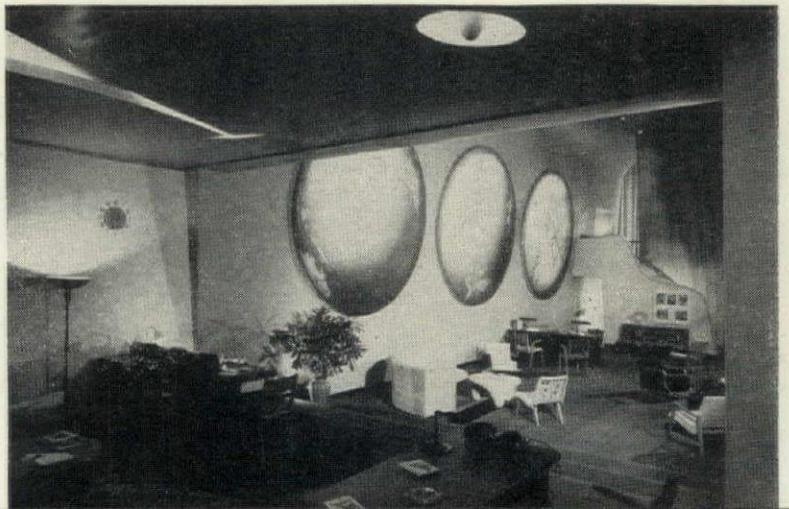
## INFORMATION CENTER—TIME Inc. A reception room for the public doubles as a display area for magazine projects.

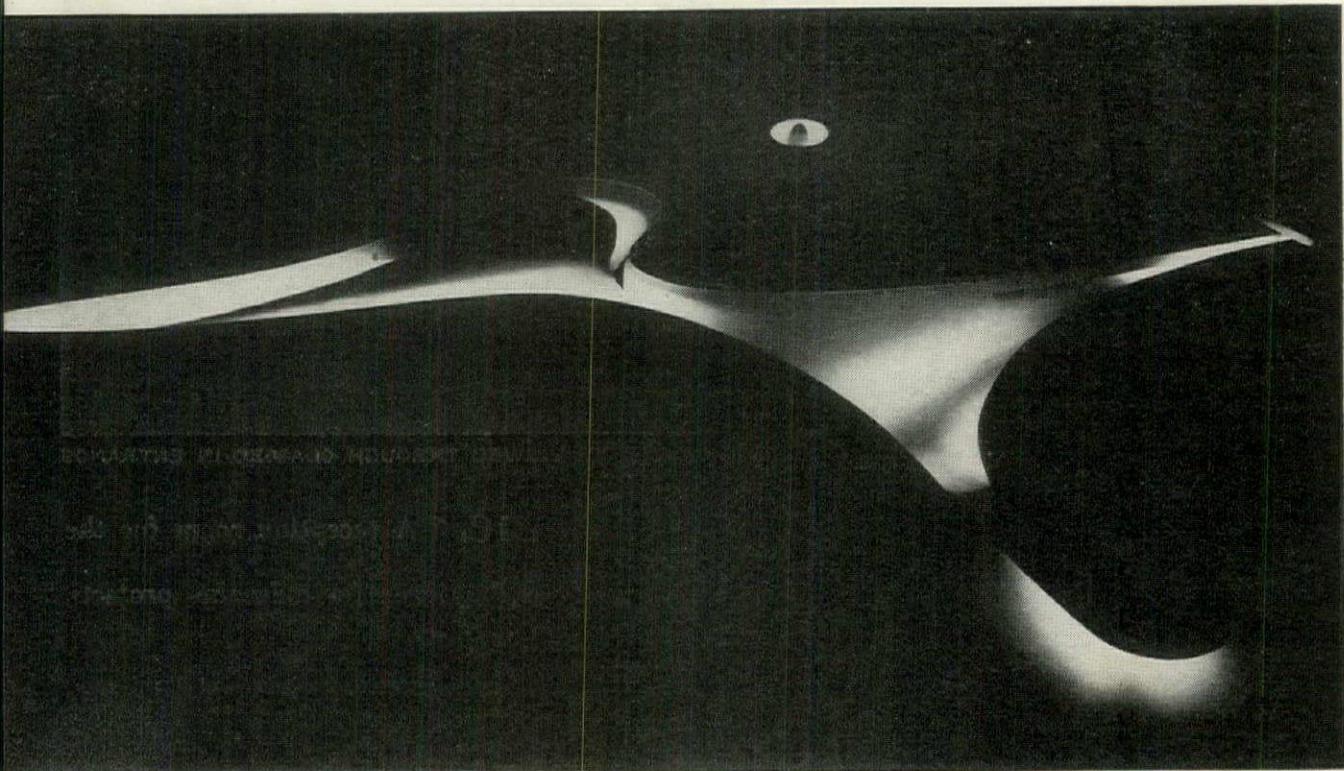


This lobby information center, an adjunct to the offices of TIME, LIFE, FORTUNE and FORUM, was designed primarily as a link between these magazines and the public. It serves as a reception and relaxation room for visitors to Time Inc. and members of the armed forces—for anyone who wishes to read, write letters, study maps and photographs, watch movies or just ask questions. Located on the ground floor of the Time and Life Building, it is within view of everyone who enters.

The design for this center is a solution to space limitations as well as an interpretation of the room's function. Since the space available was long and narrow, architects Harrison and Fouilloux decided to break its funnel-like appearance by dividing it into three specialized sections. The space near the entrance is designated as the reception area and is equipped with subscription and information desks. Steps lead down into the main part of the room, a public lounge with sofas, easy chairs, desks and tables, and another information desk. This section is devoted to displays by the magazines and is used occasionally for moving pictures, separated from the busy reception area by means of movable panels. Wall treatment is determined mainly by its suitability as a display background. Plaster is used for the wall which features huge global charts, blow-ups of maps designed for FORTUNE by Richard Edes Harrison. The opposite wall is made of a textured birch paneling which allows easy attachment of posters and photographic displays. In addition this wood surface camouflages the many openings necessary for air conditioning exhausts and similar mechanical equipment. At the far end of the lounge a staircase leads up to the third section of the center, a secluded mezzanine reading and research room.

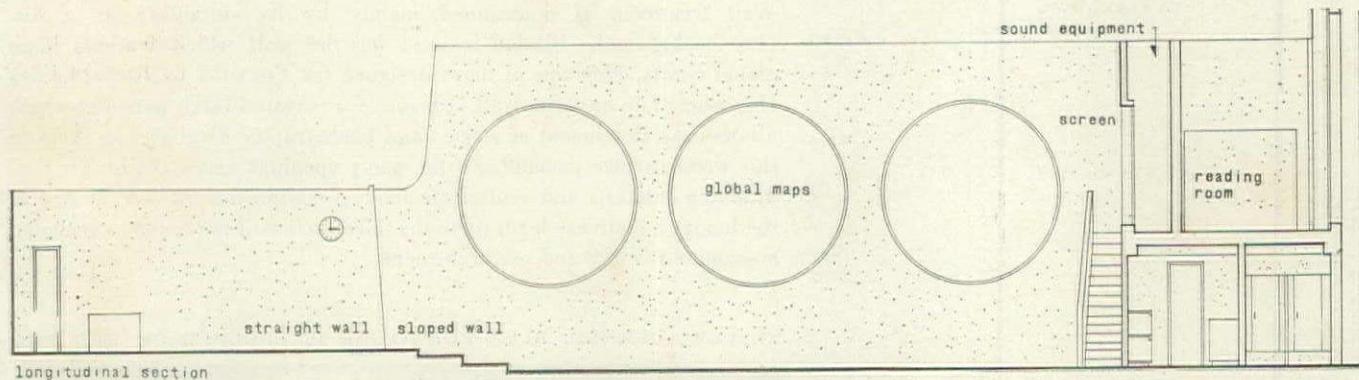
YELLOW, ORANGE, BLUE FURNITURE IS GROUPED ON RED RUG



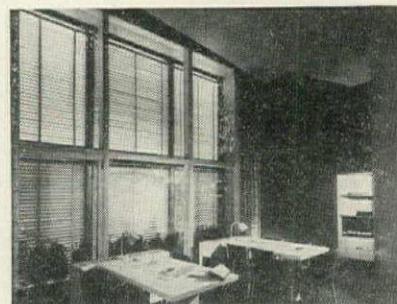


LIGHT BECOMES A SCULPTURAL MEDIUM IN FIXTURES DESIGNED BY THE ABSTRACTONIST ISAMU NOGUCHI

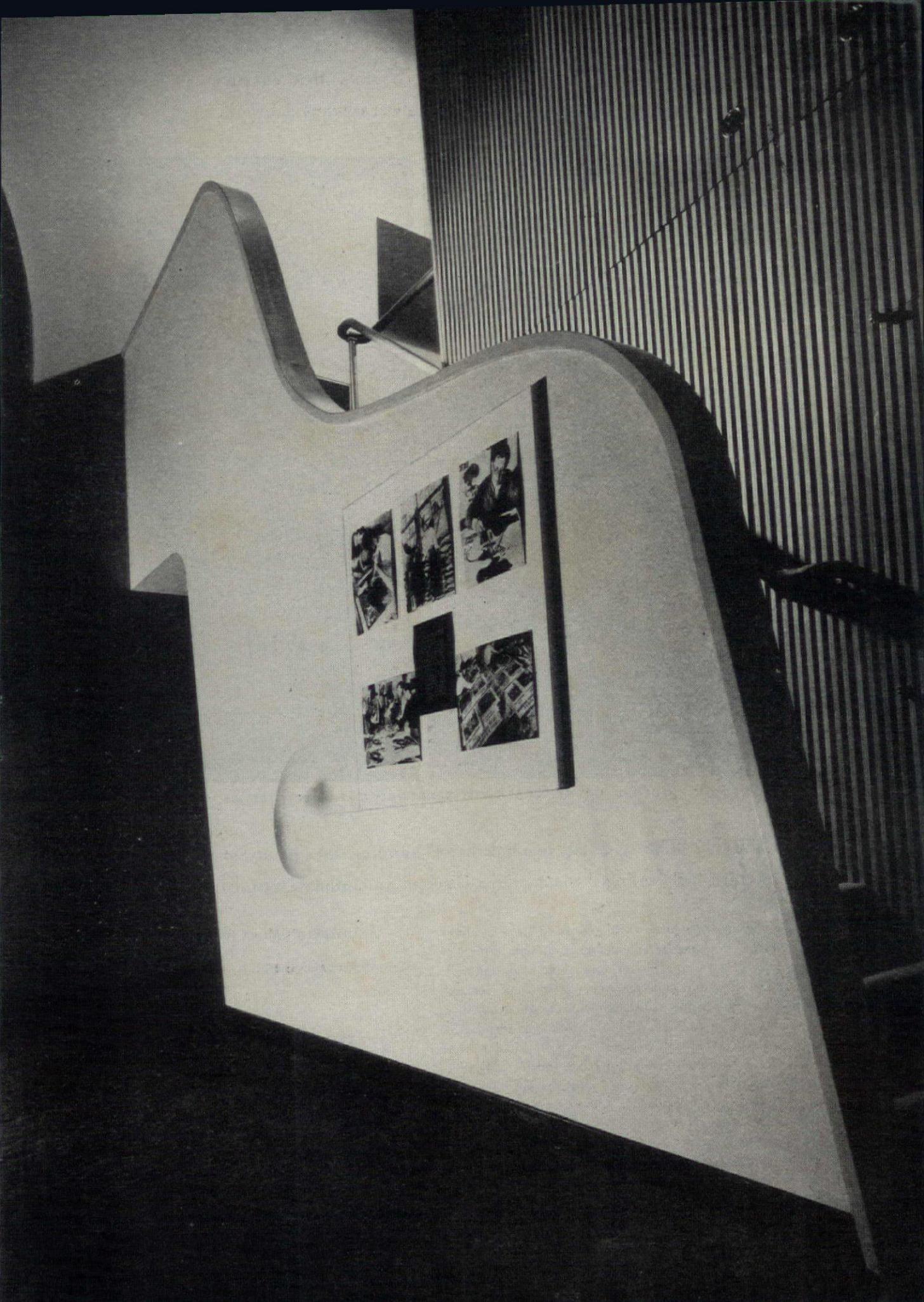
The most unique feature of Time Inc's new information center is its ceiling design. Here, for the first time, light has been used sculpturally as part of a room rather than as mere decoration. Isamu Noguchi, the artist who executed this design, considers illuminated sculpture only an indication of what can be achieved by combining function with form. He visualizes whole rooms—walls, floors and furniture as well as ceilings—done in this type of contour construction.



The concern with artificial illumination, a necessary part of the windowless information center proper, is less important in the small adjacent reading room. Its location at the only outside wall makes possible full length windows which provide excellent natural light. Long desks, each accommodating five people, are placed at right angles to the window wall thus eliminating front shadows.



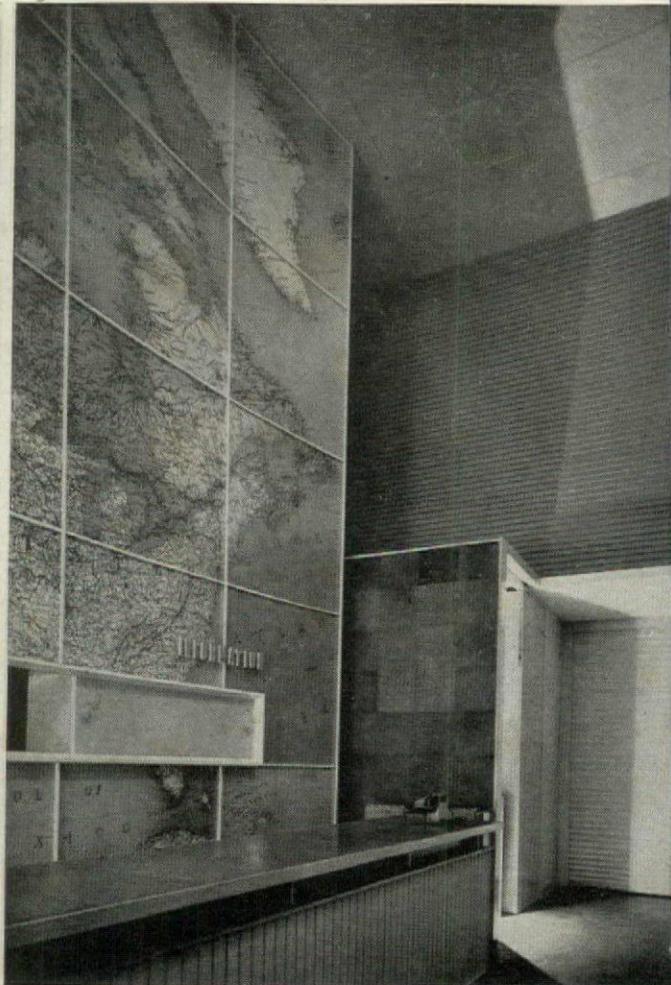
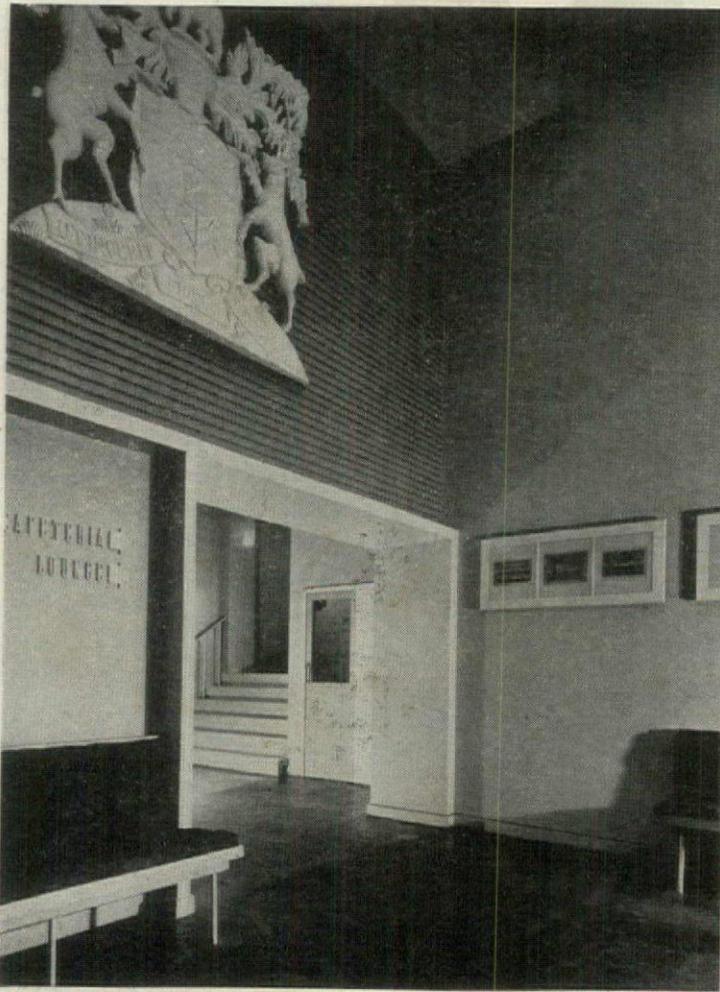
STAIRS LEAD TO MEZZANINE READING ROOM



CURVED STAIR PARTITION IS IN HARMONY WITH SCULPTURED CEILING TREATMENT, SERVES AS DISPLAY BACKGROUND

# WAR ACTIVITIES CENTERS

show that effective design need not be expensive, yield many features readily applicable to postwar commercial work.



WAITING ROOM OPENS INTO CLOAK LOBBY; BLACK-OUT-SCREENED ENTRY IS THROUGH ADJOINING INFORMATION ROOM

## 1. LONDON SERVICE CLUB remodels bomb-damaged building, uses plenty of plaster and ingenuity to turn high-ceilinged rooms into a cheerful and intimate setting for soldiers' recreation.

The serviceman's leisure-time needs—to get away from a khaki-colored environment, to make telephone calls, to get directions about a strange city—are responsible for a new kind of design unit: the service club, where emphasis is on informality, visual interest, easy access and easy-to-operate facilities. This is not in itself an especially complex design problem. But the architects responsible for this good-looking Ontario Government club in London were obliged to plan for a minimum amount of labor and for only those materials readily available in Britain's war-short market. A variety of bright colors and surface finishes give gaiety and interest to what might otherwise be a fairly monotonous use of fibrous plaster (unrationed) for a wide range of elements including flower boxes, counter fronts, light fittings, jamb linings, architraves. To pare lumber use even further, polished cork has been used for floors and inside window sills. A plan that would, within the space limits imposed by the old structure, route guests through all service facilities resulted in rooms of doubtful proportions. But height has been exploited by decorative wall treatments while a flow of lights and darks (in both colors and fenestration) gives a pleasing room-to-room contrast.

ARCHITECT: Misha Black

ASSOCIATES: Bronck Katz, Kenneth Bayes

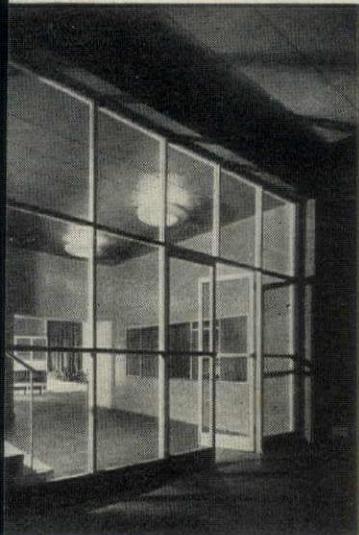
CEMENT SURFACING UNIFIES THE EXTERIOR



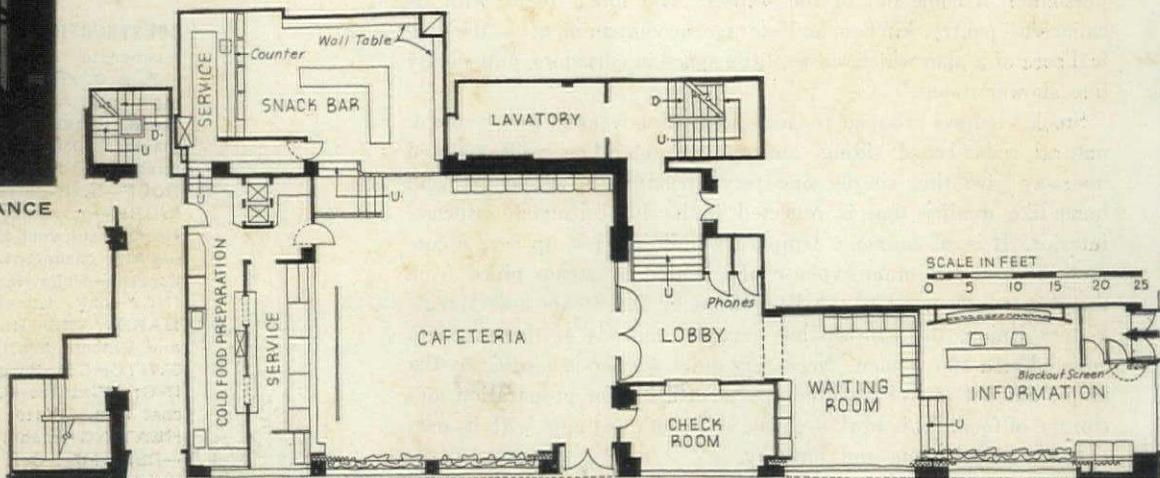


RAISED FLOOR AND COLORFUL MURAL SET OFF SNACK BAR FROM LARGE CAFETERIA

Bar & Harris

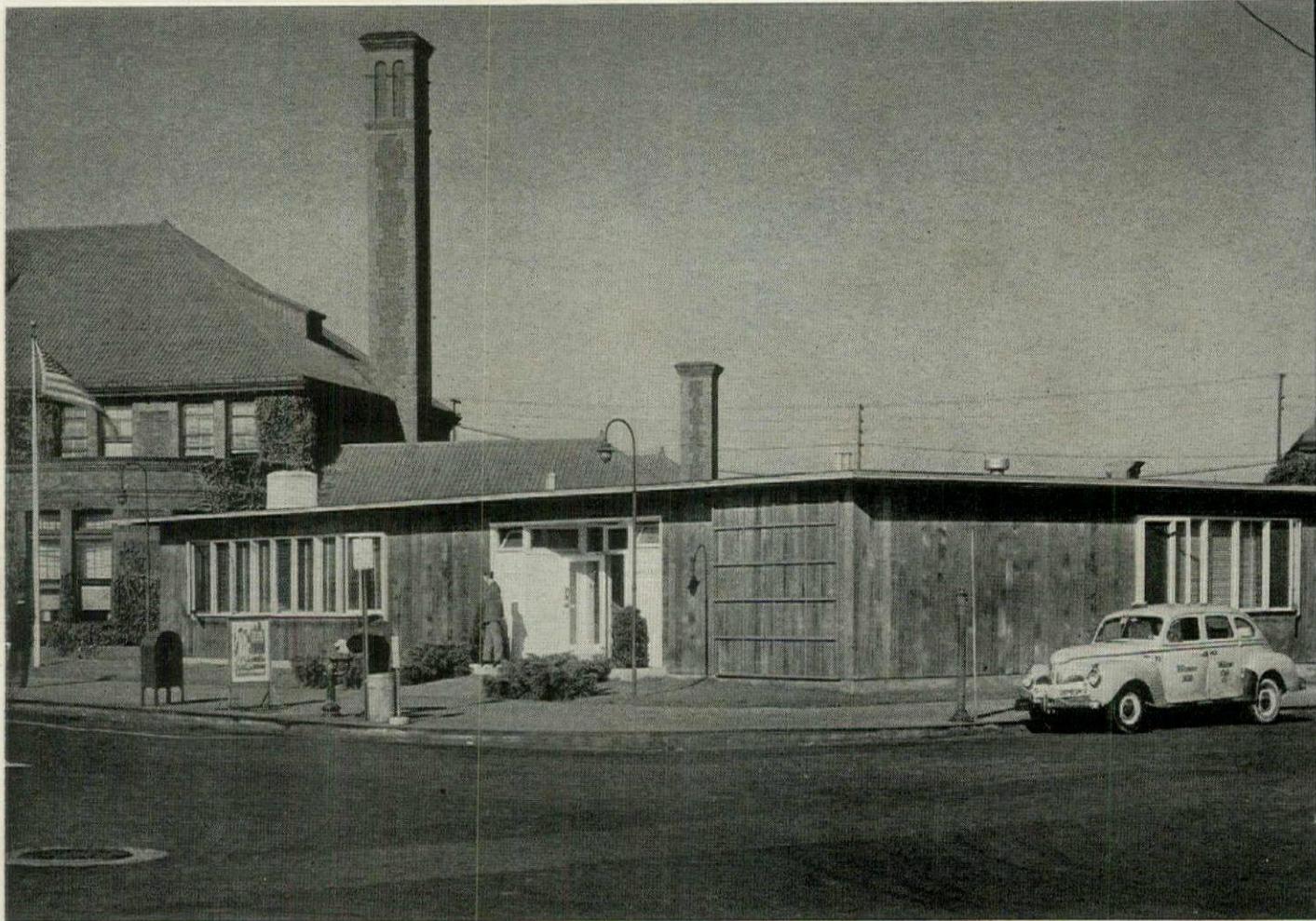


GLASS FRAMES CAFE ENTRANCE



## RED CROSS CANTEEN

Photos: P. A. Dea



PORTLAND GROUPED ALL ITS SERVICE FACILITIES FOR TRAVELING G. I. JOES IN AN ATTRACTIVE RAILROAD-SIDE CANTEEN

**2.** Architects Glenn Stanton and Hollis Johnston make lunch-room service from dawn to midnight the hub of a well-arranged sequence of rooms where military travelers can wash up, rest, write.

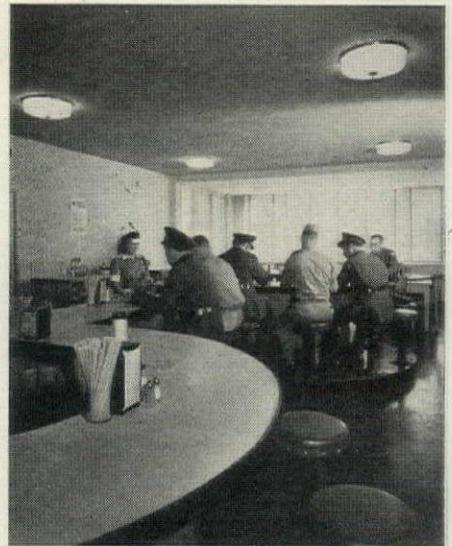
A good many railway stations are now equipped with special military lounges, but this delightful little Red Cross canteen solves the problem of terminal congestion by inviting the big traffic of military personnel to come out of the station. The lunch room, with its capacious pantry, kitchen and storage accompaniment, is the logical core of a plan which wastes little space in corridors, puts plenty into shower rooms.

Stock windows grouped for maximum effectiveness, rough-sawed, natural cedar-board siding, and the unpretentious white-painted doorway give this simple one-story structure a welcoming and home-like quality that is reflected in its low-ceilinged, informal interior. It is, of course, a temporary building, put up over a concrete slab at minimum expense and heated by steam piped from the station. Donated to the Red Cross by the Steam and Marine Fitters Union, the canteen has served hundreds of thousands of enlisted men and women. Necessary quick service is assured by the ample amount of well-handled space set aside for preparation and storage of food. This work area is a self-contained unit, with its own entrance, cloak-room and lavatory.

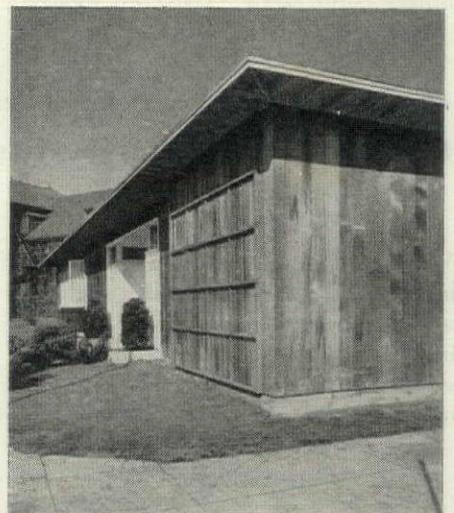
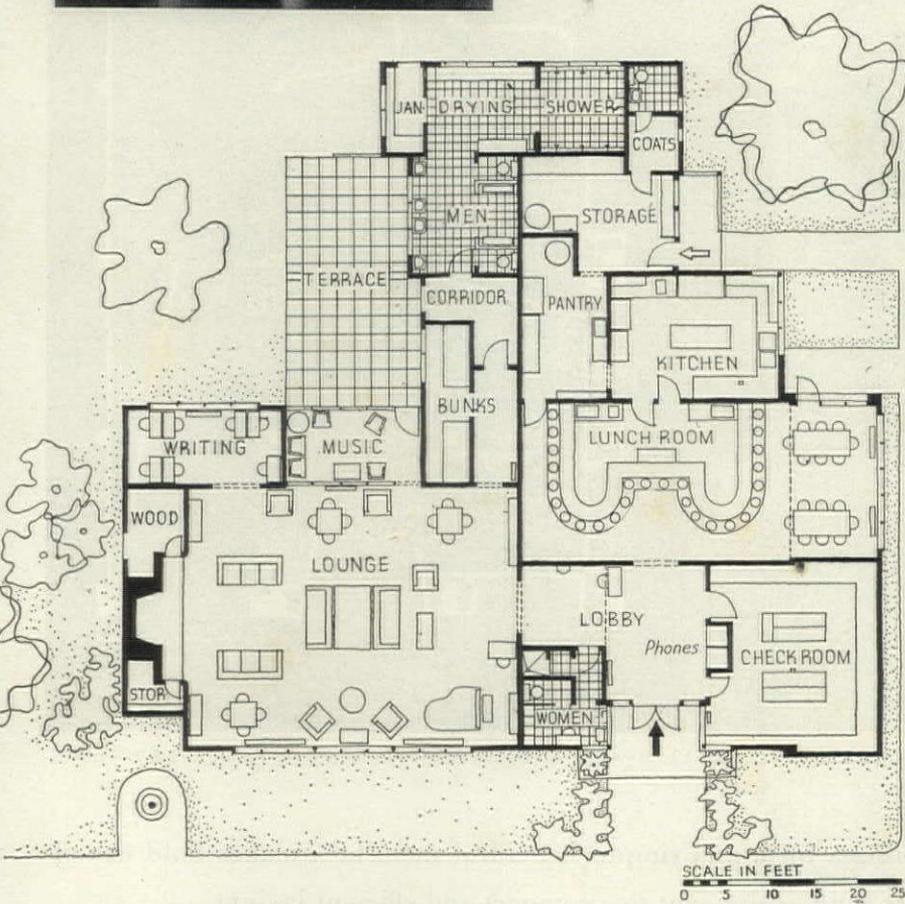
**CONSTRUCTION OUTLINE:** FOUNDATIONS—concrete. STRUCTURE: Exterior walls—T. & G. cedar boards, Brownskin building paper, Angier Corp., shiplap: inside—studs, Rocklath, U. S. Gypsum Co. and plaster. Floors—concrete over gravel, asphalt tile finish, Armstrong Cork Co. ROOF—built-up roofing. SHEET METAL WORK—galvanized iron. INSULATION: Roofs—rockwool bats. WINDOWS: Sash—wood casement. Glass—crystal sheet. Screens—Pella, Rolscreen Co. FURNISHINGS—oak. Lunch counter top—linoleum. HARDWARE—Russell & Erwin Mfg. Co. and Vincent Whitney Co. ELECTRICAL SWITCHES—Bryant Electric Co. PLUMBING: Fixtures—Crane Co. Soil pipes—cast iron. Water pipes—galvanized iron. HEATING—steam system. Water heater—Ruud Mfg. Co.



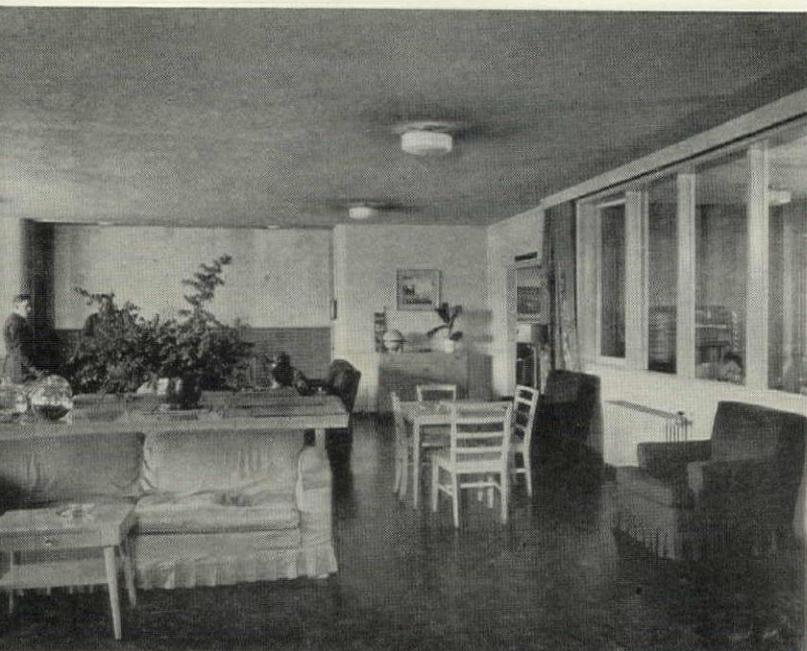
**TERRACE**, off music room, is a good place for sun-bath after tired travelers have finished lunch or showered.



**LUNCH ROOM**, with popular curved counter for maximum seating, is off small entrance lobby, handy to telephones and checkroom.



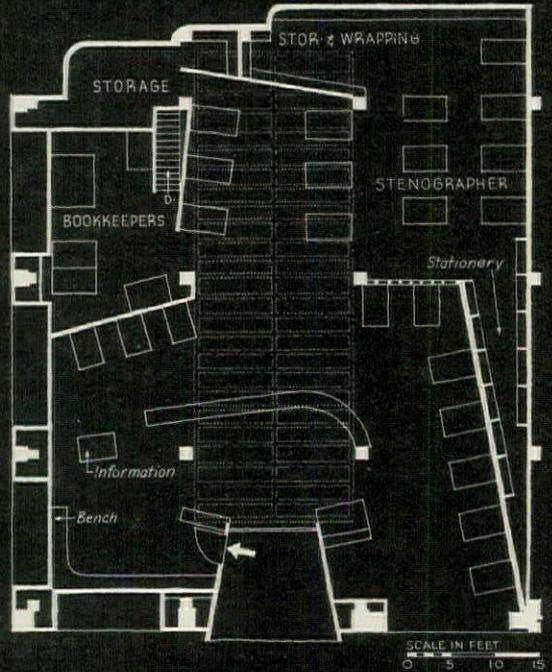
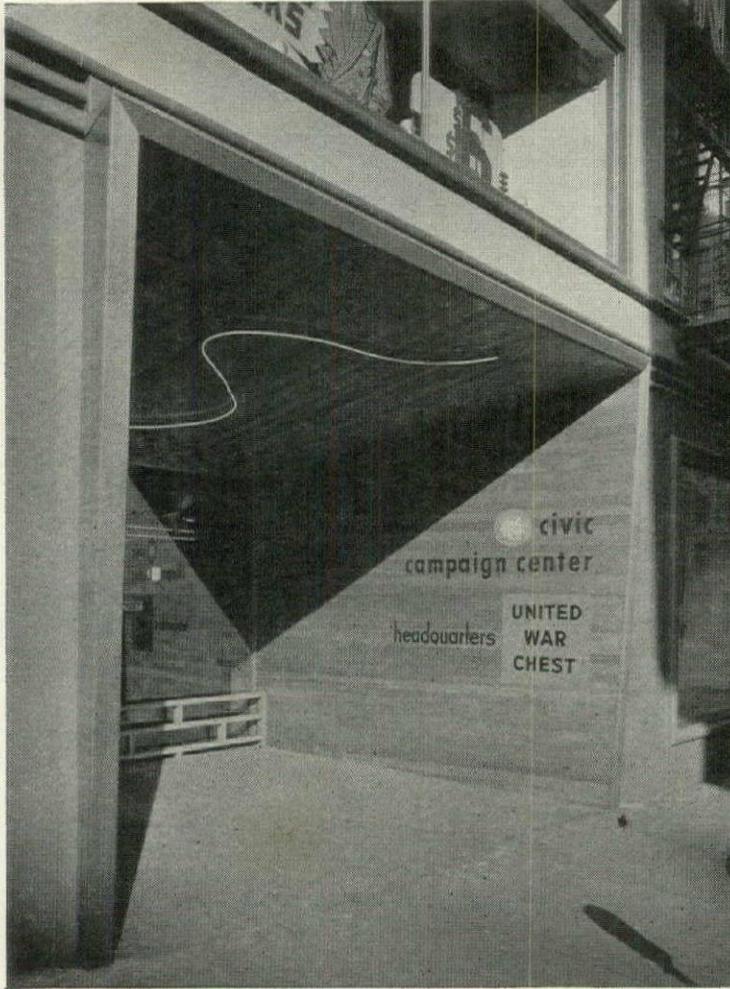
**ENTRANCE** is set off by white trim from attractive finish of natural cedar boards. Note 3 ft. roof overhang, eliminating gutters.



**LOUNGE** is separated from music room by glazed screen. There is a writing alcove and fireplace, flanked by wood closets.

## UNITED WAR CHEST

Photos: P. A. Dearborn

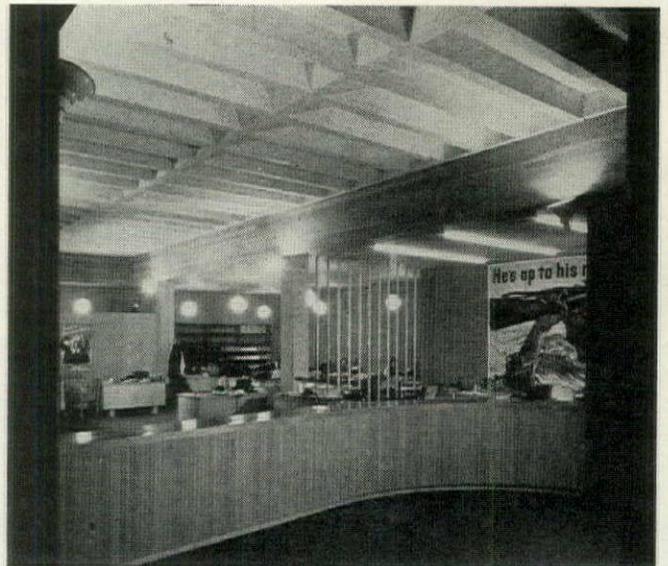


PORTLAND'S WAR CAMPAIGN CENTER IS TUCKED INTO SMALL SPACE AND DRAMATIZED BY CAREFUL DETAILING

**3.** Architect Pietro Belluschi emphasizes form and simple structural materials, makes bold use of color, adds imaginative lighting to lend excitement to a compact and efficient lay-out.

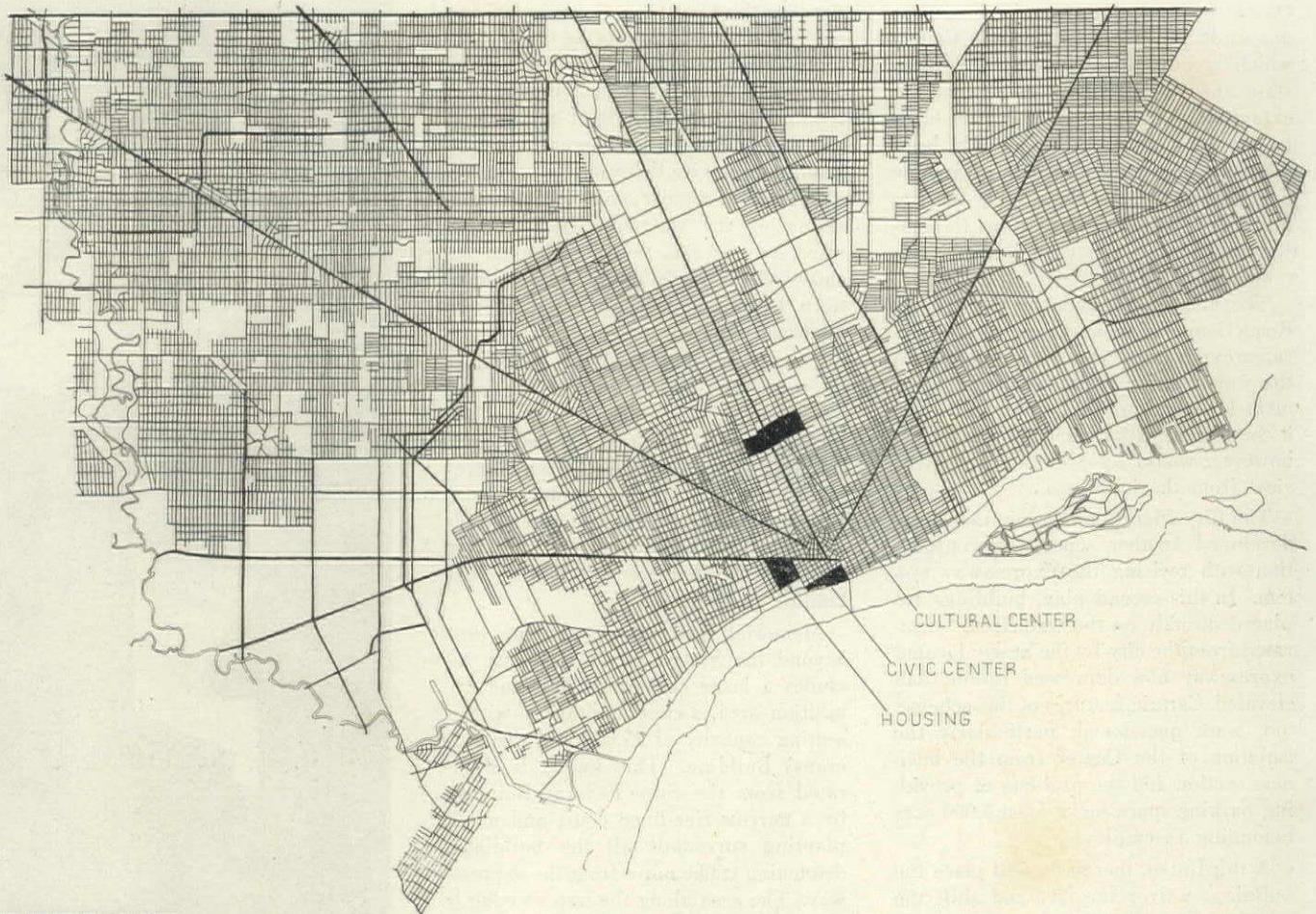
War fund collecting is a regular job everywhere, but few cities have an efficient center like this one in Portland, whose slick appearance must be worth many times its cost in merchandising value. A vacant shop was donated by the owner for the center. The whole job of remodeling, plus all exterior and interior fixtures and carpet, cost under \$4,000.

Enough wood was available to dress up the invitingly recessed entrance and to finish the side portions of the ceiling, lowered to emphasize the rough texture of the unfinished center. All walls are fiber board. The gracefully curved counter, which dominates the interior, and slanted partitions break up the box-like shape of the small room and efficiently separate the public area from behind-the-scenes working and storage space. Color is used boldly and lavishly to give character to the unpretentious design. The walls grade from deep mauve to vermilion, set off by clear blue sections, while columns are alternately red and gray. Since such centers are usually busier at night than in the daytime, lighting has been carefully worked out both for utility and for a maximum of eye appeal.



UNFINISHED CEILING BEAMS ADD TEXTURAL INTEREST

# PLANNING WITH YOU



## DETROIT

Replanned sections by various architects fit an over-all pattern of city redevelopment.\*

The sprawling industrial city of Detroit, midway point on the Great Lakes waterway, is the hub of America's automobile industry and birthplace of the assembly line, a dirty, noisy, hard-working town. Above all it is a live and growing town. Many of its assets and its failings are common to the myriad other industrial cities, large and small, which together made possible America's "miracle of production." Detroit's postwar plans are, therefore, a valuable illustration of how one mechanized city intends to deal with the human factor in its production equation.

Because a sound economic base is essential to all other city activities, an examination of Detroit's business is a vital part of its entire program. In this city, work is concentrated in the automobile industry which in 1940 employed 60 per cent of all manufacturing wage earners in the area. Ford, Chrysler and General Motors, plus the smaller Packard and Hudson Companies will undoubtedly employ more workers after the war to supply a car-hungry nation.

However, even with the expected postwar boom, 100,000 to 300,000 war workers will be unemployed after reconver-

sion. To complicate the problem, Detroit ordinarily uses several thousand seasonal laborers who come to the city for peak automobile production and are laid off when it is over. The additional fact that the automobile industry is most sensitive to national prosperity makes it at best a fluctuating job prospect.

In the past, booming industry and unemployment have left their mark on the city. Since unstable workers seldom buy homes, two-story flats have sprung up as an answer to irregular incomes. The community, also unable to anticipate its income, has settled for shoddy construction of essential public services. Mushroom growth has been followed by blight and decay.

The stabilization of employment in Detroit is, therefore, a prerequisite for any real advance toward an efficient and pleasant city. This can only be accomplished by setting up new industries producing non-durable consumer goods—shock absorbers against the flighty automobile business. It is Detroit's plan to foster such new job opportunities through cooperative action by industry, government agencies, and the citizens themselves.

Jointly with solving the problem of unstable employment, plans have been undertaken for much-needed city improvements. A new highway system, routing express traffic around residential communities and insuring free flow in industrial and business areas has been developed. Parks and playgrounds have also been restudied. Improved land use plans and zoning laws have been worked out. Within this over-all framework, replanning of specific areas takes on new significance as part of a tightly knit plan. Detroit's City Plan Commission has used the scheme of "farming out" such areas to independent architects for exploratory study. These solutions, designed to conform to the new highway, park and zoning systems, may not be accepted without change, but they will undoubtedly serve as guides to long-range replanning of the Detroit area. Three of them are shown on the following pages.

\* (Because Detroit's Master Plan has so many interlocking parts, it cannot be adequately presented in one article. In a future issue THE FORUM will discuss Detroit's proposed expressway and transit system, a study by W. Earle Andrews and Associates.)

# CIVIC CENTER

Suren Pilafian groups scattered government offices in new buildings on Detroit's waterfront.

One of the most controversial areas under study in Detroit is the Civic Center which groups together the city, county, state and federal offices as part of the extensive plans for riverfront development. Two studies have already been made for this area and a third is now being discussed. All three plans use the same basic building structures, the major change in each case being a site relocation.

The first study, made by the County Road Commission, assumed that an elevated expressway would be built next to the water's edge and that new government buildings would be placed behind it connecting with the city proper. This, however, would have cut off any river view from the buildings.

The City Plan Commission, therefore, developed another scheme in conjunction with revising the expressway system. In this second plan, buildings are placed directly on the waterfront, separated from the city by the newly located expressway now depressed rather than elevated. Certain features of this scheme, too, were questioned, particularly the isolation of the Center from the business section and the problem of providing parking space for at least 4,000 cars belonging to employees.

A third plan, therefore, will place the buildings nearer the city and shift the expressway back to the river side. It will not be elevated, however, and space will be left beyond it for a waterfront park. Thus the best features of both former plans will be retained: convenience of the center in relation to the city proper and an unobstructed river view from offices in the government buildings.

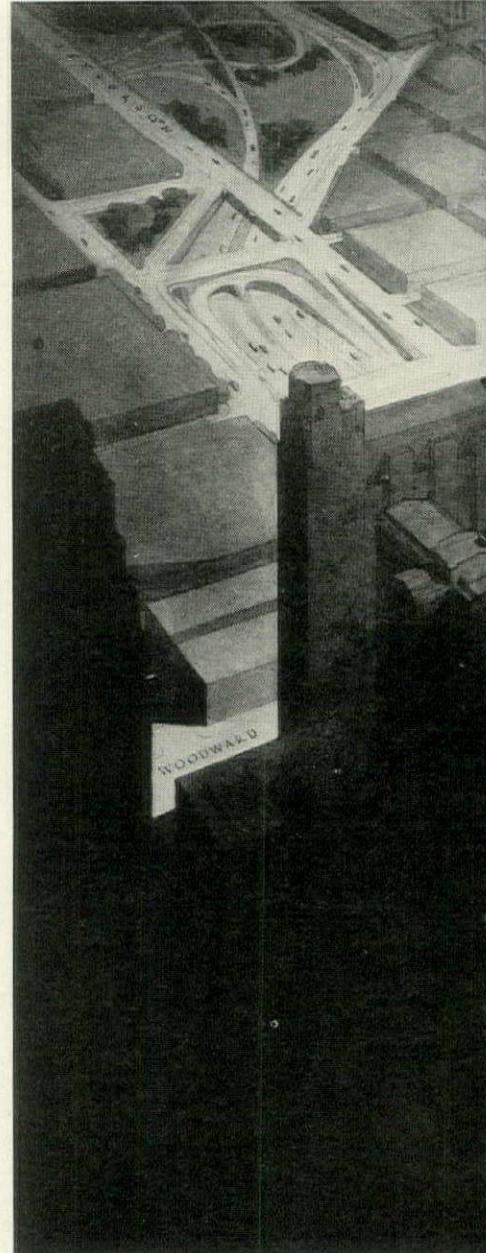
The plan shown on these pages is the second study, executed by Suren Pilafian

for the City Plan Commission and similar in most respects to the uncompleted third plan he is now working on. The basic idea of each Civic Center plan is to bring the multitude of government offices together in a coherent building group and to give these public buildings a measure of dignity and character. Location on the waterfront near Woodward Avenue was therefore logical because of the site's proximity to downtown Detroit and its potentialities for landscaping.

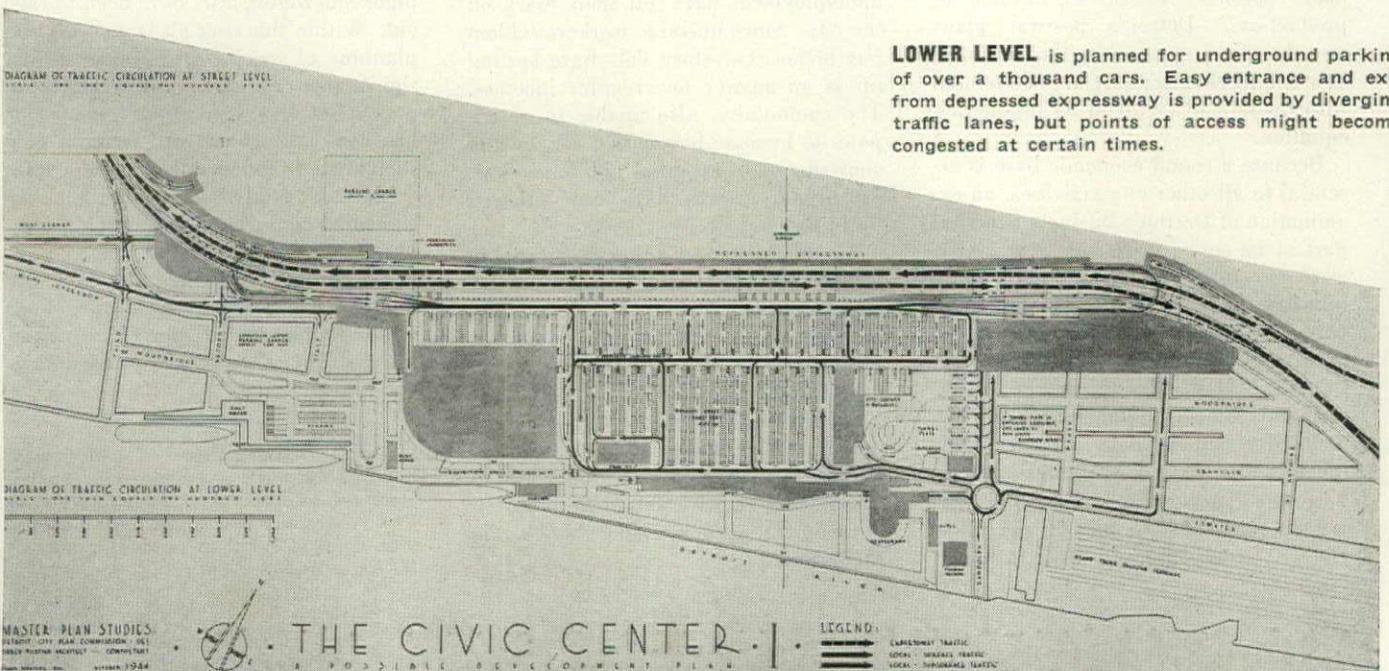
The City-County Building, placed at the extreme eastern end of the site, towers over the other relatively low buildings in the Center. To the rear it connects with a large garage which provides parking space for employees' cars. Between this group and the other buildings is a broad plaza open to the river which at this point is left free of boat landing facilities.

Memorial Hall, at the extreme west beyond the State-Federal Building, includes a large convention hall and exhibition area, a civic auditorium with a seating capacity of 25,000 and the Veterans' Building. This group is separated from the State-Federal Building by a narrow tree-lined court and much planting surrounds all the buildings, deadening traffic noise from the expressway. The area along the water's edge is shown as an open park at the eastern end of which a large restaurant is proposed.

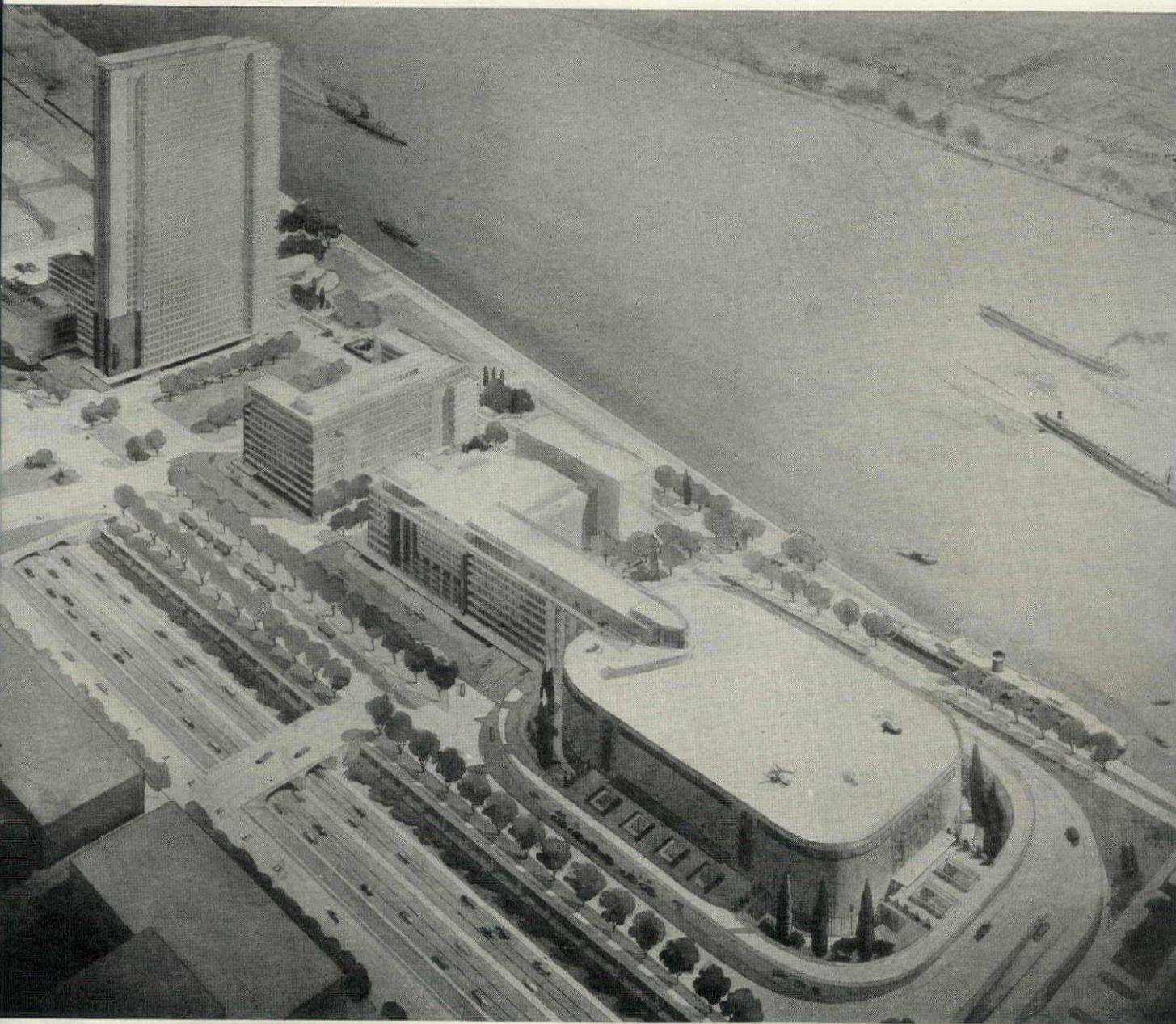
The natural land slope from the northern edge of the Civic Center down to the river makes this site especially adaptable for underground parking. It would also allow direct access between such an area and the proposed depressed expressway without the necessity of driving to the surface.



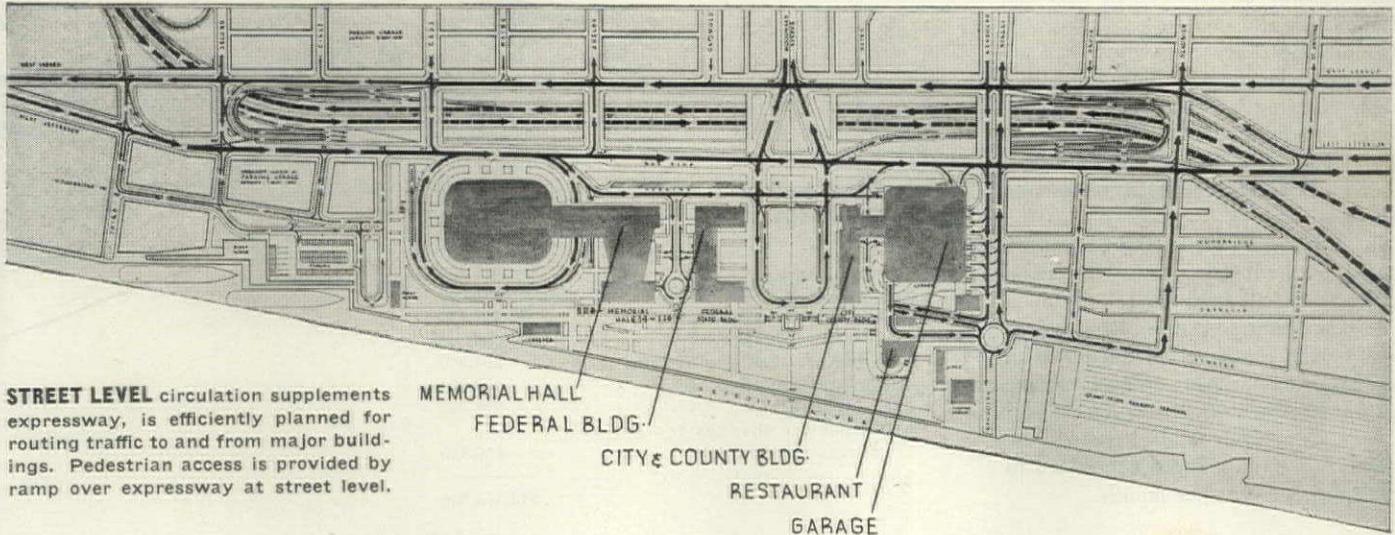
RENDERING OF PROPOSED CENTER SHOW



**LOWER LEVEL** is planned for underground parking of over a thousand cars. Easy entrance and exit from depressed expressway is provided by diverging traffic lanes, but points of access might become congested at certain times.



PLACEMENT OF GOVERNMENT BUILDINGS: CITY-COUNTY (LEFT), STATE-FEDERAL (CENTER) AND MEMORIAL HALL (RIGHT)



**STREET LEVEL** circulation supplements expressway, is efficiently planned for routing traffic to and from major buildings. Pedestrian access is provided by ramp over expressway at street level.

- MEMORIAL HALL
- FEDERAL BLDG.
- CITY & COUNTY BLDG.
- RESTAURANT
- GARAGE

The blighted area bounded by Michigan, Fourth, Fort and Trumbull — approximately 115 acres within walking distance of downtown Detroit — forms a pattern repeated in many an American city. Here are dilapidated houses tightly packed together on too-little ground: Here are old stores, dingy warehouses, factories and vacant lots. Here is the old story of haphazard growth and inevitable decay. Under the Master Plan Program areas such as these are to be eventually torn down and redeveloped into neighborhood units.

To restudy this section, the City Plan Commission picked the architectural and engineering firm of Eberle M. Smith Associates. Their project, complete with cost estimates, includes both an appraisal of existing conditions and a general plan for redevelopment. The scheme is not meant for immediate and complete execution, but is designed for gradual rebuilding by public or private developers when the money is available.

At present the area under study is used for a variety of functions: the western part is largely residential, the eastern industrial. To the south are railroads and terminals while the north is segregated by Michigan Avenue from extensive residential areas of depreciated value. Because the people who live here are in the lower income bracket, the great majority of houses are multiple dwellings and only a small number of persons own their homes. There is only one public school and no separate parks or playgrounds.

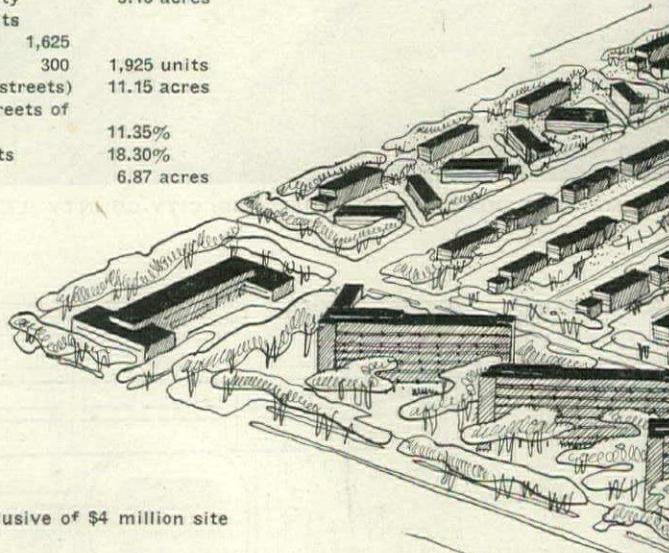
In contrast to these conditions, the new plan provides modern housing liberally interspersed with greenery and open space and given focus by arrangement around a central recreation field. The scheme is tailored to the proposed postwar highway system which routes through traffic around the community. Fourth Street is scheduled to become a super-highway and Michigan, Fort and Trumbull major arteries. Within the community all streets except three necessary for local traffic flow are eliminated. Housing is arranged ingeniously around this minimum street structure, a major portion of it concentrated in a super block serviced only by pedestrian walkways.

The elementary school, already well-located, but badly run down, will remain on the same site and be rebuilt on a modern and enlarged scale. Because the density of the area is planned for an average of 30 families to an acre, terrace type houses three stories in height will be used extensively and these will be designed for families who can afford to pay \$45 to \$60 rent per month.



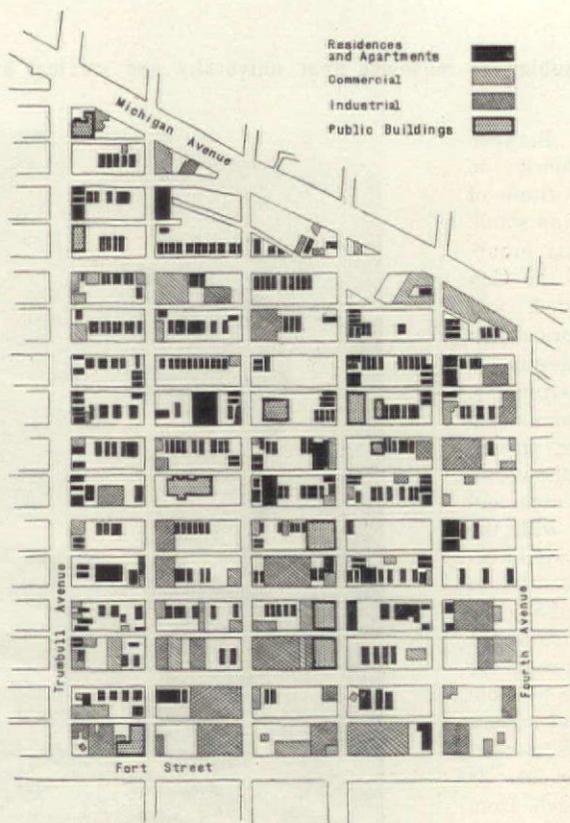
**AIR-VIEW** of downtown Detroit reveals blighted community scheduled for redevelopment (1) and proposed Civic Center, site of new government office buildings (2).

Gross area	98.04 acres
Net area	70.47 acres
Proposed population	7,320 persons
Proposed population density per acre	27.40 persons
Proposed business property	5.10 acres
Number and types of units	
Terrace houses	1,625
Apartment houses	300
Street acreage (through streets)	11.15 acres
Percentage of through streets of gross site area	11.35%
Coverage of dwelling units	18.30%
Acreage of parks	6.87 acres



**DEVELOPMENT COST** exclusive of \$4 million site acquisition:

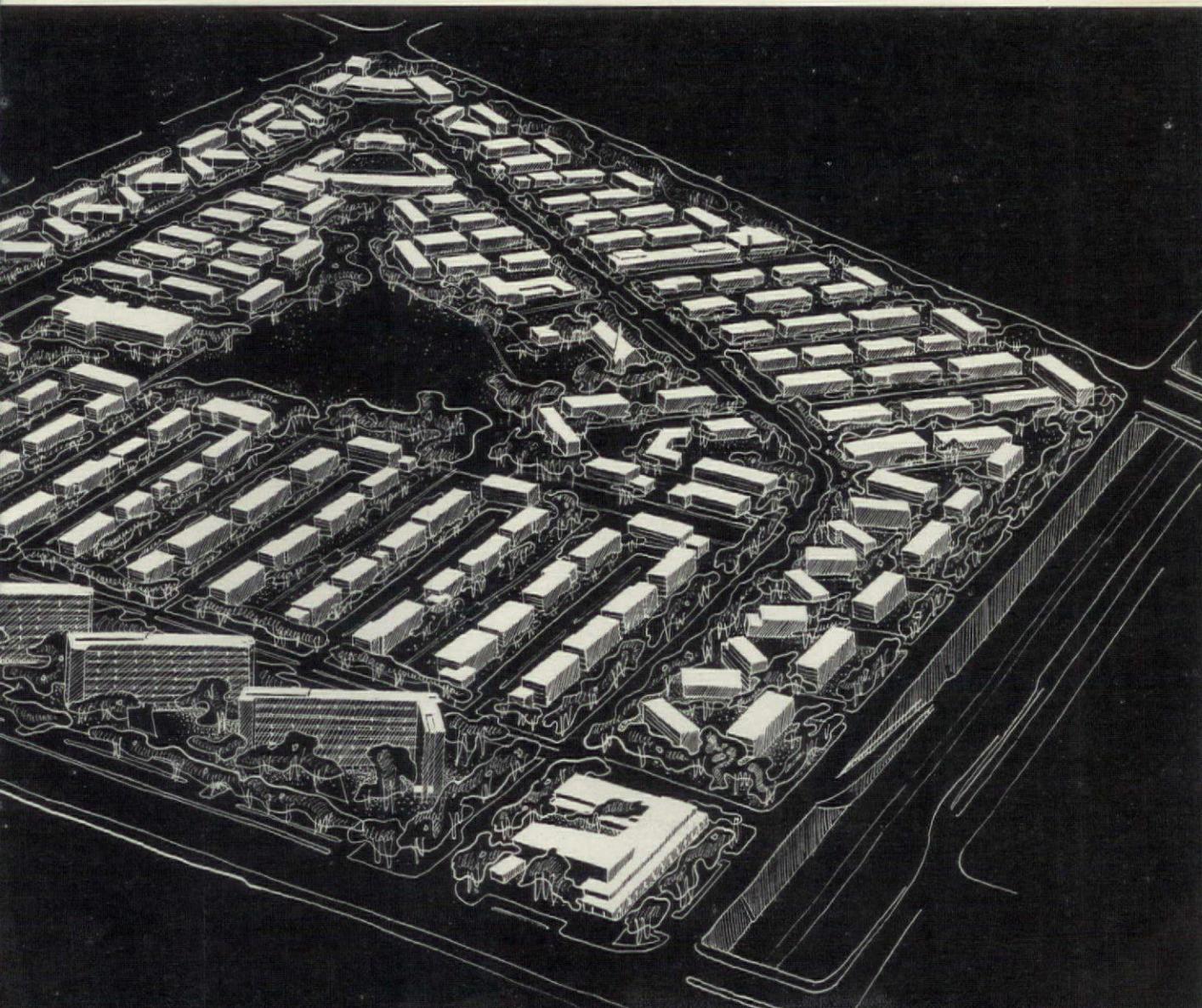
Site improvement	\$ 915,100
Non-dwelling buildings	780,000
Dwelling buildings	9,817,100
Pre-occupancy charges	64,300
Architectural and engineering costs	504,950
Administration costs	100,000
Carrying charges	373,330
Allowance for changes and extras during development	619,166
	<hr/>
	\$13,173,946



**PRESENT BLIGHTED AREA** has rigid block pattern, no planned segregation of residential and commercial areas.



**REDEVELOPMENT STUDY** groups housing for most efficient access to stores, schools and central recreation area.



## CULTURAL CENTER

Buford L. Pickens designs a unified grouping of museums near university and medical building

A city as completely industrialized as Detroit is more apt to have cut its teeth on a riveting machine than on an El Greco. Belatedly, however, Detroit has realized that she is missing out on something, in quantity if not in quality. Her Institute of Arts is but a lonely gesture towards culture as compared to Chicago's 18 museums and Cleveland's 10 which include the history of science, nature, man and machines as well as art. A cultural center, is, therefore, one of her major postwar requisites.

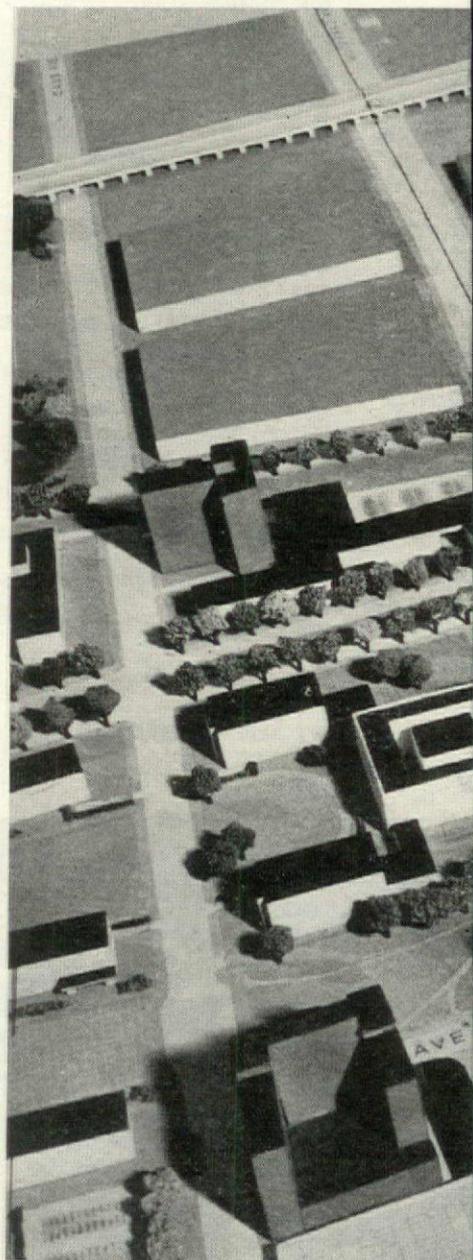
Detroit is more fortunate than some cities in having the nucleus of its cultural center, a capital investment of several million dollars, already existing in a geographically ideal location. With remarkable planning foresight, the Main Public Library built in 1917 and the Detroit Institute of Arts which trailed along in 1927 were placed some two miles out from the congested business district on either side of the city median line, Woodward Avenue. Recently, the Rackham Educational Memorial has been built on a contiguous block. Considering this area in relation to Detroit's homes, places of work and transportation routes, it is as centrally located as any site to be found and will probably continue to be for a long time. The proposed new system of express highways—Harper-McGraw on the north, Hamilton and Hastings on the west and east—would lead directly to the center, making it even more accessible than at present. The quiet streets within the center proper would be used only as access to the museums and other groups.

As plans now stand, division of the center will fall naturally into three sections each within easy walking distance of the others. Wayne University is planning a site to the west and the Medical

Science Center to the east. Between these sections are several blocks on which the Public Library, Institute of Arts and Rackham Memorial now stand. This will become the museum group. Here, if recommendations of the City Plan Commission are followed, will eventually be built a new Historical Museum, a Technological Museum, a Planetarium and Museum of Astronomy, a Museum of Natural Science and a Museum of Social Science. The present Institute of Arts is located in the northwest corner of the rectangular area, and these new buildings (along with the present Rackham Memorial) would occupy the two opposite sides—south and east. Only the Museum of Social Science would be grouped with the Institute of Arts. This perimeter arrangement of buildings facing inward makes possible an informal park in the central area, a definite part of the new plans worked out by architect Buford Pickens. It provides a pedestrian approach from Woodward Avenue at the west ending in a fountain plaza to the east—a focus for the museum entrances.

Kirby Avenue, present northern boundary of the museum blocks, is turned into a parkway connecting Wayne University at the west directly with the museums and the Medical Center. Ample parking facilities are provided between the Institute of Arts and the Museum of Social Science and in the rear of Rackham Memorial and the Technological Museum. These are screened from the park by the arrangement of buildings and from the street by generous setback and planting.

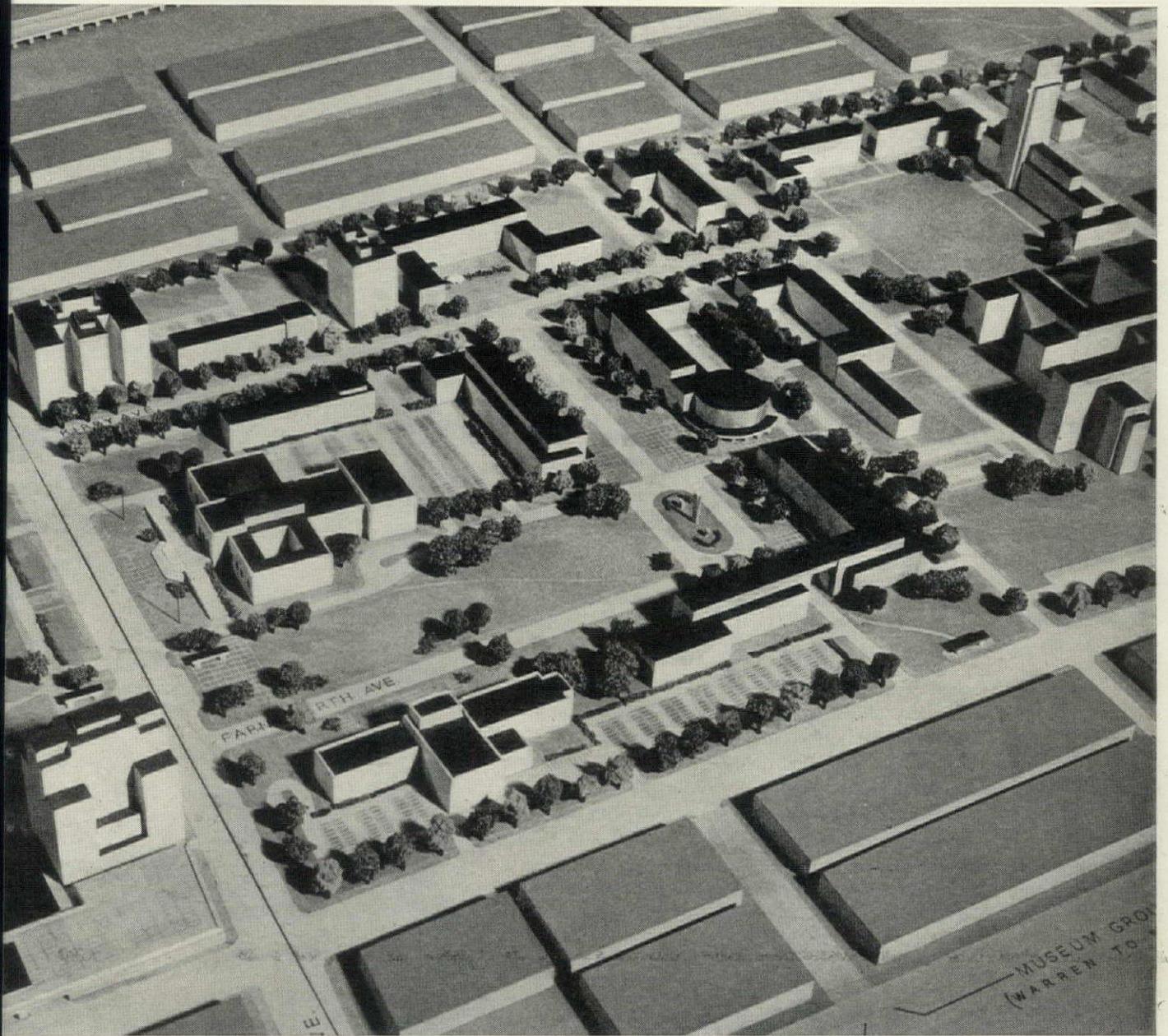
By orienting new buildings with old and by a bold use of block space, Pickens has succeeded in producing a well integrated group.



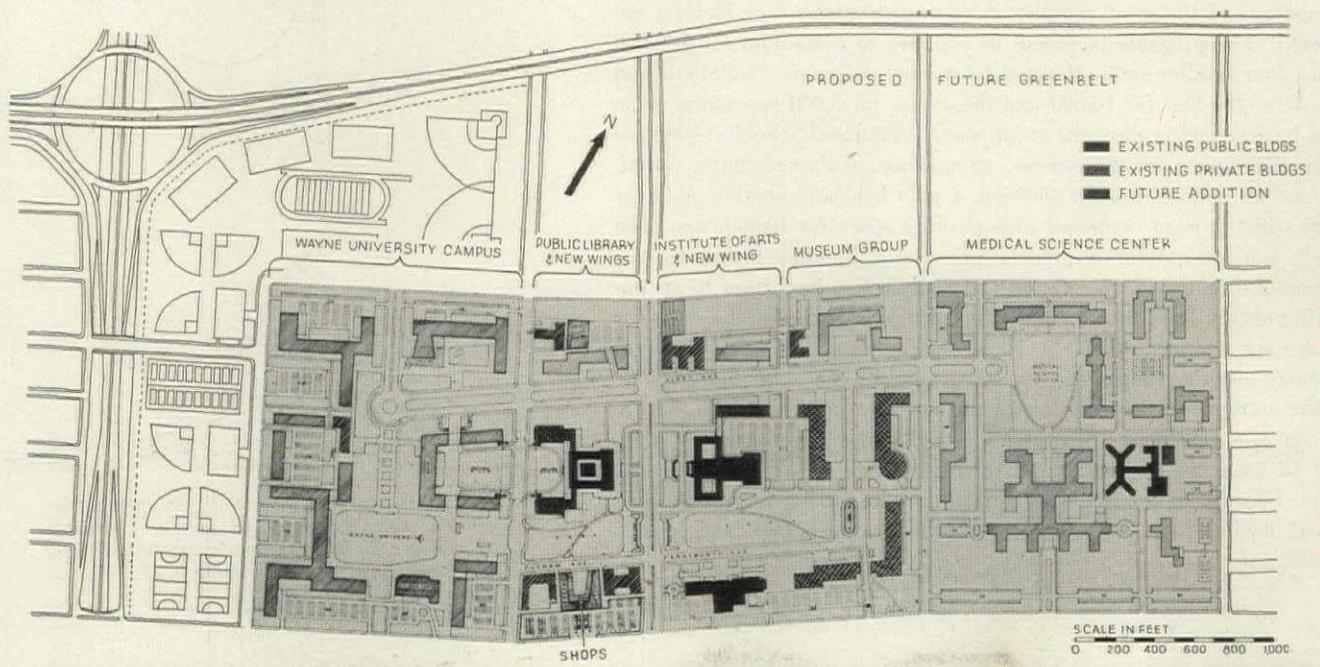
MODEL OF POSTWAR CULTURAL CENTER

AIR VIEW SHOWS EXISTING PUBLIC LIBRARY AND ART INSTITUTE, NUCLEUS OF FUTURE CULTURAL CENTER



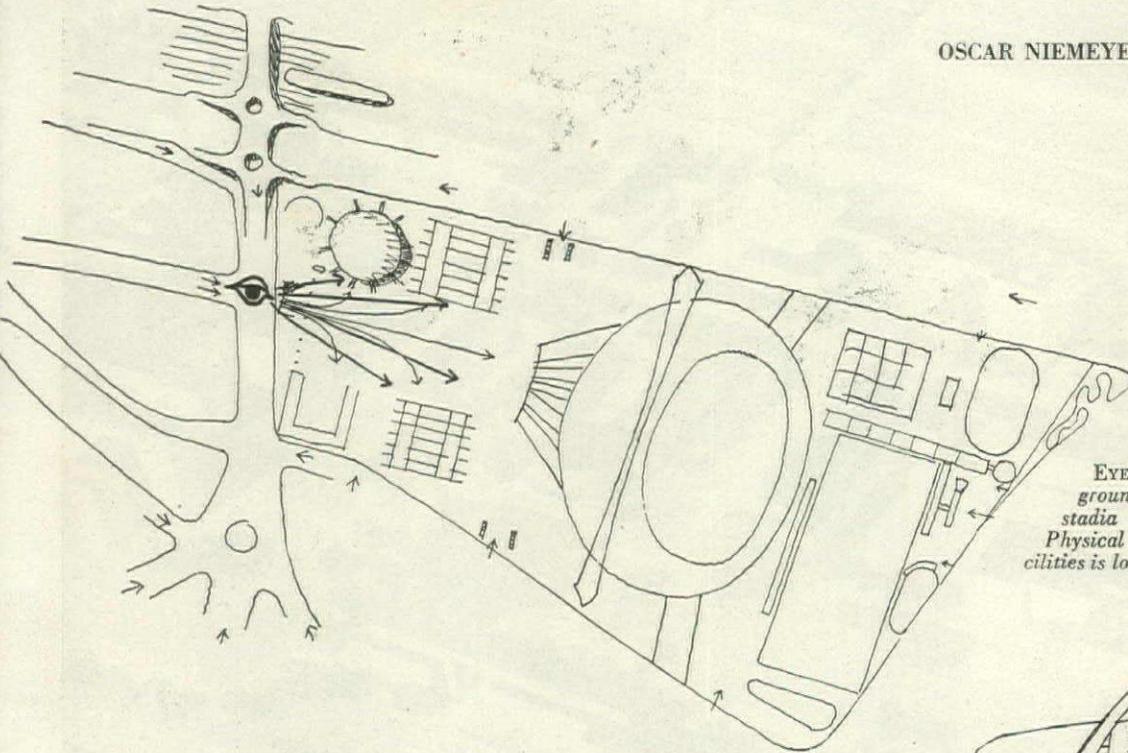


ILLUSTRATES HOW MUSEUMS WILL BE GROUPED TOGETHER AROUND AN OPEN PARK WITH ACCESS FROM EVERY DIRECTION



# PROPOSED NATIONAL STADIUM, BRAZIL

OSCAR NIEMEYER SOARES, ARCHITECT

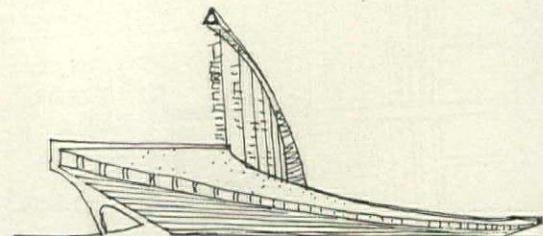
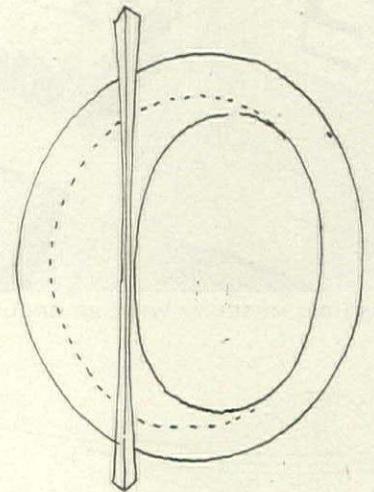
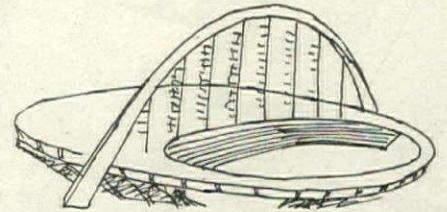


EYE AND ARROWS in Niemeyer's ground plan indicate view of stadia from entrance. School of Physical Education with adjunct facilities is located behind main structure.

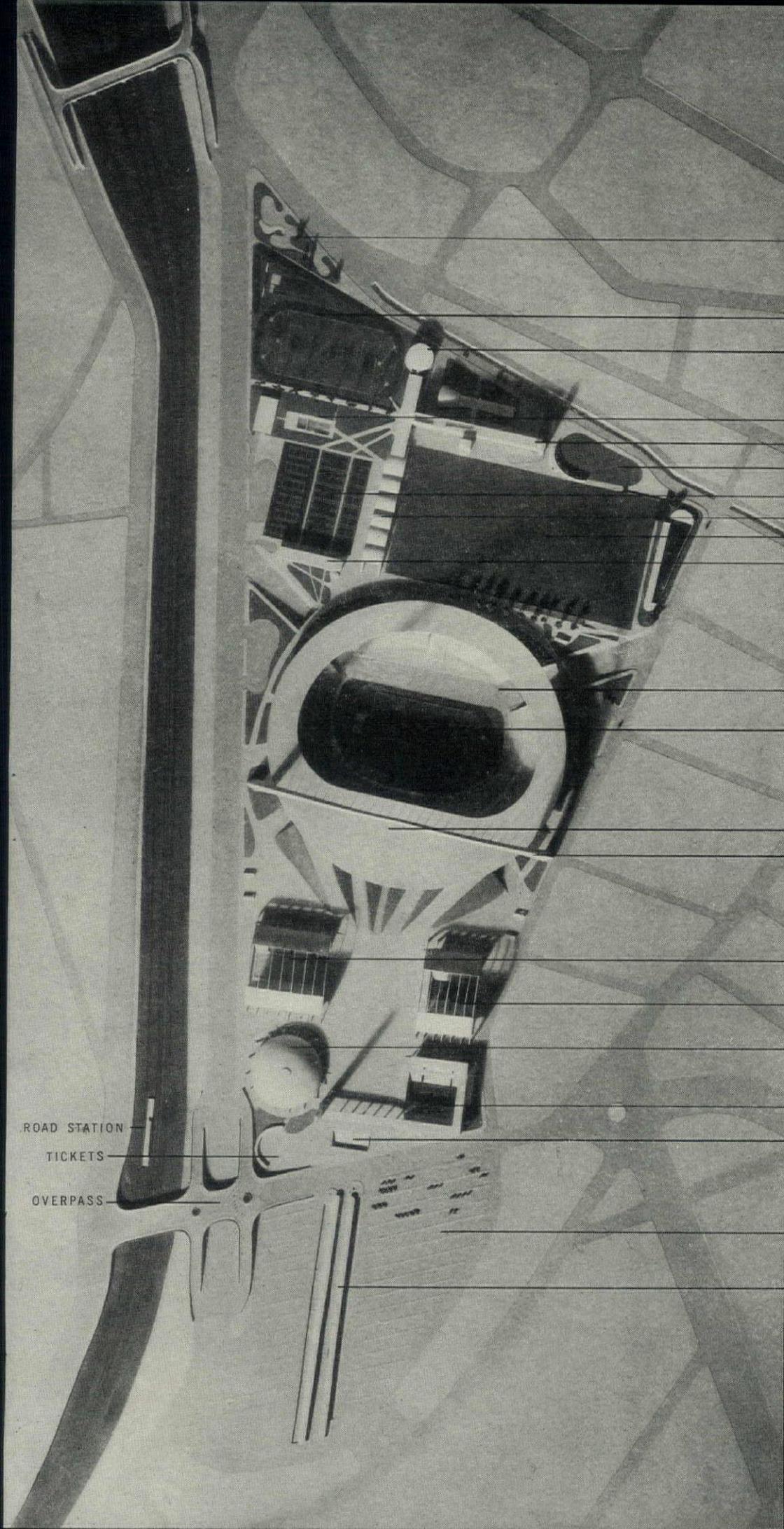
This project for a National Stadium in Rio de Janeiro is one of the most ambitious athletic arenas ever planned. Whether it will be built is a question only the politics of Brazil will decide, but its value as a fresh approach to a problem often burdened with architectural clichés will not be disputed. Designed in 1942 for a government sponsored competition, (never concluded) the fate of this significant structure rests with Senor Gustavo Campanema, progressive Minister of Education and Health.

It is under Campanema that Brazil's modern architects have been given an opportunity during an economic and building boom which has lasted for more than a decade. The results are eloquent proof that Brazil has developed a contemporary architecture peculiarly suited to local climate and custom; an architecture so assured and finished that it is sometimes referred to as the Brazilian Style. Niemeyer, a pupil of Le Corbusier, has contributed much to this development, particularly with his Yacht Club, Casino and Island Restaurant at Belo Horizonte.

In the requirements for the National Stadium Competition, the architects met one of the most complex designing problems they had yet encountered. The program included, in addition to a stadium for 100,000 persons, four smaller stadia devoted to swimming, tennis, basketball and gymnastics—the first for 10,000 and the others for 5,000 spectators each. Also to be designed in the same group was the National School of Physical Culture with space for classrooms, gymnasium, training camps, dormitories and an auditorium. In addition, a polo field and another field for general athletics were requested plus parking space for 10,000 cars. The solution, worked out for a predetermined site, handles brilliantly the problems of orientation, circulation and visibility so important in an undertaking of this size. Avoiding the usual arrangement whereby different buildings are seen consecutively, Niemeyer places the principal stadium in a central position, flanked in the foreground by the lesser ones. Thus, from the entrance, a general view of all major structures is enjoyed. A large concrete arch used to support the roof of the larger stadium is repeated in its smaller counterparts, giving a sense of continuity to the scheme. Because of the activities for which the smaller buildings were designed, flexible light control is provided by sliding panels attached to the structural arches.



PRINCIPAL STADIUM is shown in perspective (top), plan (center) and section (bottom). Concrete arch construction supports wide roof overhang and eliminates structural columns.



ROAD STATION

TICKETS

OVERPASS



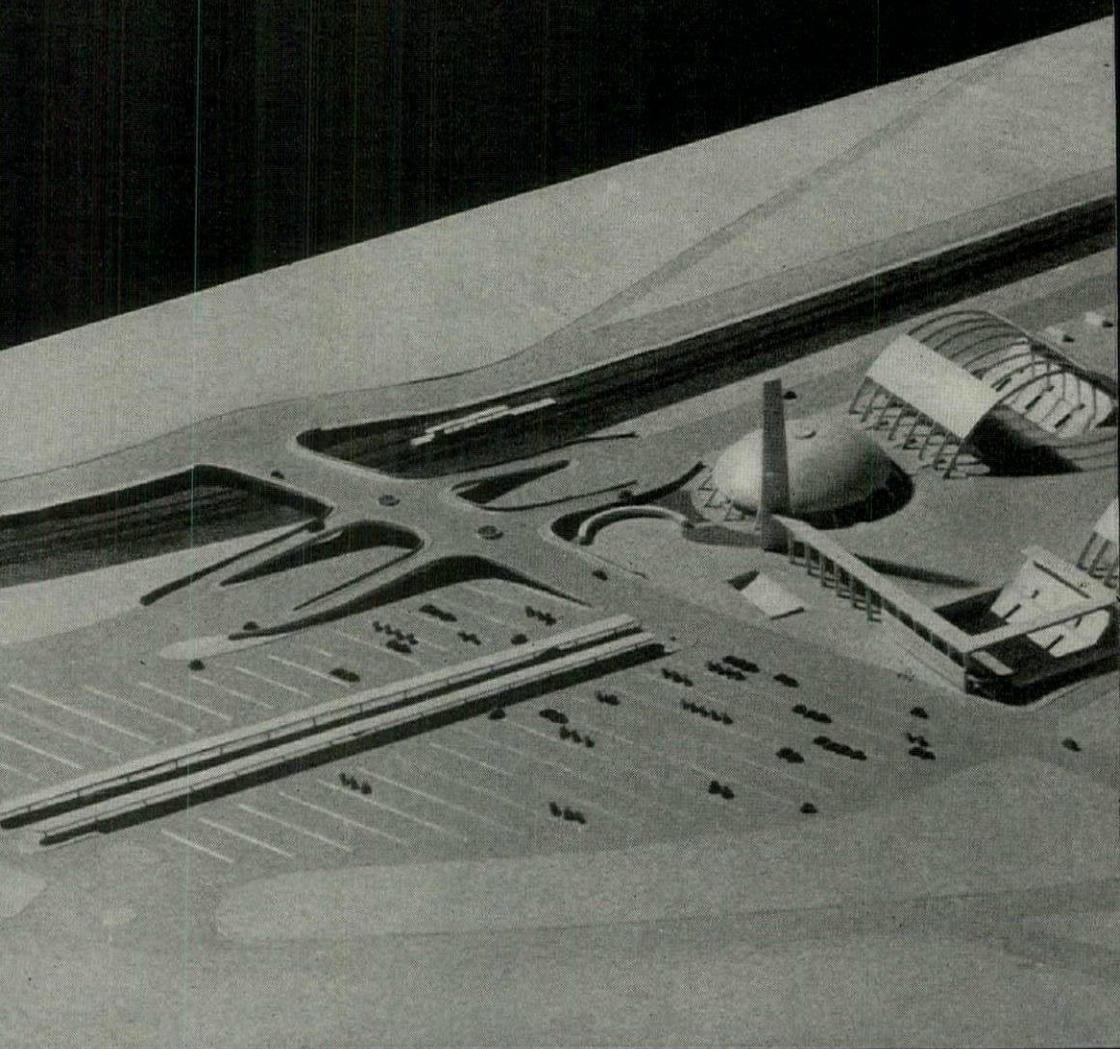
DANCE  
STUDIO

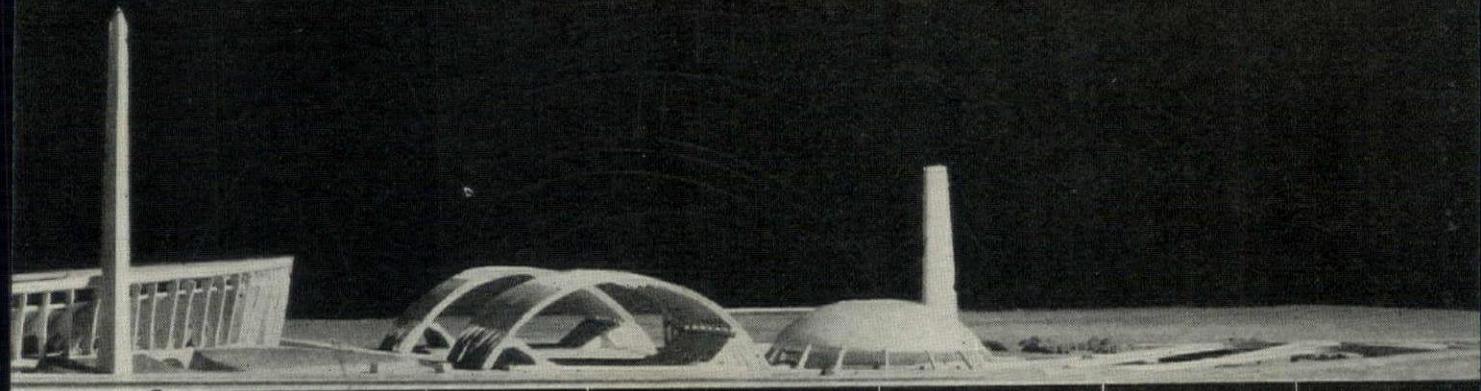
NATIONAL SCHOOL  
OF PHYSICAL EDUCATION

GYMNASIUMS

AVENUE OF  
PARADES

STADIUM





SUPPORTING ARCH

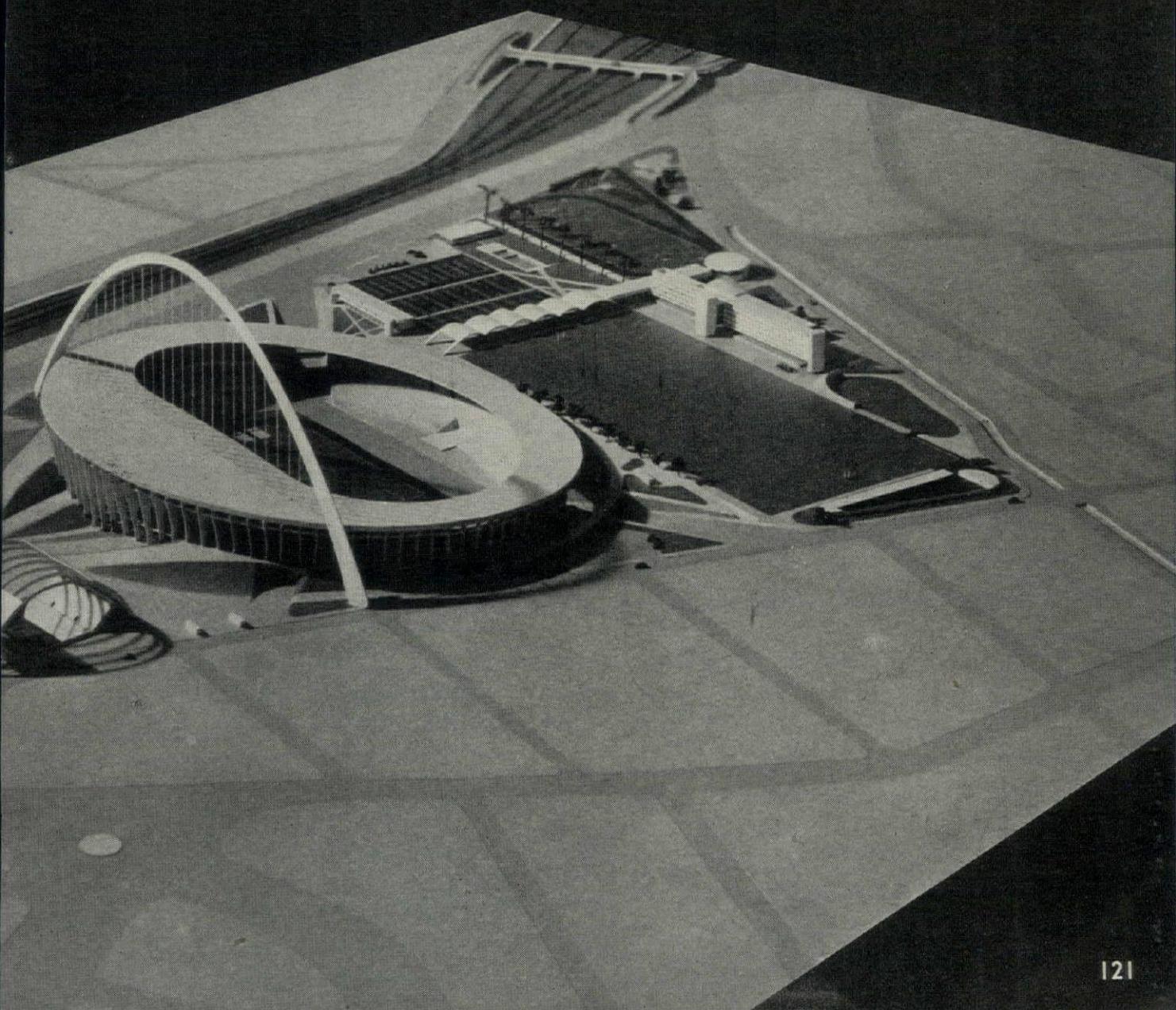
TENNIS

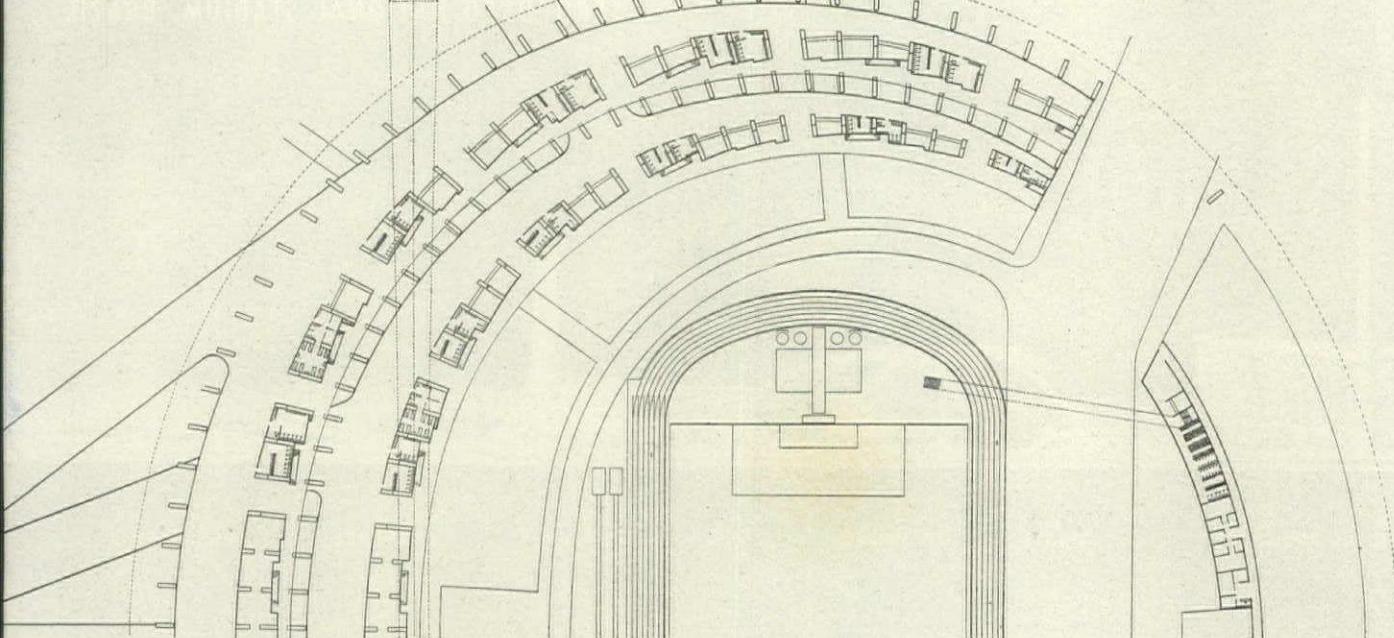
SWIMMING  
POOL

GYMNASIUM

ENTRANCE

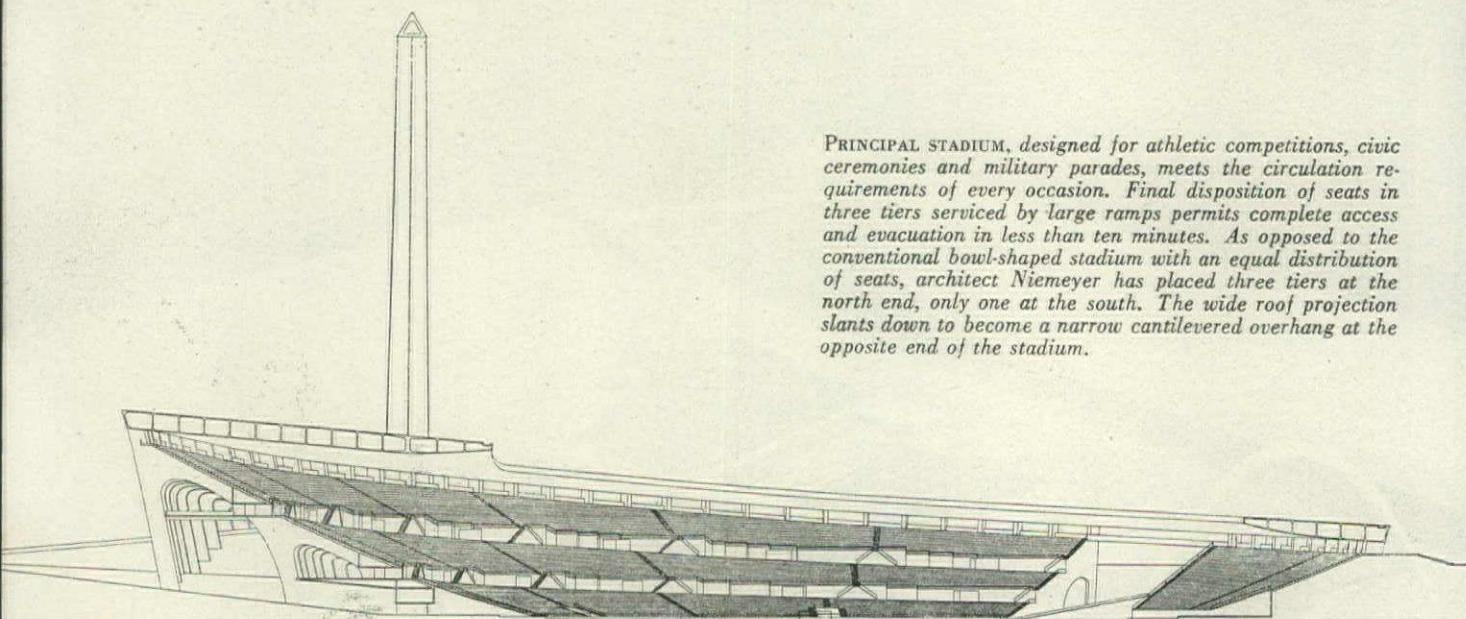
OVERPASS



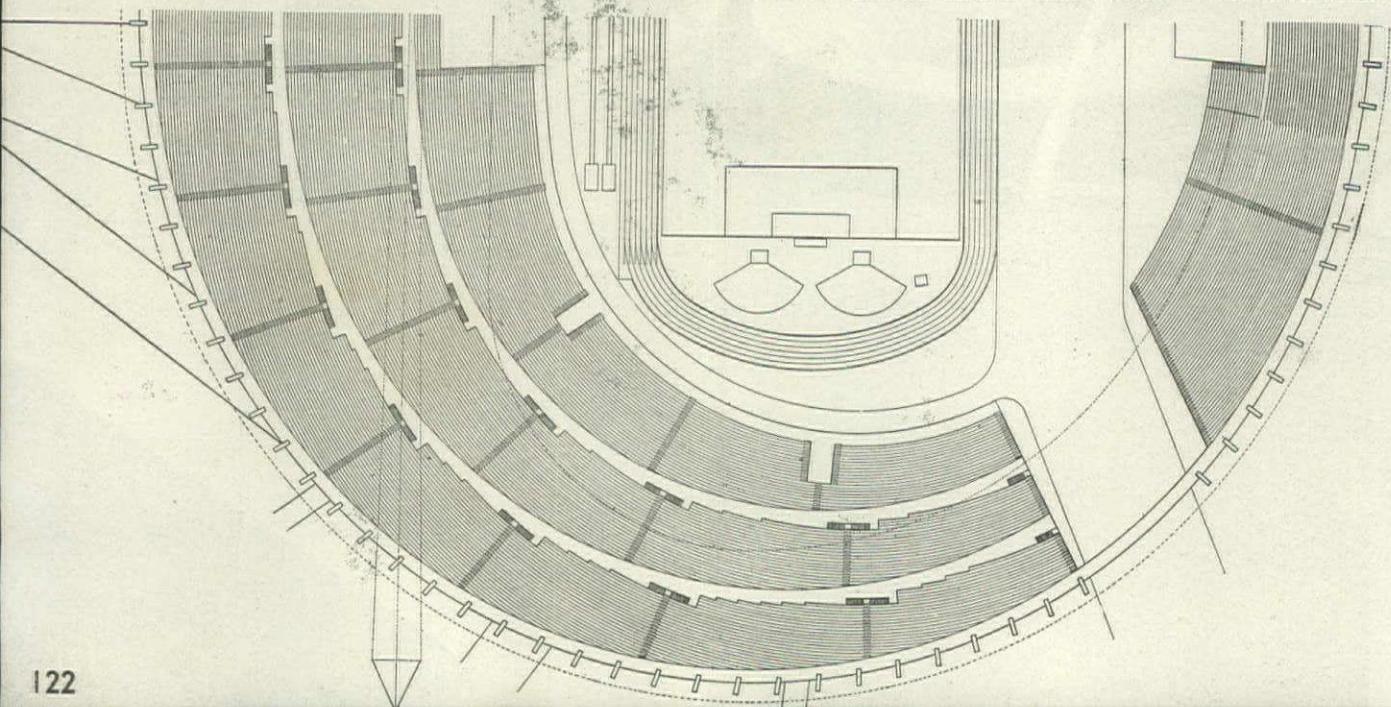


PROJECT AVOIDS CONVENTIONAL BALANCED SEATING, CONCENTRATES AUDIENCE IN FAVORABLE NORTHERN AREA

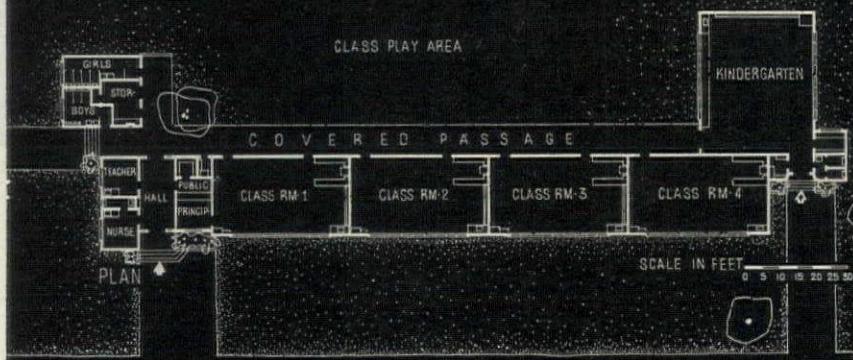
PRINCIPAL STADIUM, designed for athletic competitions, civic ceremonies and military parades, meets the circulation requirements of every occasion. Final disposition of seats in three tiers serviced by large ramps permits complete access and evacuation in less than ten minutes. As opposed to the conventional bowl-shaped stadium with an equal distribution of seats, architect Niemeyer has placed three tiers at the north end, only one at the south. The wide roof projection slants down to become a narrow cantilevered overhang at the opposite end of the stadium.



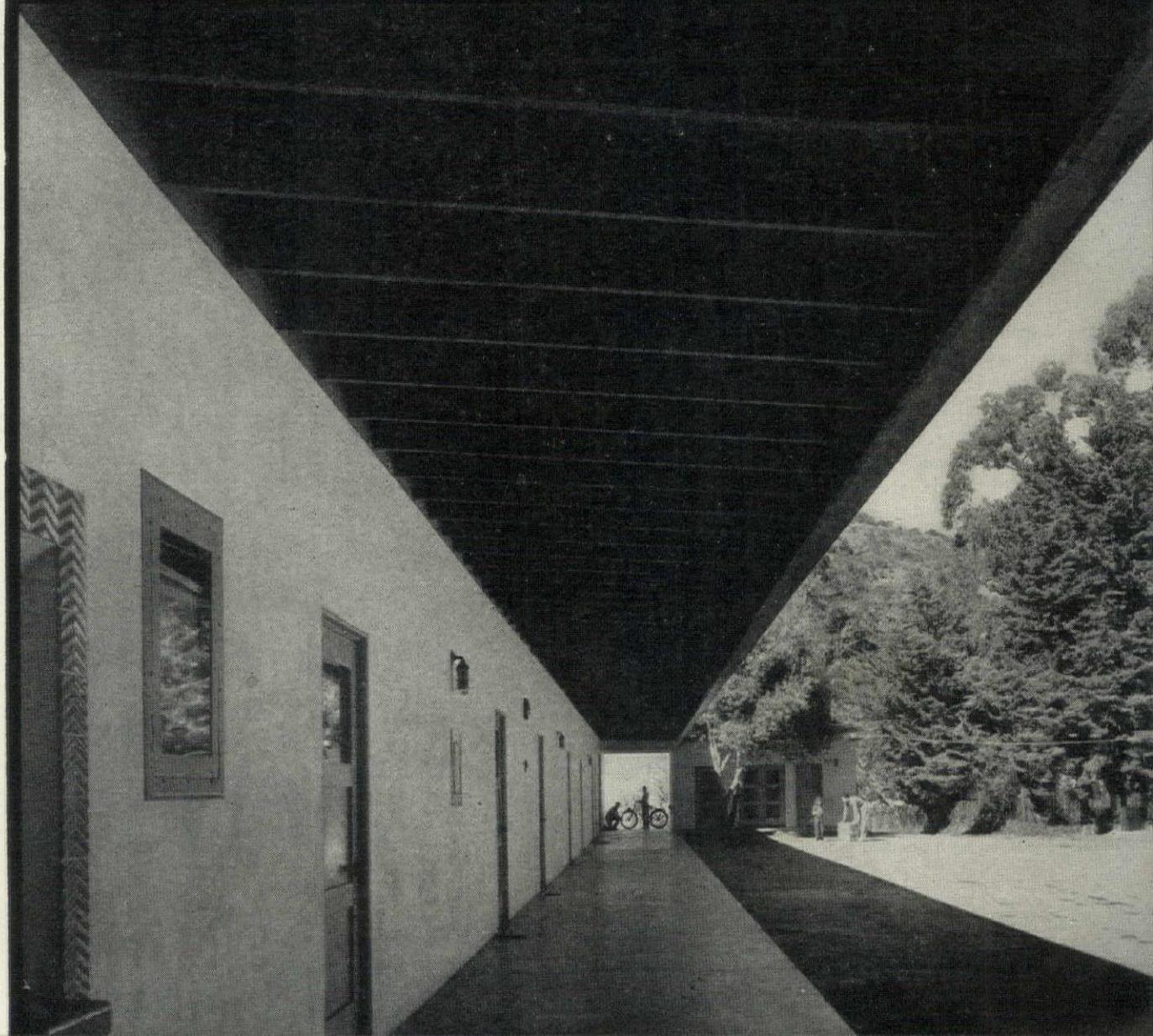
MAJORITY OF SEATS ARE SHADED FROM THE SUN BY A WIDE OVERHANG SUSPENDED FROM A CONCRETE ARCH

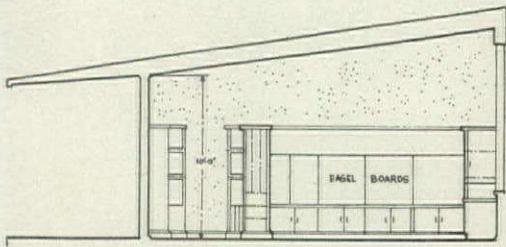


# SCHOOLS



OPEN-AIR CORRIDOR SERVING CLASSROOMS OF COLEMAN SCHOOL ALSO PROVIDES SHELTER FOR PLAY AREA

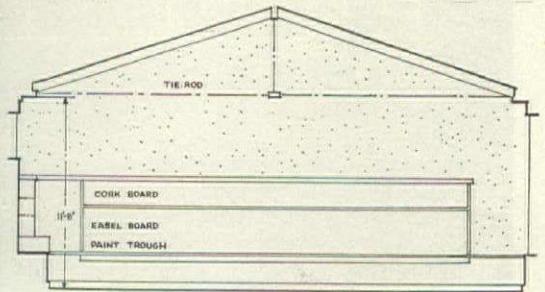




TYPICAL CLASSROOM HAS WINDOWS ON SOUTH

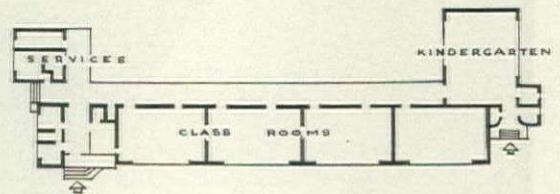


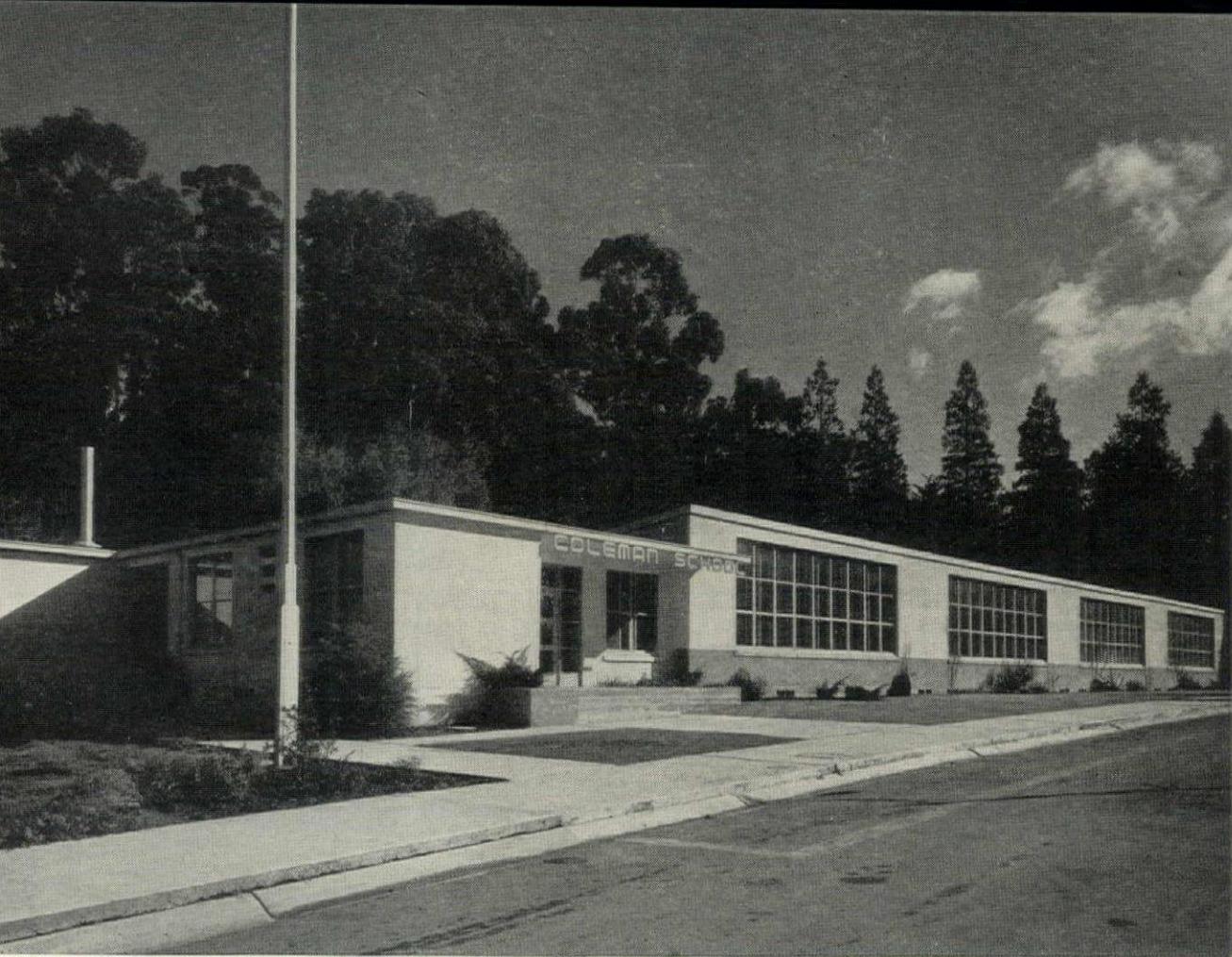
KINDERGARTEN OPENS TO EAST AND WEST



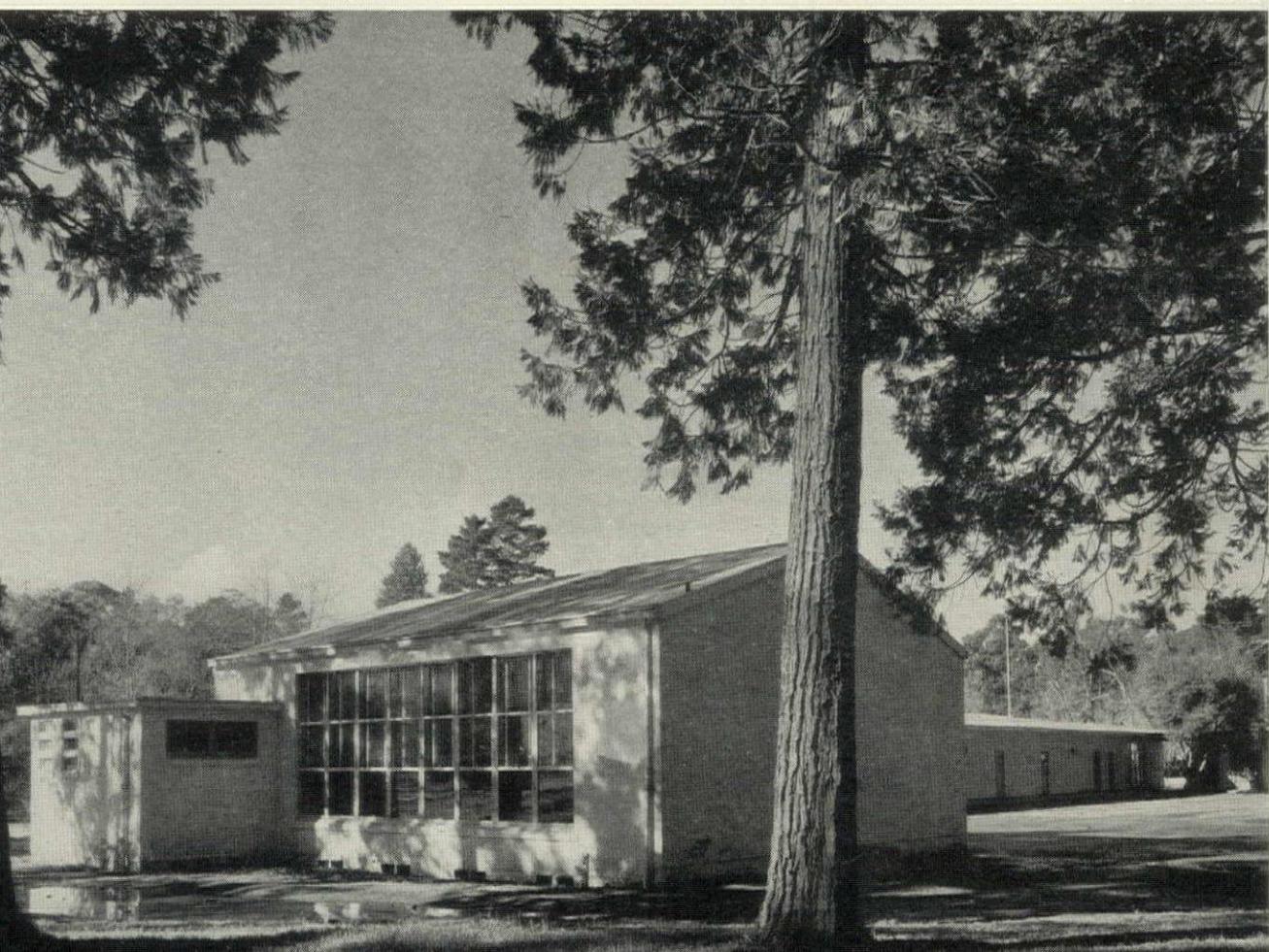
**ELEMENTARY SCHOOL** in San Rafael, Calif., is a simple structure set among towering redwoods. N. W. Sexton, architect, Worley K. Wong and John C. Campbell, designers.

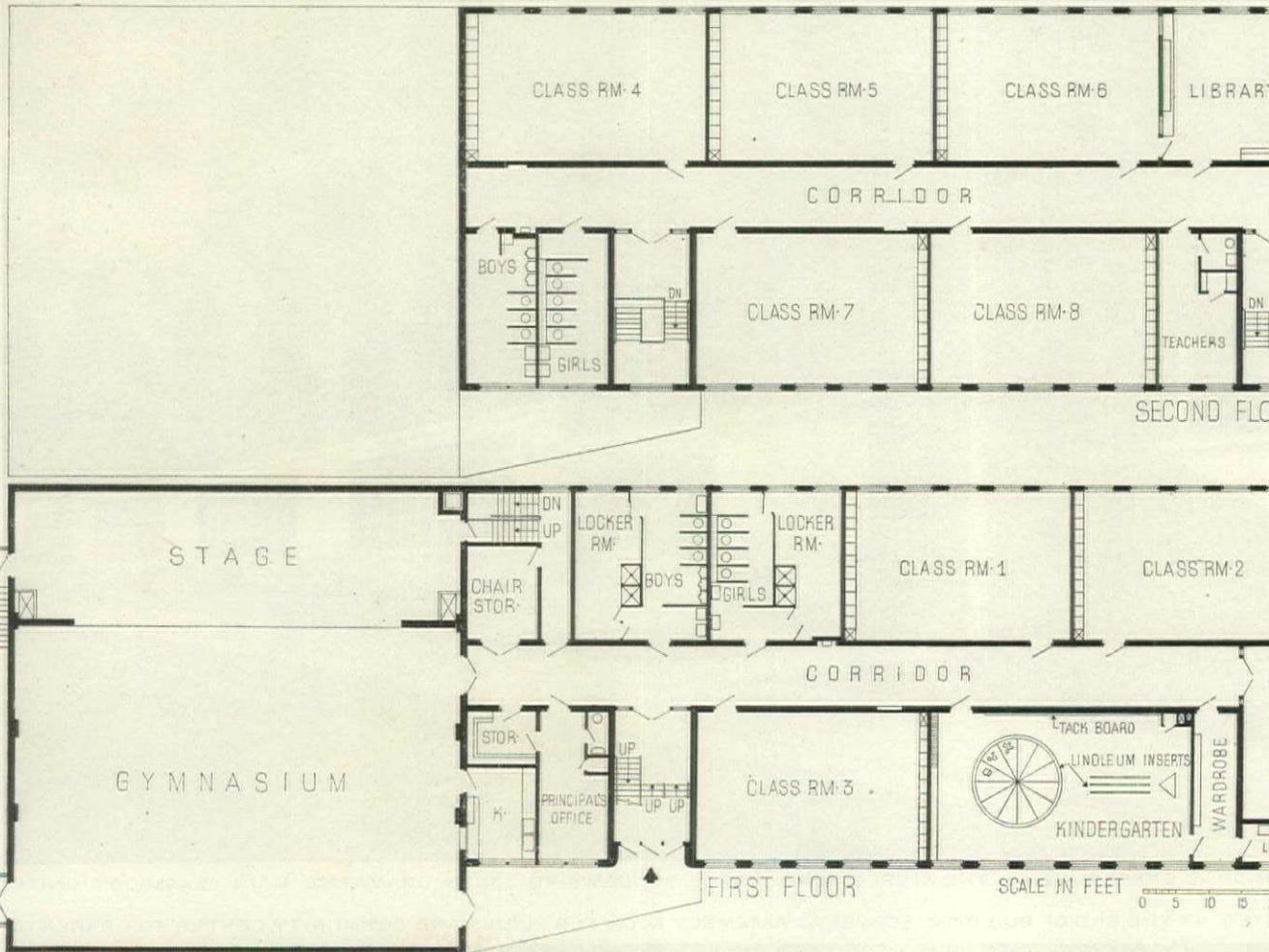
The Coleman school is one of a group in San Rafael planned especially as community schools for primary grades. Under this plan, location of a four-to-six teacher school in each district of town makes it possible for children to go to school without traveling great distances and for the teachers, because of small enrollment, to know all the children in the building. It also makes possible an exceedingly simple building. The administrative unit is located at one end of a row of classrooms and a kindergarten, with its own entrance, at the other. Classrooms are reached by an open corridor sheltered by a cantilevered extension of the classroom roof. All units of the school are connected by the passage-way and are independent of each other, with toilet facilities and individual entrances. Entirely closed to the corridor, classrooms have continuous windows along their higher sides, and sloping ceilings which reflect the light toward the inner part of the space. The kindergarten, at the back of the plot, is open on the east and west and has a gable roof in place of the shed type used for the other classrooms. The exterior color scheme would delight any child's fancy. Stucco walls are a light salmon while doors and gutters are turquoise. Colored tile inserts around the water fountains on the walls of the classroom corridors add a commendably uninhibited bit of decoration as does the kindergarten ceiling which is of purlins diagonally sheathed with finished pine boards.





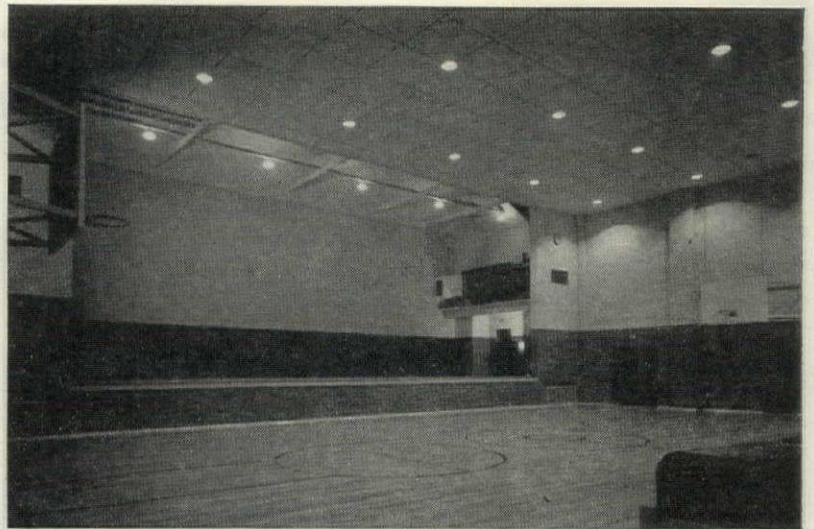
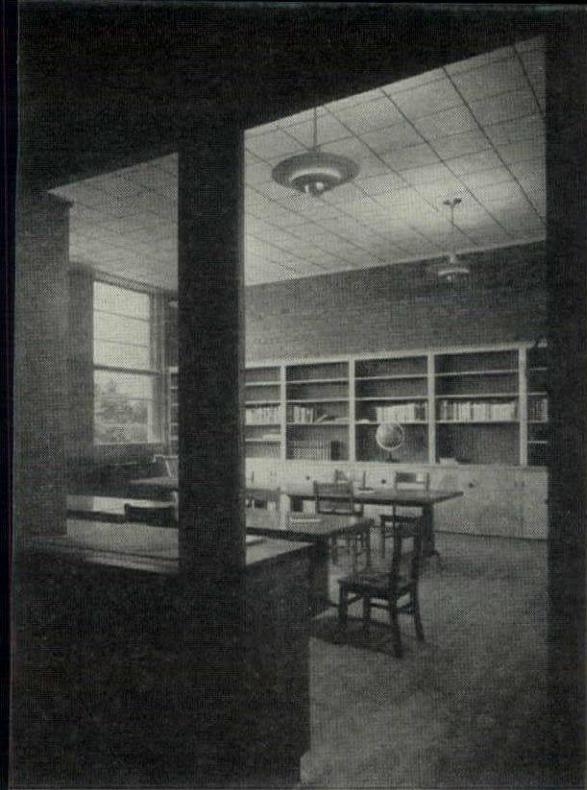
FRONT PORCH IS EXPRESSIVE OF THE SIMPLE PLAN: LARGE WINDOWS TO SOUTH DRAMATIZE MAIN CLASSROOM UNITS  
PORTEN, AT THE END OF BUILDING, SERVES AS ASSEMBLY ROOM FOR PUPILS AND COMMUNITY CENTER FOR PARENTS





**MEMORIAL HIGH SCHOOL, Bath, Me., stresses use of local materials, low maintenance cost, and flexibility of plan. Designed by Alonzo J. Harriman.**

This school, named for John E. L. Huse, who was killed in combat in an attack on the Marshall Islands, is one of the first "useful" memorials to come out of World War II. The school committee was interested in a straight-forward and sensible design, with stress on economy of construction. A simple plan was developed, dividing the structure into three units; administration, play and study; the classroom unit being such that expansion, if desired, is a simple matter of extending the building at one end. The gymnasium set at the opposite end of the building does not interfere with future extension and can be used by civic groups without disturbing classes while in session. The stage, located at the side, is used for seating at basketball games and for graduation exercises. Confusion of circulation is avoided by the fact that the stage has an entrance and exit of its own. For ease of maintenance native brick was left exposed on the inside of exterior walls. Wardrobes in the plywood partitions dividing the classrooms will be fitted with doors when funds permit. The plainness of the exterior is relieved by the use of glass block panels for the stair wells and canopies for the entrance shelters. Corridor walls are painted with a light reflecting paint and receive sufficient light despite the fact that they are in the interior of the building.



GYMNASIUM ALSO SERVES AS A LUNCH ROOM AND AUDITORIUM

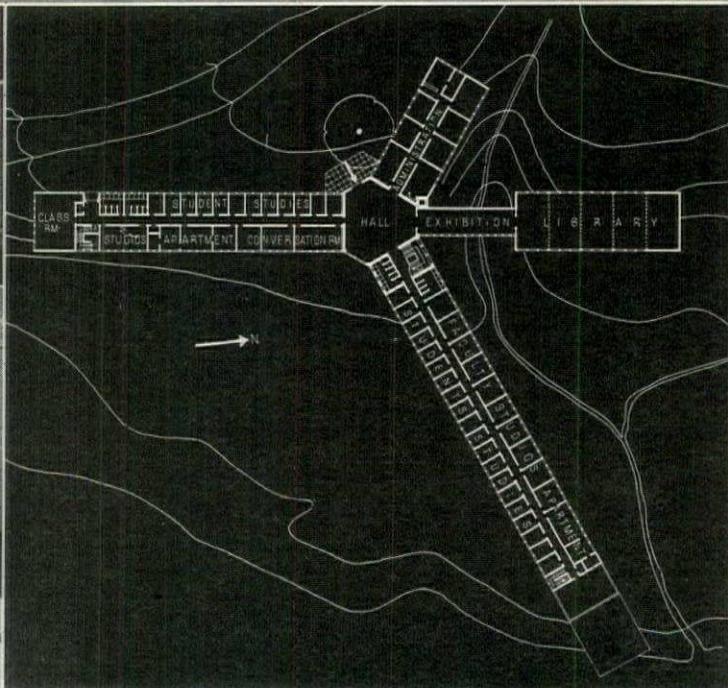
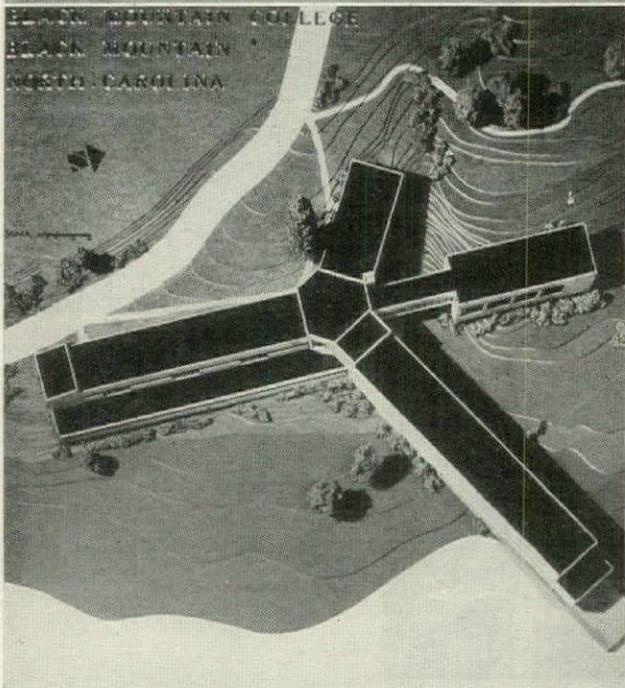
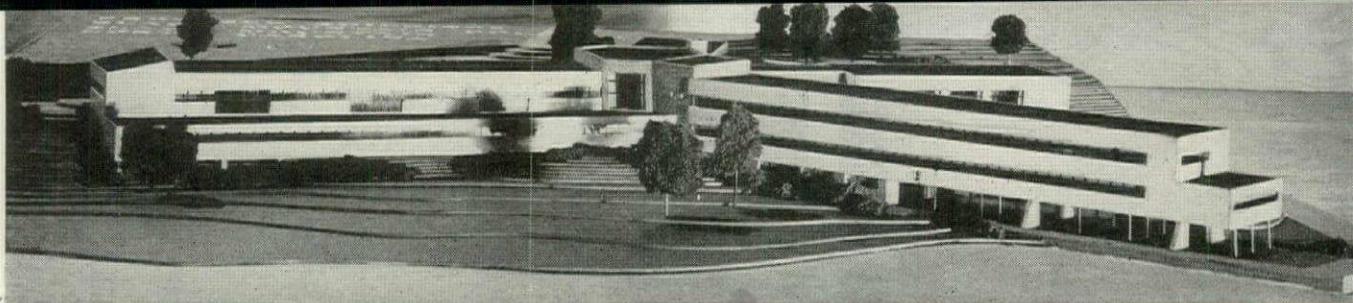


CLASSROOM WALLS ARE PAINTED BRIGHT COLORS ABOVE DADO

LIBRARY EMPLOYS PLEASING, TEXTURED MATERIALS

WINDOWS ARE SPACED TO PERMIT SUBDIVISION AT ANY MULLION, PROVIDE PROPER LIGHT FOR VARIOUS SIZED ROOMS

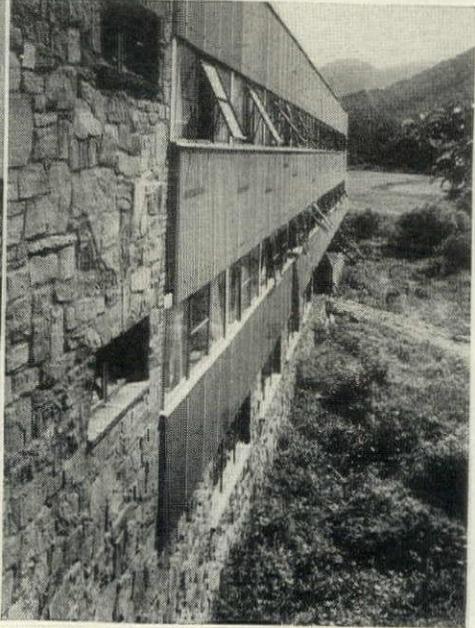




THE STUDIES WING, EXTENDING TOWARD A SMALL LAKE, IS THE ONLY UNIT OF THE BUILDING NOW COMPLETED

**COLLEGE** in Black Mountain, N. C., designed by A. Lawrence Kocher. Students and faculty volunteers did a great part of the manual labor on the 75 room building.

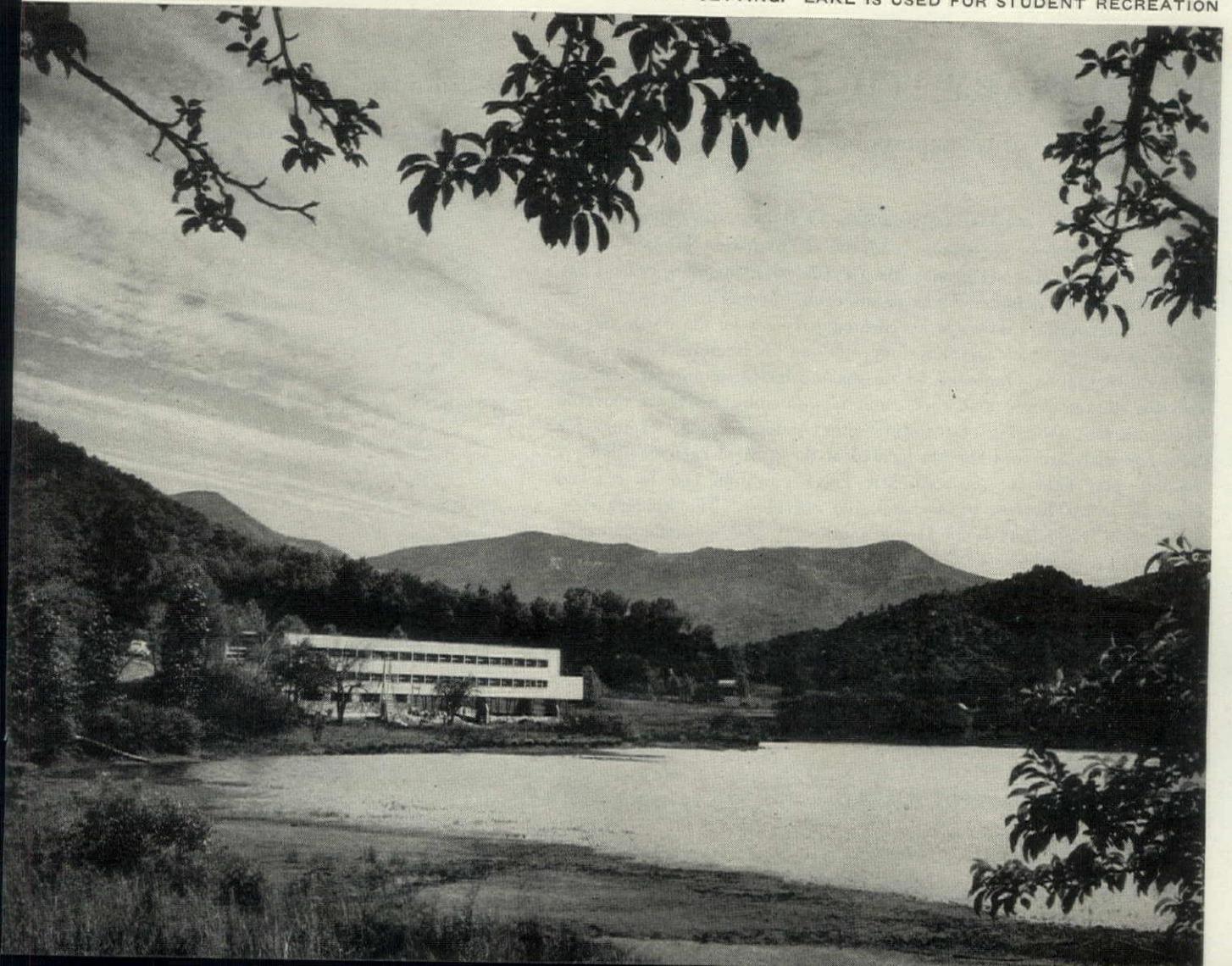
Black Mountain College, which is set in the foot hills of the Great Craggy Mountains near Ashville, was founded in the depth of the depression—1933—by a group of educators who were opposed to the rigid curriculum and grade-and-credit system existing in most American colleges. The small coeducational institution, which has derived no income either from taxes or endowments, managed to survive on modest student fees and gifts from friends. But in 1940, the 75 students and 20 teachers learned that the buildings they had occupied for 7 years would not be available after June 1941. With great determination it was decided that the college would continue to operate, and plans were made accordingly. Summer buildings, on a newly acquired 700-acre tract needed renovating, and in addition, a structure for studies and class rooms had to be erected. Funds for the new building, an architect to design it and workers to build it were the primary problems. Funds were obtained, Lawrence Kocher, who had become interested in the work of the college volunteered to supply the design, and the teachers and students reorganized their work program so that a group was available at the site each day in the week. The building, the skeleton of which is timber, is supported in main by concrete and steel columns in cantilevered construction. It has continuous steel-sash windows of the projecting type, and outer walls of large sheets of corrugated cement-asbestos, which are easily screwed in place. Inner walls are finished with plywood.

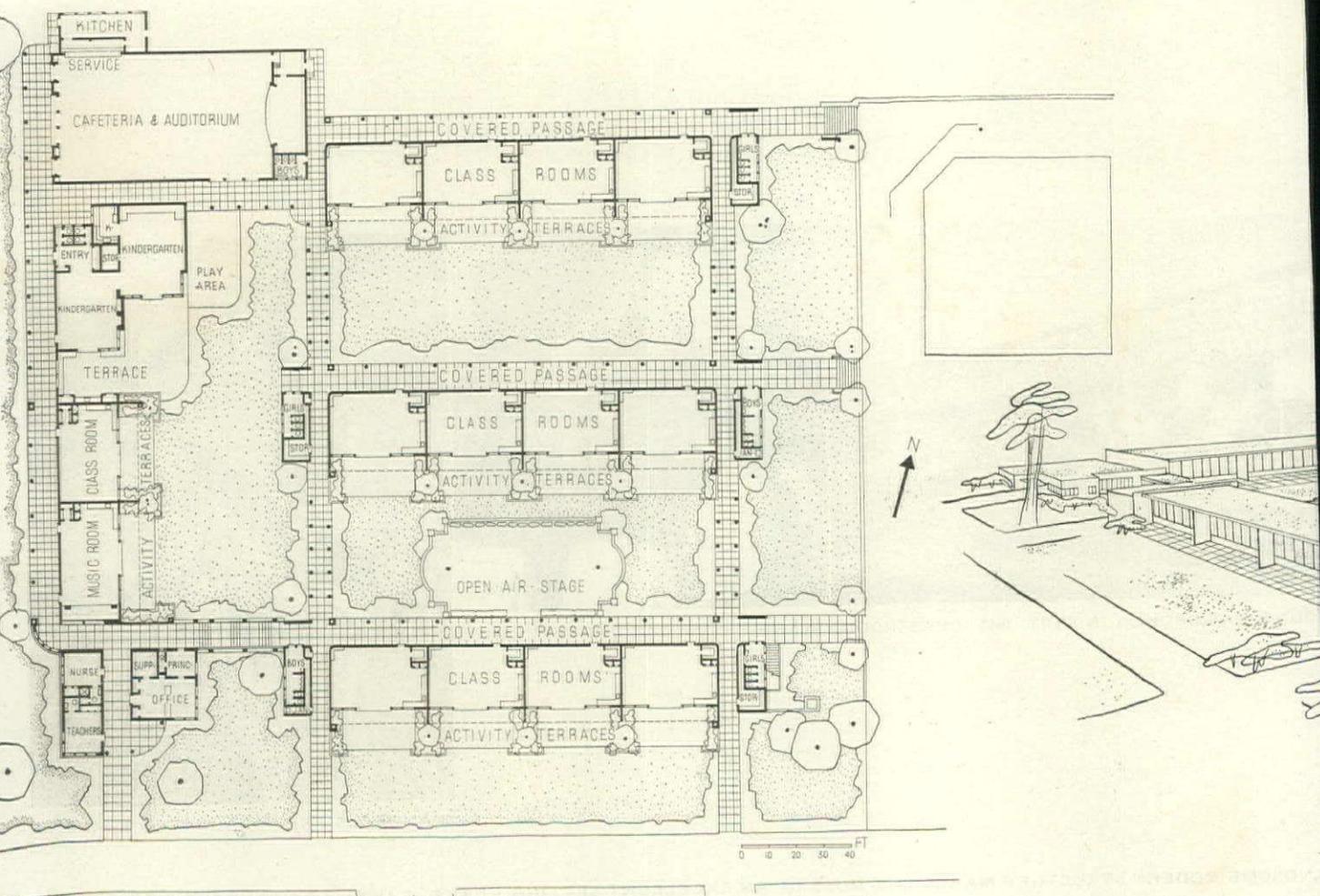


FOUND WAS BROKEN IN SEPT. 1940. CLASSROOMS WERE READY FOR USE SEPT. 1941

SPANDRELS ARE CORRUGATED TRANSITE

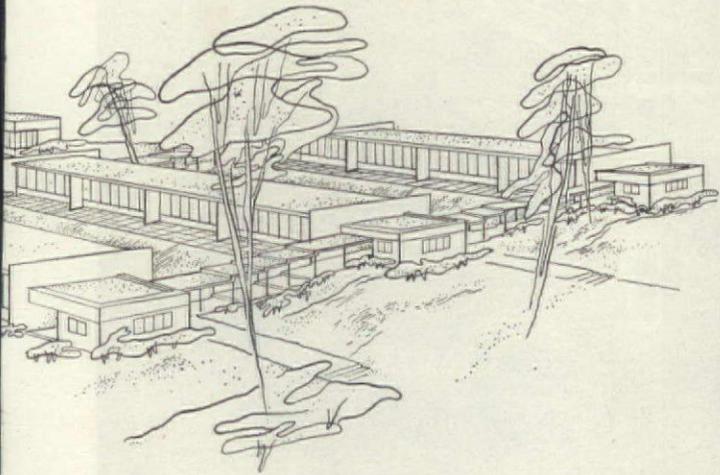
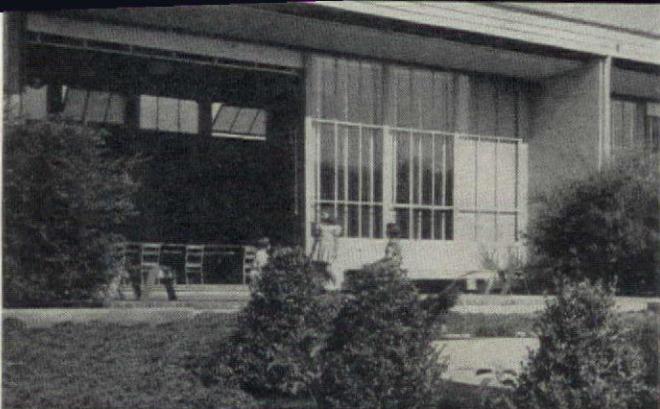
SOME MODERN STRUCTURE MAKES THE MOST OF AN EXCELLENT SETTING. LAKE IS USED FOR STUDENT RECREATION





**ELEMENTARY SCHOOL** designed by Walter Wurdeman and Welton Becket for Manhattan Beach, Calif., employs open, one-story classroom pavilions joined by covered passageways.

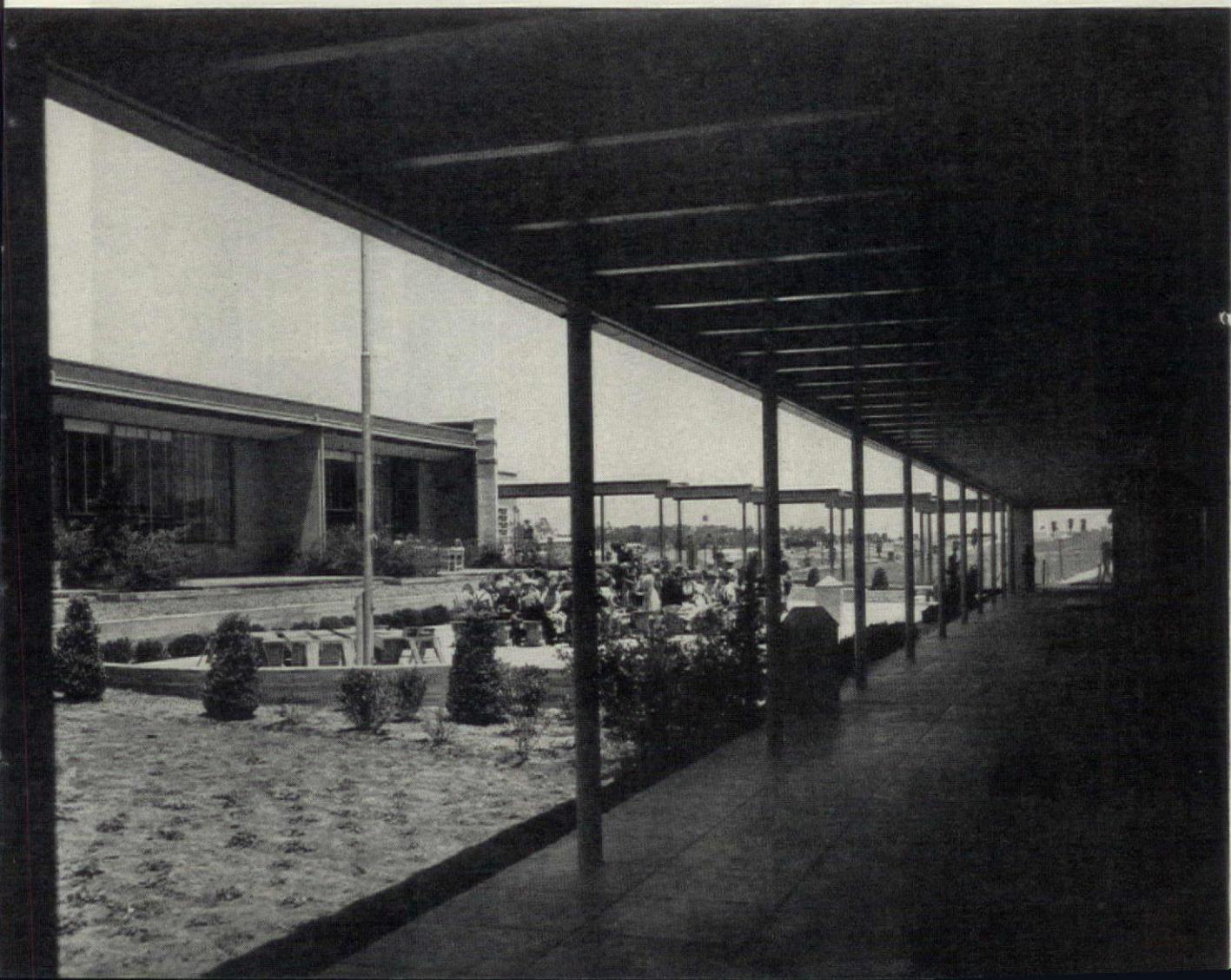
This school follows the now well-established California precedent of close relationship between classrooms and the out-of-doors. Limited to the kindergarten and first six grades, the Grandview Elementary School has three classroom pavilions of four rooms each, opening to the south with large sliding walls. Access is by covered passages on the north side of the wings above which are clerestory windows for bilateral lighting and through ventilation. Included in the basic classroom unit are library corners, storage closets and work counters with sinks. Seats are movable to permit free grouping of furniture either indoors or out. Toilets for boys and girls are conveniently located at the ends of each pavilion. A six-acre play field set on a slightly lower elevation can be reached from all points by way of the sheltered corridors. The kindergarten, situated in a separate wing facing south and east, accommodates 50 pupils and consists of a workroom, a restroom and an exterior playroom, all of which can be supervised by the teacher from any vantage point. This area has its own play space and activity terrace, an outside clay sink, storage cabinets, a movable library, a fireplace and a kitchen. Here the architects concentrated on providing a maximum of light, air and seclusion and in doing so departed from the plain, simple form which characterizes the treatment of the classroom wings. Administrative offices are placed in a separate unit near the principal entrance.



F. R. Dapprich

SLIDING STEEL AND GLASS DOORS OPEN TO TERRACES

L ROOMS ORIENT TO SOUTH AND EAST FOR PROPER EXPOSURE. OPEN AIR STAGE IS ALSO USED FOR OUTDOOR STUDY







**NEIGHBORHOOD BUILDING** calls for teamwork, and the Bohannon Organization brings together planning, building and merchandising skills. Shown above is a planning group (l. to r.): planning chief Ronald Campbell, civil engineer Edwin Smith, David Bohannon, planner Lucien Stark.

## BOHANNON BUILDING TEAM bucks war handicaps to show that neighborhood planning is the key to construction simplification and the low-cost house.

The story of the David D. Bohannon Organization is, in an important sense, the story of war housebuilding. Will it also be the story of postwar housebuilding? The housebuilding business itself, above which Bohannon and a few other titans loom as Kaiser-like symbols of its maximum production potential, think so. Bohannon thinks so—"We have demonstrated beyond question that by our methods we can build a conventional house with fewer man hours than would be needed to build one of equal size by prefabrication away from the site."

The protagonists of the factory-built house have never intended to destroy the neighborhood, and there is, of course no reason why such houses cannot be erected in an orderly pattern of community living. But the whole trend of prefab merchandising has been to deal with the individual customer and to deliver a self-contained house, while the buyer is left to solve his own land-buying problems. Factory production tends to make the house progressively more independent of its site, to give it increased mobility, to step-up obsolescence while reducing cost. What this kind of product may mean for a pattern of stable community living is a question that perhaps may be safely put aside until a factory-built house is actually on the market. But it is interesting to note that the Bohannon type of operation, far from being independent of the neighborhood, is directly dependent upon the production of a large number of units at a single site, while the careful

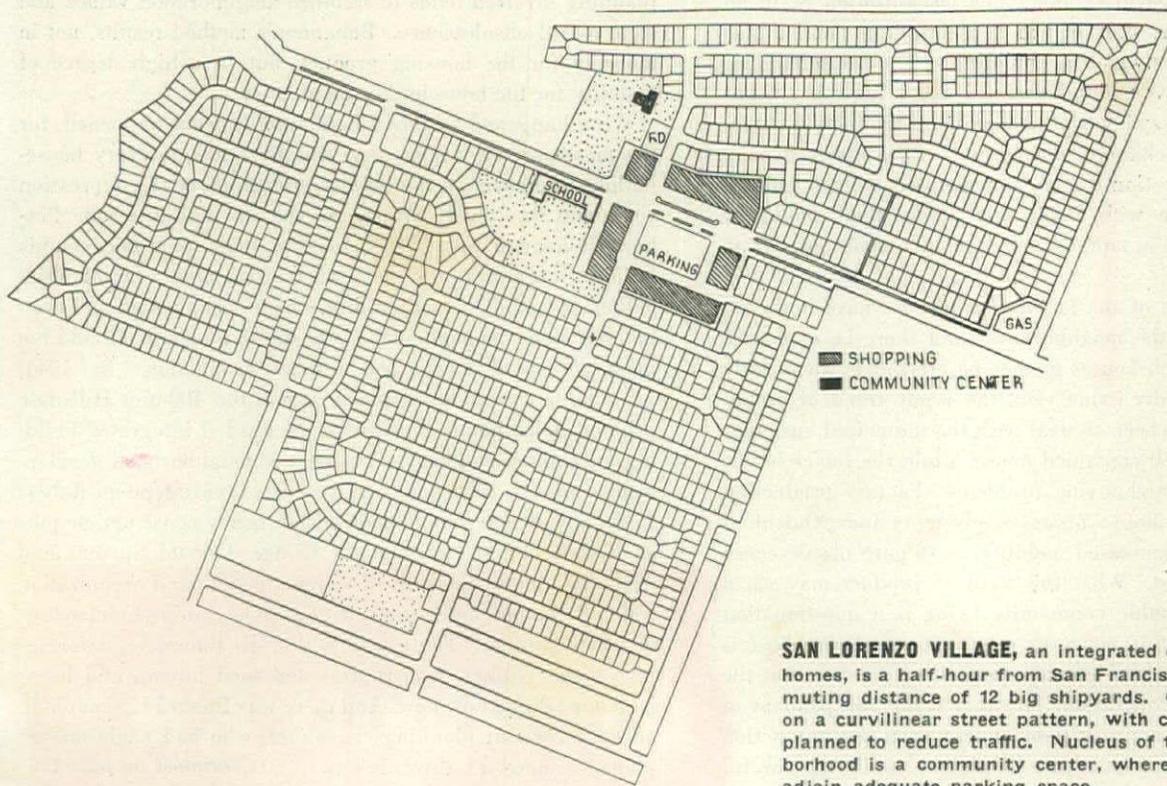
planning involved tends to stabilize neighborhood values and so to retard obsolescence. Bohannon's method results, not in mobility for the housing product, but in a high degree of mobility for the housebuilding operation.

What happened to David Bohannon is what happened, for the most part on a somewhat smaller scale, to every housebuilder who survived the building paralysis of the depression years and the convulsive pace of the war building job. Perhaps Bohannon was a little tougher than some because his building organization got its start in the lean year of 1932.

Bohannon did custom-building whenever he could find a market, but from the beginning his business was built around the moderate-priced house and volume production. By 1941, when he first introduced precutting at the 400-unit Hillsdale project, Bohannon had collected the kind of integrated building organization which the business of neighborhood development demands. There was construction superintendent Robert L. Smiley, whose experience in such heavy construction jobs as Boulder Dam, Golden Gate Bridge, Crystal Springs had prepared him for the kind of systematization and organization which Bohannon and a few others were beginning to introduce in housebuilding. There was Walter R. Baumann, a former investment banker, who represented land buying and home merchandising know-how. And there was Ronald L. Campbell, an engineer and planning consultant, who had made master plans for many a California city (Continued on page 136)



SAN LORENZO VILLAGE IS A WARTIME JOB, BUT INTEGRATED COMMUNITY PLANNING HAS DEVELOPED A NEIGHBORHOOD

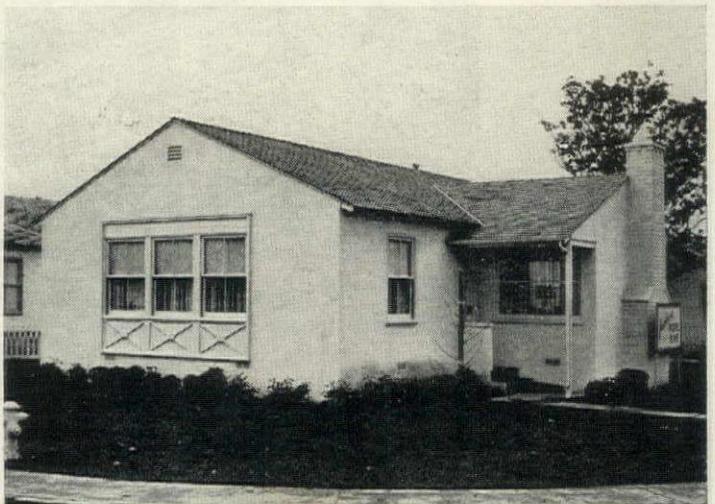
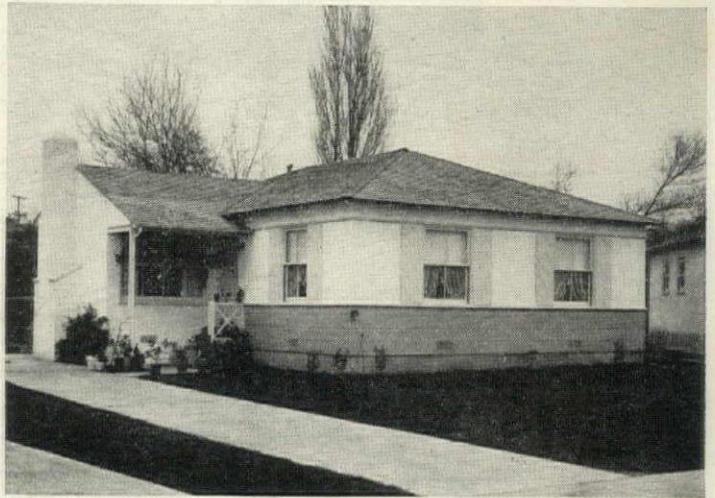


**SAN LORENZO VILLAGE**, an integrated community of 1,500 homes, is a half-hour from San Francisco and within commuting distance of 12 big shipyards. Generous lots front on a curvilinear street pattern, with circulation carefully planned to reduce traffic. Nucleus of this efficient neighborhood is a community center, where schools and shops adjoin adequate parking space.

Photos:  
Gabriel Moulin

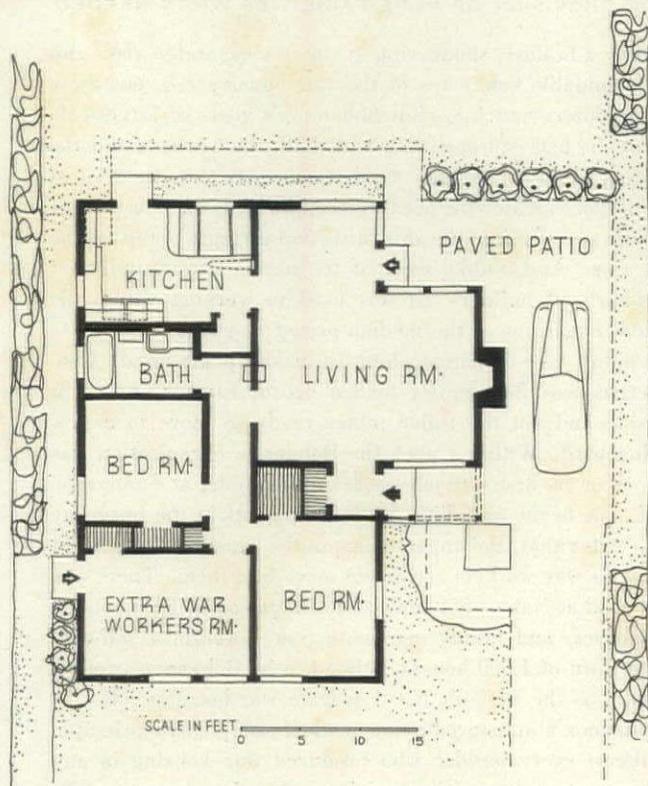


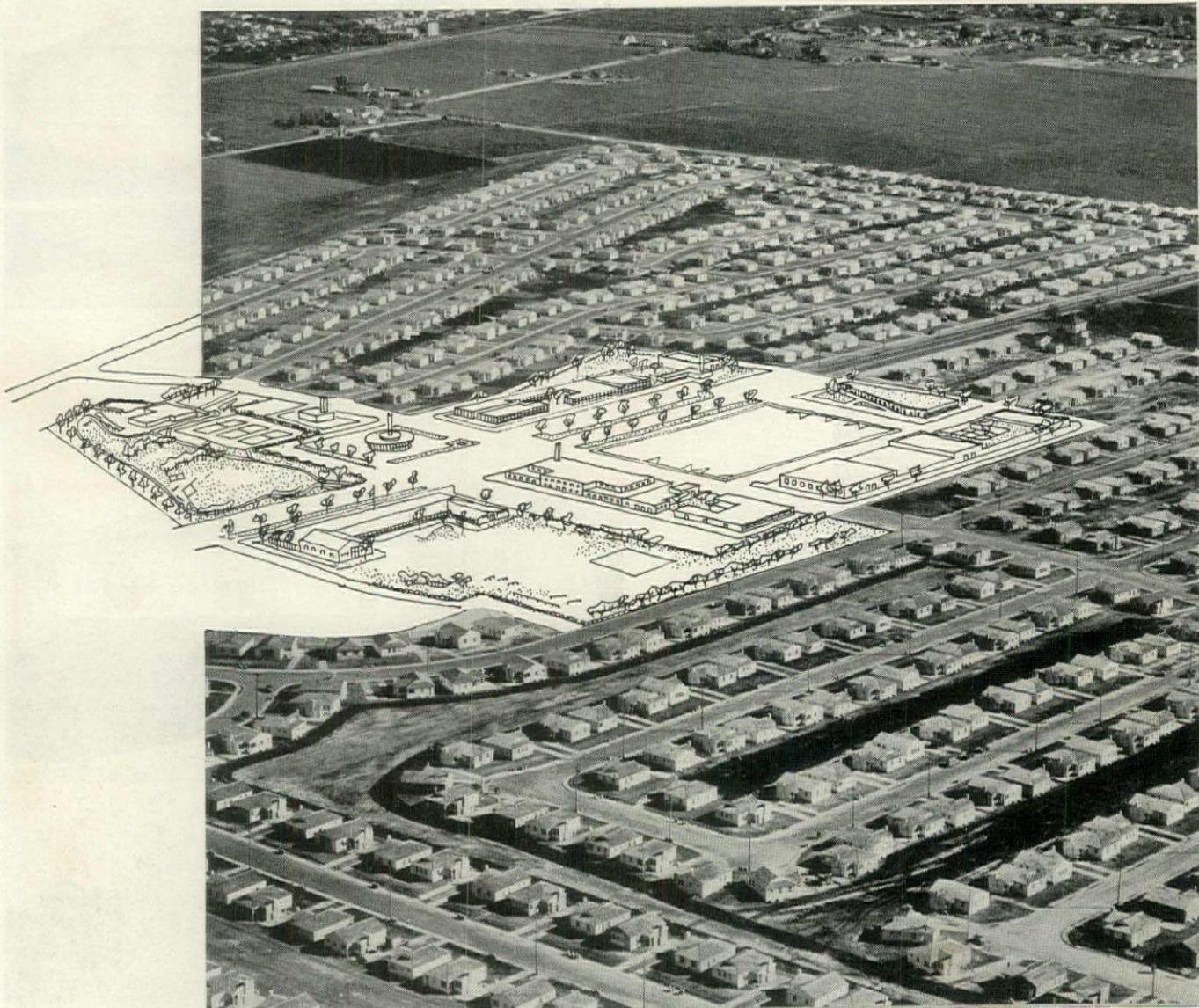
PATTERN OF PERMANENT USEFULNESS



**EXTERIORS** of San Lorenzo houses are rescued from repetitive monotony by variation of color and exterior finish (stucco and cypress), given privacy by careful spacing and setbacks. War-time limitations made it necessary to build all 1,500 houses from the same basic plan. Usual Bohannon practice is to use a dozen plans, plus a variety of front elevations. Landscaping and color harmony add interest.

**PLAN** provides for a bedroom with its own entrance, to be rented to a war worker. This not only eases the war housing pinch, but also helps the buyer to carry his mortgage. Material shortages eliminated garages, but a concrete slab is supplied over which owners may erect garages later. Large kitchen utility closet for laundry equipment is a noteworthy feature. Living room alcove provides dining space.





COMMUNITY CENTER IS CORE OF PLAN WHICH LEAVES ROOM FOR PROVISION OF MORE FACILITIES WHEN NEEDED

(Continued from page 133) and county. In the Bohannon set-up, Campbell was responsible for the planning that provided a complete environment for living, built around a community center, shops, parks and unified by screen planting and color and architectural control. Bohannon's prewar experience decisively pointed up an almost axiomatic fact: not only does it make sense business-wise to build houses in soundly-planned neighborhoods, equipped with the facilities for community living, but also that only a building organization based on the integration of planning, construction and merchandising skills can achieve all the advantages of the integrated neighborhood.

When in the fall of 1941 war shut down all housebuilding not in war production centers and put an end to the Hillside development, Bohannon faced the alternative that confronted every other housebuilder: he could shut down for the duration—or he could move to where war housing was needed, build the \$6,000 and under house, take on the additional financial load of holding half his output for rent, fight a thousand nagging difficulties of materials lack and priority stoppages. Builders were already competing for the handful of priorities issued to cover the first 200,000 war houses. And those who got them soon found that ratings were too low to obtain the irreducible minimum of steel and copper that was imperative for even the trimmed-down war house.

Many a builder, shuddering at the unmeasurable risks and the formidable handicaps of the war housing job, put away his bulldozers and jigs. But Bohannon's years of large-scale operations had equipped him with both the methods and the building organization that could stand up to the urgencies of production to match the needs of the hundreds of thousands of workers pouring into the shipyards and aircraft plants of the Bay area. And, unlike most of the nation's top handful of neighborhood builders, he was used to working within the narrower margins of the median-priced house.

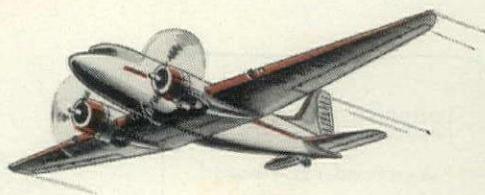
It didn't take Bohannon long to make up his mind. Construction boss Bob Smiley loaded up the lumber unused at Hillside and got the roller tables ready to move to a new cutting yard. Within a week the Bohannon organization was at work on its first war job—a 212-unit project at Sunnyvale, Calif., one of the first Title VI developments in the busy Bay area. After that, Bohannon communities mushroomed almost as fast as war workers arrived to move into them. There was Westwood at Napa—559 houses, Rollingwood at Richmond—700 houses, and finally mammoth San Lorenzo, a self-contained town of 1,500 houses, pointed to by Bohannon's fellow builders as the nation's No. 1 private war housing job.

Bohannon's mass-production method, adopted in principle by almost every builder who produced war housing in any volume, was to reverse the prefab (Continued on page 138)

# LIKE THE AIRPLANE



*Electrical Raceways have gone modern, too!*



## SAFETY . . . WEIGHT . . . COST ARE IMPORTANT IN ELECTRICAL RACEWAYS JUST AS IN THE AIRPLANE

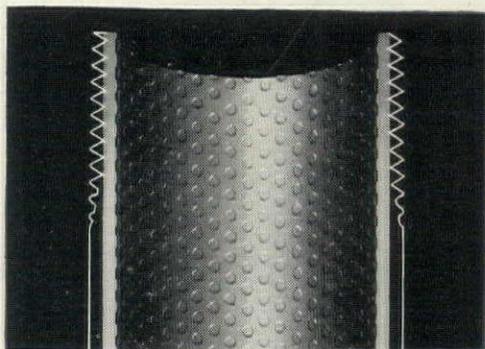
There's no doubt about it! Republic ELECTRUNITE E.M.T. light weight, rigid steel conduit is the modern streamlined raceway for wiring.

ELECTRUNITE E.M.T. is safe. It provides adequate electrical and mechanical protection as determined by the Underwriters' Laboratories. It is approved by the National Electrical Code for exposed, concealed or concrete slab construction.

Its uniform, tightly-adherent coating of zinc offers continuous rust and corrosion protection — unbroken by threads . . . unmarred by vise or pipe wrench teeth.

ELECTRUNITE E.M.T. is light in weight. Because it is threadless—requires no excess metal as a base for thread cutting—it actually weighs less than half as much as ordinary threaded conduit. Thus it takes the "back-break" and "arm-ache" out of installation, especially where runs are overhead, in shafts or in other difficult locations.

Equally important, its uniformly high ductility combined with its freedom from excess weight makes ELECTRUNITE E.M.T. easy to bend. With the



Note the contrast between the wall thicknesses of ELECTRUNITE E.M.T. and ordinary threaded conduit. Because it is threadless, ELECTRUNITE E.M.T. does not require extra steel to act as a base for threads. Note, too, the patented, knurled inside surface which makes wire pulling as much as 30% easier.

patented ELECTRUNITE bender, predetermined bends can be made accurately and rapidly—in the shop or on the job.

For additional information see your local Republic ELECTRUNITE Distributor, or Republic Steel and Tubes Division Representative.

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Kitchen Cabinets  
Truscon Steel Windows, Doors, Joists  
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# Republic ELECTRUNITE E.M.T.

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**LIGHT WEIGHT THREADLESS RIGID STEEL CONDUIT**

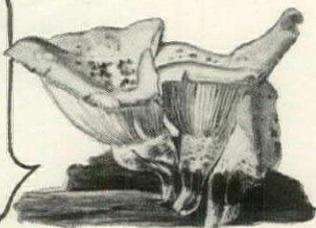


JOE TERMITE:

"Wood-hungry as I am, I'd rather starve than eat CZC-treated lumber."

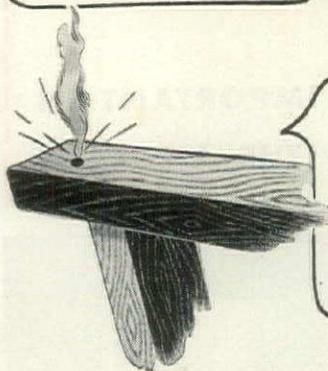
LENTINUS LEPIDEUS:  
(Wood-decaying fungus)

"As a food, CZC-treated lumber is terrible. I can't stand the stuff."



SAMMY SPARK:

"I can't seem to get going on CZC-treated wood. It leaves me cold."



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Most testimonials sing out praises. But here are three from highly dissatisfied "consumers." To them, lumber that has been pressure-impregnated with CZC (Chromated Zinc Chloride) is repulsive.

Yet, the desirable properties of the wood, such as strength, workability, etc., remain unchanged. It is odorless and clean to handle. When lumber is again available, be sure you have on hand this book on the advantages to you of CZC-treated lumber. USE THE COUPON NOW!

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CHROMATED ZINC CHLORIDE

Makes Wood Repel Termites—Resist Decay—Retard Fire

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Company \_\_\_\_\_

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BETTER THINGS FOR BETTER LIVING  
... THROUGH CHEMISTRY

## BOHANNON BUILDING TEAM

(Continued from page 136)

process by moving the factory to the housing site. The site itself, prepared by foundations laid to factory-like precision, became his assembly table. Just as the prefabers moved the house through a plant assembly line, so Bohannon moved his construction crews—each man trained to a single part of the job—over the giant site. And the Bohannon assembly line moved with prodigious speed—in the mill yard each man cut 100 rafters an hour, on the site each tractor operator dug 450 pier holes in an eight hour day, foundations were ready in forty-eight hours, at San Lorenzo assembled houses rolled off the line at the rate of one every seven hours.

Production at a pace unmatched in the industry was possible because Bohannon had broken down the complex con-



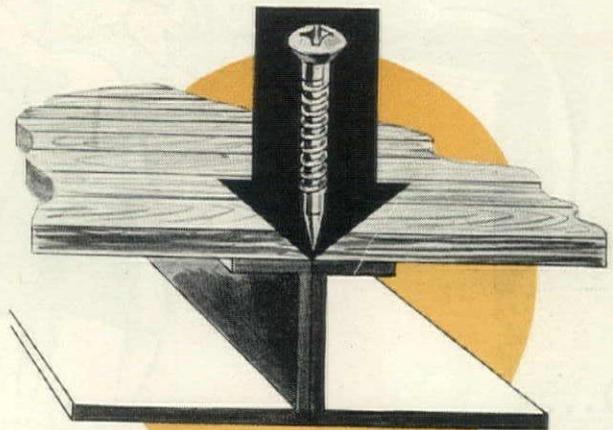
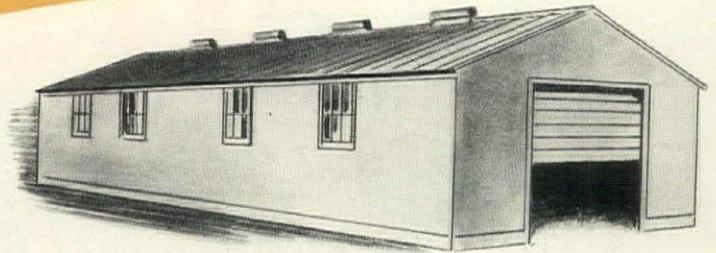
DITCHING at San Lorenzo rivaled Seabee speed

struction operation into a logical series of simple steps—a job organization probably unrivalled for speed and efficiency. There was, in the first place, the cutting yard, where at San Lorenzo 9½ million board feet of lumber were fed through the four saws of the roller tables. Here 250 carloads of lumber were sorted and graded. (Bohannon temporarily took over the operation of a large saw mill to make sure of adequate lumber.) And when the framing had been cut for 1,500 houses, the mill yard crew turned to assembly of window and door frames. On the site, the job broke down into these steps: 1) Foundation walls and piers located by surveyors; 2) Metal template set into position; 3) Foundation walls poured from three-wheeled concrete buggies (the sturdy 2 by 4 in. lumber forms are easy to detach and reassemble); 4) Framing erected (crews work in tandem to frame houses in pairs, maintaining a precise schedule to avoid blocking operations behind, while a portable 3,000-watt generator supplies power for boring and sanding); 5) Plumbing stack set into place; 6) Floor joists laid; 7) Siding and roofing added.

This kind of high-speed production added up to many economies. In the first place, there were the urgent economies of war. At a time and a place of the most acute labor shortage, Bohannon's job standardization meant a maximum of production per man hour. Even more important, it meant that a large amount of unskilled labor could be employed, since a worker without building experience could quickly be trained to do a single part of the whole job, under the foremanship of skilled building craftsmen. With lumber taking

(Continued on page 142)

THE **FRAME** OF THINGS TO COME



## SPEED PLANS WITH STEEL FRAMES

### Better-Built Buildings To Aid Tomorrow's Expansion

TODAY, the test . . . in theatres of war . . . tomorrow, ready to step into your blueprints with greater flexibility of design and many other benefits to architects, builders, and building-supply dealers . . . that is the background and the forecast of EVERWEAR Steel-Frame Construction.

This simplified method of building-construction uses patented, welded-steel channels in the form of quickly-erected, steel panel-frames in standard arrangements to accommodate wall-surfaces, door-openings, or window-spaces. Only tools needed for assembly are hammer, wrench, and screwdriver.

Among the many advantages of Steel-Frame Construction for better-built buildings are: Use of conventional building materials over the Steel Frames; no skilled help required; lowest-cost means for making additions to buildings, even though Steel Frames were not originally used;

greater flexibility in design—not limited to standard lumber lengths; foundation and framing are termite-proof; better insulation permitted; comparable in cost to conventional construction.

These prefabricated Steel-Frames will be made available in peace-time by "SOUTHERN STATES" an experienced, 30-year-old organization, and one of the largest in the building-materials industry, whose interlocking galvanized Steel Roofing, Steel Shingles, and many other building materials have established a reputation for quality.

You, as a progressive architect, builder, contractor, or building-supply dealer will want to complete your post-war plans with Steel-Frame Construction. Write today for our new booklet: "PREFABRICATED STEEL BUILDINGS."



General Offices: SAVANNAH, GA.

FACTORY-WAREHOUSES IN PRINCIPAL SOUTHERN CITIES

**Southern States**  
IRON ROOFING COMPANY

# GIVE ME THE CLEAN ONE ON THE BOTTOM, MISS...



So...

## turnover works in reverse?

Customers are notoriously choosy people. They're downright stubborn when it comes to accepting soiled merchandise at regular, *unsoiled* prices. You can't blame them for picking from the *bottom of the pile*... merchandise which has been protected against the settling of air-borne dust and dirt!

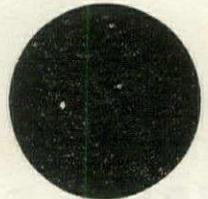
However, a lot of the country's best stores have solved this problem with Westinghouse Precipitron\*. While periodic dry dusting or vacuum cleaning only succeeds in churning the dust and setting it in motion to resettle again, Precipitron *collects* it.

Precipitron sets an electronic trap for air-borne particles—it removes more than 90% of all foreign particles in the air—and operates 5 to 10 times more efficiently than mechanical filters. In many commercial businesses, in industries and many manufacturing operations—wherever clean air is important—Precipitron performs effectively and economically.

You can easily find out more about this remarkable Westinghouse development by calling any Westinghouse Office. Or write Westinghouse, P. O. Box 868, Pittsburgh, Pa.

### WHAT PRECIPITRON DOES

Ordinary mechanical filters permit varying sizes and kinds of dust and dirt to pass through the circulatory system—but, PRECIPITRON electrostatically cleans air, even eliminating tobacco smoke particles!



Uncleaned Air

The results of the "Blackness Test," shown at right, indicates clearly what PRECIPITRON can do. Here are actual photographs of the test—where 2500 cubic feet of air, in each instance, were drawn through a cloth area for a 60 minute period!



Mechanically Cleaned Air

The effectiveness of PRECIPITRON, demonstrated here, will save the loss of many thousands of dollars resulting each year from damage by air-borne dust and dirt in the home, factory and store.



Electronically Cleaned Air



# Westinghouse PRECIPITRON

PLANTS IN 25 CITIES... OFFICES EVERYWHERE

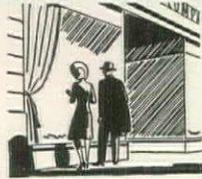
## THE COSTLY NUISANCE OF DUST BANISHED BY PRECIPITRON, FROM...



Homes, Hotels and Apartment Buildings



Laboratories and Hospitals



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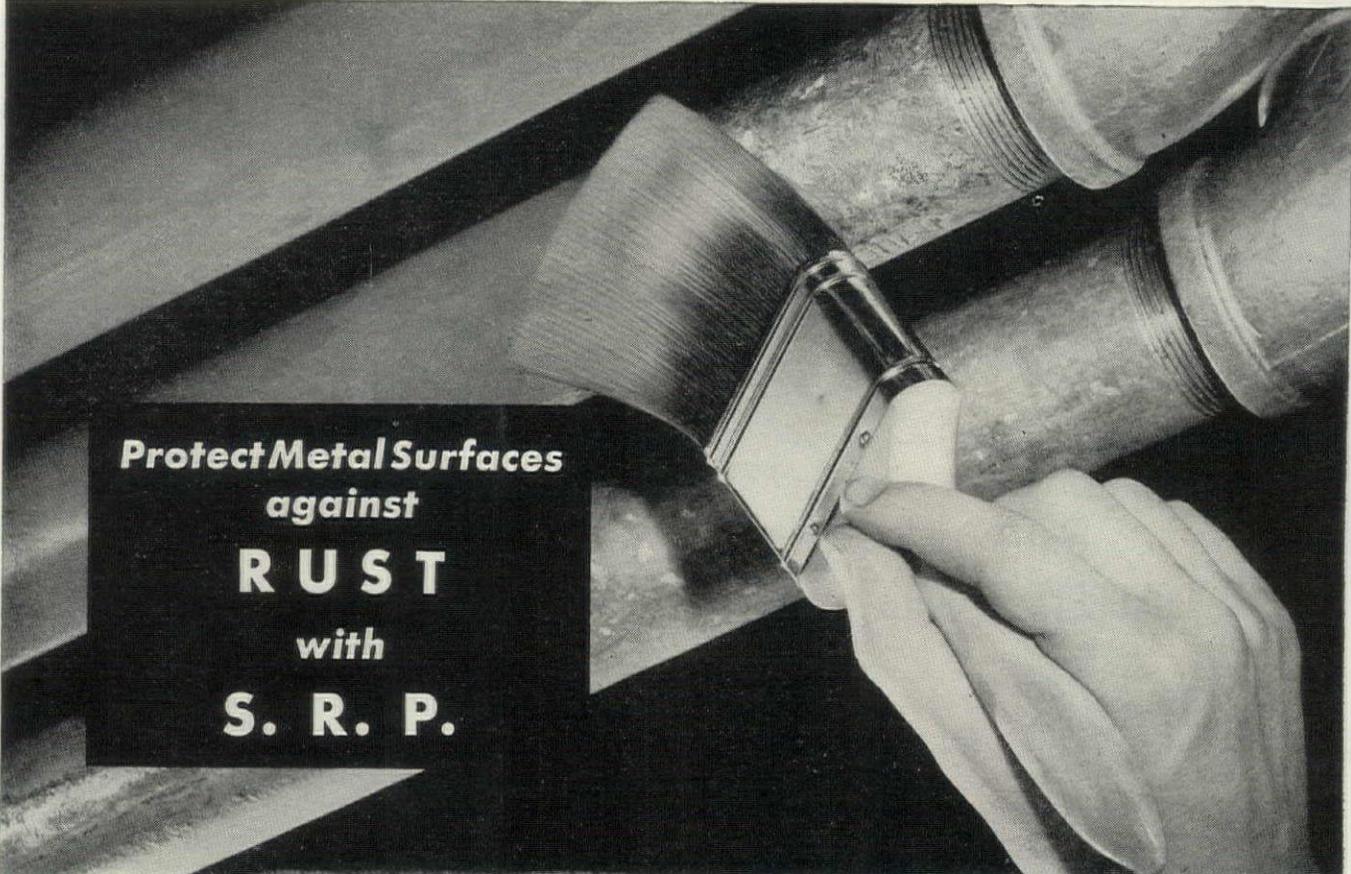
Theatres, Restaurants and Night Clubs



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IF IT'S WORTH BUILDING • IT'S WORTH SAVING!



Protect Metal Surfaces  
against  
**RUST**  
with  
**S. R. P.**

S.R.P. gives iron, steel and other metal surfaces protection against the formation of rust, stopping trouble *before* it starts. And by actually penetrating through and combining with *previously* formed rust on old work, S.R.P. puts an end to any *further* rust formation.

Piping, fences, structural members and sheet

metal surfaces — inside and out — need the kind of *extra* protection that S.R.P. supplies. Application is easy — no expensive preparation is needed. After wire-brushing to remove loose scale or any foreign matter, S.R.P. is applied by brush or spray, just like paint. Firm rust need not be removed.

Write Dept. AF for free bulletin on S.R.P.



**SONNEBORN**  
BUILDING SAVERS

FLOOR TREATMENTS • PROTECTIVE  
COATINGS • CONCRETE AND MORTAR  
ADMIXTURES • ROOF COATINGS  
• CAULKING COMPOUNDS •

See our Catalogs in SWEET'S

No matter what the problem — to protect metal, masonry, wood, plywood, plaster or composition surfaces, inside or out, against acids, alkalis, chemicals, fumes or heat — there is a Sonneborn protective coating for the job. For example:

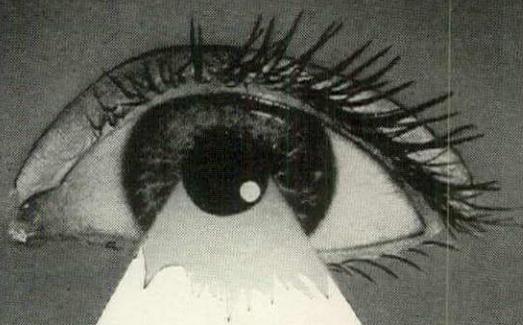
**SONOLASTIC** Aluminum Ready-Mixed Paint stays bright and makes upkeep light. Its superior "vehicle" penetrates into the sub-surface, drawing over it countless numbers of flat, finely divided scales which quickly overlap and tightly interlock in a smooth, continuous, impermeable film. Highly resistant to moisture, corrosion and fumes. For protecting interior surfaces subject to temperatures up to 600° F, the Sonneborn product to specify and apply is **ULTRA HEAT-RESISTING Aluminum Ready-Mixed**.

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"PRODUCTIVE COLORATION" promotes efficiency, safety and comfort. A truly fascinating booklet explaining the new science of color and light utilization — as applied to building interiors, machinery, etc. — has been prepared by Sonneborn research engineers. Write for a copy.

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For floors that help  
eyes see better...



WHITE  
CONCRETE FLOORS

*Salvage Light*

**TESTS SHOW** that light-reflecting concrete floors—made with Atlas White portland cement instead of with regular gray cement—salvage light rather than waste it. By comparison with floors made of gray cement, they reflect 60% more light!

Send for a copy of the book, "Light from Floors." Write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

**MAINTENANCE  
IS SIMPLE**

- ✓ Frequent Sweeping
- ✓ Occasional Damp Mopping
- ✓ Periodic Scrubbing

AF-F-33



**ATLAS  
WHITE CEMENT**

For Light-Reflecting Concrete Floors

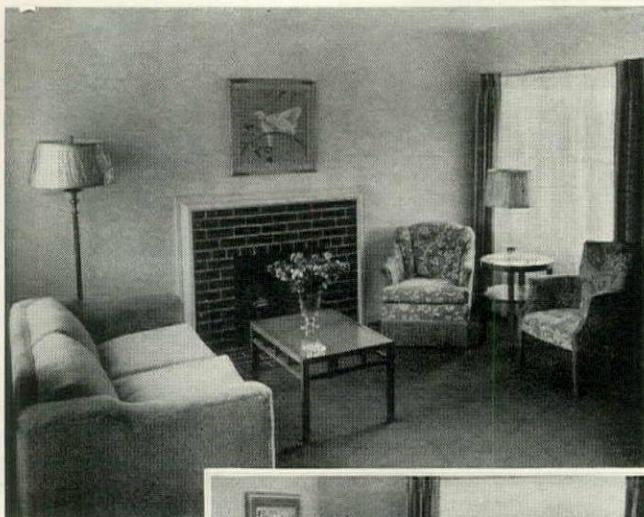


## BOHANNON BUILDING TEAM

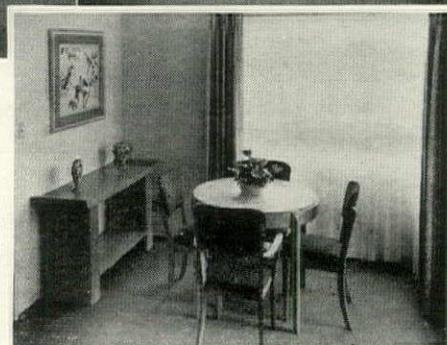
(Continued from page 138)

steel's place as No. 1 war shortage, the site cutting yard meant making use of the last scrap of lumber. Its facilities for grading and sorting enabled Bohannon to buy ungraded lumber by the boxcar. And getting any kind of lumber, when San Lorenzo construction started in the spring of '44, was something like a miracle. In the second place, site assembly promised many postwar economies over its competitor—factory production. Argued Bohannon:

"Lumber and bulk raw materials can be more economically shipped and handled than when assembled into finished units. Site fabrication does not necessitate investment in a costly



LIVING



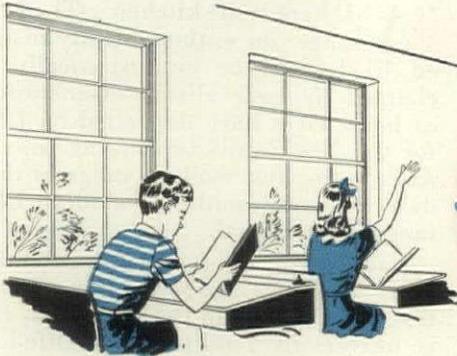
DINING

plant, whereas a factory requires a substantial capital outlay, extensive warehousing and storage of parts, long in advance of final erection on the site. Precutting equipment is mobile and can be economically moved from job to job."

Whatever the construction economies that war need brought, mammoth San Lorenzo is anything but minimum war housing, and Bohannon expects it to have a long and useful future. From the beginning, Bohannon had fought for war housing designed for family living as the only way to cut down costly labor turnover. And although San Lorenzo was built to conform to the wartime restrictions of materials, plan, costs, amount of floor space, its construction compares very favorably with top prewar standards. Specifications included continuous concrete foundations, 4 by 6 in. girders, 2 by 6 in. floor joists for spans up to 8 ft., 1 in. subflooring, cedar shingles, foundation walls protected by sprayed paraffine, inside walls of plaster over perforated gypsum lath. There were tile floors in the bathroom and linoleum over felt in the kitchen and breakfast alcove, a living room fireplace, and heavy gauge wiring on a three-circuit system in anticipation of postwar

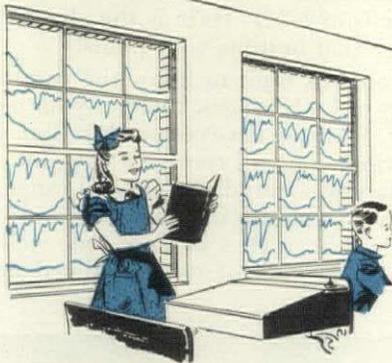
(Continued on page 146)

Because they are easier to open,



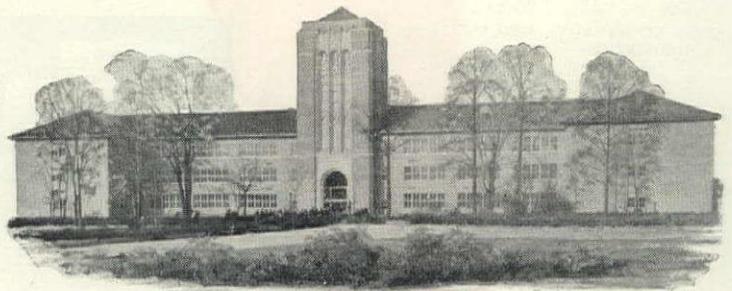
let in more light,

save maintenance cost,

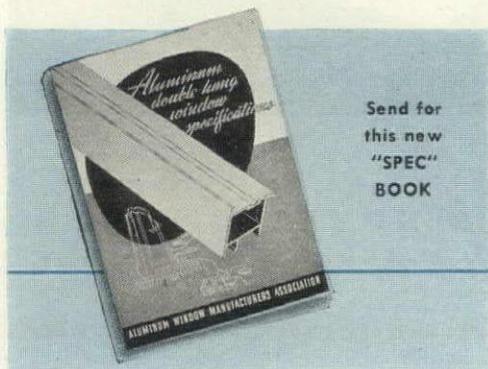


stay tight and trouble-free

in school buildings \*



Use Windows of **ALCOA** ALUMINUM



Send for this new "SPEC" BOOK

Fifteen years of actual use . . . highly successful use . . . have clearly demonstrated the merits of aluminum windows. In a number of large cities they are the standard window specified for all new school construction. The manufacturers of aluminum windows offer you a selection of types and styles that should meet any need your plans call for. The Aluminum Window Manufacturers Association has established standard specifications for these windows. To get their literature and the new 1945 specification book, write ALUMINUM COMPANY OF AMERICA, 1866 Gulf Building, Pittsburgh 19, Penna.

\*Milo H. Stuart Memorial Building, Arsenal Technical Schools, Indianapolis, Indiana, Pierre & Wright, designing architects. A. A. Bohlen & Sons, supervising architects.

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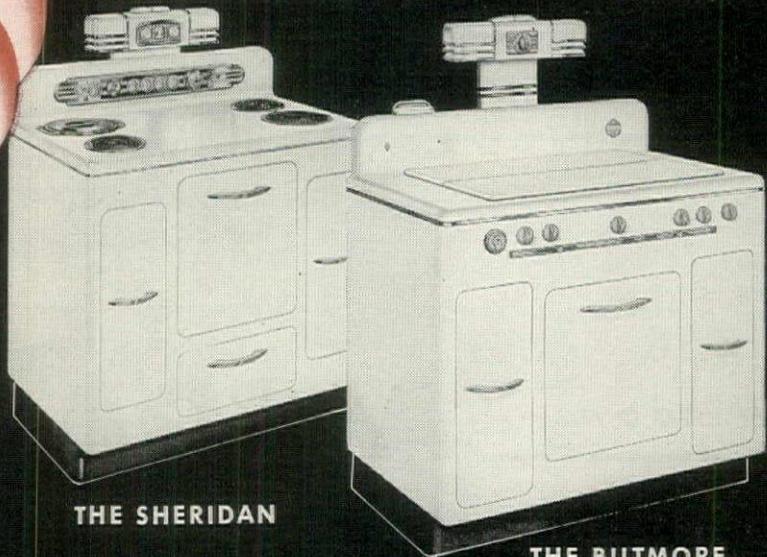
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“AND here is the kitchen”. The L&H range you so thoughtfully installed likely will be enthusiastically acclaimed by your clients. Generations of housewives have depended on L&H for the “last word” in cooking convenience — for the modern range of their day. In many families, a modern L&H range is traditional.

Your good judgment in selecting L&H ranges is supported by goodwill that was 70 years in the making — that is universally recognized by life-long users of L&H products. Modern as always, new L&H models will have improved time and labor-saving devices, temperature and time controls—features to excite the admiration of even old friends of L&H. Here is the clue to the range that best fits your plans!

You will want to know the complete story of L&H ranges. Send us your name now. When we have resumed civilian production, you will receive a colorful presentation of the advanced L&H ranges — an interesting and informative exposition in keeping with a *modern* line well in the foreground of its specialized field.



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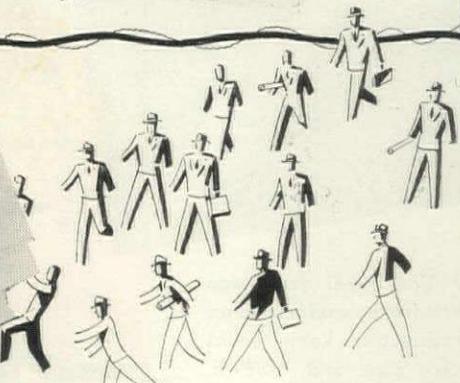
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*New Views... New Pointers  
on increasing Home Comfort  
Convenience and Beauty with  
Ponderosa Pine Woodwork*

## WELCOME TO THIS *New* STOREHOUSE OF IDEAS



Step in, gentlemen! Here are 32 pages of *new ideas*—*new ways* to plan homes for tomorrow's better living. Built on an entirely different principle, "Today's Idea House"—just published by Ponderosa Pine Woodwork—shows how to use doors and windows functionally . . . to satisfy a wider range of human needs and desires. Dozens of illustrations help tell the story . . . and it's a story *you* can use as a major planning aid. A copy of "Today's Idea House" is yours for the asking—mail the coupon!



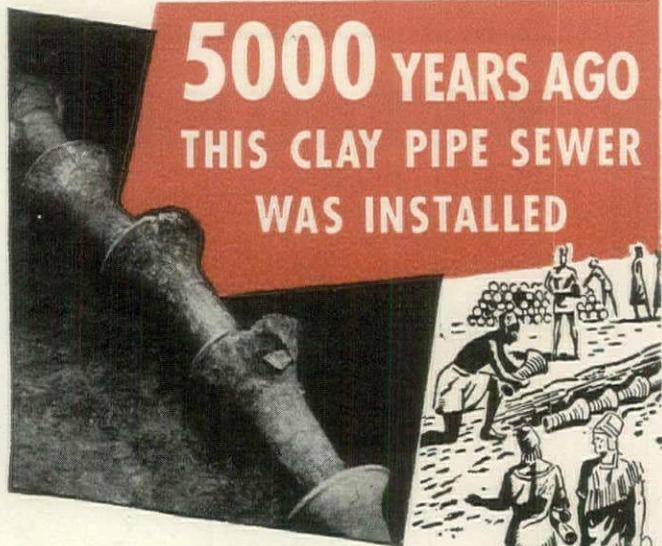
In the new Ponderosa Pine booklet, "Today's Idea House," dozens of illustrations show new ways to give tomorrow's home owners more beauty . . . more privacy . . . more light and air . . . more economy with stock woodwork. Don't fail to get your copy!



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# 5000 YEARS AGO THIS CLAY PIPE SEWER WAS INSTALLED



Yes, 5,000 years ago architects, engineers and contractors knew about clay pipe and used it. This pipe, lacking all the improvements of modern vitrified clay, but the same in principle, was found in ancient Babylon.

You may not reasonably expect a sanitary sewer, highway, airport, railroad, public building, factory or home to last 5,000 years. But the economy of using *Clay Pipe* for any kind of sewerage or drainage is something that you *can* expect, because properly installed *Clay Pipe* will insure future generations the use of the job you do today.

The reason for the long life of *Vitrified Clay Pipe* is the fact that it is chemical-proof and abrasion-proof. Clay Pipe is impervious to acids, alkalis, industrial wastes, gases and the grinding abrasion of moving sand and gravel. It *will not* corrode, decompose or crumble. *Clay Pipe* is strong, durable, economical and easy to use. Consider final costs as well as first costs, and you will find this true: "It Will Pay to Use Clay."

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Through its technical engineering staffs, the Clay Pipe Industry carries on constant research to improve products and to adapt them to current construction practices. For latest information or engineering literature, write to:

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111 W. WASHINGTON ST., CHICAGO 2, ILL.

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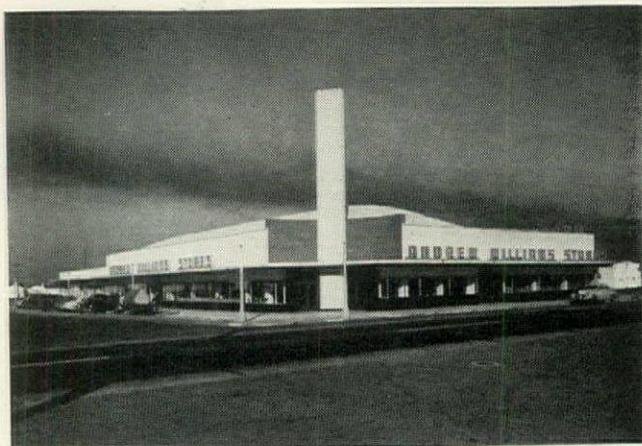


## BOHANNON BUILDING TEAM

(Continued from page 142)

use of household appliances. Warm air gas floor heaters were installed, with automatic water heaters placed in utility closets off the kitchen, and these are large enough to accommodate automatic home laundry units when they become available. San Lorenzo was financed by a \$7 million FHA-insured loan from the Bank of America and the American Trust Co.

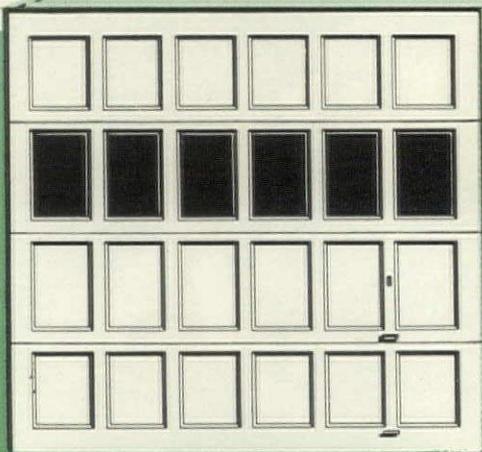
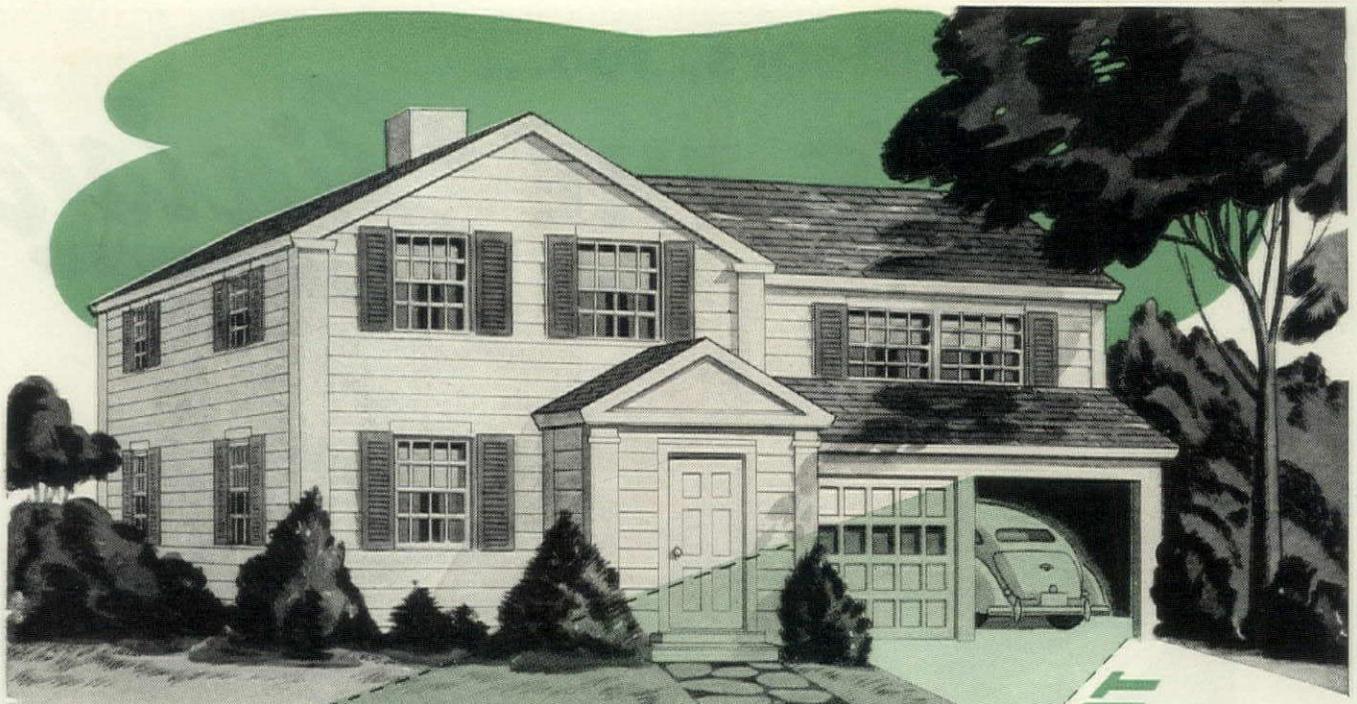
But it was in neighborhood planning that Bohannon got a chance to do a maximum of what he had always aimed for. The 300-acre tract was laid out in lots with a minimum 50 ft. frontage and a depth of 100 ft. Each lot was planted and landscaped before the buyer moved in. The street system was planned with few main traffic arteries, and a circulating grid system to minimize traffic. Because of urgent need, housing



**SHOPPING CENTER** reduces wartime housekeeping problems

went ahead first, but community facilities are now nearly finished. Playgrounds are equipped and a nursery school is in operation. The *San Lorenzo Sun* began publication in February. A supermarket (James M. Mitchell, San Francisco, architect) is almost finished, and leases have been closed for most of the stores and service units in the community shopping center. Construction started in January on a 15-classroom school (Dragon & Schmidts, Berkeley, architects) which will be ready for the fall term, and construction of a movie theater (Alex A. Cantin, San Francisco, architect) will soon begin. Two churches are in an advanced stage of planning.

Bohannon believes that neighborhood building means, not only immediate provision of all necessary facilities, but also allotment of adequate space where additional facilities can be developed as need arises: enough room for churches, club-houses, baseball diamonds, swimming pools, teen-age and child-care centers. Many communities are unsatisfactory, he says, because they were laid out by subdividers and builders who set aside no land for community purposes and used more than was necessary for streets. "The successful developer is not a mere subdivider of land or builder of houses. He is a creator of complete communities. Once a new tract of land is subdivided, streets improved and houses built, the daily lives of all the families living within its boundaries are cast into a permanent mold. There is no substitute for planning—good communities don't just happen!" Bohannon has demonstrated to his own satisfaction that intelligent planning can provide park, playground, community center, school and church sites, reduce the amount of land used for streets and still have room for as many dwellings as the unplanned subdivision.



**HERE'S OUR SLANT**

This is the Crawford standard SC Door for single car garage. It is four sections high and six panels wide. Sizes to fit all standard openings. Also available in two-car width.

## on garage doors for the traditional type home

When residential building starts again we shall see, no doubt, many interesting innovations. But, we shall also see, in the predominance of familiar type new homes, how deep is America's loyalty to the traditional.

And, because many of these traditional type homes will have single or double attached garages located well toward the front of the structure, the doors of those garages must be considered as an integral part of the architectural design of the facade and treated accordingly.

A logical choice for such installations is the Crawford Door shown above. It has the simple, harmonious design and the quiet dignity that blends with traditional motifs. It has the substantial Crawford construction, familiar to builders and architects for 15 years. And, postwar, it will have the engineering improvements born of Crawford's wartime experience in building 14,000,000 fine precision parts for aircraft. It is a good door to specify.

*Crawford Door Co. 401 St. Jean Ave., Detroit 14, Mich.*

# Crawford

UPWARD - ACTING

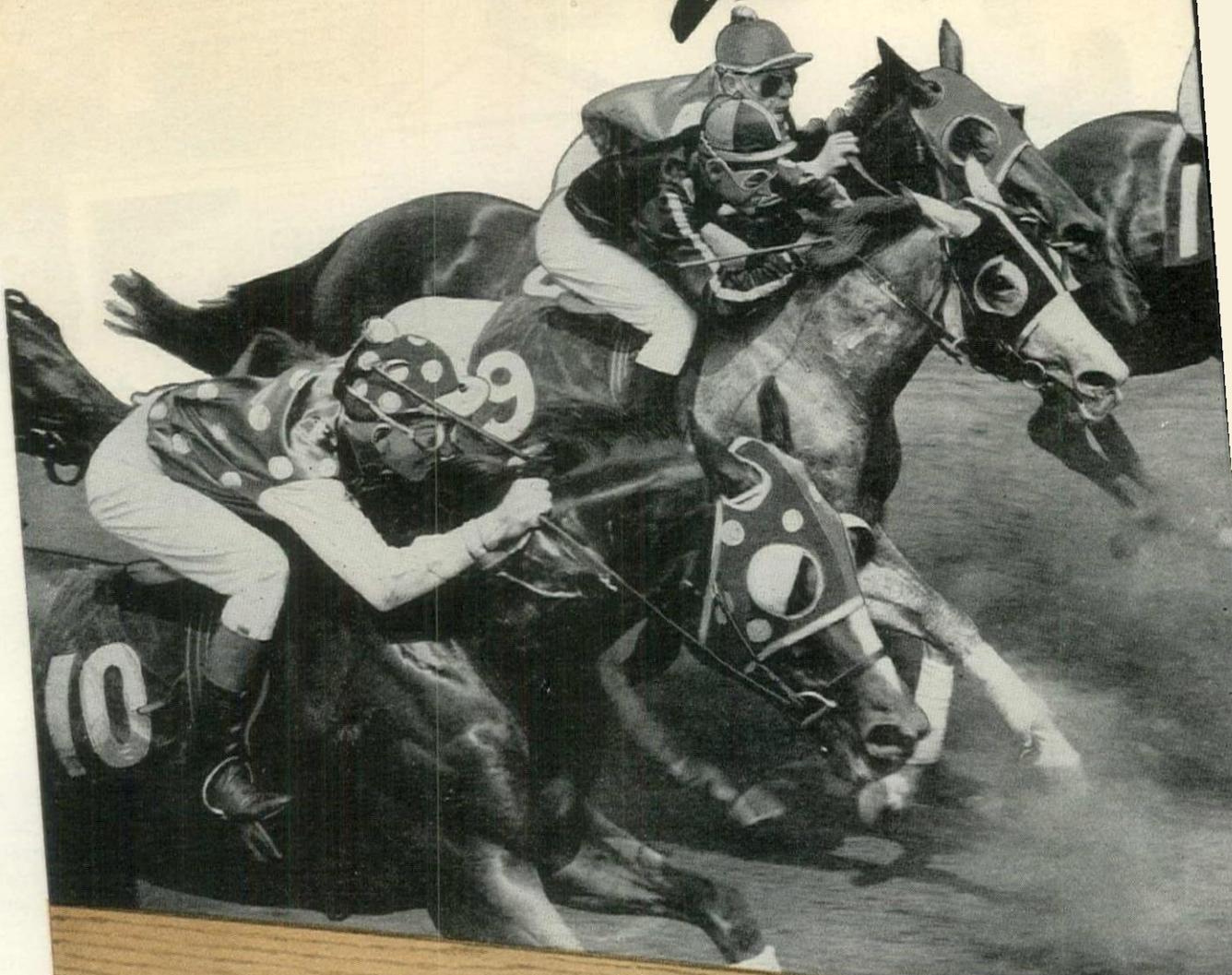
## DOORS

Residential Garage Doors  
Commercial & Industrial Doors  
Hand or Power Operated Doors  
★ Crawford Doors ★

in floors, too...

IT'S THE

*Finish*



*America's Beauty Floors*

THE ARCHITECTURAL FORUM

# THAT COUNTS !

IT'S THE NEW FACTORY FINISH  
ON BRUCE FINISHED FLOORING THAT  
WILL MAKE IT A WINNER FOR  
POSTWAR BUILDING



## 8 WAYS BETTER THAN ON-THE-JOB FINISHES!

- 1** **Smooth Sanding**—Each strip sanded to perfect smoothness on multiple drum, precision sanders. No sander marks.
- 2** **Prime Condition**—Finishing starts immediately after sanding, so no "raised grain." Moisture content of flooring is right.
- 3** **Perfect Filling**—Highest quality silex filler is rubbed into wood as flooring moves down the finishing line.
- 4** **Thorough Sealing**—Bruce Finish penetrates into wood pores . . . seals them against dirt and wear. Enhances beauty of wood grain.
- 5** **Infra-red Drying** applies heat uniformly . . . welds finish into a tough, even film. No "unfavorable drying weather" at the plant.
- 6** **Extra Buffing** with high-speed brushes burnishes finish into wood . . . provides a harder, smoother surface to receive wax coat.
- 7** **Superior Waxing**—Special wear-resistant wax is applied evenly, then polished over and over with brushes and buffers.
- 8** **Proper Seasoning**—Finishing done weeks before flooring is used—so no hazard of finish being walked on too soon.

*Yes! It's the Finish that Counts in Floors!*

New Bruce Finished Floors will give homebuilders everything they want: Extra beauty . . . Extra wear . . . Extra cleaning ease! They will give the building industry a modern material that can be used and recommended with confidence for postwar building. Announcement will be made when the new Bruce Finished Flooring is available.

**E. L. BRUCE CO.      MEMPHIS, TENN.**

*World's Largest Maker of Hardwood Floors*

# BRUCE FINISHED FLOORS

# BLUEPRINTS FOR YOUR HOUSE of TOMORROW



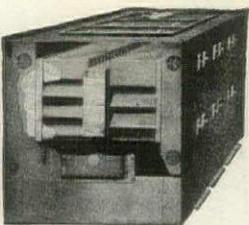
## YOU MAY HAVE CHANGEABLE WALLPAPER

The combination of junior and jam will hold no terrors for post-war parents. Repapering a room will be as easy as pulling down a shade.

BUT -

*Your Heating Plant will be KOVEN WATERFILM*

There promises to be many wonderful improvements in the post-war period but even then there will be no heating system that can rival the economical heating satisfaction given by the KOVEN WATERFILM BOILER. This fast steaming boiler combines all the newest scientific improvements to provide quick heat, even room temperature and a plentiful supply of domestic hot water. The WATERFILM is especially built for use with oil, stoker or gas. Its patented construction and smart design, which can't be duplicated by any other boiler, makes an attractive addition to any basement room. The WATERFILM boiler is available in a variety of models...suitable for use in industrial plants, apartment houses and large or small homes. The sectional series for apartment houses or industrial plants can be taken through a two foot door thus eliminating expensive rigging and alteration costs. Call or write KOVEN for complete details.



SECTIONAL SERIES for war plant or apartment house use...can be taken through a 2 foot door.

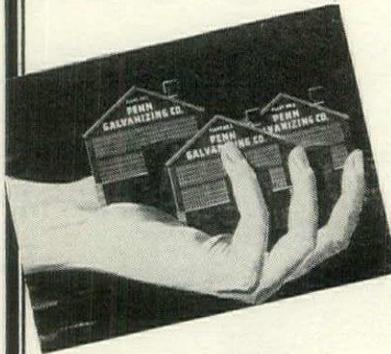
## WATERFILM BOILERS, Inc.

154 OGDEN AVENUE

JERSEY CITY, N. J.

PLANTS: JERSEY CITY, N. J. • DOVER, N. J.

# 3 PLANTS TO SERVE YOU!



At PENN GALVANIZING you have the facilities of 3 plants working 24 hours a day, 7 days a week, to take care of your demands for QUALITY HOT DIP GALVANIZING of your iron and steel products.

Furthermore, you are assured of the PENN-galvanizing process as perfected by PENN through long experimentation.

HOT DIP GALVANIZING

GALVANIZED IRON AND STEEL PRODUCTS FURNISHED

# PENN GALVANIZING CO.

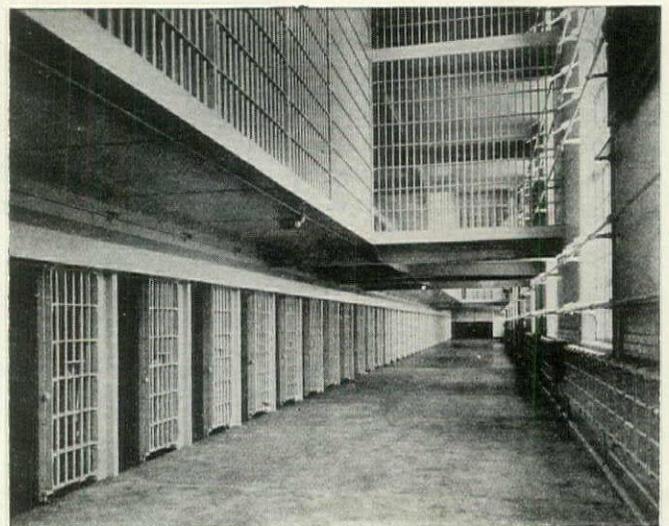
*the Nation's Largest*

PICKLING AND PAINTING

PICKLED AND PAINTED IRON AND STEEL PRODUCTS FURNISHED

Gen. Offices: 2201 E. Tioga Street, Philadelphia, Pa.

PLANTS: No. 1, 2201 E. Tioga St. - No. 2, 2400 E. Tioga St. - No. 3, 3548 N. Seppiva St.



## JAIL & PRISON EXPERTS

*Backed by 65 years experience we can assist you with your*

PLANS - SPECIFICATIONS - COST DATA

## FRIES & SON

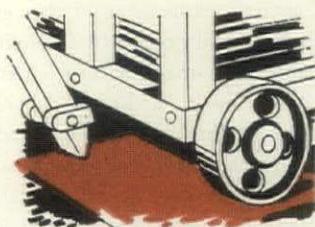
Steel Construction & Engineering Co.

Second & Madison Sts.

Covington, Ky.



# Timely tip about your client's *"under-foot"* overhead



**STANDS HEAVY TRAFFIC** continuously—to provide smooth surface and worker comfort.



**RESISTS CHEMICAL ACTION** of most acid and alkali conditions found in industrial plants.

## **Carey** ELASTITE ASPHALT FLOORINGS

are economical to begin with and go light on maintenance for life. They're built extra tough to stand up under constant severe service in industrial or commercial use.

They're attractive, comfortable to stand or walk on, easy to lay.

Underwriters' Laboratories, Inc., list them as fire resistant. They're also electrical and chemical resistant . . . vermin and termite-proof.

In our own Research Laboratories the performance of Carey Asphalt Floorings under special service conditions is constantly analyzed to assure complete satisfaction in use. Specify Carey Elastite Asphalt Floorings. For data or engineering service, write—



**CLEANS EASILY**—Asphalt Flooring is dust-proof—does not "powder" under heavy traffic.



**TWO TYPES.** One for normal service in red and black; the other for extra heavy duty, black only. Send for book.

THE PHILIP CAREY MANUFACTURING CO.  
LOCKLAND, CINCINNATI 15, OHIO

# Carey

IN CANADA: THE PHILIP CAREY CO., LTD.  
OFFICE AND FACTORY: LENNOXVILLE, P. Q.

Careyduct • 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 • Pipeline Felt  
Expansion Joint • Asbestos Wallboard and Sheathing • Corrugated Asbestos Roofing and Siding • Miami-Carey Bathroom Cabinets and Accessories

Language of Vision . . . Planning to Build . . . Three books on art techniques . . . Building Insulation.

**LANGUAGE OF VISION.** By Gyorgy Kepes. Paul Theobald, Chicago. 225 pp. Illustrated. 8½ in. by 11 in. \$6.95.

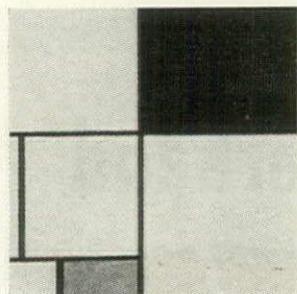
In this heyday of emancipated form and esoteric contemplation of the abstract there has been acutely lacking a thorough, realistic analysis of the structure and function of the graphic image in all fields of design—not only for the allegedly retarded public mind but also for uninitiated professionals who have to continue earning their living as artists. *Language of Vision* is just such a book. Its purpose is to explain to the observer not only what he sees, but how he sees contemporary art—not in terms of esthetic criticism of scientific technology but by the reconstruction of his mental and emotional participation in the organization process. Mr. Kepes' book stands on the no-man's-land between such highly specialized works as Dr. Lukiesh's *Light, Seeing and Vision* (ARCH FORUM, Mar. '45) and the Museum of Modern Art's excellent works on contemporary painting and photography.

Sigfried Gideon, who wrote the introduction to *Language*

*of Vision*, says, "The public, including those who govern and administer it, is still lacking the artistic, that is the emotional training corresponding to our period. Both are plagued by the split which exists between advanced methods of thinking and an emotional background that has not caught up with these methods . . . Gyorgy Kepes, as we all do, regards art as indispensable to a full life. His main object is to demonstrate just how the optical revolution—around 1910—formed our present day conception of space and the visual approach to reality. He shows how this development was differentiated in many ways of expression, from cubism to surrealism, forming together the multi-faced image of this period. He shows why modern artists had to reject a slavish obedience to the portrayal of objects, why they hated the 'trompe l'oeuil.'" If it is possible to bridge with words and illustrations the gap between the emotional immaturity of the average reader and the highly advanced expression of most contemporary artists, Mr. Kepes does so. This is, however, a subject of great controversy since a great number of modern critics and artists

believe that full emotional appreciation of art can only be attained through natural first-hand experience. Right or wrong, Mr. Kepes' attempt to educate his readers is careful, thorough and practical. Step by step he leads the way through basic analysis and reconstructions of the plastic elements: line, plane and color to a reevaluation of the outstanding means of artistic expression of this century. The result is a lucid and factual briefing that will probably start many a future patron on his way. The book is, however, primarily geared to advertising rather than "l'art pur." Though in conclusion Mr. Kepes pleads, "If social conditions allow advertising to serve messages that are justified in the deepest and broadest social sense, advertising art could contribute effectively in preparing the way for a positive popular art, an art reaching everybody and understood by everyone." This commercial note should not disturb nor discourage the lay reader. *Language of Vision* offers

in extremely practical terms a survey of twentieth century graphic art in general. By virtue of the absence of any long haired treatment, it can be recommended for general reading without reservation, as the following comment on Picasso's "Guernica" will show: "Picasso, stirred to a fury of indignation by a human drama caused by the regressive social forces and their significance today, in a visual projection of the discrepancy between life as it is and life as it should be, represents human figures in a distortion of pain and suffering. Mouth and lips, nose and nostrils are shaped by pain in positions far from empirical reality and yet close enough so that they are recognizable in familiar terms . . . Textures break up the surface like bayonets tearing a living body. But all these violent plastic forces are organized as a visual progression in which each part demands the other, and can live only through the help of the other." (Continued on page 154)

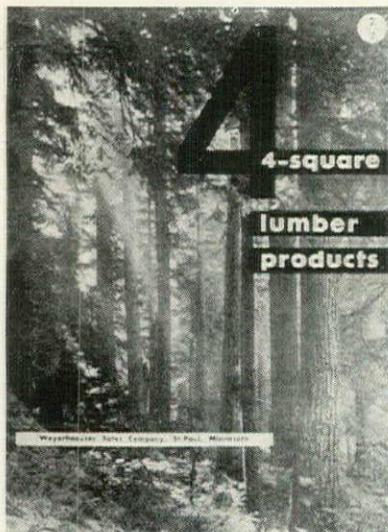


Piet Mondrian, Painting 1932

G. Braque, Painting



McKnight Kauffer, Poster 1933

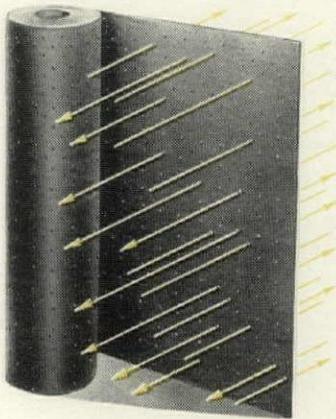


Ladislav Sutnar, Cover Design

# NO BLISTER PROBLEM HERE. NOW OR LATER!



Ruberoid Air-Vent Felt being applied to the roof of Shibe Park, Philadelphia's big league baseball stadium.



Pin-Point perforations form "Inlet" and "Outlet" valves . . . vapor escapes through perforations and helps prevent roofs from blistering and buckling.

● It is no longer necessary to worry about blister trouble on smooth-surfaced built-up roofs.

Ruberoid's Air-Vent Felt\* controls the blisters and air pockets that cause lifting and bulging . . . and in the simplest possible way!

Patented Air-Vent Felt has pin-point perforations—punched alternately from top and bottom—that form "Outlet" and "Inlet" valves. When Air-Vent is laid, the air or vapor below is forced out through these tiny "Outlet" valves. At the same time asphalt

seeps through the "Inlet" valves giving a better bond between the layers of felt. As a result Air-Vent adheres to the mopped surface much better than ordinary felt, and once down it stays put! . . . no blister problems because there are no air bubbles to expand and lift the felt from below.

Ruberoid Air-Vent Felts are available in both Asphalt and Asbestos types . . . both proved in practical performance. Ask your approved Ruberoid contractor, or write for full specifications.

\*PAT. NO. 2096784

The RUBEROID Co., Executive Offices: 500 Fifth Ave., New York 18, N. Y.  
ASPHALT AND ASBESTOS BUILDING MATERIALS... THERMAL INSULATIONS

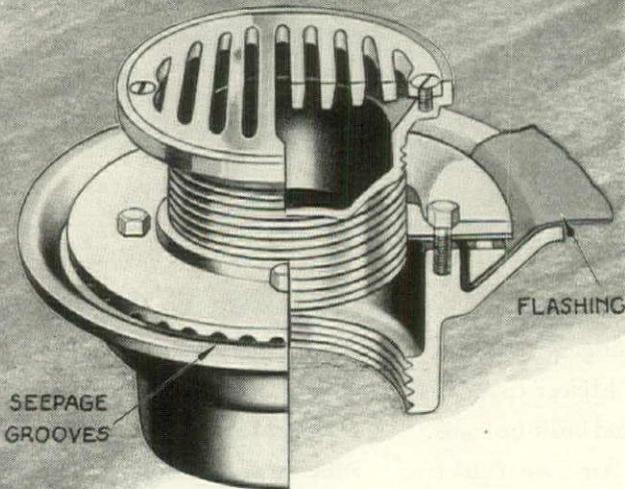
# RUBEROID PERFORATED AIR-VENT FELT

(Continued from page 152)

# Boosey

## "WATERPROOF" Floor and Shower Drains Save Time and Material!

(Adjustable Strainers)  
BOOSEY 1200 SERIES (TAP OR HUB)



### Patented New Clamping Ring Eliminates Bolt Holes Through Flashing-Provides Perfect Seal

New type of clamping ring eliminates bolt holes through flashing and provides space for sealing lower edge of flashing. Body, cast iron, painted or galvanized. Flashing ring clamped securely with four brass bolts.

These adjustable seepage floor drains for showers, receptors, tile floors and gutters are also used for terrazzo, mosaic, concrete and composition floors.

For water testing of flashing pan and connections and for plugging during building construction standard iron pipe plug can be screwed into drain body. "P" traps furnished when ordered. All Boosey Strainers tapped male and female standard iron pipe thread.

### A Drain to Fit Every Type Installation

For other types and sizes of adjustable strainers see page 91 of Boosey Catalog No. 32. If you do not have detailed information, send for complete Boosey Catalog No. 32.

**NORMAN BOOSEY**  
Manufacturing Co.  
DIVISION OF

General Sales Offices:  
420 North La Salle St.  
Chicago 10, Illinois

**AMERICAN SKEIN and FOUNDRY COMPANY**

One shape takes over the direction of another shape; one tone value repeats or contrasts a foregoing value in the living rhythm of the integrated whole. . . ."

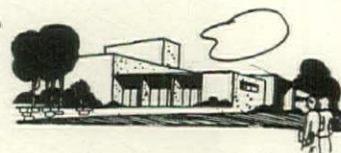
America, most reluctant convert to the wiles of the dynamic technique in advertising, can well use a shot in the arm. Advertising posters represent the greatest link between art and the common man. If this medium remains keyed to the esthetic highwater mark of Alka-Seltzer and other notable examples, it can take no advantage of its cultural opportunity and obligation. With *Language of Vision* the average reader will learn what can be expected of advertising art while enlarging his own understanding of modern artistic expression.

As an artist and a teacher at the School of Design in Chicago, Mr. Kepes is admirably equipped to fuse the interest and understanding of popular and commercial arts. If *Language of Vision* deserves any criticism this could only be for its use of learned but tedious English. It is an outstandingly designed and illustrated book, beautifully printed and bound—one that would never divulge the rigors of wartime publication.

**PLANNING TO BUILD.** By Thomas H. Creighton. Doubleday Doran. 228 pp. Illustrated. 5¼ in. by 7¾ in. \$2.50.



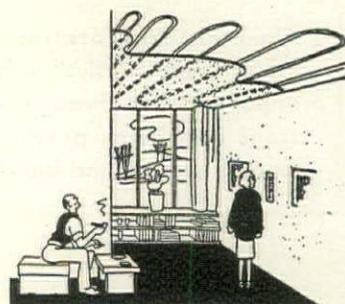
*Our children have been frightened by formidable school-houses.*



*We need a new type of school.*

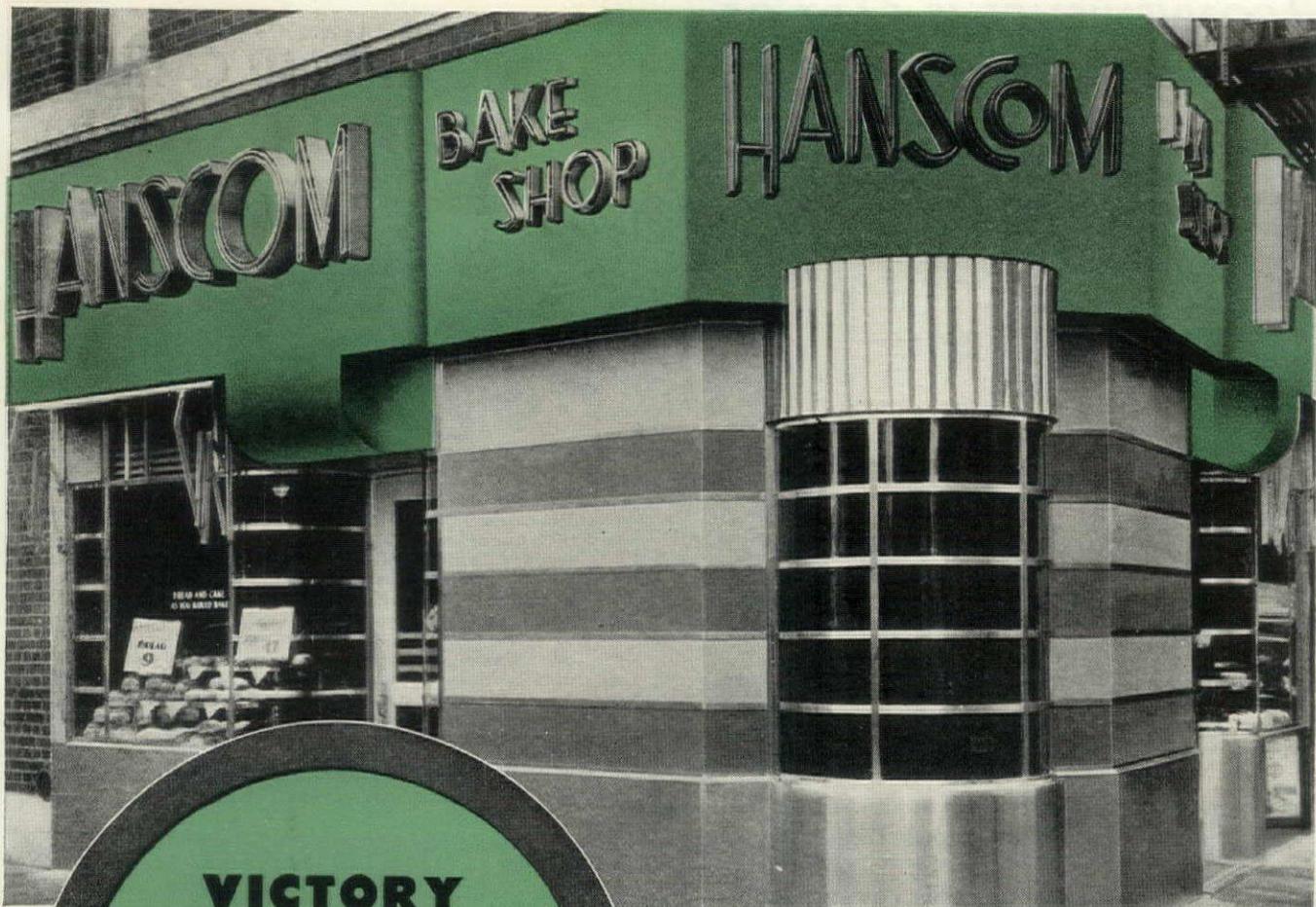


*Triple glazed sash helps keep the house warm.*



*You will be comfortable at lower room temperature with radiant heat, if you don't look at the thermometer.*

Here is a popular primer for those who have looked forward to erecting a home, church, hospital or factory in postwar America. The author states on the jacket that "The boy who builds a doghouse is an architect," but this is no homespun volume devoted exclusively to either homes or doghouses. It is a comprehensive book, as all-inclusive as the title of the fourth chapter, "Shelter for Dogs" (Continued on page 158)



**VICTORY  
WILL PUT A  
NEW FACE  
ON THINGS**

*This New York City shop exterior is faced with porcelain enamel on ARMCO Ingot Iron and with ARMCO Stainless Steel. Sign fascia is apple-green, the walls two tones of gray. Letters on sign fascia and the bulkhead are stainless steel.*

Shops . . . cafeterias . . . theaters . . . filling stations . . . these and many other types of businesses will bid for new customers after victory with brighter, more colorful fronts. Make sure your clients modernize with the facing material that's ideal for the job. Specify porcelain enamel. The wide range of colors in acid-resisting porcelain enamel permits you to use the smartest color schemes. And porcelain enamel *stays* attractive. It can't rust or wear out. Its glassy

finish is easy to clean, which cuts upkeep costs.

Light in weight, porcelain enamel is quickly and firmly installed. Neither atmospheric acids nor weather can stain or corrode it. It does not fade. And it withstands all but the severest abuse.

While Armco does not supply porcelain enameled panels, for your clients' lasting satisfaction specify that the porcelain enamel be fused on ARMCO Enameling Iron. For years it has been

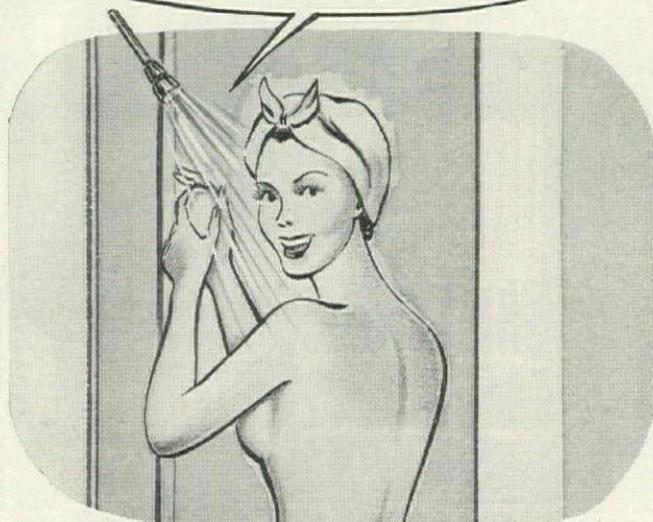
the most widely used metal base for this exacting purpose. The American Rolling Mill Company, 1561 Curtis Street, Middletown, Ohio.

FOR EXPORT: THE ARMCO INTERNATIONAL CORPORATION

**SPECIAL-PURPOSE SHEET STEELS**



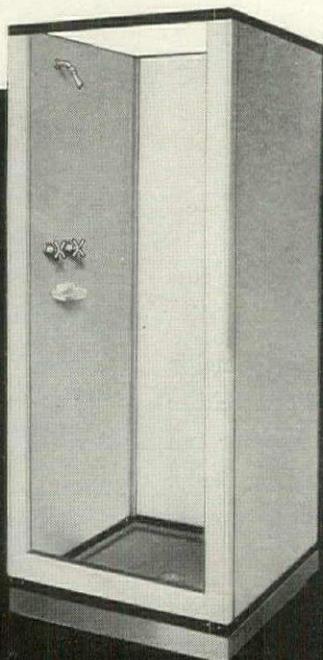
**SHOWER BATH  
CONVENIENCE IS PART OF  
MODERN LIVING!**



**INCLUDE A *Bathe-Rite* SHOWER  
CABINET IN YOUR "HOMES OF THE FUTURE"**

**HEALTH AUTHORITIES** endorse frequent shower bathing as a positive means for promoting better living. The convenience and pleasure of auxiliary shower facilities should be included in all plans for homes designed for modern living.

**"BATHE-RITE" SHOWER CABINETS** for post-war are designed in *standardized sizes* on the modulus of 4. Place "Bathe-Rite" in your new or remodeled home plans now. Suitable for all types of structures. Simple to install, durable in construction, attractive in styling. Illustrated catalogue sent you upon request. See our postwar catalogue in Sweets.



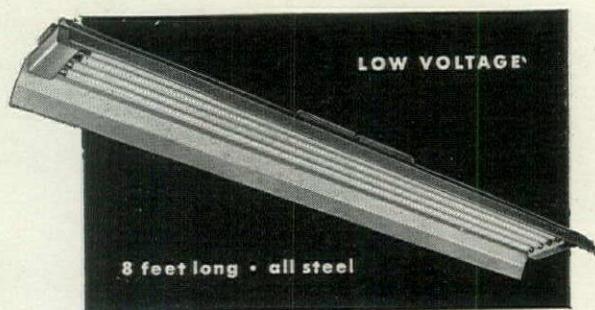
***Bathe-Rite*  
CABINETS**

are available now  
in 32" x 32" and  
30" x 30".

**MILWAUKEE STAMPING COMPANY**

"Bathe-Rite" Division  
802-S South 72nd Street Milwaukee 14, Wisconsin

**\*COLOVOLT COLD CATHODE  
INDUSTRIAL FIXTURES**



Here is the new Colovolt industrial fixture, one of a complete line of industrial and commercial "packaged" units. Equipped with the standard 93" Colovolt 10,000 hour lamp, Colovolt fixtures may be used singly or in continuous line lighting in multiples of 8 feet. Instantaneous starting, no flickering, guaranteed for 1 year except for failure due to breakage are extra advantages of the Colovolt Cold Cathode low voltage fluorescent lamp. The long life expectancy of Colovolt lamps may be realized even when constantly turned on and off, and *pre-scheduled re-lamping, with no loss of production or time, is now possible with Colovolt installations.*

Contact your electrical wholesaler or jobber, or write us for full details and prices.



\*Trade mark registered U. S. Pat. Off.

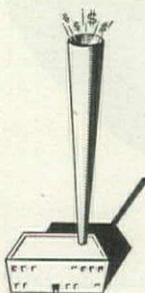
**GENERAL LUMINESCENT CORPORATION**

622 S. FEDERAL STREET

CHICAGO 5, ILLINOIS

**Less heat-waste  
up the stack**

with **JOHNSON  
OIL BURNERS**

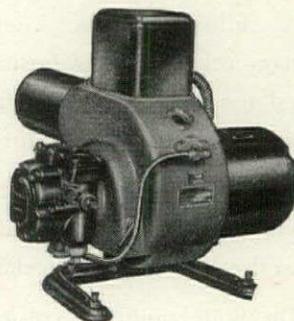


Johnson Boiler-Burner Units capture and use an exceptionally high percentage of the potential heat in every gallon of oil they burn ... a fact which directly affects fuel consumption and the price of heat.

If you're looking for *real* fuel economy (and who isn't) it will pay you to investigate the super-efficiency, the dependability and the fine engineering that have

been built into Johnson Burners for 42 years.

There's a size and type that's exactly right for any heating problem, be it big or little, industrial or domestic. Ask us about these fine burners that use low-cost oil and get the most out of it. Some types of equipment are available right now. May we tell you about it?



**...Johnson Oil Burners...**

S. T. JOHNSON CO.  
940 Arlington Ave., Oakland 8, Calif.  
401 No. Broad St., Philadelphia 8, Pa.

★ ★ ★

**A S B E S T O S   I N   A C T I O N**



*Oyez! Oyez! Oyez!*

★ ★ ★

**K & M SPRAYED "LIMPET" solves another acoustical problem**

You are free to express the quiet dignity of a court room, or the beauty of a fashionable cocktail lounge, when you use K&M Sprayed "Limpet" Asbestos. This amazingly adaptable material can be sprayed on a ceiling to any thickness and will readily conform to the most intricate architectural design.

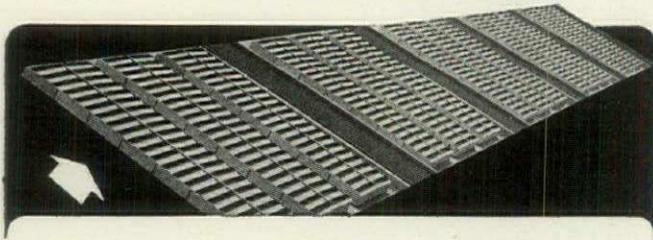
K&M Sprayed "Limpet" Asbestos not only *absorbs* sound by its porosity, but also reduces unwanted noise through diaphragmatic action. It is light, strong and extremely fire-resistant and can be painted repeatedly without destroying its effectiveness. For example, Limpet has a noise reduction coefficient of .70 for a  $\frac{3}{4}$ " thickness... even after application of two coats of paint.

The low cost per unit of sound absorption makes K&M Sprayed "Limpet" Asbestos economical to use. Its low thermal conductivity (.31 at 75°F) is a *Plus Value* which is especially desirable for insulation reasons. Write for further details.

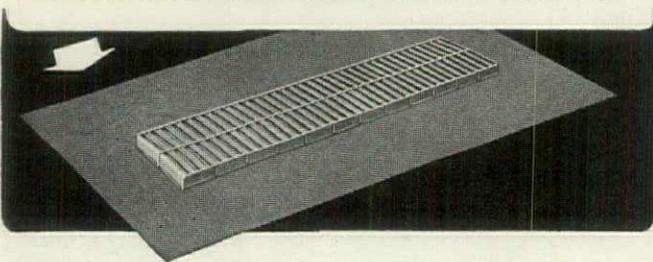


**KEASBEY & MATTISON  
COMPANY, AMBLER, PENNSYLVANIA**

Whether the Factory Buildings  
you are designing call for



a whale of a lot of ventilation  
*or*  
selective heat and smoke removal



specify Swartwout **AIRMOVER**

The "open roof" method  
of industrial ventilation

This modern improvement in industrial ventilation is most flexible, providing complete large scale air movement where you need it, or serving restricted "hot spot" areas as desired. Uses no power; can be regulated to exhaust any portion or full exhaust as required.

AIRMOVER exhausts large quantities of heat, smoke and fumes *rapidly* through its short-air-travel, low-air-friction construction. It's only 32" high, built in rectangular units that can be placed on any type roof. Standard units are 10' wide but can be made any width to meet special requirements. No special structural support needed—therefore low installation cost. Industrial buildings all over the country have been equipped with outstanding success. Write for information.

THE SWARTWOUT CO., 18511 EUCLID, CLEVELAND 12, OHIO



**Swartwout**

Specialists in Air Movement  
by *Natural* Methods

BOOKS

(Continued from page 154)

and Doges," would imply.

Mr. Creighton begins by warning his lay readers not to set out half-cocked in the imminent orgy of building. "Buildings stand for a long time," he cautions. His fellow architects, who could guide them through this hectic period, he evidently holds in low esteem. He treats them, in fact, with the same humor and condescension that some critics reserve for chiropractors: "There's nothing more impressive than an architect acting as interpreter of his own drawings to an earnest builder in the presence of an awed client. It's one of the thrills in life you don't want to miss, like hearing a singer just barely make high C."

Scattered throughout the book are pungent observations on practically every personality and topic pertinent to building. Frank Lloyd Wright: ". . . his desire to have a house hug the ground and belong to it." City Planning: "Short of complete government control which we are not going to have, short of revolution, which we are not going to have, there can be no complete planning. Paternalism and politics, profits and privileges combine to defeat any ideal fulfillment of whatever solution the city planners may suggest."

By far the best thing about the book are the illustrations by the author (see cut). These are clever, clear and informative. Somewhat less successful are the rather labored and inappropriate attempts at humor. For example, in forecasting a building boom that will include churches as well as hospitals: "Our ex-soldiers will be disillusioned veterans of a great deal of ruthless killing. They won't make good Sunday school teachers. But it is probable that more of them will go to church than did before they were inducted, and added to the increased church goers at home they will make more pews in the churches necessary."

He dramatizes the need for more hospitals by telling us, "There is a story at Bellevue Hospital in New York City that the superintendent, on a tour of inspection, opened the door of a linen closet and found a patient asleep therein."

Aside from this peculiar striving for laughs and a glib and inappropriate use of the word phoney, the author is serious enough and occasionally inspired. He looks forward triumphantly to a period of prolonged building activity ahead. . . . "The building industry brags that it can employ two million people as soon as it is given the signal to go ahead without restriction. That's an important factor as the armed services begin to unload. We are awakening to the fact, which should have been obvious long ago, that disrepair, overcrowding, ill health and poor education cost more money than their removal. And—don't blush now—we are developing a social consciousness. We realize many things as social obligations that we would have considered pampering a decade ago. We haven't gone through a long depression and fought two wars to learn nothing. Some of our new understanding of human needs will be translated into building in the next few years."

**CHARLOT MURALS IN GEORGIA.** University of Georgia Press, Athens. 178 pp., 8 in. by 10 1/4 in. \$6.00.

Today, in the art book field as well as in every other field of publishing, we have a writer's market. The flood of books on painting techniques, on French impressionists, on all the claptrap of easel painting and its trimmings, has become almost a log-jam. And somehow (Continued on page 162)



# 7740 Tons of Structural Steel

Fabricated and Erected on Schedule

Join the illustrations together and you get an idea of this tremendous structural steel job. Engineering ability plus plant flexibility made it possible to fabricate the steel, deliver the huge tonnage to the site, and have it erected on schedule.

The complete facilities of 3 separate structural fabricating plants are available on large buildings or even on smaller buildings, if time is the determining factor and the building must be erected super fast.

A quarter century engineering experience and complete facilities for erecting as well as fabricating the steel are available to you.

**SEND YOUR PLANS AND SPECIFICATIONS TO US FOR QUOTATION.**

Your structural steel projects will be intelligently handled here, from quotation to finished erection. Allied is qualified to head your list—to figure your plans and specifications on all steel structures.

**ALLIED STRUCTURAL STEEL COMPANIES**

ENGINEERS  
FABRICATORS (75,000 TONS CAPACITY)  
ERECTORS

- CLINTON BRIDGE WORKS, 101 S. Second St., Clinton, Iowa
- GAGE STRUCTURAL STEEL CO., 3123-41 S. Hoyne Ave., Chicago 8, Ill.
- MIDLAND STRUCTURAL STEEL CO., 1300-20 S. 54th Ave., Cicero 50, Ill.

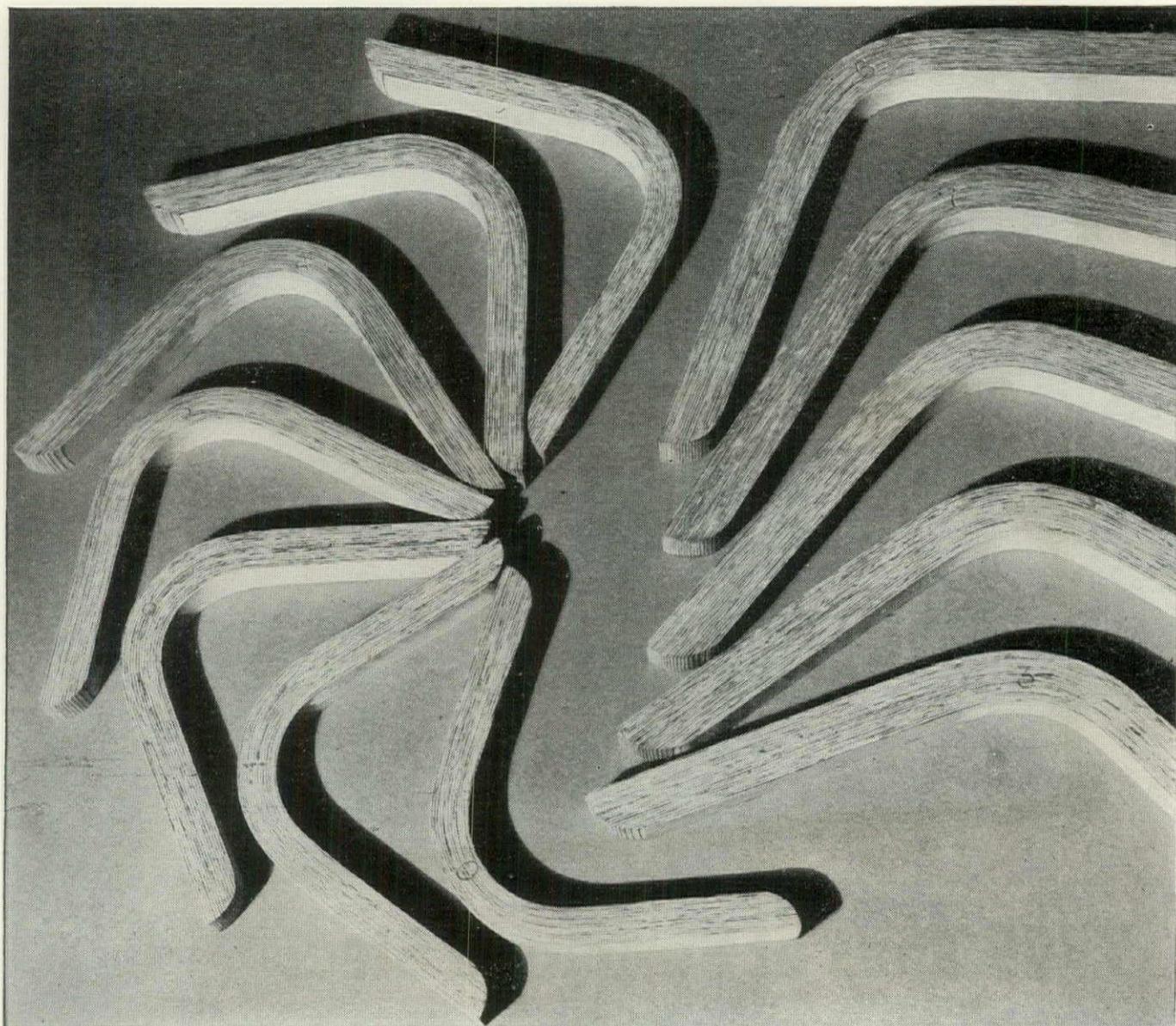


PHOTO MATERIAL COURTESY OF ABERDEEN SHIPYARDS, ABERDEEN, WASH.

## New angles on Precision in Wood

THESE ARE "knees," supporting angles for a collapsible lifeboat. They are made of 15 or more 1/20"-thick oak veneers laminated with a waterproof, heatproof, moldproof CASCOPHEN synthetic resin glue. The shape of each knee is made within close tolerances and is slightly different from the others, to follow the curve of the hull.

These knees are light, completely durable, and practically unbreakable—with just enough "give" to withstand the twisting strains of a boat.

They are also economical. Wide sheets of veneer are used, and the resulting molded panels are simply sliced like a sausage, producing a number of identical members.

Remember these angles when you design the framework for a building—or a chair. There is no limit to size or shape. We will be glad to answer any questions about the glue or the gluing procedure.

CASEIN COMPANY OF AMERICA, Dept. AF-65  
(Division of The Borden Company)

350 Madison Avenue, New York 17, N. Y.

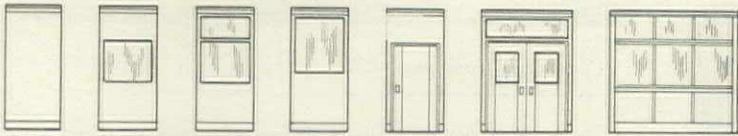
315 North Clark Street, Chicago 10, Ill.

701 Myrtle Street, Seattle 8, Wash.

**CASCO · CASCAMITE**  
CASEIN                      UREA RESIN

**CASCOPHEN**  
PHENOL, RESORCINOL

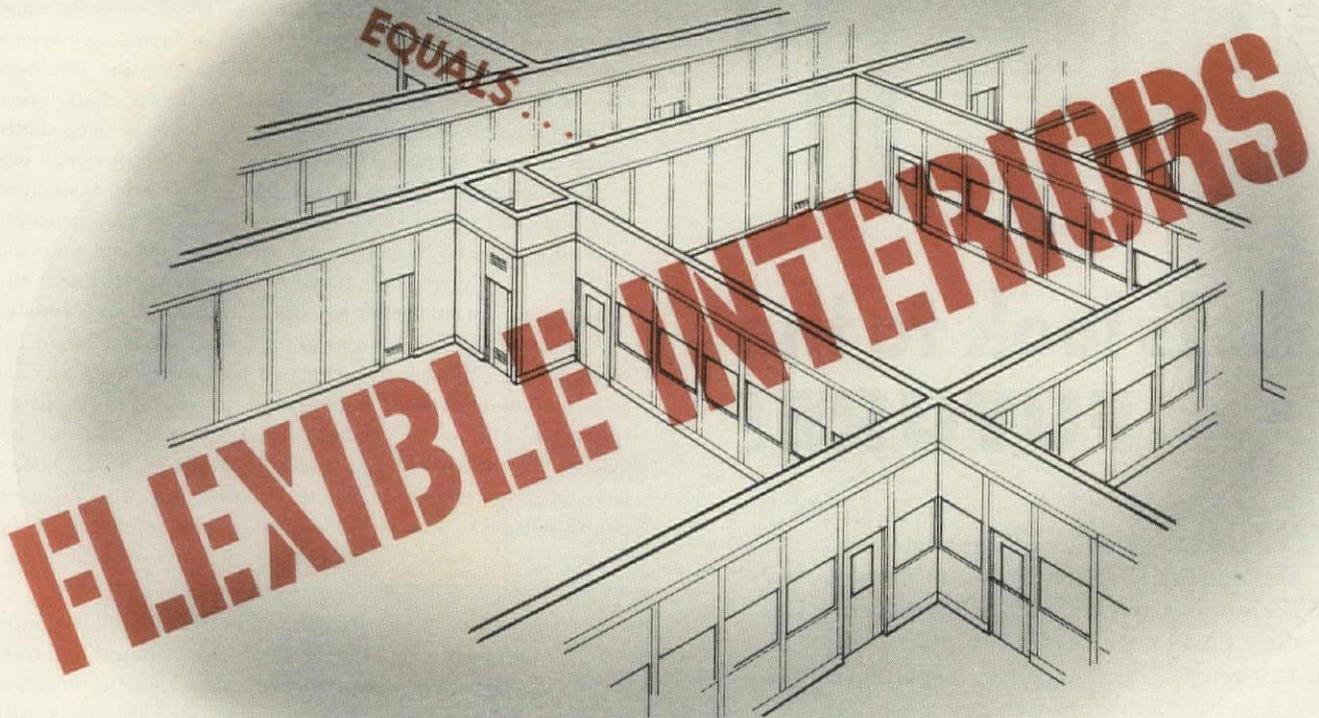
*Glues for Industry*



# HAUSERMAN MASTERWALLS



## HAUSERMAN SERVICE



**B**EFORE LONG we will again take sheets of steel and fabricate them into movable steel partitions and wall lining by precision manufacturing methods. We call them Masterwalls . . . they are the result of over 30 years of research, experiment and just plain hard work. These partitions have been designed to be moved at the drop of a hat . . . without dirt or muss . . . without interruption of work routine . . . and with complete re-use of parts. They are economical, good looking and long lasting. That is why we like to think of them as the premier movable steel partition.

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So, remember, when you want to "engineer" flexibility into building interiors specify Hauserman and you specify the best. Masterwall Catalog 45 tells the complete story. Why not write for it?

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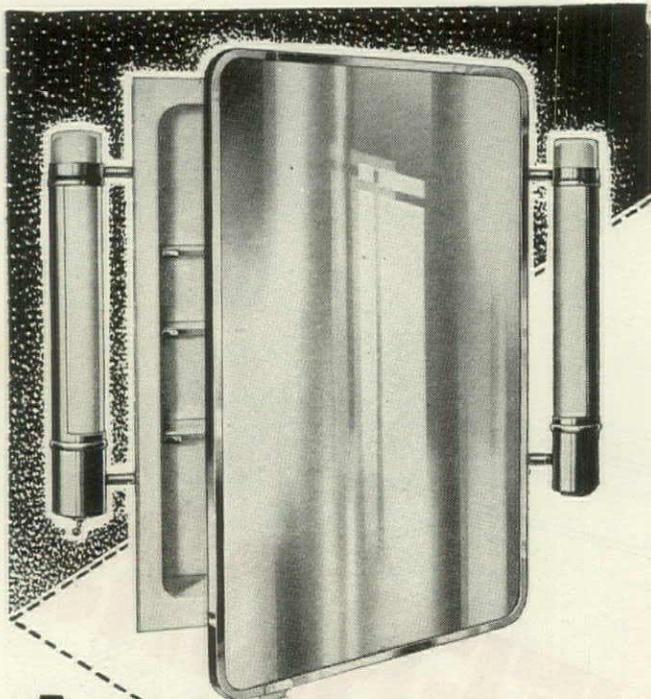
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IN PARTITIONS — *movability* PAYS

(Continued from page 158)



## Let's look to the FUTURE!

WHEN the war is over, or when present restrictions are relaxed, Lawson Bathroom Cabinets will again maintain their position of leadership, backed by 129 years of manufacturing experience.

Lawson Bathroom Cabinets definitely set the tempo for smart styling, beauty and sound construction. Their high reputation for utility and high value is nation-wide!

The Lawson line has always been so complete and the range of prices so wide that the *right* Cabinet could easily be found for every type of building, to fit every budget. And each Cabinet in every price range was made to the same high standard of quality!

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presentation of the thin, clear stream of really vital art gets lost somewhere in the clutter.

If art has any function at all, it must be as an embellishment to life—much of which goes on in houses, in buildings, in architecture. But in the art world and the book world and even the architectural world, this fundamental concept of art has been lost sight of. There are pages of dilettantism to confuse an eager public, but there is little basic attempt to show people how to make their surroundings more pleasant, more livable, happier.

A recent book from an obscure press (which we understand nearly went broke printing this fine job of layout and typography), *Charlot Murals in Georgia*, is a scientific presentation of fresco and mural technique as well as a chatty story of the vicissitudes of getting such work done in the deep south. Charlot, whose heart's blood has gone into the book, was one of the stimulating forces in the great Mexican renaissance of mural art 15 or so years ago, when the rich, vital concepts of Orozco, Rivera, Siqueiros and others poured out onto the walls of the Ministry of Education and elsewhere, under the enlightened patronage of the liberal Vasconcelos, Minister of Education. Perhaps not as great a muralist as some of his colleagues in Mexico, Frenchman Charlot has a greater intellectual understanding of the true problems of mural painting as related to architecture. And although some of his figures (blown up in large detail on the pages of the book) bear too great a resemblance to Disney's, his effort to bring painting down to a common, understandable level even at the expense of borrowing from another vital art form of today, the movies, is commendable.

If students avoid copying Charlot's murals and devoutly study his foreword explaining the esthetics of mural painting, as well as the wealth of excellent plates giving the progress of mural technique, details of painting, etc., this book will be an invaluable guide to art schools and even to the great mass of American painters who have recently attempted murals without so deep an understanding of its problems.

**MASKS.** By W. T. Benda. Watson-Guptill Publications, Inc., New York. 7¾ in. by 10¼ in. \$5.00.

**OIL PAINTING FOR THE BEGINNER.** By Frederic Taubes. Watson-Guptill Publications, Inc., New York. 7¾ in. by 10¼ in. \$6.00.

**WATERCOLOR DEMONSTRATED.** Edited by Ernest W. Watson & Norman Kent. Watson-Guptill Publications, Inc., New York. 9 in. by 12 in. \$5.00.

On the other side of the esthetic fence we find a group of books just released by Watson-Guptill in their "how-to-do-it" series. The one that will probably make the biggest splash is "Masks," by W. T. Benda. For, to quote the foreword, "No devil-dancer, with any sort of respect for himself, would ever have dreamed of running through his routine with a naked face"—there are a lot of people looking for this sort of escapism from reality, and "masks are magic."

Strangely enough, although this book stems from an entirely different social concept from that of Charlot's broad approach, there are curious similarities between some of the plates of masks and some of the figures in Charlot's murals. There is some good technical stuff, too, on how to make masks; but let us hope the

(Continued on page 166)



When a wall must vanish  
in 60 seconds..

*formerly Ferguson*

# Robertson Vertical Lift Door

Press a button, count 60 and the side of this building has risen out of sight.

Open quicker. Open wider. These demands are increasing for modern industrial buildings. The Robertson Vertical Lift Door can be as wide and as high as a whole wall. But, regardless of size, the door opens in a matter of seconds. The door shown opens in 60 seconds.

The leaves nest above the truss, within a special facade, leaving maximum ceiling and floor space

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The engineering skill which originated this door under the name Ferguson, has been combined with Robertson engineering and management. Robertson engineers will be glad to co-operate in adapting the Door to your requirements. A Robertson representative can furnish all data, or you may write for Robertson Door literature.

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- Not obstructed by sand or snowdrifts.
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- All leaves reach peak at same time. May be stopped at any point, saving heat. Safety device available to halt descent if door touches an object.
- Door may be divided into independent sections, still leaving an unobstructed opening.
- Lowest leaf can conform to ground slope.
- Skin may be of various materials to suit architectural design: fenestration, sliding pilot doors, heat and sound insulation available.

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HE'S HEADED FOR BIG THINGS  
IN THE ELECTRICAL WORLD

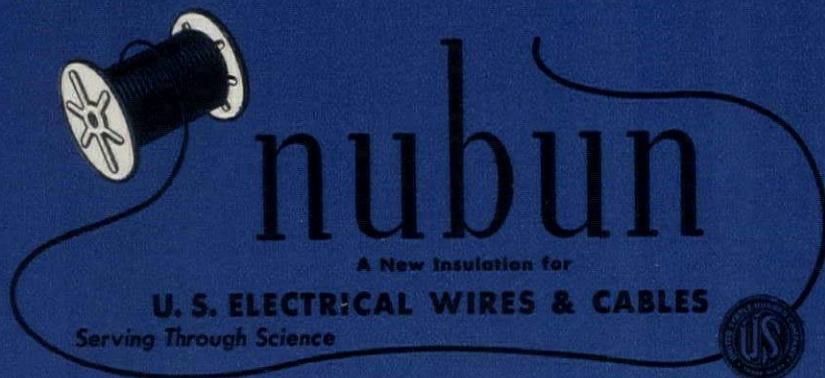
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(Continued from page 162)

reader does not get any delusions as to the real place of mask-making in our unmysterious, unesoteric modern world of art. Even Benda himself says on page 41, "At any rate (masks) made you think of the Spanish Inquisition, of the Ku Klux Klan, or of our racketeers . . ." But there is a great probability that people will gobble up a book like this; and it is to be regretted that all the technical knowledge and understanding of this subject, as given in this book, isn't tied in somehow to its real place in the art world. There is just as good stuff of this kind in a lot of department store windows—sculpturally, even better, sometimes—and it isn't nearly so *recherché*.

Taubes' book on oil painting techniques has a more modest approach: "What in the world," questions the foreword, "is there to say on the subject which you have not already said?" To tell the truth, there is plenty that has not been said, for this is an age of experiment in new materials and techniques, in oil painting as well as architecture. But Taubes hasn't gone in for any of the tricks being tried out by modern painters, such as mixing sand with paint for texture. This is a simple, elementary book for beginners, as pedestrian as such books must be. In fact, one chapter is even called, "Painting A Portrait Step-by-Step."

The book on watercolors purports to deal with "the making or painting of watercolor pictures themselves," but actually it is less concerned with technical information than with presenting a sort of hodgepodge of reproductions, biographical data on the painters, and in some cases their own rather interesting comments on how they work.

**BUILDING INSULATION.** By Paul Dunham Close. American Technical Society, Chicago. Second edition. 6 in. by 8½ in. \$3.50.

This new and revised edition of one of a series of "Practical Books for Home Study and Classroom," is also a bible for the heating or air conditioning engineer. Full of meaty material on types of insulation materials, methods of installation, economics and efficiencies of insulation, jam-packed with tables of transmission coefficients, condensation information, acoustical data, etc., the book is well documented too with detail drawings.

As the author points out, this is not a new subject, but one that has grown tremendously during the last 20-25 years due to (a) commercial ballyhoo on the part of large manufacturers and (b) increasing need for new methods of insulation in newly developed mechanical refrigeration. And although the writer, now Technical Secretary of the Insulation Board Institute, has served formerly under two of the biggest insulation material manufacturers, he keeps the true scientist's objectivity in presenting the facts. He gives a handy list of all the commercial materials on the market, with their advantages "according to the manufacturer." He keeps away from the touchy point of relative evaluation of these various products.

There are not many changes in this new edition over the 1941 edition. Only five new materials have been added to the list. And there is a revision of the transmission coefficients and tables in Chapter V, brought up to date and reprinted from the 1944 *Heating, Ventilating & Air Conditioning Guide* of the American Society of Heating & Ventilating Engineers. On page 167 there is a new table showing approximate temperature differentials between breathing level and ceiling.



What "MACSIMUM"  
means to You

## In Terms of Electrical Wires and Cables



A FEW MINUTES' observation of Mac "in operation" around the Paranite plants will give you the answer. For *maximum* is this hard-working man's favorite adjective—and he has an inborn ability to make things operate with maximum efficiency, at maximum speed; a constant determination to produce wire and cable of maximum quality. That's why we changed the spelling to *M-A-C-S-I-M-U-M*!

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BULLETIN NO. B-3000

*Send for your copy*

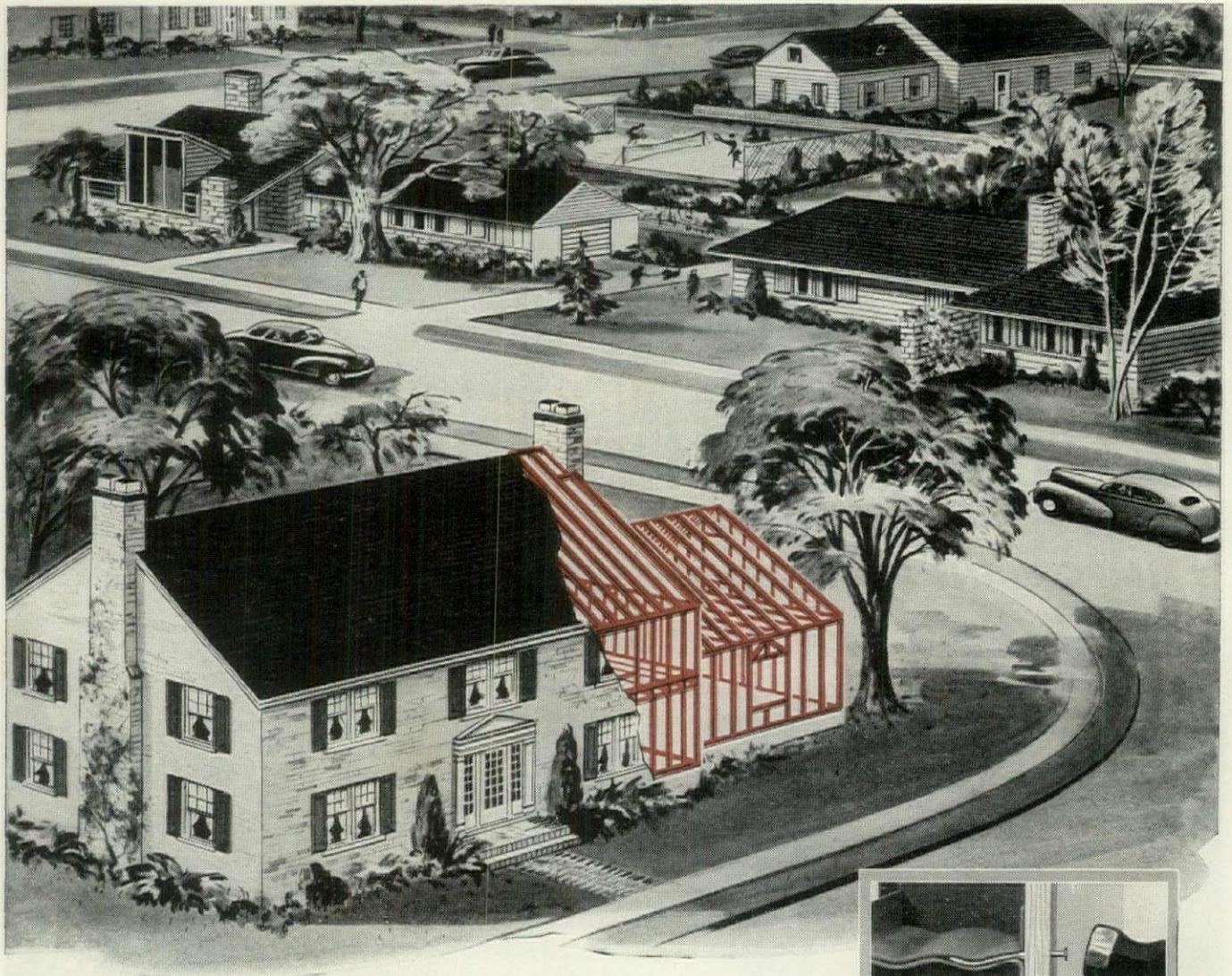
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*Think in terms of*  
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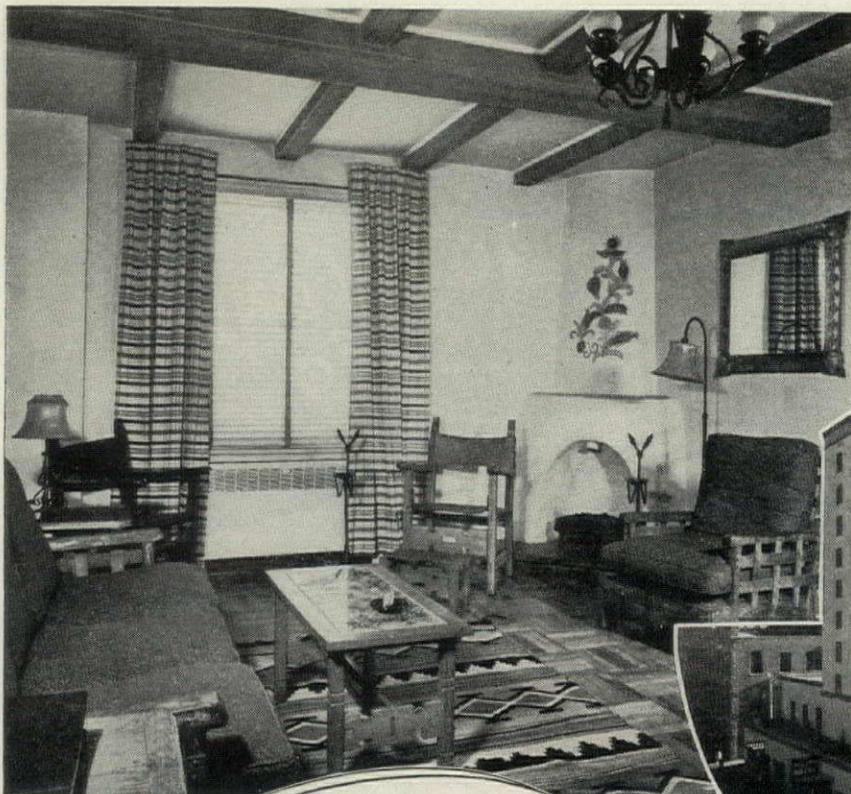
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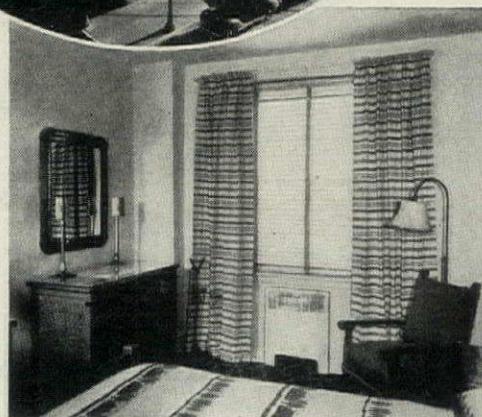
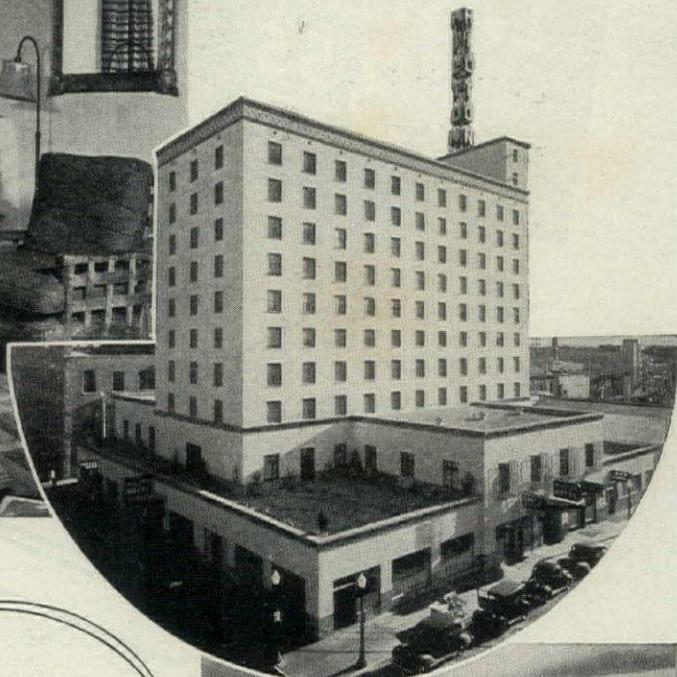
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Prices based on first 66 months of both wars  
Source: Bureau of Labor Statistics

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You give inflation a boost . . .

- when you buy anything you can do without
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**SAVE YOUR MONEY.** Buy and hold all the War Bonds you can afford—to pay for the war and protect your own future. Keep up your insurance.

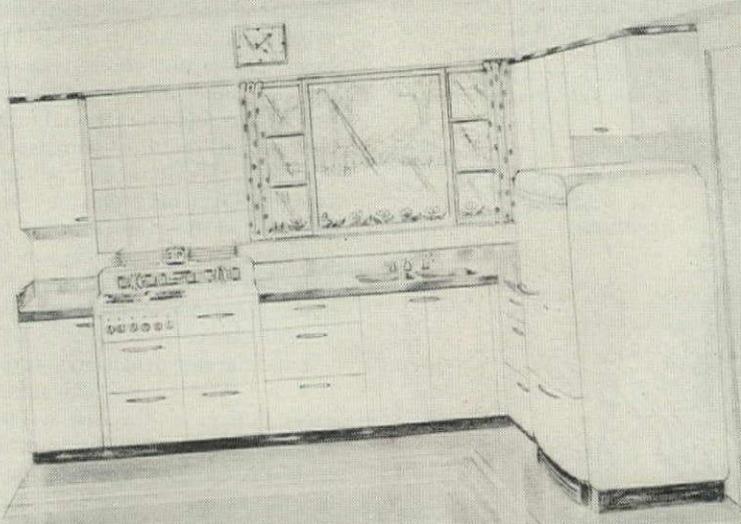
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11	3	"	WC3030
12	1	"	WC1836
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# HOTPOINT ELECTRIC KITCHENS

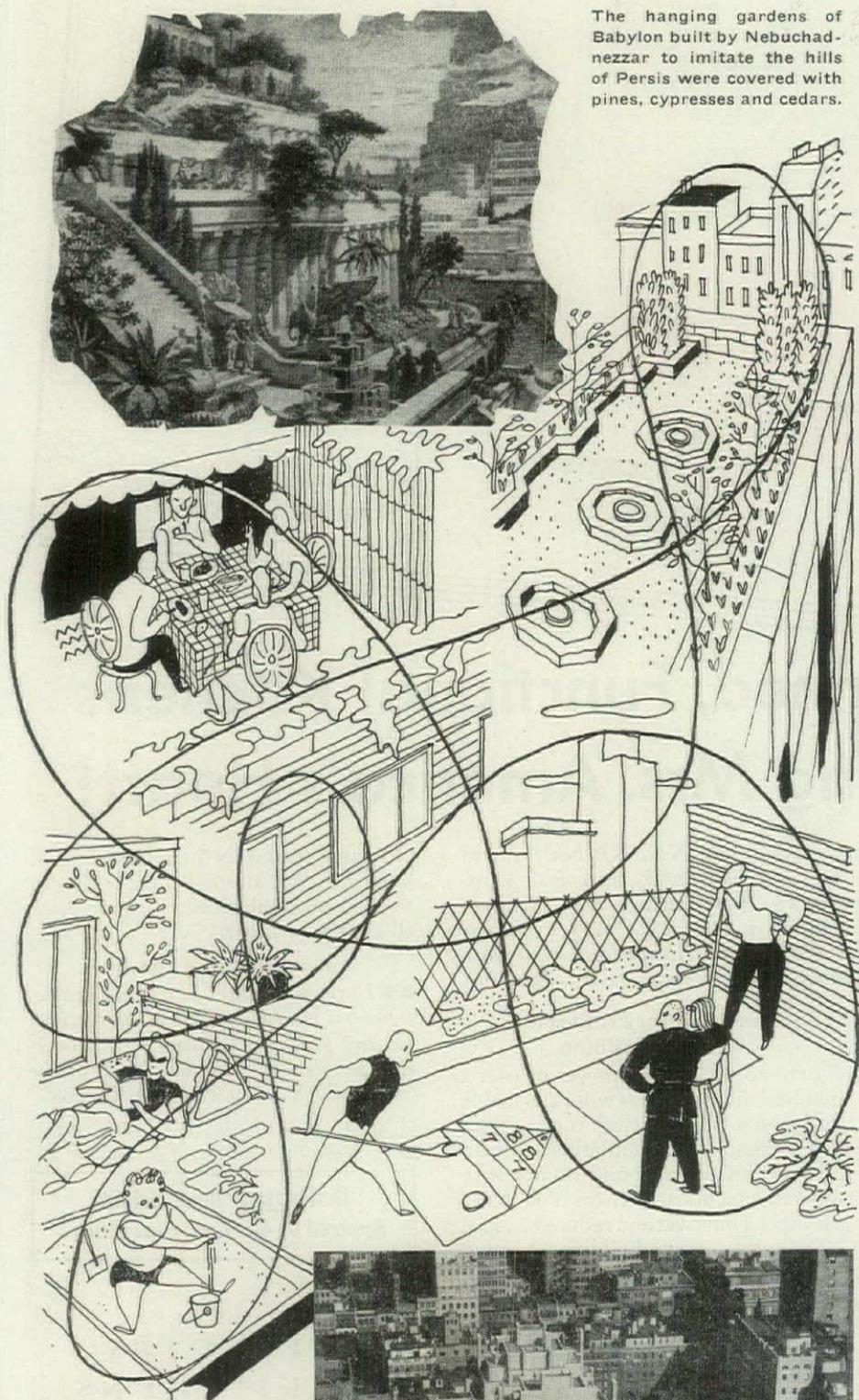
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# PRODUCTS AND PRACTICE

**THE CITY GARDEN** is a design trend in contemporary architecture aimed at better living conditions in crowded areas. It satisfies the new design approach for a bird's-eye perspective of future urban structures.

The hanging gardens of Babylon built by Nebuchadnezzar to imitate the hills of Persis were covered with pines, cypresses and cedars.



Roof design is needed to create utilitarian and recreational uses for acres of wasted roof and terrace space in our crowded cities.

The trend toward wedding nature and urban architecture by landscaping terraces, courts and roofs, is good art as well as sound business. Progressive industrialists find recreational facilities on commercial rooftops increase working efficiency. Realtors get better rentals from apartments with terraces and garden courts. Cooperative backyard gardens make urban living more enjoyable and landscaped areas in low cost housing pay dividends to the community in healthier citizens.

Landscaping urban structures is not new but part of an old urge to see green foliage and watch it grow. Nebuchadnezzar, to satisfy such a desire, built the hanging gardens of Babylon for his favorite, Amrytis, designed in imitation of the steep hillsides of Persis, her native country. The gardens were supported on arches three stories (about 75 ft.) above the palace level and thus—as the historians tell us—broke the monotony of the featureless, level country.

The Greeks had a word—*hypaethral*, which means open to the sun—for their own type of solar house. The Greeks, and later the Romans, built their houses around open courts which gave them sun, foliage and privacy. Roman architects also awed their public by landscaping such buildings as Hadrian's mausoleum in Rome. A new word for urban gardens is *roofscape*.

The modern classic in hanging gardens, Rockefeller Center, which covers two and a quarter acres, is claimed to be five times as big as ancient Babylon's. Ralph Hancock, landscape architect who designed the gardens, says, "The days of penthouse gardening in boxes are over, and miles and miles of roof space in every metropolis remain to be reclaimed by landscape gardening." There has been no large scale development to justify this prophecy, largely because few operators could afford the expense. There has been, however, a steady increase in the number of urban gardens on a more modest scale.

A bird's eye view of any city reveals the poor design of roofs and the immeasurable acreage of wasted roof space. Because so little has been done in the past, the postwar development of this unused space is virtually unlimited. The stylistic Mansard and Colonial

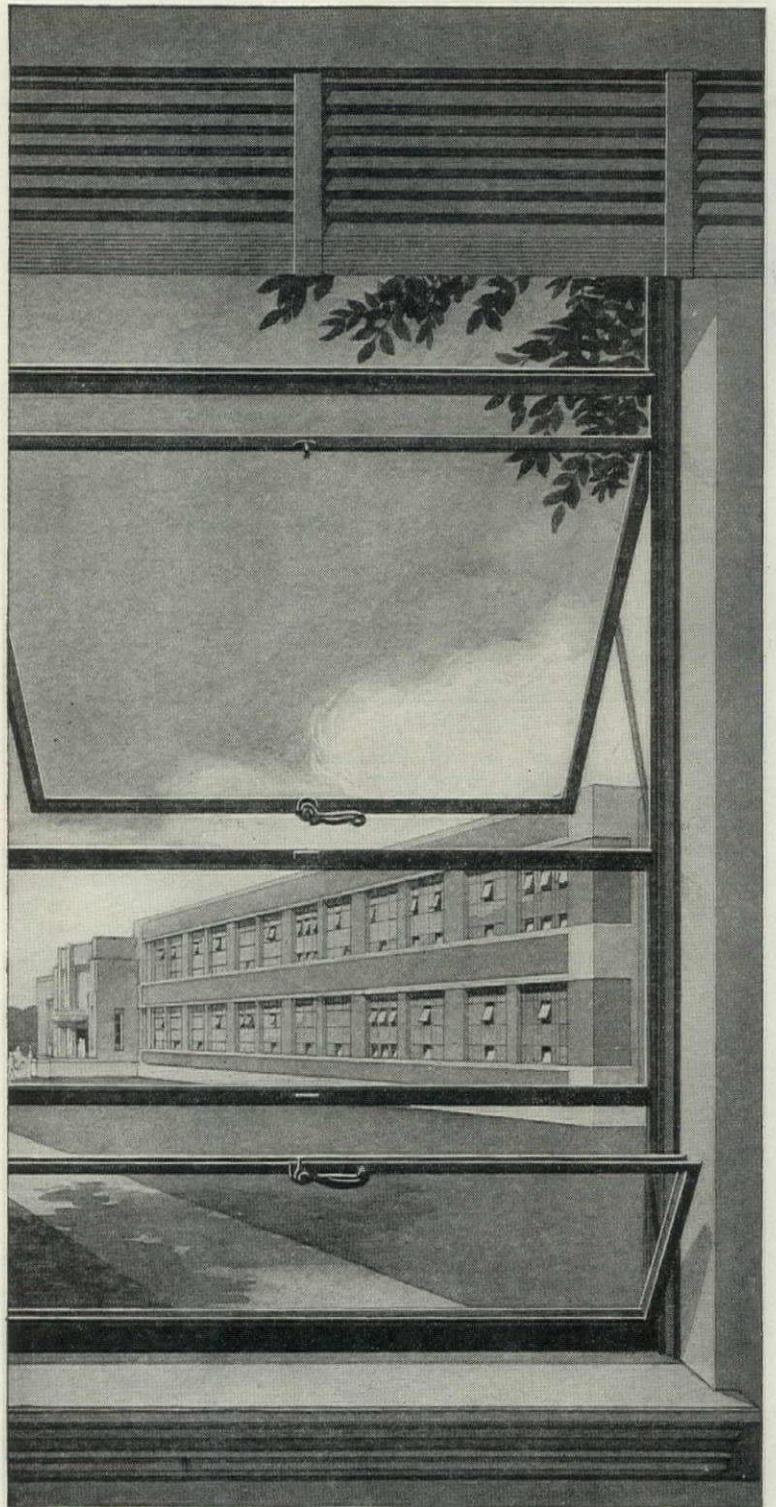
(Continued on page 174)

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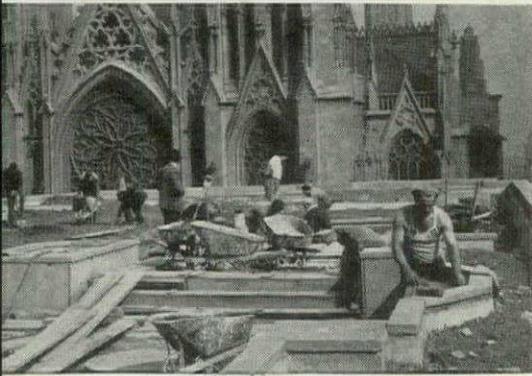
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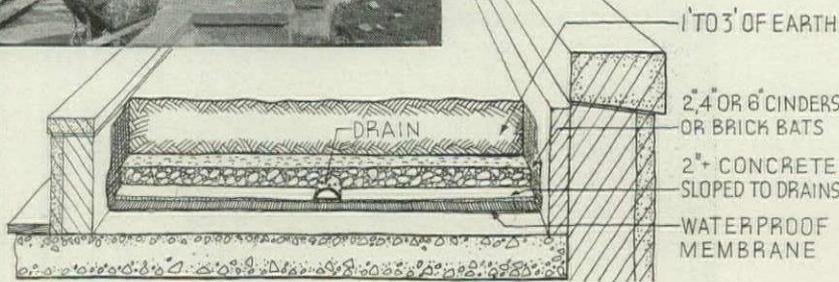


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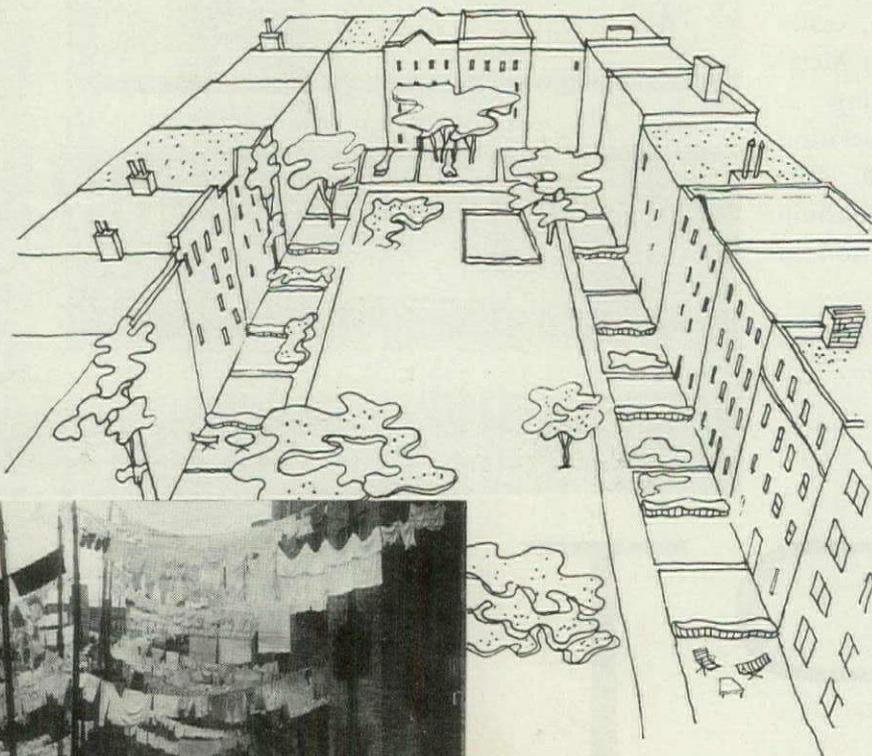
## METAL WINDOWS



Wendell MacRae



**EARTH** will last indefinitely if properly fertilized twice a year, but it pays to install the best top soil to offset difficulties in plant propagation. Good drainage is essential for satisfactory results. In large gardens drain tile is used in addition to the sub soil fill. The picture above shows one of the gardens in Rockefeller Center.



Brown Bros.

**BACKYARD GARDENS** prevent neighborhood decay and protect rentals. Cooperative effort by property owners creates a better living environment for tenants. Gardens carefully planned with hardy trees, shrubs and grass are not prohibitive in cost or upkeep.

adaptations in our city designs destroyed valuable off-the-street play areas. The use of roof decks provides added activity space without a tremendous addition to land cost. A fertile field for roof garden development is hospital roofs and terraces. Solaria can be combined with planted areas to provide patients with a restful atmosphere. Perhaps the largest field for landscaping and recreational development is the urban apartment building.

**ROOF DESIGN NEEDED**

Few urban rooftops are designed—architectural inspiration usually stops at the cornice line. One reason for this is that buildings are designed from a street level perspective in which water tanks, elevator machine rooms, skylights and penthouses receive a minimum of architectural treatment because they are out of a pedestrian's line of sight. But tall buildings have changed our sight lines and reveal deficiencies in roof design. An air-minded generation will probably change this conception and insist on city buildings designed from a bird's-eye perspective.

For architects, roofscaping (roof and terrace planting) must be made part of the original design for structural and esthetic reasons. For realtors, the garden areas must be a vital part of the maintenance budget. Too often, the planting scheme is an afterthought and, like a secondhand suit of clothing, does not fit the building. A conglomeration of fences, pipes, awnings and wrong planting can easily spoil an architectural design. An unkempt garden can disappoint a prospective tenant. With garden and architectural improvements it is possible to turn roofs and terraces into revenue producing areas. For this reason it is of increasing importance that architects and realtors give the urban garden problem more attention in their building programs.

The development of garden courts in city blocks was slow because of the backyard complex that tied multiple dwellings to property line fences and clothes poles. Commercial laundries and domestic drying machines have released backyards from this washday servitude. Intelligent realtors are developing backyard gardens to obtain higher rentals. And there are commendable examples of cooperation among property owners in a single block from which unsightly fences and clothes poles have been removed to make room for pleasant gardens and play areas. Court gardening is like country gardening and is heir to the same problems of shade, drought and insect control.

**ROOFSCAPE DIFFICULTIES**

Above-the-street gardening has added difficulties that demand special con-  
(Continued on page 176)



## Why FREIGHT ELEVATORS are important!

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For intensive service, the elevators should be high speed, automatic in operation and provided with power operated doors. Such equipment will compensate for some of the time lost in loading and unloading operations.

If conditions require, freight elevators can be dispatched to predetermined floors to suit any cycle

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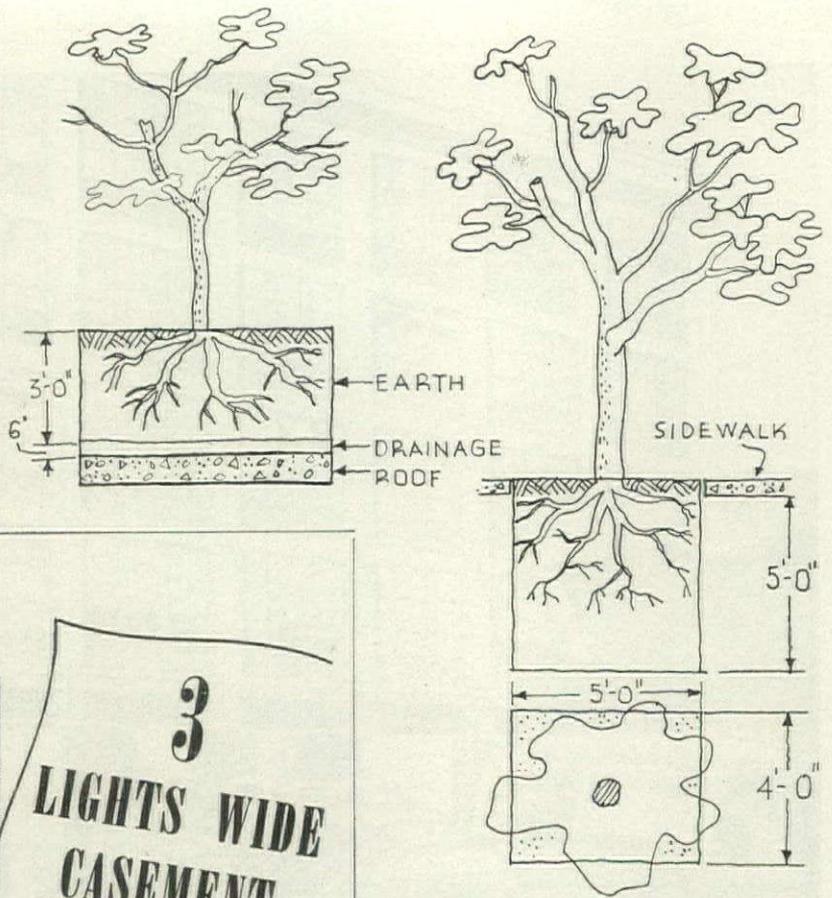
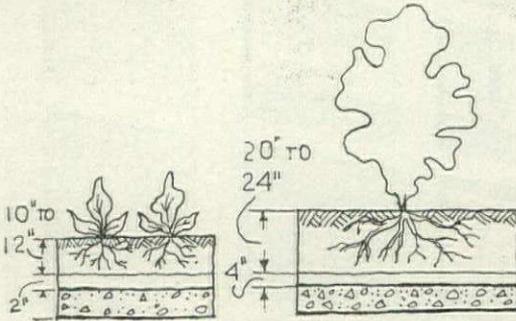
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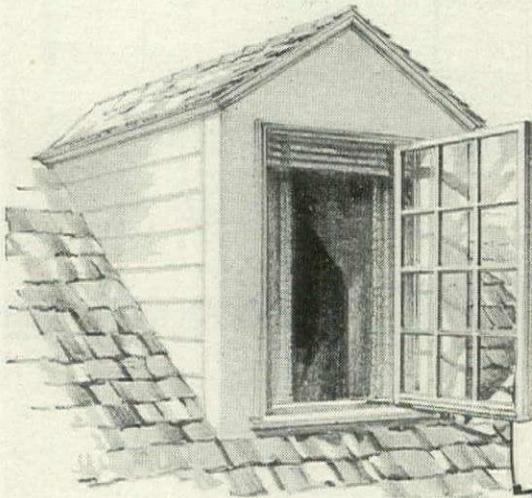
**ELEVATOR  
COMPANY**

**OFFICES IN  
ALL PRINCIPAL CITIES**

(Continued from page 174)



**ROOF GARDEN** soil depth for annuals and perennials should not be less than 10 to 12 in., for shrubs not less than 20 to 24 in. and for trees not less than 3 ft.



**3 LIGHTS WIDE CASEMENT UNITS**

*.. thanks to special Pella hinge design and rigid steel frame*

Here is a line of casement units with full 28" sash openings. Heights run from 2' - 4 1/2" up to 4' - 5 1/4". These attractive stock-size units are helpful in solving many problems of design and proportion.

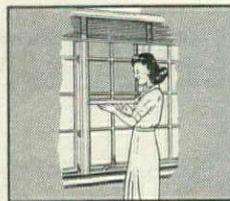
Pella special design hinges provide an extra long 5 1/2" plate for screwing into the solid wood top and bottom sash rails. Butt plate is riveted to the welded steel inner frame of Pella casement units. Hinge extends to allow washing from inside. Tamper-proof when closed. A special mortise and tenon sash joint gives greater gluing surfaces. Joints are also steel-dowelled. Sash is made from genuine White Pine full 1 3/4" square and toxic-treated. Pre-war installations have demonstrated these 3-light wide Pella casements to be thoroughly practical on all counts.

**PELLA 3-LIGHT WIDE SASH** easily supports weight of 300 lb. man without springing sash "out-of-true."



**Free FOR YOUR FILE!**

22 separate pages of scaled Pella casement details for all types of installations. Send for your FREE set today. Write: ROLSCREEN COMPANY, Dept. A-65, Pella, Ia.



**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.

sideration. 1) Trees, plants and shrubs must be selected to meet the unusual conditions of high wind and dryness. 2) The roof surface must be specially prepared to receive the earth fill. 3) The roof must be designed, or in the case of an existing building investigated, for the earth load.

High wind is the roof garden's greatest enemy. Most rooftops are exposed and offer little protection. Walls and fences are one solution. They protect plants from wind but are undesirable in many instances because they cut off the view. Low planting is another possible solution to the wind problem.

Arbor vitae, cedars, cypress, boxwood (except for English), maples and poplars do not thrive in rooftop gardens. Bitter experience with New York winters has led skyscraper garden planners to narrow their selection of usable trees. The willow and the flowering crab-apple rank high on the approved list of hardy trees. Other trees which have been used and found satisfactory are hawthorne, Norway maple, Oriental plane, honey locust and elm. The Douglas fir is one of the hardiest evergreens for rooftop gardens. The size of the trees planted will depend partly on the size of the service elevator or the ability to hoist them up the side of the building.

(Continued on page 180)

**Pella CASEMENT WINDOWS**

Made by makers of Famous Pella ROLSCREENS and Pella VENETIAN BLINDS

*Chrysler  
Airtemp*

**"Packaged"  
Air  
Conditioning**



## A Forward Step to Increased Shoe Sales

Any step that increases sales is a step in the right direction. That's why more and more shoe retailers are including air conditioning in their modernization and expansion plans. Cool shopping comfort insures proper fitting—meaning satisfied customers who return to buy again and again. "Packaged" Air Conditioning, pioneered by Chrysler Airtemp, provides clean, cool, properly dehumidified and gently circulated air

to all areas throughout the store. Flexible and easy to install, these dependable, trouble-free and time-tested Chrysler Airtemp units, with the hermetically sealed compressors, can be used singly or in multiple. Chrysler Airtemp air conditioners can be installed with or without a duct system. Specify "packaged" cooling to help your clients add summer profits. • Airtemp Division of Chrysler Corporation, Dayton 1, Ohio.

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**CHRYSLER**  **AIRTEMP**

**HEATING • COOLING • REFRIGERATION**



# business



How the roof space of a group of office buildings might be put to functionally cooperative use is suggested in this sketch of a business "neighborhood" in 194X, which has been planned by Oscar Stonorov and Louis I. Kahn, prominent Philadelphia architects.

Limited roof areas of the individual office buildings are planned so that their uses are complementary to each other. On the tallest structure is placed a sub-post office with facilities to land fast mail helicopter planes. Another roof accommodates a garden restaurant, and a third features midday recreational facilities for the neighborhood . . .

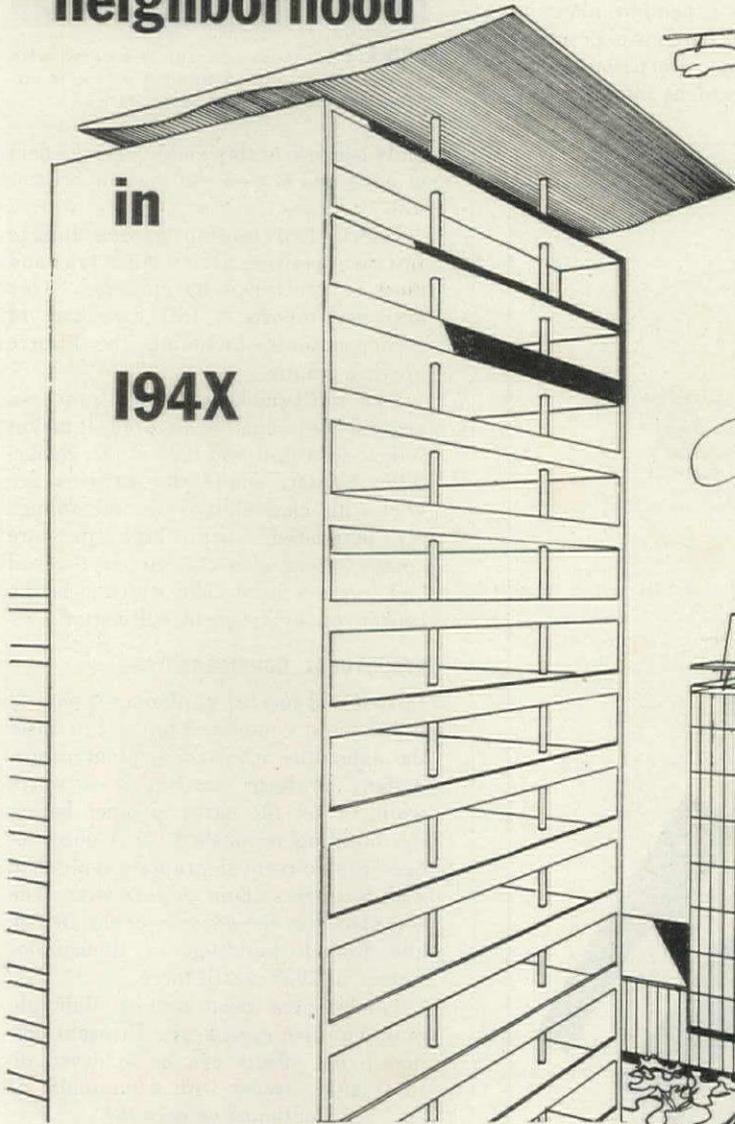
Thus, variety of ground use finds its corollary in intelligent utilization of roof area, which if served by special express elevators, would establish new commercial values for the roofs of office buildings.

\* \* \*

This project extends the pattern of roof functionalism as it has already been developed at New York's famed Rockefeller Center, where Barrett Roofs serve a variety of purposes—from observation decks to rooftop gardens. Here as elsewhere, Barrett Roofs have demonstrated their complete adaptability to new building techniques.

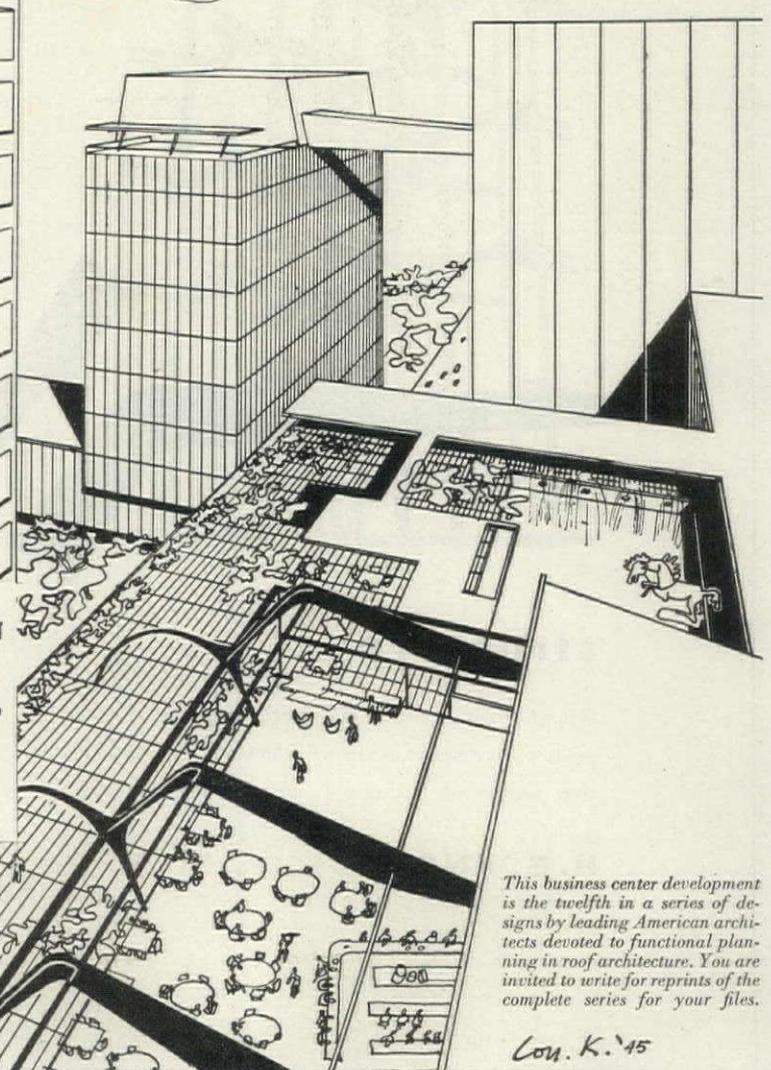
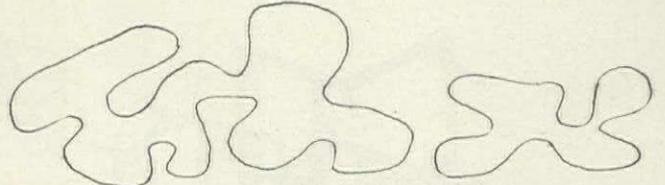
These coal-tar pitch and felt roofs offer the maximum in dependable, long-lasting protection. Standard since 1854 for flat roof construction, they are destined to play an even greater part in post-war building.

## "neighborhood"



in

194X



### THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N.Y.

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Chicago 23, Ill. Alabama

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

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

*This business center development is the twelfth in a series of designs by leading American architects devoted to functional planning in roof architecture. You are invited to write for reprints of the complete series for your files.*

COY. K. '45

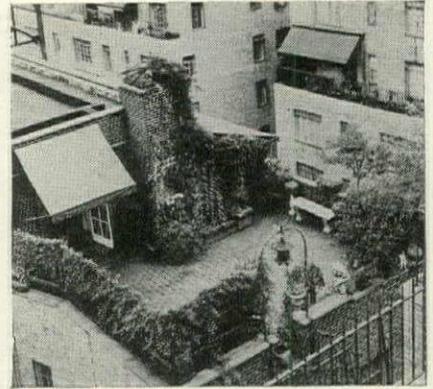
(Continued from page 176)

For hedge planting the evergreen Asiatic yew (*taxus*), which comes in upright, spreading and bushy varieties has been found most satisfactory. Forsythia and lilacs can be grown if their location is not exposed to the wind. Privet, the non-flowering variety, is probably the most widely used of any shrub for hedge purposes.

Vines are widely used in rooftop gardening because they cover large vertical areas and are used as a background for other planting. The most

satisfactory results have been obtained with wistaria, bittersweet, Chinese lace vine, honeysuckle and morning glory. Ivy, with the exception of the climbing Boston variety, must be replaced after severe winters. And the Boston ivy has the disadvantage that it defoliates in winter.

For general planting bulbs and root plants are uniformly successful, although it is reported that high winds sometimes whip the tops off tulip plants. Petunias, heliotrope, English daisy and pansies flourish as bedding plants up to July, when most gardens exposed to the hot sun, without protection, begin to wither. Roof gardens must be watered



**PRIVATE** penthouse garden is created with garden boxes. Good interior effect is obtained using vines on wood fence.

daily because of the double drying effect of wind and sun on the shallow beds of soil.

Insects find rooftop garden foliage just as appetizing as any other type and must be controlled by spraying. One gardener reports a full catalogue of garden insects, including the bizarre praying mantis.

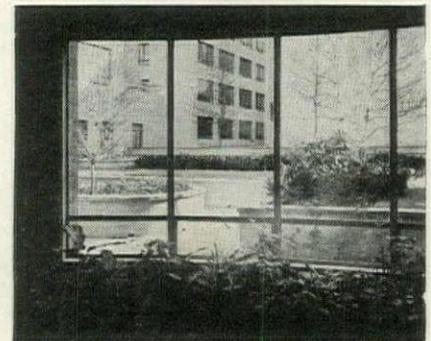
Soot, until smoke abatement practices are enforced, must be endured. It makes foliage look dull and lifeless. In Rockefeller Center, where the gardens are kept with meticulous care, the foliage is "laundered" with high pressure sprays. Soot also collects on the soil and forms a hard cake which must be broken up by frequent cultivation.

**STRUCTURAL CONSIDERATIONS**

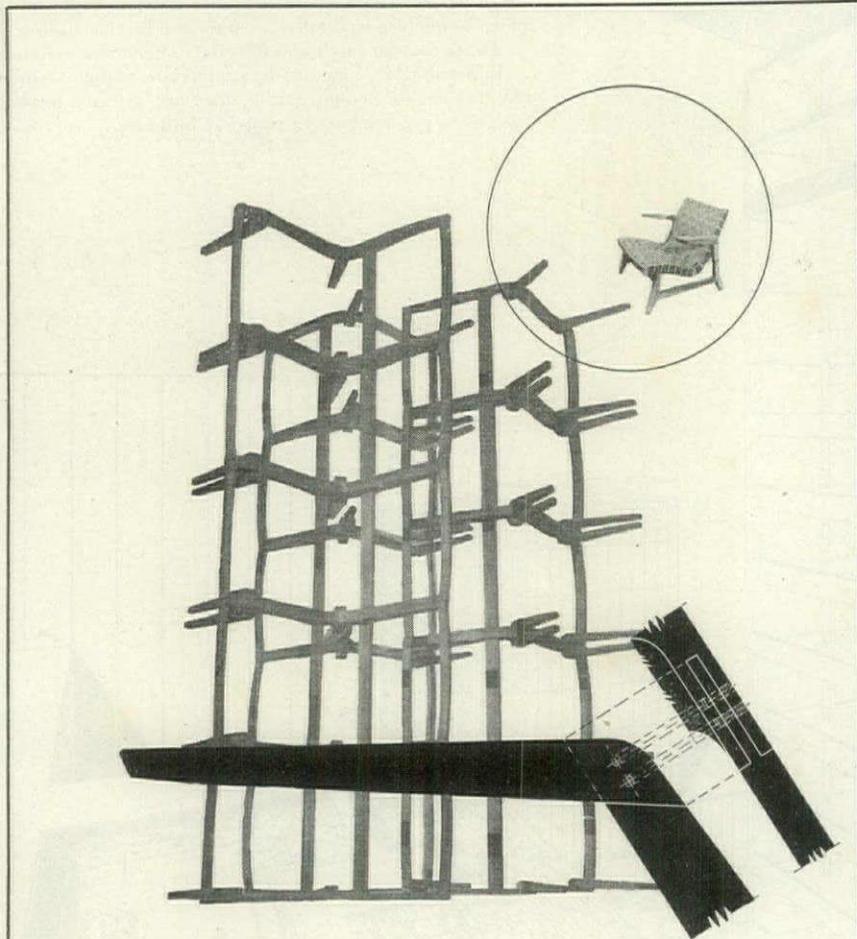
In roof and terrace gardening it pays to use the best composted top soil to offset the difficulties involved in plant propagation. In large gardens it is worth while to get the earth in place before the building is finished. Soil does not need replacement if properly nourished with fertilizers about twice a year. The soil placed in the gardens of the British and French buildings in Rockefeller Center in 1933 is still there.

Landscaping need not be elaborate or prohibitive in upkeep. Pleasant outdoor-living effects can be achieved on roofs and terraces with a minimum of  
(Continued on page 184)

**TERRACE GARDEN** is extended indoors with plant window in apartment house lobby. Outdoor planting is economically restricted to island beds.



Richard Garrison



**structure**

Sound structure must be a basic element of contemporary furniture. Industrial thinking and craftsmanship produced this quality in H. G. Knoll products

**H. G. KNOLL associates**  
601 MADISON AVE., NEW YORK 22, NEW YORK

**HOW A  
CORNER OF THE GARAGE  
BECAME A  
*Luxurious Bath***



There's post-war significance—for new building as well as remodeling—in the story of Weisway adaptability which these pictures tell. They show how architects will be able to meet the insistent and growing demand for more bath facilities in homes of every size.

Added baths in limited floor space—odd corners made into prized comfort spots—are practical and readily achieved possibilities through the use of Weisway Cabinet Showers. Striking proof of this is given in the remodeling job illustrated here, where the necessary space was found in the garage, which adjoined the existing bath room.

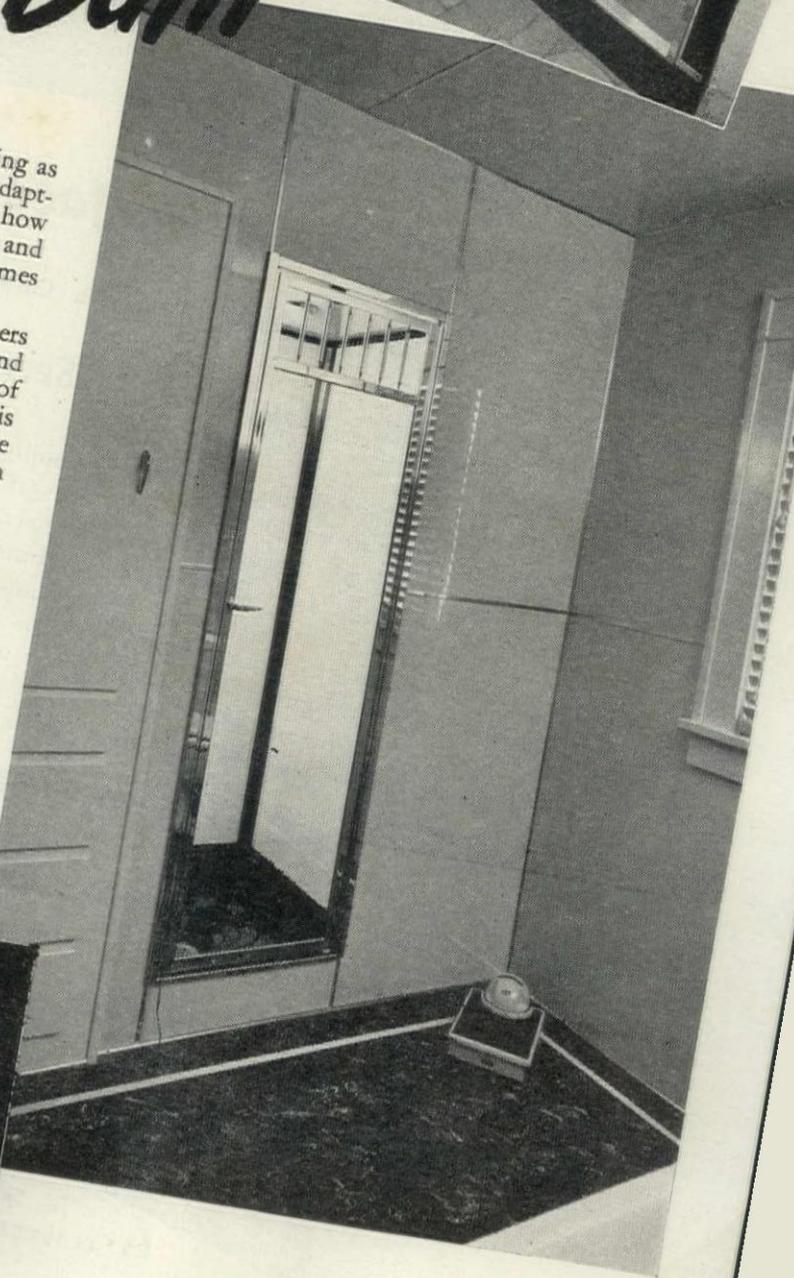
Besides saving space, leakproof Weisways afford fullest enjoyment of shower bathing. As a result of war-time experiences many thousands—yes, millions—of men and women have come to prefer this modern way to bathe—in clean, running water.

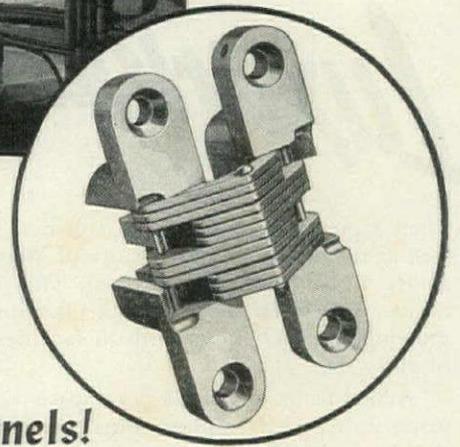
When restrictions are lifted the time-tested Weisway line will offer a range of models suitable for homes of every size and price class. In the meantime Models "V" and "V deluxe" are available to meet immediate needs.



**HENRY WEIS MFG. CO., INC.**  
602 OAK STREET, ELKHART, IND.

**Weisway**  
**CABINET SHOWERS**





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

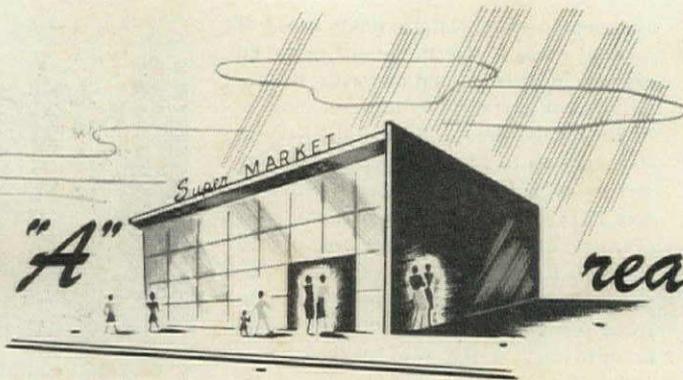
*Write today for the Soss "Blue Print" Catalog. It will be sent to you free on request.*



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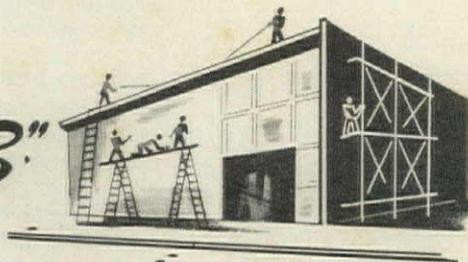
**SOSS** Invisible  
**HINGES**  
*The Hallmark*  
OF TOMORROW'S HOME

Why is "A"



ready for use...

while "B"



is incomplete?

**BECAUSE**

**John Watts**  
Electrical Contractor

**WAS CONSULTED EARLY**

Consider two buildings of identical appearance. Plans for both were begun at the same time. Yet one is ready for use while the other still is days — perhaps weeks — from completion. Why?

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4547



**IN OVER 80 PRINCIPAL CITIES**

(Continued from page 180)

planting in boxes combined with permanent architectural features. Sun shelters, garden-type paving, decorative walls and fences can form a low-upkeep setting for shrub planting that requires little care. Gardening in boxes is less expensive because no special preparation of the roof surface is necessary.

Drainage in roof gardens and garden box culture is extremely important. Without adequate drainage, conditions

are created which approximate those of a small swamp. Earth should never be placed in direct contact with unprepared roof surfaces. A layer of cinders or brickbats should be installed, 2 in. for earth up to 12 in. in depth, 4 in. for soil up to 2 ft. in depth, and 6 in. for soil 3 ft. deep. In larger gardens rows of agricultural drain tile are placed every 25 ft. For the same reasons drainage holes and cinders should be provided in garden boxes. Slope should be provided in the roof deck so that water will run off to drains.

The waterproofing roof surface for

Ben Schnall



**FLOWERING SHRUBS**, trees and grass, in city gardens give maximum results and require less attention than flowers. The cultivation of annual and perennial flowers adds to gardening labor and cost.

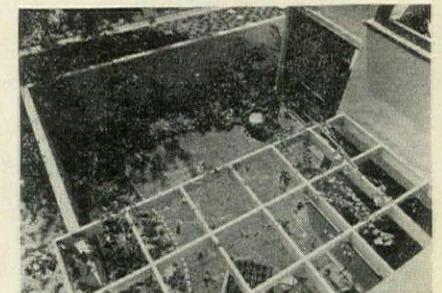
earth installation consists of a built-up waterproof membrane placed on the roof deck construction. This membrane is then covered with a protective coat of 2 in. thick concrete. At vertical surfaces, membrane waterproofing and concrete should continue 6 in. above the soil line. Counterflashing should cover the joint between wall and roof waterproofing.

The concrete protection for the waterproof membrane where earth comes in contact with a vertical surface can be reduced to a cement plaster coat 1 in. thick. In some instances 4 in. of brick is installed to protect the membrane. The cement coat or brick is installed to keep the membrane from being pierced by ordinary digging operations which might cause costly leaks. For play and walk areas a wearing surface of brick, tile, canvas or impregnated fibre board should be used.

Structures in all cases must be designed for a wet earth load. Dry compacted earth weighs 90 to 100 lbs. per cu. ft. Wet compacted earth weighs 100 to 115 lbs. per cu. ft. Where garden boxes are used, the concentrated load of the boxes must be figured in the roof design.

An indication of the national interest in plants and cut flowers is the estimated \$3 million paid each year to florists. To date little attempt has been made to turn this plant interest into architectural channels. Urban gardening offers a wide field for its exploitation.

**GARDEN WALL** creates outdoor extension to living room giving the tenants a garden, sun and privacy.



Julius Shulman

**SYMBOL OF HEALTHFUL PROGRESS**



**SANITARY WASHROOMS**  
by Bradley

Bradleys represent the most modern advance in washroom sanitation coupled with practical economies. Each Bradley does the work of 8 to 10 "single-person" wash basins by serving clean, *running* water to 10 persons simultaneously. One Bradley thus eliminates from 16 to 20 faucets and reduces piping connections by 80%.



Bradleys provide more washing facilities in less space and permit of more adequate washroom layouts.

Among Recent Installations are: 35 more for two Westinghouse plants; 34 for Hughes Tool of Houston; 24 more for Dodge; 10 Washfountains and 2 Multi-Stall Showers for Lobdell Car Wheel.

With rumors and reports of advancing prices on many products, post-war, forward-looking manufacturers are ready to have you specify Bradley Washfountains for their modernization plans or new buildings. Allow us to send Catalog 4308 and Washroom Survey Sheet. . . BRADLEY WASHFOUNTAIN CO., 2235 W. Michigan Street, Milwaukee 1, Wisconsin.

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washfountains  
AND multi-stall showers

Write today  
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4308 and  
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Survey  
Sheet.



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**"One Piece"  
Copper or Brass  
Pipe Lines**

WITH

**Silbraz\* Joints**

WITH THE "SILVER RINGS"



Silbraz Joints—the modern threadless method of joining copper and brass pipe and tubing—provide the nearest approach to the ideal of a one-piece pipe line yet attained.

An insert of silver brazing alloy incorporated in the bore of the fitting or valve is melted by the heat of the oxyacetylene torch and flows out between the pipe wall and bore of the fitting. The brazing alloy which is free flowing at 1300° F readily penetrates the lap area between the pipe and fitting, providing a strong, tight joint.

The result is, in effect, a one-piece pipe line that withstands excessive vibration—even at high temperatures—and the joints exceed the strength of the pipe and fitting.

Bronze fittings and valves for making Silbraz Joints in plumbing and heating lines, gas, fuel and process lines are produced by leading manufacturers and are available in all important centers.

Specify Silbraz Joints to insure fullest satisfaction wherever the plans call for copper or brass pipe or tubing.

\*Registered U. S. Pat. Off.

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**He Can Install  
"One Piece"  
Pipe Lines**

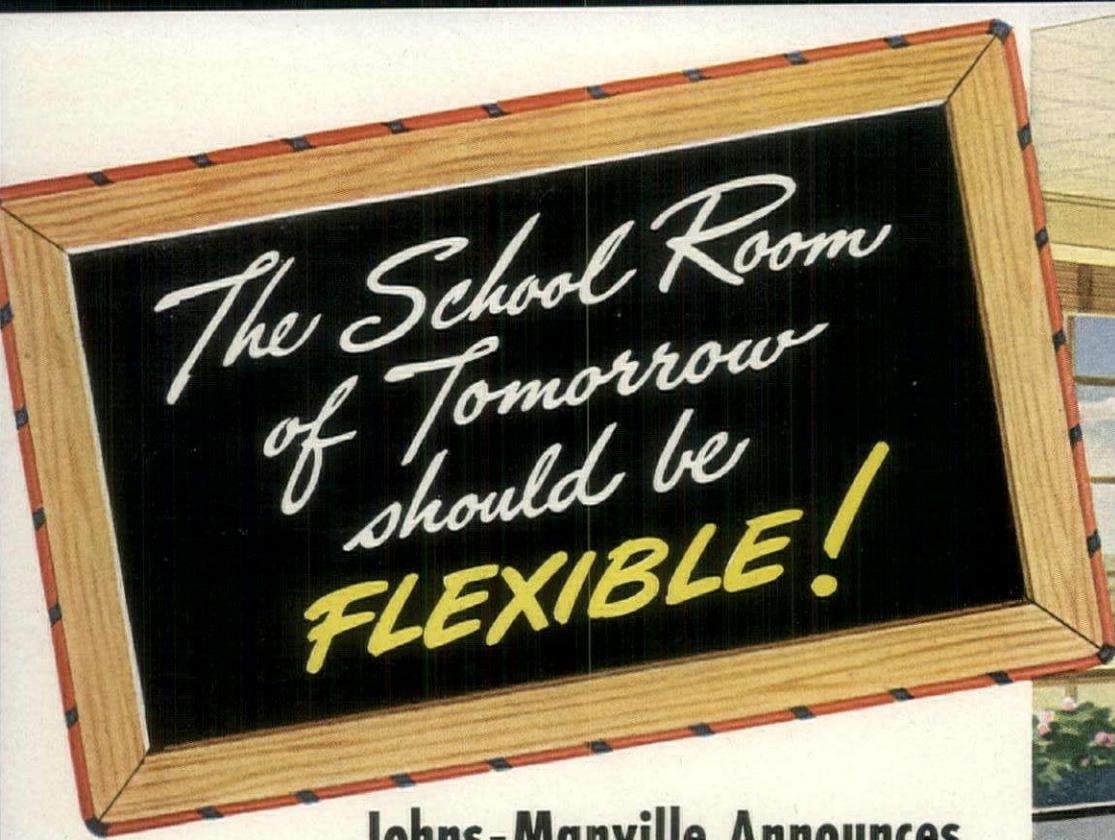
Better plumbing and heating contractors everywhere, recognizing the advantages of Silbraz Joints, are ready to install them on any job. They have the special Airco oxyacetylene equipment and the skill and knowledge necessary to do the job right.



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**Johns-Manville Announces  
Unit Construction for Schools—Durable  
—Attractive—Easily Rearranged**

THE EDUCATIONAL NEEDS of any community are ever-changing. And they're unpredictable, for you can never tell when it may become desirable to expand or subdivide schoolroom units or to convert a school from one type to another . . . as from grade school to junior high, or academic to vocational.

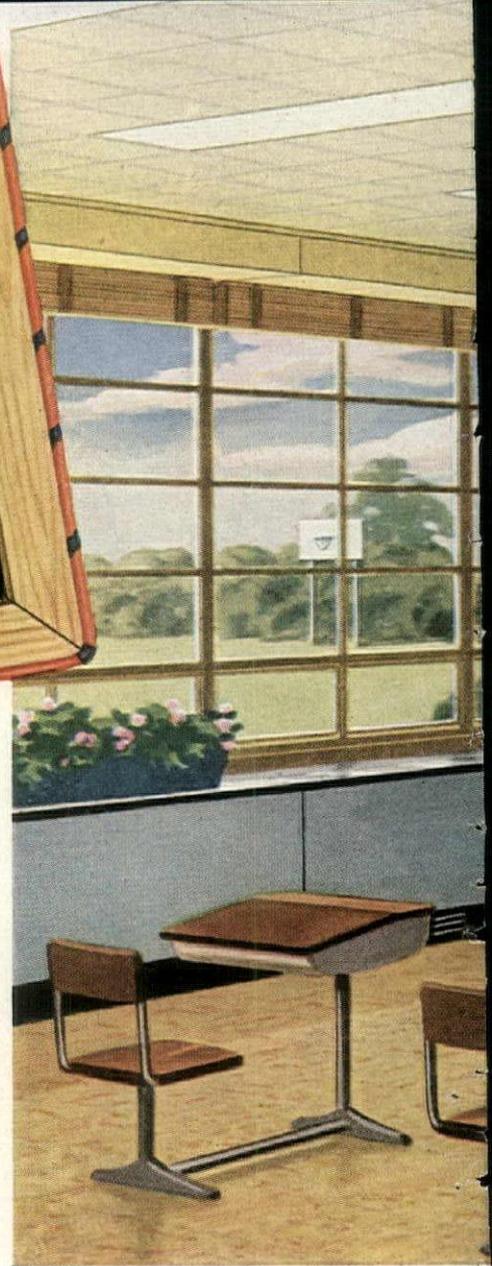
Now here at last is a practical, proved way to give schools that *needed flexibility* . . . money-saving flexibility which allows quick alteration in the size, arrangement, or type of schoolrooms!

Three Johns-Manville materials are united to form Unit Construction for Schools—all under one specification . . . one manufacturer's responsibility:

1. **Movable Walls** . . . 100% salvageable, quickly erected or relocated.
2. **Acoustical Ceilings** . . . eliminate distracting noise, increase class efficiency.
3. **Resilient Floors** . . . quiet, easy to walk on, easy to clean.

But what if a school is never altered or converted? Even so, these J-M materials are an integral part of the structure and give long-enduring satisfaction in many *other* ways. For instance, all the constituent parts are durable . . . hard to mar . . . shock-proof . . . easier and more economical to maintain. And their attractiveness inspires pride . . . contributes an atmosphere of cheerfulness and appealing beauty.

Write for further information and details on this important advance in school construction. Address: Johns-Manville, 22 East 40th St., New York 16, N. Y.

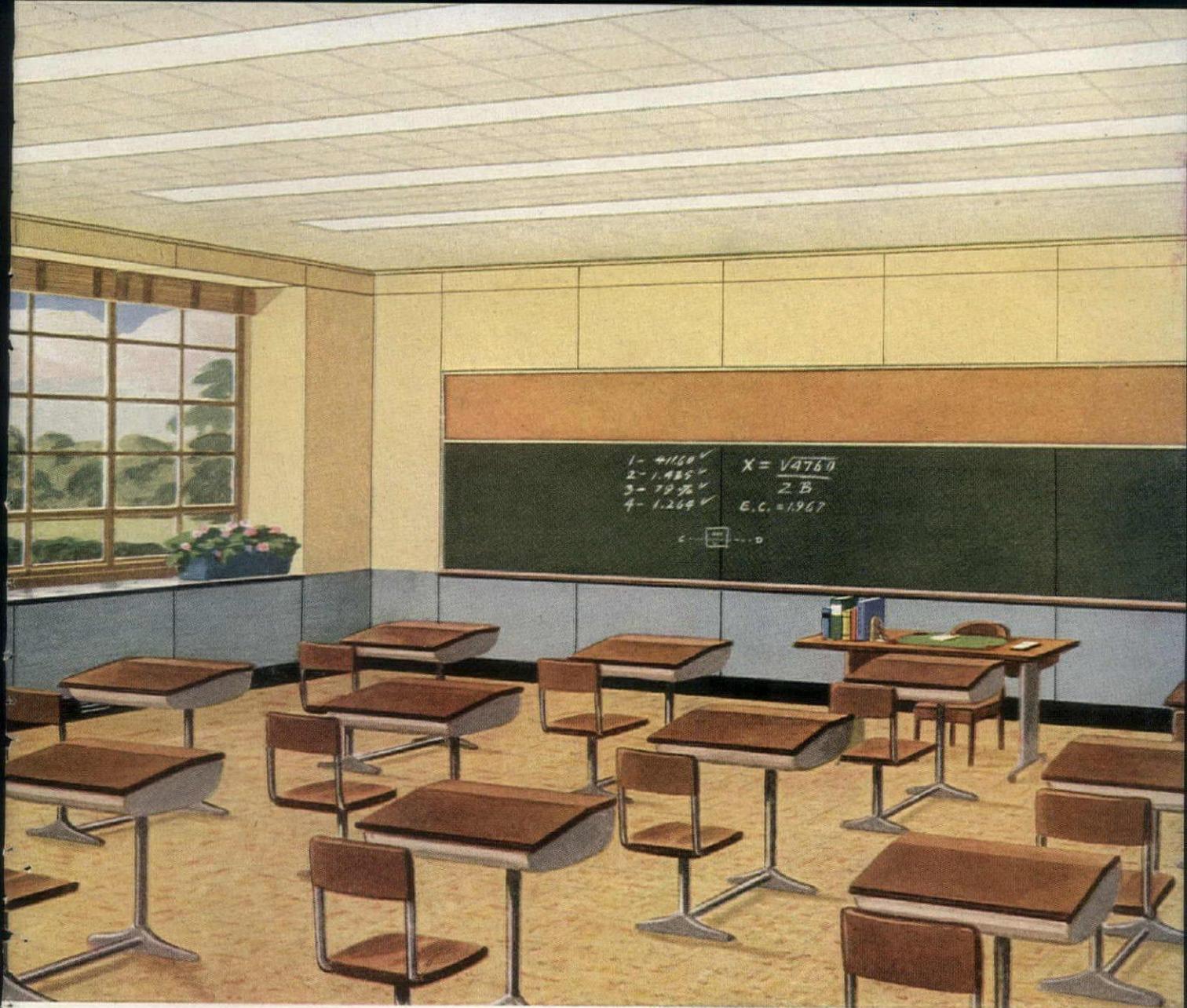


This attractive, modern classroom is typical of J-M Unit Construction for Schools. It provides not only flexibility, but quietness and beauty conducive to classroom efficiency. Note the clean-cut, projection-free Transite Walls, the Acoustical Ceiling with fluorescent lighting, the colorful, easy-to-clean Asphalt Tile Floor.

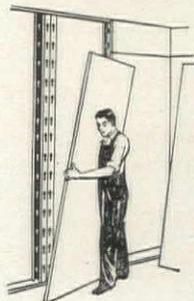


**Johns-Manville Unit Construction**  
*for Schools*

**WALLS . . . CEILINGS . . . FLOORS**



**Here are the three elements combined to form UNIT CONSTRUCTION FOR SCHOOLS:**



**Movable Walls**—The key-stone of flexibility in Unit Construction is the J-M Transite Wall. It can be dis-assembled and relocated as educational needs require. One-unit rooms, for instance, can be speedily converted into two-unit rooms,

or vice versa. Made of fireproof asbestocement, practically indestructible materials, the movable panels are used not only to form the rigid, double-faced partitions 4" in thickness, but also to finish the interior of the outside walls as well.



**Acoustical Ceilings**—Important factor in helping to overcome the handicap of distracting noise, Johns-Manville Acoustical Ceilings are beneficial both to teacher and student alike. They give the desired degree of quiet for effective teaching, eliminate frequent causes of nervousness, and are proved aids to concentration. An exclusive J-M patented construction system permits interchangeability of flush-type fluorescent lighting and acoustical ceiling units.

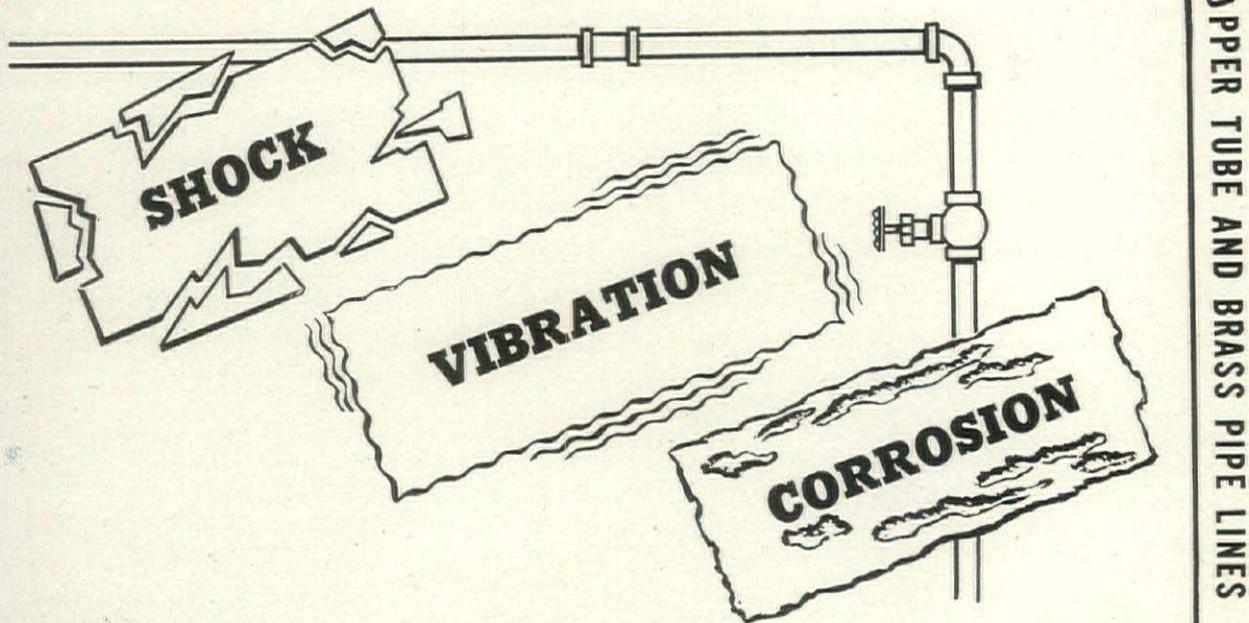


**Colorful, Resilient Floors**—J-M Asphalt Tile Flooring completes the Unit Construction System. Made of asbestos and asphalt, the units will withstand the kind of hard wear and abuse that must be expected in any school building. Not only are they durable, J-M Asphalt Tile



Floors are pleasantly comfortable and quiet underfoot, thereby reducing the disturbing effects of noisy footsteps in classrooms, corridors, gymnasiums, etc. Individual units permit easy alterations or repairs. Made in a wide variety of plain and marbled colors.

# End the Triple Menace <sup>TO</sup> COPPER TUBE AND BRASS PIPE LINES



## with **THREADLESS, SILBRAZ\*** JOINTS

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Why? Because patented Walseal valves, fittings and flanges get their *extra* stamina from a ring of silver brazing alloy built right into each port . . . an alloy that when heated with an oxyacetylene torch flows out between the pipe wall and the fitting, making a joint that is stronger than the tube or pipe itself.

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Write today to Dept. 84 for Catalog 42 giving complete data on Walseal products, as well as on the entire Walworth line.

Make it a "one-piece pipe line" with **WALSEAL**



**WALSEAL\***  
(patented)  
VALVES  
FITTINGS  
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12 AWARDS  
TO 4 PLANTS

# WALWORTH

valves and fittings

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\*Patented — Reg. U.S. Patent Office



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Not irritating to the skin or harmful to clothing, Cotton Insulation is simplicity itself to install. It's an easy one-man job. Just unroll it like a rug.

Though snowy light in weight and soft as down, it lasts a lifetime and has never been known to pack or settle after installation. Government tests have established Cotton Insulation as superior to any other known material—superior in lightness, in resiliency, and in insulating efficiency.

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## CORNER INSTALLATION OF ANDERSEN COMPLETE WOOD WINDOW UNITS

On sultry nights, this bedroom picks up the smallest breeze from two directions with its wide Windowall of Andersen Casements. And at the opposite end of the year this same Windowall is weathertight—insulated against the most disagreeable weather.

Yes, Andersen Windowalls truly function both as windows and as walls, permitting the designer of future homes an increased opportunity for more and larger windows.

This bedroom Windowall is in a many-windowed modern home designed for his own use by Architect E. Richard Cone, St. Paul, Minnesota.

Andersen Casement Unit No. 10458, Sash opening size, 8'1" and Unit No. 4428, Sash opening size, 3'1-3/4", both units with horizontal muntin bars. For additional details, consult Sweet's Catalog, or write Andersen Corporation.

*Andersen Corporation*

BAYPORT, MINNESOTA

# Windowalls



**Conservation of Space  
Efficiency in Service**  
both depend on

# Streamline

TRADE MARK REG. U. S. PAT. OFFICE

The installation of STREAMLINE Copper Pipe and Solder Type Fittings under normal water conditions assures many, many years of trouble-free, efficient service at low cost. Copper and bronze do not rust. STREAMLINE Pipe is made from pure copper. STREAMLINE Fittings are manufactured in copper and bronze.

Conservation of space is a very important consideration, especially in large public buildings and hotels. The more space that can be utilized, the more income produced. Since STREAMLINE Fittings are not connected by flaring or threading, no room is required for wrench play to tighten the fittings into place, nor need any allowance be made for protruding valve stems, which on threaded pipe, must be swung in an arc to secure. Valves and fittings are installed in a minimum of space, they are located exactly where required, and soldered.

Copper Pipe loses less heat by radiation than ferrous piping, particularly if the surface is kept polished, although copper itself is a very rapid conductor of heat. Therefore, it naturally follows that there is considerably less heat loss when the heated element, water or steam, is being conveyed from the point of generation to the points of distribution through copper pipe of uniform, unclogged, internal conducting area.

Plan on specifying and installing STREAMLINE Copper Pipe for your postwar construction—or for replacement.

**STREAMLINE**  
PIPE AND FITTINGS DIVISION  
**MUELLER BRASS CO.**  
PORT HURON, MICHIGAN



## *Employees need fresh, cool water, too*

Hot and thirsty, the cowboy welcomes a deep drink from a clean, cool mountain stream.

Your war-busy employees welcome a fresh, cool drink from a Westinghouse Water Cooler. By locating coolers convenient to work areas you can cut time losses.

Westinghouse offers various models of highly efficient, long-life, easy-to-maintain Water Coolers. Westinghouse Explosion-proof Coolers are specifically designed for use in oil refineries, synthetic rubber plants or wherever a spark is a hazard.

The Westinghouse hermetically-sealed refrigeration system is the secret of the cooler's dependable service and low operating cost.

Ask your Westinghouse supplier about models available now.

Westinghouse Electric Corporation, Springfield 2, Mass. Plants in 25 cities. Offices everywhere.

# Westinghouse

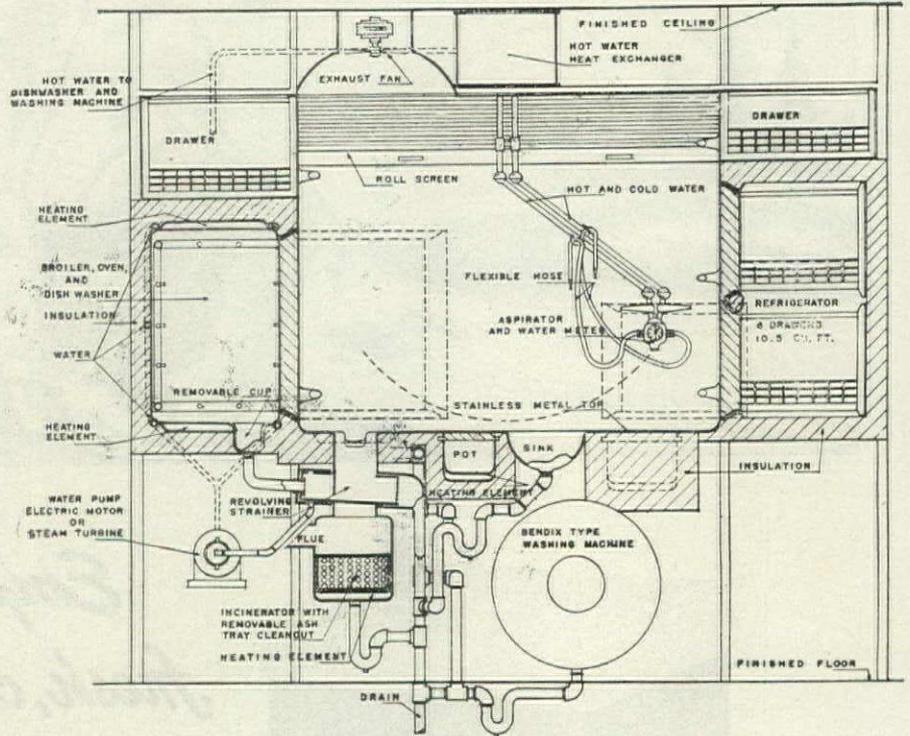
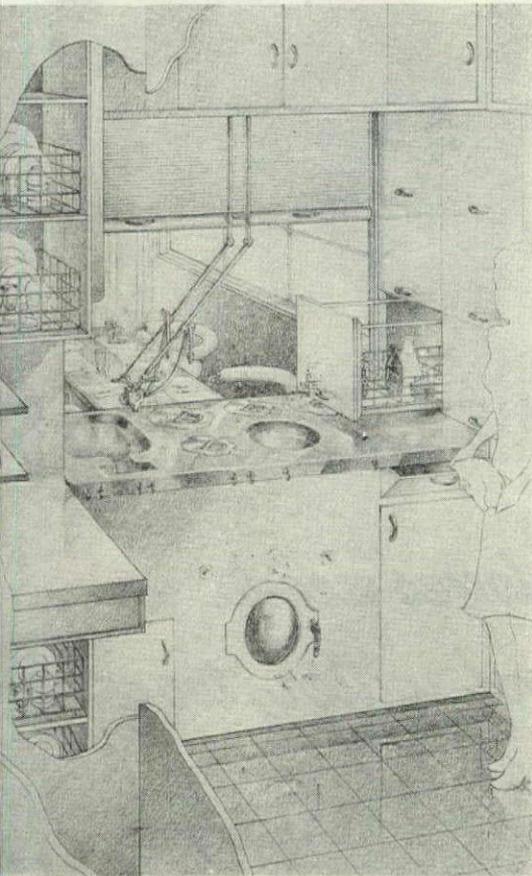
## WATER COOLERS

US-10WBE Explosion-proof Water Cooler—Underwriters' Laboratories approved for Class 1, Group D, installations.

*Packaged Refrigeration by Westinghouse*

MILK COOLERS • HOME FREEZERS • REACH-IN REFRIGERATORS • ROOM COOLERS • BEVERAGE COOLERS

Tune in John Charles Thomas, Sunday 2:30 E.W.T., N.B.C. • Hear Ted Malone, Mon. Tues. Wed. Evenings, Blue Network



**KITCHEN UNIT** designed to use "liquid heat" from a centralized source, for range, refrigerator and incinerator is shown at the left. Cross section through unit shows piping. Illustrations courtesy of Plumbing and Heating Business.

Inventions may change source of domestic energy and revolutionize the sound recording industry.

**LIQUID HEAT** is a revolutionary idea recently developed which will possibly change domestic heating practice. The main theme is that the home should be equipped with one source of power. Instead of independent power plants in refrigerators, boilers, cooking ranges, water heaters and appliances the home heating plant would be similar to that of an automobile where cigar lighter, heater, battery, lights, horn, etc., all operate from a single power source.

The basis of the new system is a chemical known as tetra-cresyl silicate which will absorb heat up to 817°F. when circulated in residential boilers of the present type at atmospheric pressure. This contrasts with water which becomes vapor at 212°F. and shows the possibilities in the liquid as a medium for conveying heat. It is claimed that the heated fluid—a secret formula—can be used for heating water, cooking, toasters and flat-irons. In fact, it can be used in any appliance that utilizes heat including steam and hot water boilers.

The problem of high temperatures in piping was solved with insulation of fiber glass 2 in. thick and with special cement joints. In fabrication, slip joint fittings were found most satisfactory, brazed at 1,300°F. with silver solder to insure tight joints at high temperatures. In the experiments where union connections were required, metal to metal ground joints were used. Joint compounds were found to be unsatisfactory.

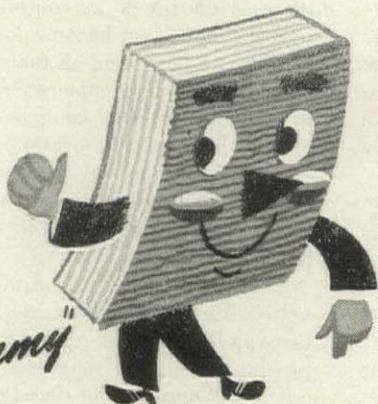
A preliminary comparison in operating costs of the new heating method, which is called Liquid Heat Consolidated Unit, against the cost of the usual combination of services now employed, showed a saving of about 48 per cent in favor of liquid heat. The fuel used was No. 1 buckwheat anthracite coal, at \$7.50 a ton, with a heat release at 72 per cent efficiency.

The process was invented and developed by Orion O. Oakes of the John B. Pierce Foundation. The early stages of the work were carried out by the John B. Pierce Foundation in conjunction

with the NHA Office of Product Research and Development. However, the contract between these two agencies ended August 24, 1944. Since that time the Foundation has been carrying out further research on "liquid heat" without government cooperation. The Foundation states that while the idea is revolutionary no extreme interpretations should be made as to the final results.

**NEW RECORDING-REPRODUCING** technique is announced by the Armour Research Foundation. The invention, if claims are sustained, opens new use horizons for sound recording and reproduction. The technique is revolutionary in that it records sound magnetically on spools of wire as fine as a human hair. A feature of the device is that the sound can be played back immediately after rewinding the spool. The recording wire needs no processing before playback and as far as can be determined, will not deteriorate with age or use.

(Continued on page 192)



*"The Navy is never 'at sea'  
about Insulation!"*

**Take a tip  
from the Navy  
—specify KIMSUL\***



Official U. S. Navy Photograph

When the Navy considered insulation for its famous Quonset huts, it chose KIMSUL.

It knew that these huts must protect Navy men, equipment and supplies from cruel and punishing elements. They must withstand both the humid, scorching heat of the tropics and the penetrating sub-zero cold of the arctic. On a thousand shores, Quonset huts must provide comfort, utility and safety for a Navy ashore.

Shipping and storage space being so valuable, insulation for this exacting task must compact to the minimum of bulk and weight. And that is where KIMSUL stands apart from all other insulations. Like a closed accordion, KIMSUL comes compressed to only *one-fifth* of its installed footage. It takes but one-fifth the storage space, one-fifth the shipping space, one-fifth the handling . . . yet this insulation provides an all-over blanket of

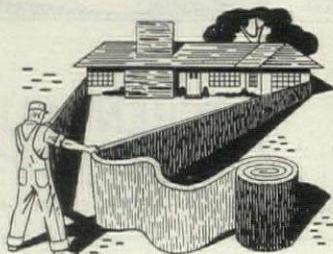
protection with a "k" factor of only 0.27.

KIMSUL, the only insulation with *many layers* of protection in one blanket, is doing an outstanding job for the Navy in the "world's largest housing project." It will do just as fine a job for the homes that you design or build, giving home owners lasting protection and greater fuel economy.

Take a tip from the Navy—specify KIMSUL!

*For complete technical data on KIMSUL Insulation refer to Sweet's 1945 Catalog, or write to Kimberly-Clark Corporation, Neenah, Wisconsin.*

WRAP THE  
POSTWAR HOME  
IN A KIMSUL  
BLANKET



**KIMSUL**  
INSULATION

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

A PRODUCT OF  
**Kimberly  
Clark**  
RESEARCH

*(Continued from page 190)*

Suggested postwar uses of the recorder cover a wide field in educational, industrial, commercial and entertainment usage. Machines for office dictation and transcription are planned. Pocket recorders will make dictation possible anywhere. In cooperation with the telephone company a recorder could answer the telephone and take messages.

The magnetic wire sound recorder was invented by Chicago-born Marvin Camras while he was a student in electrical engineering at the Illinois Institute of Technology. It was later developed and perfected by the Armour Research Foundation, where Camras is now an associate physicist.

The idea was first suggested in 1896 by Valdemar Poulsen, a Danish physi-

cist. The first wire reproduction was made magnetically on heavy steel wires but the reproduction was poor. Other types of recording were developed using tapes, but winding the tapes on spools and limited recording time presented major problems.

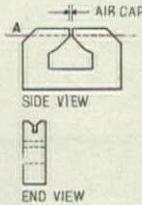
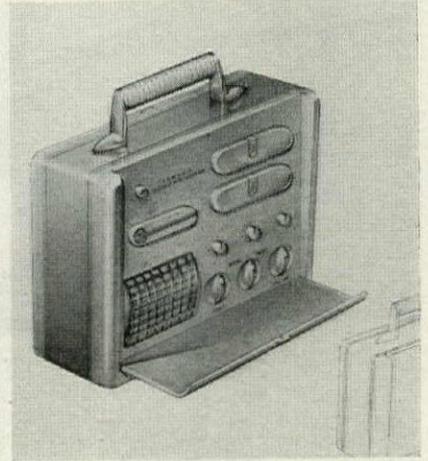
Another feature of the Armour system is that any portion of the record can be erased or altered without harm to adjacent portions. "Erased" wire can be reused without limit. In relation to disk recording these comparisons are made: there is no needle scratch as the device operates at a very low noise level;

there is no break in continuity as in record change-over because long lengths of wire can be wound on the spools; the recording wire is unaffected by extremes in temperature and comparatively unaffected by external vibration and severe shock. Most practical advantage is that the device records and plays in any position and can be contained in a compact, portable case.

The wire recorder uses a .004 in. magnetic wire, fed from one reel to another through a series of guide pulleys and passing through a magnetic recording

*(Continued on page 196)*

THE ARMOUR MAGNETIC WIRE SOUND RECORDER SHOWN IN THREE MODELS



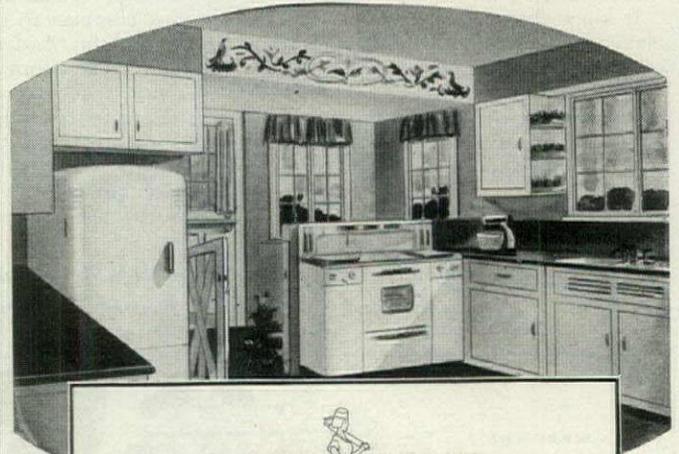
**SPOT**  
REG. U. S. PAT. OFF.  
**SASH CORD**

is  
**TOPS**  
in Value

**SAMSON CORDAGE WORKS**  
BOSTON 10, MASS.  
Availability somewhat limited by war conditions

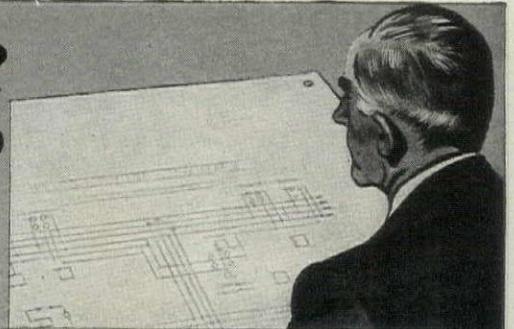
*A Valuable Aid*  
**FOR YOU WHO PLAN KITCHENS**

PLANNED BY VIRGINIA HART, eminent kitchen consultant, this new portfolio can be a valuable aid for you—today and tomorrow. Complete with many illustrations of advanced kitchen design, plus floor plans and unit specifications—demonstrating unlimited possibilities for room arrangement with Kitchen Maid Standard Unit Cabinetry combinations. Be sure to get your copy—for file and frequent reference. Just ask your local Kitchen Maid dealer or write directly to *The Kitchen Maid Corporation, 456 Snowden Street, Andrews, Indiana.*



**KITCHEN MAID**  
THE FIRST MODERN KITCHEN

# IF WE WERE IN THE MARKET FOR HOSPITAL COMMUNICATING AND SIGNALLING EQUIPMENT



Here's what we'd want to know about each source of supply.

Here are the answers as they apply to Connecticut Telephone & Electric Div.

● **Are they experienced?**

Connecticut Telephone & Electric is one of the oldest names in communications . . . a pioneer since the early days of the telephone.

● **Are Hospital Systems a principal product, or just a sideline?**

A principal product for many years.

● **Are they abreast of the times?**

As prime contractors for Signal Corps and Air Corps communications, C.T. & E. engineers are closely associated with every improvement in their field. None will be overlooked in our post-war hospital equipment.

● **Who uses their equipment?**

Over 600 leading hospitals use C.T. & E. systems. We will gladly supply their names.

● **Is their line complete?**

For details, write for Bulletin 102, describing the C.T. & E. Hospital line. Hospital executives and their architects will be particularly interested in CONNECTACALL two-way nurse-patient systems, Doctors' Registry and Paging Systems, and Special Interior Circuits.

● **Can they help us with modernization as well as new construction?**

Yes. Hundreds of C.T. & E. systems have been installed in existing hospital buildings.

● **Can they give us authoritative engineering help?**

C.T. & E. Advisory Planning Service is famous for its extensive practical assistance. We invite you to sample it without obligation. Write today.



## CONNECTICUT TELEPHONE & ELECTRIC DIVISION

GREAT AMERICAN INDUSTRIES, INC.

MERIDEN,



CONN.

**YOUR POSTWAR**

**OIL-O-MATIC**

**OIL BURNER**

**WILL BE AS GOOD**

**TO LOOK AT**

**AS IT IS**

**TO LIVE WITH**

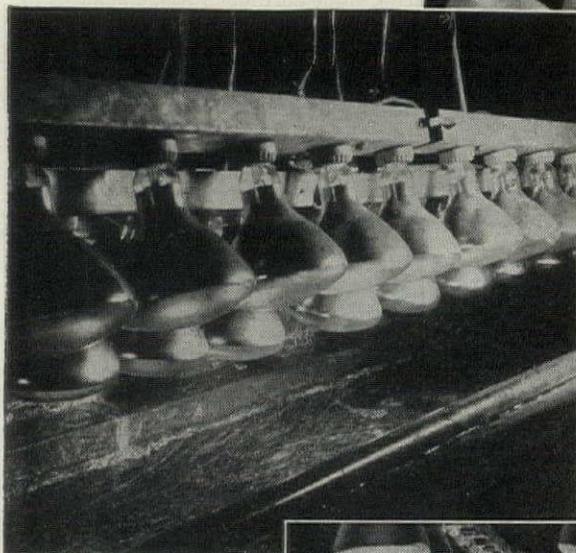


Hang on to the War  
Bonds you buy if you  
want to hang on to  
the liberty you love.

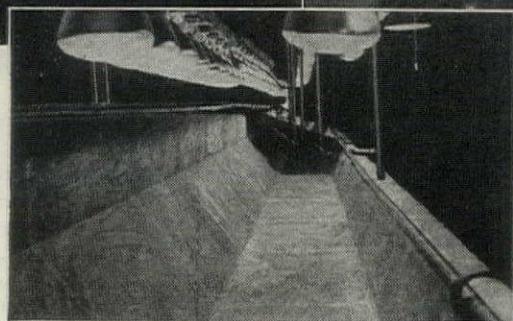
**WILLIAMS**  
**OIL-O-MATIC**  
**HEATING**

**BLOOMINGTON, ILLINOIS**

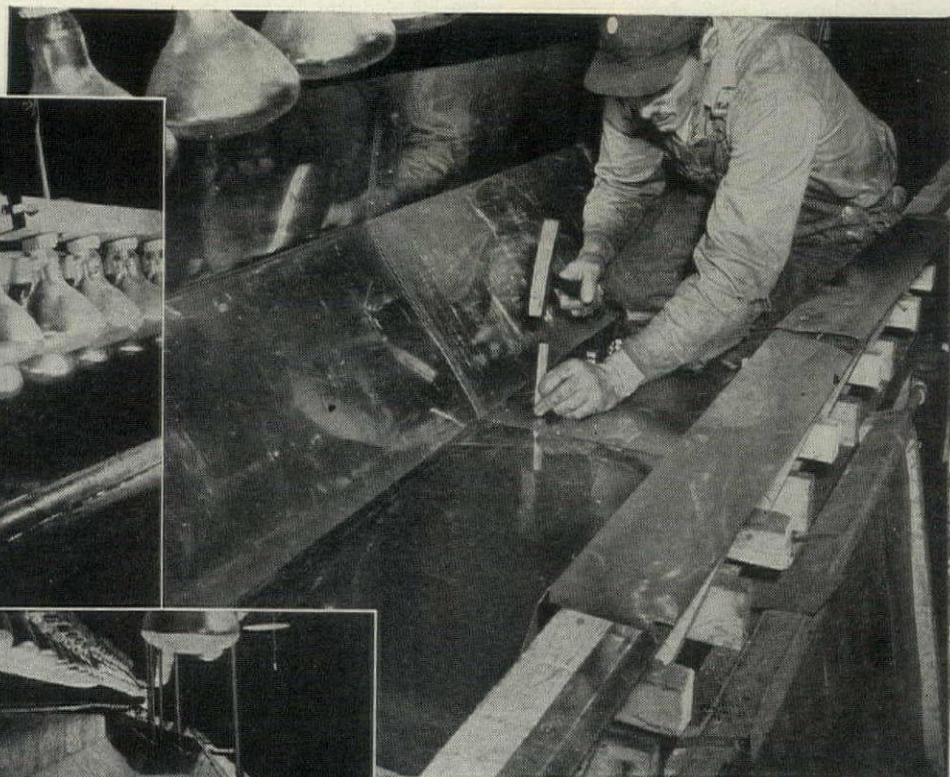
# Better sheet copper construction ... thanks to REVERE research



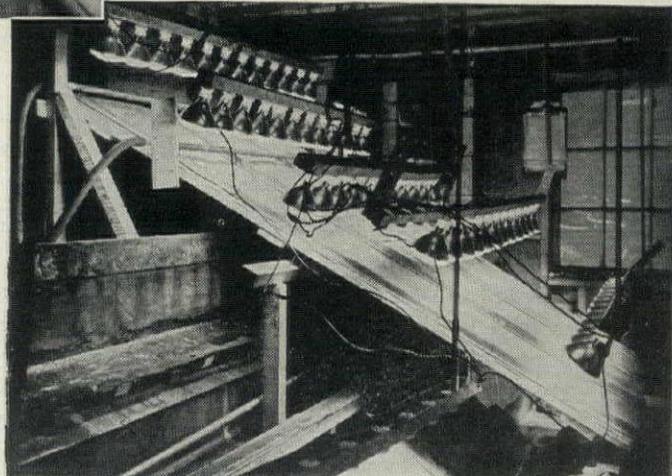
Here cold water can be seen pouring into a heated copper gutter undergoing test. The behavior of the gutter during expansion and contraction was recorded by motion picture photographs.



Completed test gutter. By means of electric heating lamps and torrents of cold water, it was possible to create a temperature range of 160°F.



Installation of test gutter in Revere laboratory, duplicating a gutter which has given 70 years of perfect service on a public building.



Exhaustive tests were also conducted on experimental copper roof panels and other installations in order to cover every phase of sheet copper construction.

Several years ago, Revere set out to discover why many old-time sheet copper installations have stood up better than some of the modern ones—despite refinements in copper as well as in the technique of installation.

The reason, discovered and confirmed by painstaking work in the Revere laboratory, is simply this—any sheet copper installation must have enough columnar strength to expand, when heated, without buckling. Alternate buckling and straightening, with expansion and contraction due to outdoor temperature extremes, is the real cause of failure.

From these findings, Revere has been able to reduce the principles of sheet copper construction to a matter of engineering design, with the assurance of satisfactory performance.

Details will be described and illustrated in a new booklet now being prepared. Upon request, we will place your name on our list to receive a complimentary copy when issued. Write the Revere Executive Offices. Revere materials are handled by Revere Distributors in all parts of the country. For help with difficult problems, call on the Revere Technical Advisory Service, Architectural.

**REVERE**  
COPPER AND BRASS INCORPORATED  
Founded by Paul Revere in 1801  
Executive Offices: 230 Park Avenue, New York 17, N. Y.

## BUILDING REPORTER

(Continued from page 192)

head. There is no stylus or other mechanical device in the recording head. The input of the microphone is converted electronically into a magnetic field. The field magnetizes the wire and leaves a reproducible magnetic record of the sound fed into the microphone.

To play back, the wire is run through the recording head in the same direction as when recording sound. Sound can be removed from the wire as easily as it is recorded. A demagnetizing coil, also in

the path of the wire and placed so that the wire reaches that point before entering the recording head, can be energized by throwing a switch. As the wire passes through the coil, any message already on it is blanked out by a high frequency electro-magnetic field which leaves the wire in a magnetically neutral state. Simultaneously, as the wire enters the recording head, a new message can be recorded.

The wire can be produced in quantity and at costs low enough to compete with ordinary disk type records. The "packaging" of the magnetic wire recorder was done by Product Designers of Chi-

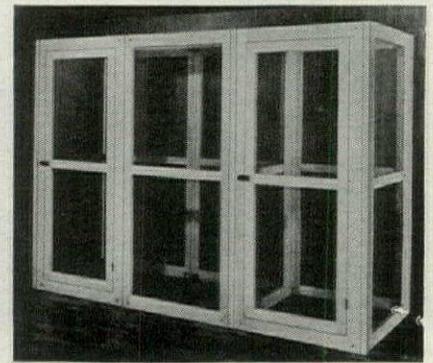
cago. At the present time thirteen companies have been licensed to manufacture the recorder but due to war activity the Army and Navy have limited production to their own use.

## NEW PRODUCTS

### STORAGE ROOMS

Can be enlarged at any time by the addition of wall panels.

Drinkwater portable storage rooms provide quick and safe storage for many items. They serve as temporary or permanent storage units for food, supplies, tools, etc. They are constructed with substantial wood frames (1 $\frac{3}{8}$  in. thick) mortised and tenoned, with all joints glued. The frames are covered with



heavy galvanized wire screening. The panels interlock in such a way that rooms or batteries of rooms can be quickly assembled or dismantled without the use of tools, screws or nails. Complete units, with ceiling panels, are rat and mouse proof as well as pilfer proof. The illustration shows a two-room combination consisting of 3 ft. by 6 ft. and 3 ft. by 3 ft. connected storage rooms with a common wall between the two rooms. The manufacturer states that the complete installation time for a 6 ft. by 6 ft. room from uncrating of all parts to the complete setup is 30 minutes.

Manufacturer: Drinkwater, Inc., 2323 S. Michigan Ave., Chicago 16, Ill.

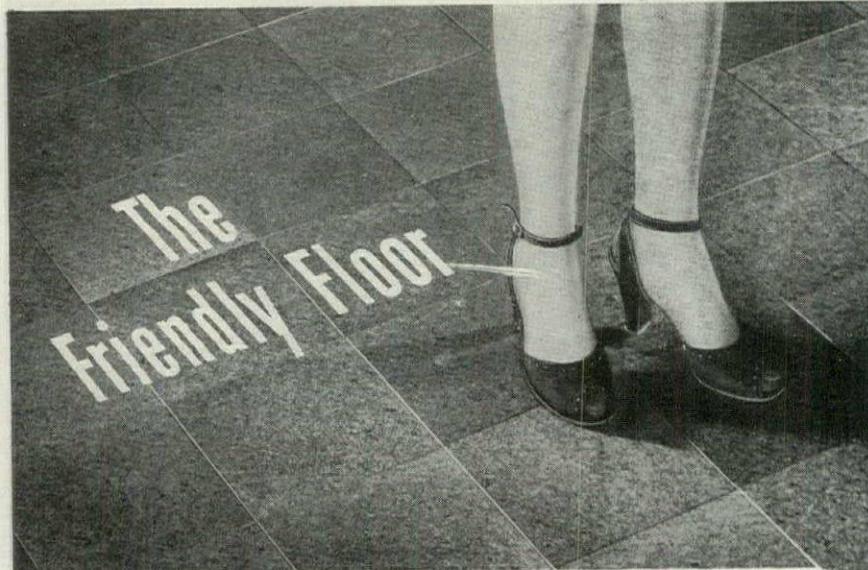


### ABRASIVE WHEELS

Impart cushion-like action for special finishing jobs.

These solid polishing wheels, marketed under the trade name of Norflex, are available in three types; cork resinoid,

(Continued on page 200)



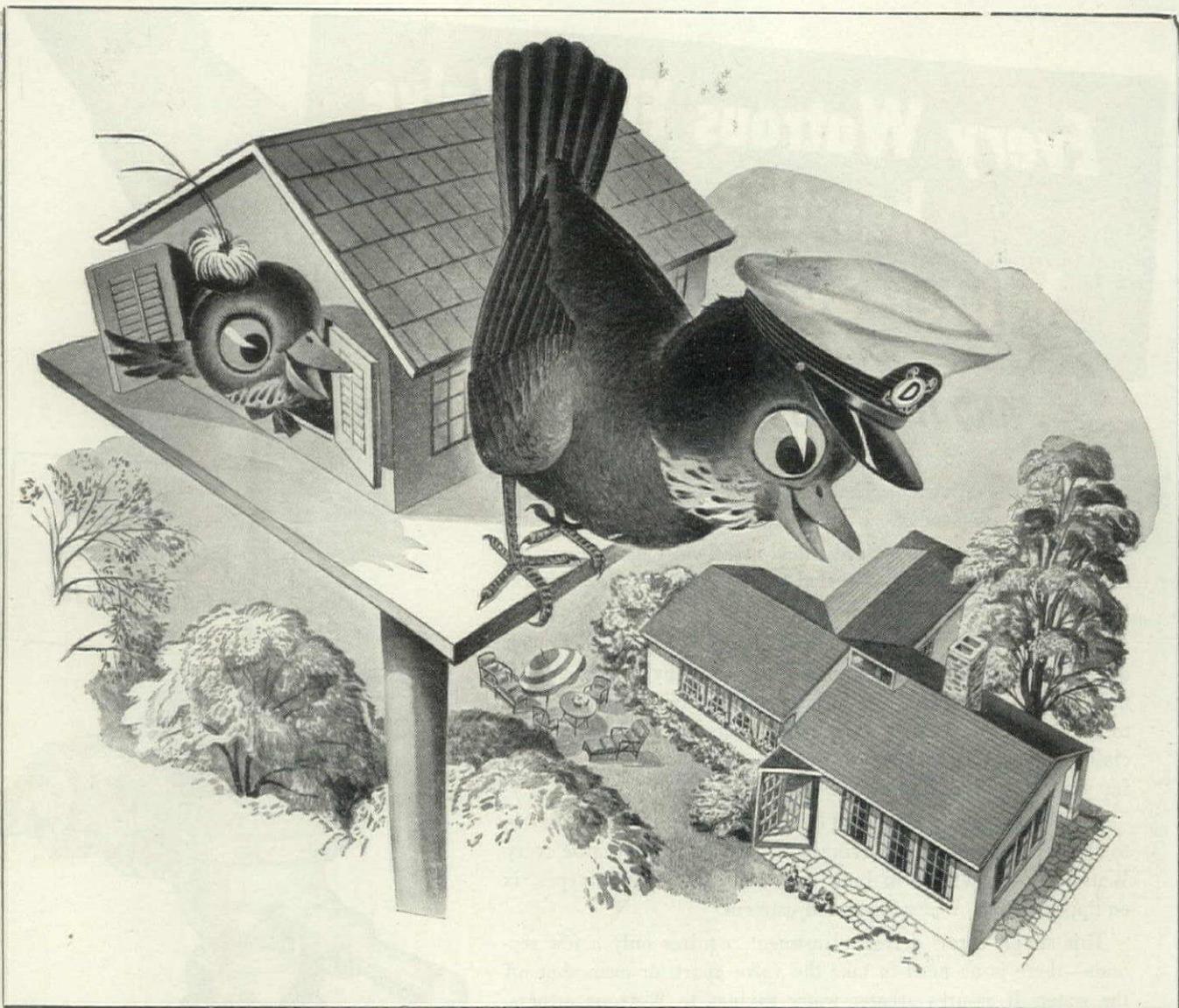
Walk on it hour by hour and you'll bless the *friendly*, restful, shock-absorbing resilience of Kencork.

Step on it bare-footed in your bedroom or bathroom and you'll gratefully appreciate the unique warmth, dryness and non-slipping safety of Kencork.

Or in nursery or playroom see how kind your *friendly* Kencork floor is to baby: self-insulating, shock-absorbing, stainproof, non-slipping—safe!

Yet this friendly floor is probably most famous for its luxurious beauty—its wonderful patterns of golden tans and nutty browns. For 30 years nothing else has been able to match all of Kencork's advantages. Soon, we hope, it will be available again. Plan for the day now—send for a folder about Kencork written by the company that originated cork floors in 1899: David E. Kennedy, Inc., 69 Second Avenue, Brooklyn 15, N. Y.

**KENCORK**  
*the friendly floor*



## Bird's Eye View . . .

JUST looking at the outside, as Defoe's little feathered home-builders are, can't possibly convey any idea of the comforts and advantages which are being perfected for your postwar home!

● ● Many new features that will save hours of tiresome housework are among the advancements in functional design, planned by Defoe's Housing Division for homes of tomorrow, large and small. These scientifically planned Defoe home-units

will offer not only beauty and individuality of design but also the financial advantages made possible by modern mass production methods.

● ● And remember that today, while you're investing in War Bonds to do your part in defeating the Axis . . . you're also steadily building up a nest-egg that will help finance your future home, when you're ready to build!

HOUSING DIVISION — DEFOE SHIPBUILDING COMPANY, BAY CITY, MICH.

BACK THE ATTACK  
—BUY WAR BONDS

**Defoe**

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

SHIPS FOR VICTORY  
SERVANTS FOR PEACE

# Every Watrous Flush Valve has this simple Water-Saver Adjustment

... AND IT MEANS EXTRA SAVINGS TO WATROUS OWNERS

Flush valves save water. That is one of the big reasons why they are so widely used today.

Some flush valves save a great deal more water than others because they can be readily adjusted to the actual needs of the fixture on which they are installed.

Fixtures vary in their water requirements—frequently as much as one gallon or more per flush can be saved by proper adjustment. In a building with 200 flush valves this saving could amount to 1,168,000 gallons annually. Water savings like this mean appreciably lower water bills, lower pumping costs. Judge the savings for your buildings from table below.

When you specify Watrous Flush Valves, you make it possible to obtain maximum water savings on every fixture—because every Watrous Flush Valve, in both diaphragm and piston types, is equipped with a Water-Saver Adjustment.

This simple screw driver adjustment requires only a few seconds—there is no need to take the valve apart, or even shut off the water. It assures greater water savings to Watrous owners, and is one of the reasons why the selection of Watrous Flush Valves is a source of constant satisfaction over the years to everyone concerned.

Estimated annual savings of water obtainable through proper regulation of flush valve to actual water needs of the fixture			
	Building with 100 Flush Valves	Building with 500 Flush Valves	Project with 1000 Flush Valves
When average of 1/2 gal. saved per flush	292,000 gallons	1,460,000 gallons	2,920,000 gallons
When average of 1 gal. saved per flush	584,000 gallons	2,920,000 gallons	5,840,000 gallons

THE IMPERIAL BRASS MANUFACTURING COMPANY  
1238 W. Harrison St., Chicago 7, Illinois

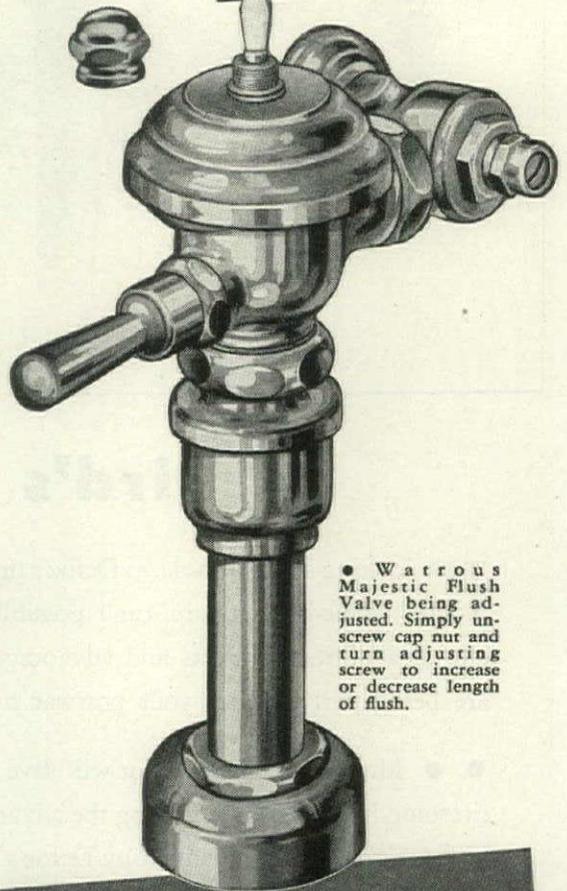


For complete information on Watrous Flush Valves see Sweet's Catalog or write for Catalog No. 448-A. Also ask for Bulletin No. 477 giving a summary of "Architects' Views on Flush Valve Applications."

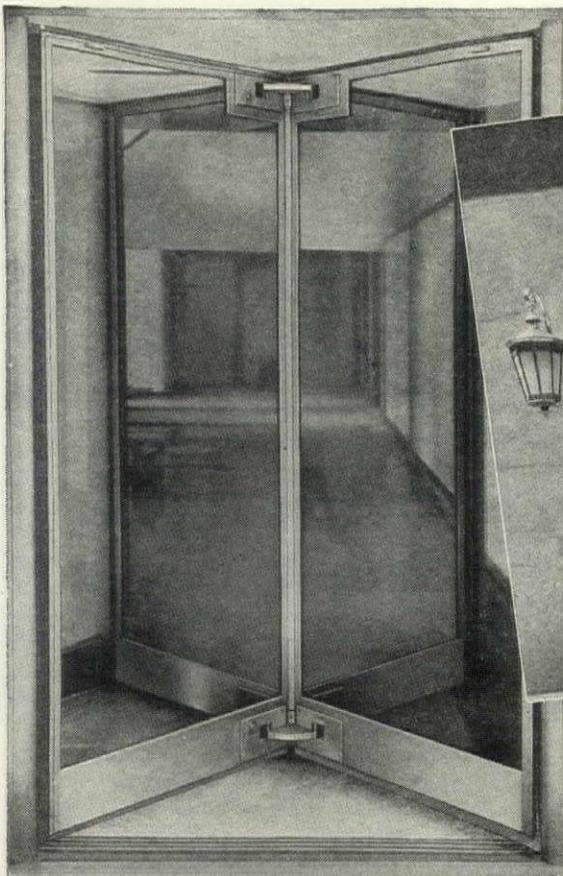
THEY PAY FOR THEMSELVES IN THE WATER THEY SAVE

# Watrous Flush Valves

... another  
Watrous point  
of superiority



• Watrous Majestic Flush Valve being adjusted. Simply unscrew cap nut and turn adjusting screw to increase or decrease length of flush.



**GB REVOLVING DOORS AT ROCKEFELLER CENTER**  
 More than 60 GB revolving doors have been installed to date in the beautiful buildings of Rockefeller Center.

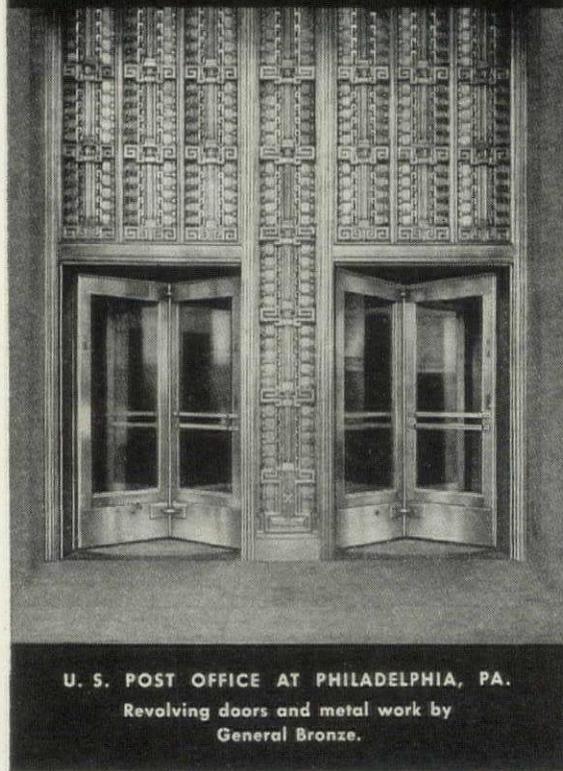


Entrance to **STOUFFER'S RESTAURANT** in New York City.  
 Doors and metal work by General Bronze.

# GB ALL METAL REVOLVING DOORS

GB revolving doors are a worthy addition to your finest buildings. These handsome, easy-operating doors embody features developed in thirty-five years' experience in fabricating non-ferrous metal products for the building industry. They are engineered to meet modern requirements and can be detailed to harmonize with the architectural treatment of the entrance.

GB revolving doors have been specified by many of the country's foremost architects for their finest buildings. Hundreds of installations in notable buildings all over the United States are constant reminders of their excellence. As soon as metals are released for building, they will again be available. Plan now to use them. See our catalog in Sweet's.



**U. S. POST OFFICE AT PHILADELPHIA, PA.**  
 Revolving doors and metal work by General Bronze.

## GENERAL BRONZE CORPORATION

34-17 TENTH STREET      LONG ISLAND CITY 1, N. Y.



SIX CONSECUTIVE ARMY-NAVY "E" AWARDS

(Continued from page 196)

fiber resinoid and resilient rubber. They differ from the conventional grinding wheels in that they are designed to remove only a relatively small amount of material such as burrs and sharp edges, or to polish a surface that is already to size rapidly and economically.

The fiber resinoid type of polishing wheel consists of uniformly sized abrasive grains mixed with cotton fibers and held together with a resinoid bond. The mixture is pressed to the desired size of wheel or stick. The resilient rubber

wheels are made with a comparatively soft rubber bond which imparts to the wheel a cushion-like cutting action. The cork resinoid type are made up of abrasive, resinoid bond and finely divided cork, the latter providing a soft polishing action.

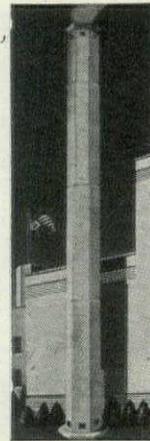
*Manufacturer:* Norton Company, Worcester 16, Mass.

**SMOKE STACK**

**Built on skyscraper principle new smoke stack offers advantages.**

The newly developed Durabilt Stack consists essentially of a hexagonal steel

structure, adequately braced throughout its length to resist high wind load, shock, lighting and earthquakes. Horizontal and vertical members are attached to the steel structure and these support anchor-and-tile-retaining castings. Each tile forming the inner wall is individually retained. The outer tile is supported by means of channels at definite spacings. An outstanding feature of the stack is its insulation. This fits

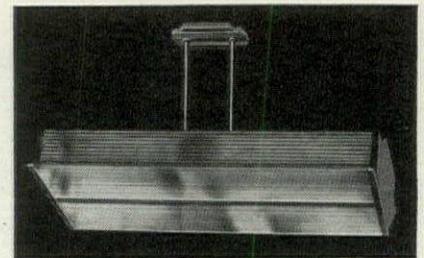


snugly and securely between the tile and retainer castings, providing low radiation loss and helps to keep the temperatures within the stack uniform, thereby increasing efficiency by improving draft.

Sectionally supported, there is no cumulative load upon the fire brick lining, less foundation is required and weight savings of approximately one-third are made possible.

The outer casing of the stack can be of tile, sheet steel, or Transite. Air space is provided between the insulation and outer tile throughout the stack. Vents are located at the bottom and top of the stack. The stack is easy to erect, easy to repair, and crackproof. Safety railings and ladders can be installed easily and full insurance coverage can be obtained. Its cost is comparable to a heavy-duty stack and it can be erected in any height from 50 to 300 ft.

*Manufacturer:* Chicago Fire Brick Co., 1467 Elston Ave., Chicago 22, Ill.



**FLUORESCENT LUMINAIRE**

**May be individual, continuous, direct ceiling or suspension mounted.**

This luminaire is one of several currently being announced in the A series of units. It is the A-3440 Permalector Fluorescent Luminaire. This shielded type 4-40 w. fluorescent fixture has Satinol contrasting glass panels which are easily removed for maintenance. Claims made for the new unit include controlled lighting, simple maintenance and flexible mounting.

*Manufacturer:* The Pittsburgh Reflector Co., Oliver Bldg., Pittsburgh 22, Pa.

(Continued on page 204)

# PRECAST CONCRETE PRODUCTS

## Solve Many Construction Problems

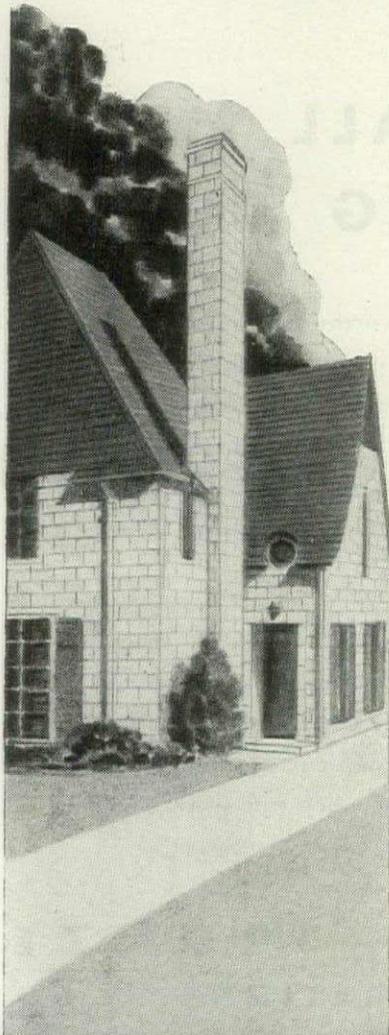
Precast concrete masonry serves a wide range of architectural and structural purposes combining beauty with strength.

The quality of precast concrete masonry is greatly improved by using calcium chloride in the mix to increase plasticity and reduce surface defects. Calcium chloride in concrete insures smoother, denser, more weather resistant concrete with a much better finish—as desirable in precast masonry as in fine form work.

Send for Bulletin No. 28, "Early Strength Concrete." It tells how you can get better concrete with built-in curing—concrete that fills forms better and is easier to place.

## CALCIUM CHLORIDE ASSOCIATION

4145 Penobscot Bldg., Detroit 26, Mich.



# CALCIUM CHLORIDE

**SPEEDS YEAR ROUND CONCRETE CONSTRUCTION**



Good Buildings Deserve Good Hardware



*"V" stands for Value  
and Volume too*

• Postwar volume and profits will be in *quality* builders hardware according to building experts whose job it is to get the facts and forecast future trends.

They reason this way: the public, after Victory, will have had its fill of substitute merchandise in every field. During the war, they reason, unknown brand names and inferior quality have been better than no names or no material at all. But that's a situation that will correct itself *fast* when superior merchandise and

a huge backlogged buying power come together!

★ ★ ★

As a manufacturer of *quality* builders hardware for just short of a century, P. & F. Corbin will play a large role in this quality-conscious market in the days to come. "Good buildings deserve good hardware" . . . and today is not too soon for everyone who appreciates good builders hardware to check his plans with ours. Let us know your requirements . . . *early!*

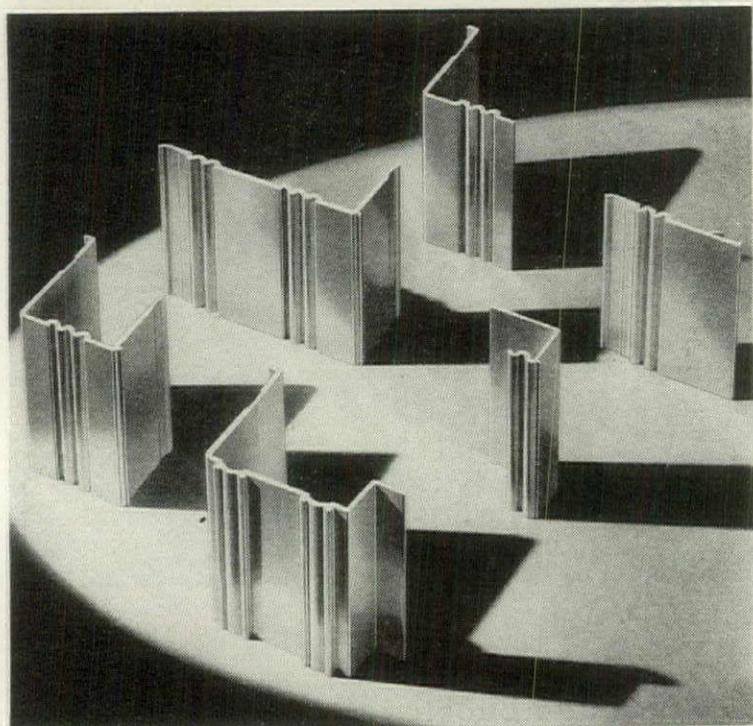


**P. & F. Corbin**

THE AMERICAN HARDWARE CORPORATION, SUCCESSOR

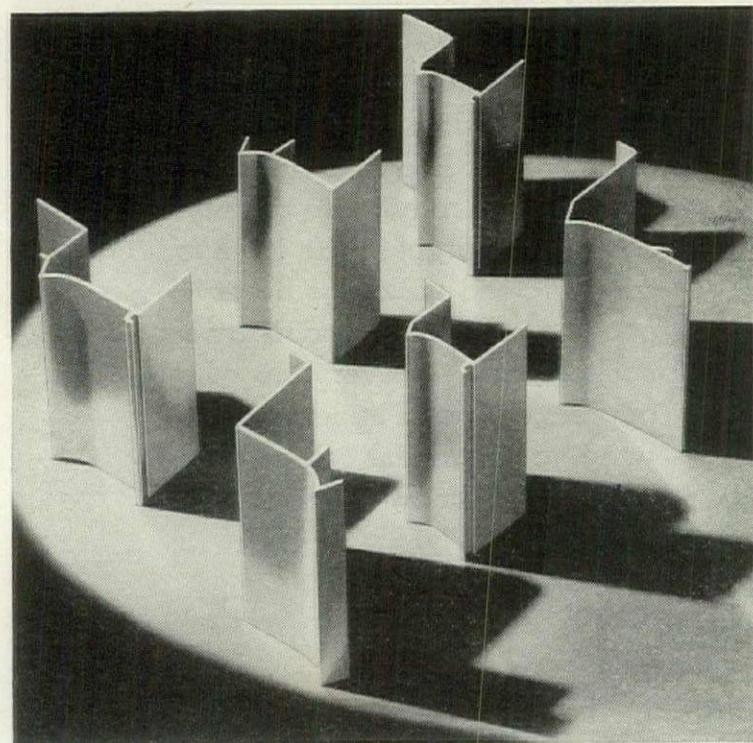
NEW BRITAIN, CONNECTICUT • SINCE 1849

# There are *two* lines of Pittco Metal — each distinctively styled



## **PITTCO** **DE LUXE**

Since its introduction several years ago, the Pittco De Luxe line of store front metal has won a hearty endorsement from architects. Careful planning of the line as a whole, all at one time, resulted in unusual unity of design—a harmonious relationship between each Pittco De Luxe unit and all the other members in the line. And the extruded method of manufacture assures rugged strength, clean, sharp profiles, lasting color and perfect finish. This unrivalled combination of characteristics accounts for the continued popularity of Pittco De Luxe. It is first choice with architects whose clients demand sales-winning store fronts which reflect high quality.



## **PITTCO** **PREMIER**

Recently, Pittco Premier was introduced to satisfy the need for a lightweight, moderately priced line of store front metal. The same careful planning and harmonious styling which have made Pittco De Luxe so popular are evident in the Premier line. Pittco Premier also was designed as a unit . . . each piece styled to complement and heighten the beauty of the other members with which it is used. Pittco Premier can be set easily and quickly from the outside, effecting a substantial savings in setting time. And the self-adjusting clip always maintains a firm grip on the glass, no matter what its thickness. These practical advantages plus the high degree of architectural beauty in the Premier line promise success comparable to that already attained by Pittco De Luxe.



**PITTCO STORE FRONT METAL**  
PITTSBURGH PLATE GLASS COMPANY

*"PITTSBURGH" stands for Quality Glass and Paint*

# 18 TIMES MORE LIGHT!

## for Better, Faster Work in Industrial Plant!

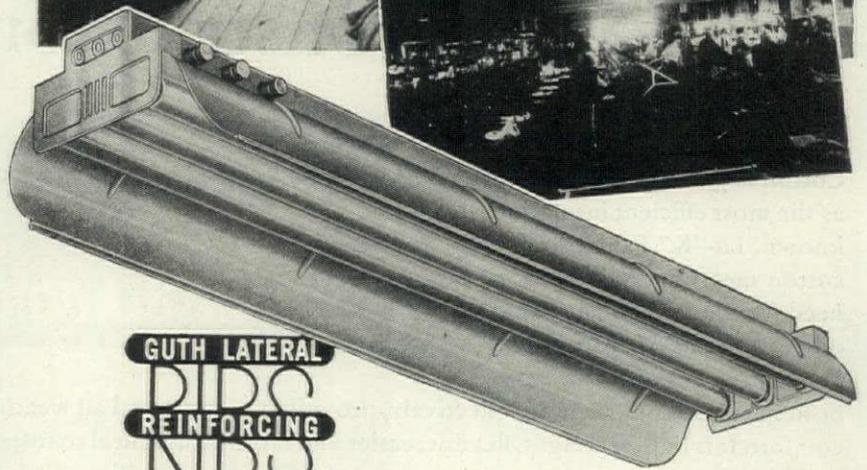
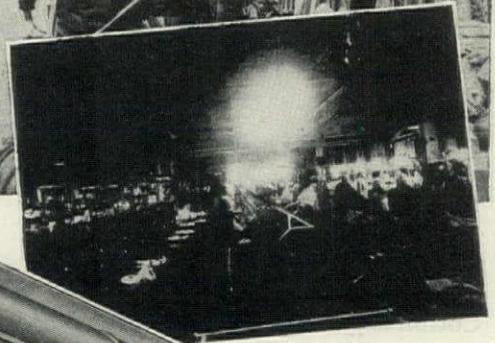
### Guth

### New MAZE-LITE Fluorescent Reflectors Bring Amazing New Illumination to The Adler Company, Cincinnati, Ohio

**T**HIS remarkable contrast story very clearly shows the advantages of good **SEEING-LIGHT**. The Lighting Division of the Cincinnati Gas & Electric Company of Cincinnati, Ohio, made a survey of the original job, then recommended an entire new lighting system, using GUTH MAZE-LITES in a definite layout pattern. Installation was sold by the F. D. Lawrence Electric Company, also of Cincinnati.

GLARE, GLOOM AND DEPRESSION keynote the "BEFORE" Photo. Note how bright the incandescent lamps flash against the dark background. Worker's morale is depressed by contrasts. Accidents are more likely because of blinding of eyes due to "bright spots and dark corner" contrasts.

BETTER, FASTER work is accomplished in the re-lighted area. Eyes see quickly, more surely, and there is less nervous fatigue. The "AFTER" photo clearly demonstrates these advantages of good **SEEING-LIGHT**.



**GUTH LATERAL  
DIDS  
REINFORCING  
NIDS  
PATENTS PENDING**

#### for Straighter, Stronger Installations

Note the lateral ribs on the MAZE-LITE Reflector pictured above. These ribs in the reflector actually strengthen it; make for a more durable, rigid, and substantial installation—either for individual or end-to-end mounting. MAZE-LITE Reflectors are available with either Porcelain Enamel or "300° White" reflecting surfaces. MAZE-LITES are equipped with "Bump-Proof End-Plates" to protect lampholders; "Side-of-Channel" Starters facilitate Starter replacing. Aircraft-latch makes reflector cleaning simple. MAZE-LITES available with either Conventional or QUICK-LITER accessories.

#### INSTALLATION DATA

The original wattage was increased but 4.7 times, to obtain 18 times the "Before" illumination. The "Before" job used 3 KW, with 150-watt lamps at various "spots" throughout the plant, and provided an average of only 5 foot-candles. By engineered and scientific arrangement, the new GUTH MAZE-LITE installation provides 90 foot-candles as installed, and will furnish 70 foot-candles, in service.

THE EDWIN F. GUTH COMPANY • 2615 WASHINGTON AVE. • ST. LOUIS 3, MO.

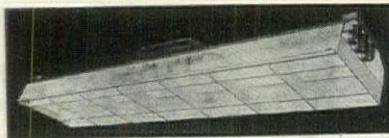
### Guth

(Continued from page 200)

**FLUORESCENT LIGHTING FIXTURE**

Industrial unit can also be used as an exposed troffer for other installations.

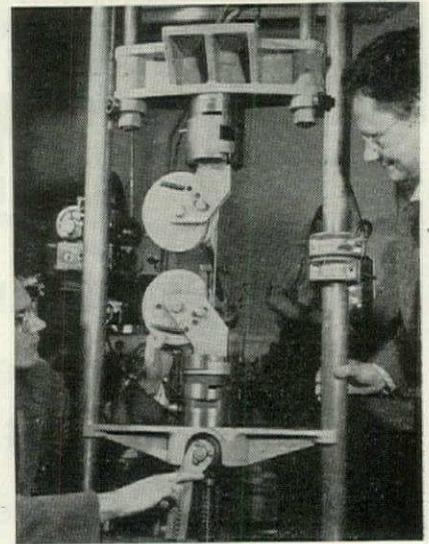
Construction of this fluorescent unit is very similar to the No. 1626-C series except that the reflector is narrower and deeper, and is finished in white Fluracite both inside and out. Available with or without louvers, the primary purpose is to illuminate areas where long, continuous lines are to be used, as over



benches where precision work is done. The louvers are steel and provide 25° crosswise and 15° lengthwise shielding. They are supported at four points and may be swung down for maintenance. Starters are grouped on the top of channel near one end, and ballast mounts on top at center. Units are available for two and three 40 w. fluorescent lamps in louvered and unlouvered models. They can be hung individually or in

continuous lines by means of chain, conduit, or cable. Units can also be wired for pull switch if desired. Dimensions: Length, 48 in., width 11¾ in., height to top of ballast 7⅞ in.

Manufacturer: Curtis Lighting Inc., 6135 West 65th St., Chicago 38, Ill.



**CABLE CLAMP**

Used in testing airplane cables.

Invented by James J. Pasela and E. Stanley Knockel, Glenn Martin Company employes, this new device makes it possible to measure accurately the load of any cable. Suggested by the old seafaring trick of looping a rope around a capstan, the new clamp features a dual pulley whose diameter is such that tension on the cable is relieved and the clamp bears only a small part of the strain. This avoids damage at the crimping point and a consequent false breaking point. Additional feature is an automatic locking bolt, an ingenious scissor mechanism consisting of two cross slots so arranged that a pull of the cable urges the locking bolts into a firm clamping position at the ends of the cable. The self locking bolt replaces 12 hand-adjusted bolts found in previous types of cable clamps. Designed originally for 1/16 in. to ¼ in. cables, it can be adapted to accommodate any size cable and to fit any type of machine.

Manufacturer: Glenn L. Martin Co., Baltimore, Md.

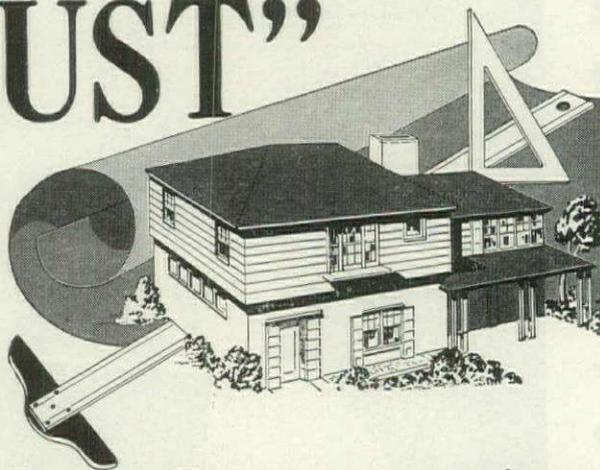
**TERMINAL BLOCK**

New type of solderless, wire to wire connecting device.

Developed as a time-saving, space-saving, and material saving war time necessity, Bee Terminal Blocks offer so many advantages that large peace-time uses are expected by the manufacturer. The terminal block is a connector strip with

(Continued on page 208)

a "MUST"



in All New Construction

**Lo-K**  
flameproofed  
**COTTON INSULATION**

Cotton is gaining recognition as the most efficient insulation known. Lo-"K" flameproofed cotton meets every insulation need for modern construction or remodeling. Its low heat conductivity or "k" value stops both heat and cold far more effectively, providing year around all weather comfort. It is lighter weight, flexible, easier and more economical to install. It is moisture, rot and vermin resistant for maximum utility. And, of course, flameproofed for safety. Farsighted, modern minded architects, contractors and builders are specifying it almost exclusively.



Available at your lumber or building material dealer in easy-to-handle blanket rolls for all standard construction.

A Product of  
**LOCKPORT COTTON BATTING COMPANY**  
Established 1870  
LOCKPORT, NEW YORK

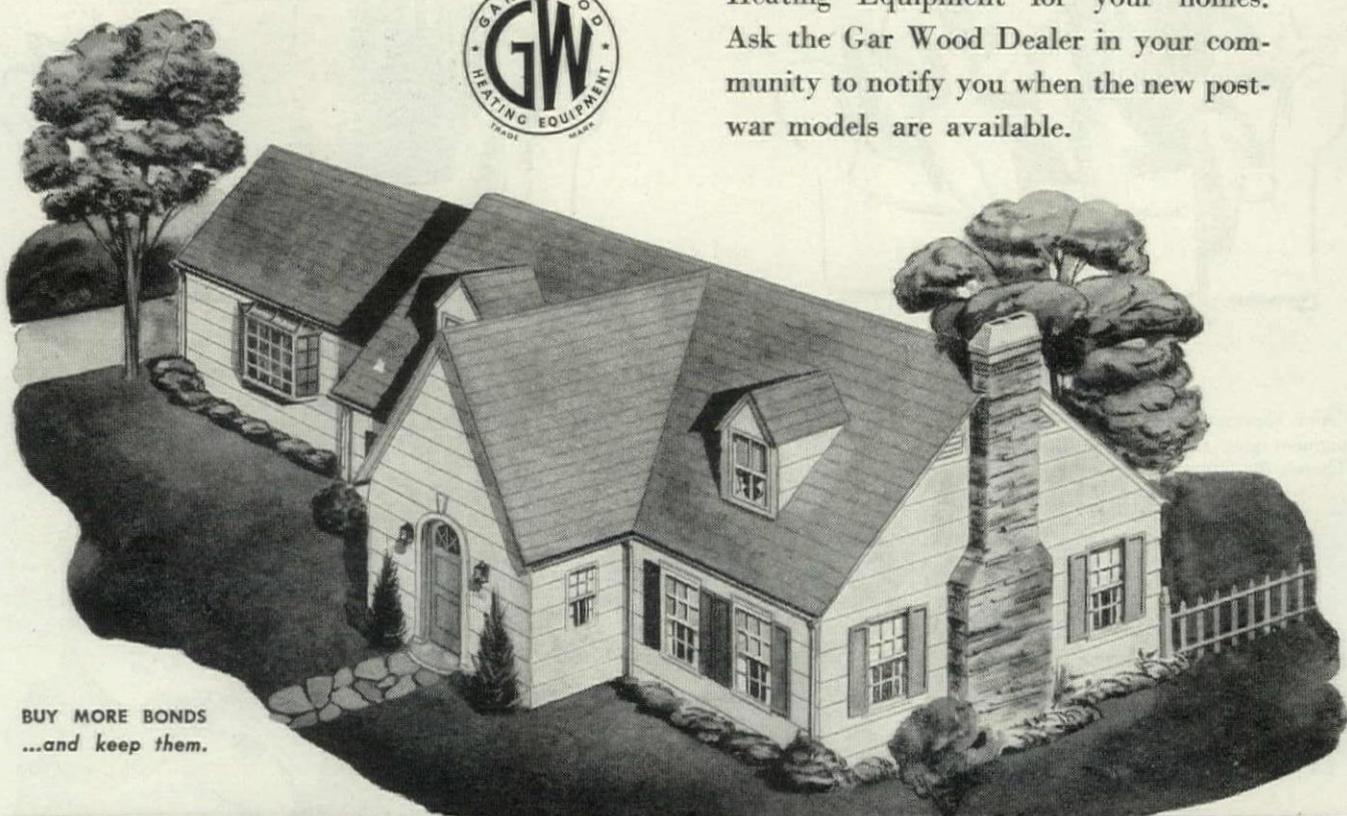
LOCKPORT COTTON BATTING COMPANY  
Dept. AF-6 Lockport, New York  
Gentlemen: Send me the facts about Lo-"K" Cotton Insulation for better building.  
 ARCHITECT  DEALER  
 CONTRACTOR OR BUILDER

Name.....  
Address.....  
City..... Zone..... State.....

# Any Home is a BETTER Home When It's Equipped with a *Gar Wood* HEATING UNIT

Take a well-built home equipped with a finicky heating unit . . . frequent break-downs . . . chilly rooms . . . overheated rooms. The result? Unhappy owners. A comparable home equipped with the proper heating unit will draw praise for the architect and acknowledgment that "the builder knows his stuff". Good heating equipment is a vital part of any

home. That's where GAR WOOD comes in. Actual surveys have proven that Tempered-Aire provides excellent heating performance with savings in fuel consumption ranging as much as 50% below the average for the community. Gar Wood will offer a complete new line of oil or gas-fired Tempered-Aire and Boiler Burner Units for homes of all sizes. Get in the habit of recommending Gar Wood Heating Equipment for your homes. Ask the Gar Wood Dealer in your community to notify you when the new post-war models are available.



BUY MORE BONDS  
...and keep them.

## GAR WOOD INDUSTRIES, INC., HEATING DIVISION

7924 RIOPELLE STREET

DETROIT 11, MICHIGAN

HOISTS and BODIES . . . WINCHES and CRANES . . . TANKS . . . ROAD MACHINERY . . . MOTOR BOATS

**"THIS GUY THOUGHT ALL ASPHALT TILE WAS ALIKE."**



"But I told him he should see how KENTILE tests for indentation—the standard lab. test at 77° F., you know."



"Well, you're getting warmer, anyway."

"That's just a little over room temperature. But even though KENTILE rates so high on Indentation it is so flexible it can even be installed on good wood floors—it's soft enough to sort of 'snuggle' on to almost any surface."

"Oh, KENTILE has the sharpest, straightest edges you've ever seen. Those tiles absolutely seal-set against each other—and they're installed remarkably fast."



"Hmm, you're getting sharp, I think."



"I am glad something is fast."

"And KENTILE is color-fast, too. The pigment goes right thru to the back. There's the Greaseproof KENTILE too."

"Oh, KENTILE is never slippery. Anyway, this bird was so impressed by my knowledge of details he said I could do the post-war re-designing for his whole chain of stores."

"So is KENTILE!"



"—Pretty slick!"

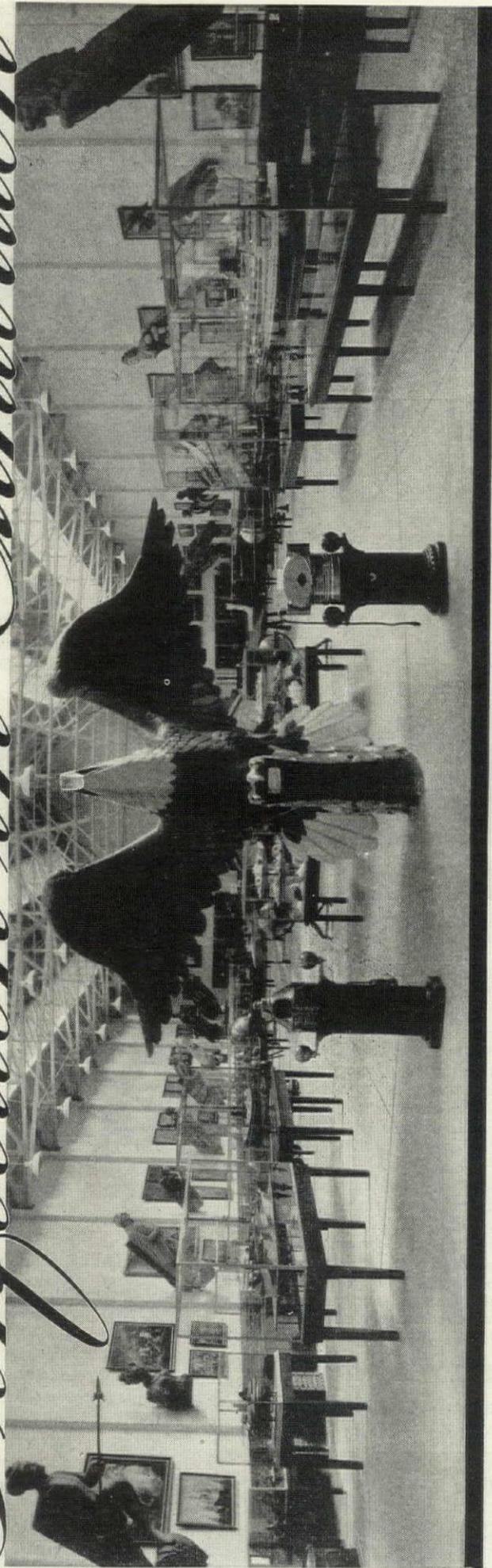


"Oh Harold, you're wonderful."



If you, too, want to woo and win clients by proving you're well informed, send for the complete, full-color Kentile catalogue—sent you without obligation. Write to David E. Kennedy, Inc., 30 Second Avenue, Brooklyn 15, N. Y.

# Perfection in Exhibition



**T**HIS is a section of the Mariners' Museum, Newport News, Va., and clearly demonstrates the display value of Michaels Time-Tight Cases. Distinctive appearance, exclusive Innerlocking Frames, no exposed screws, and other unusual construction features, make Michaels Time-Tight Cases increasingly popular. Irrespective of what you have to exhibit or where it is to be displayed, Time-Tight Cases will meet your requirements. There are Table Cases, Wall Cases, Aisle Cases, Suspended

Cases, Recessed Cases and cases built to meet individual specifications. Naturally, Time-Tight Cases are not available now because all Michaels facilities are devoted to war work. But it is not too early to plan for the future. With this in mind, we suggest you send for illustrated folder which gives complete details and specifications. When the war is over Michaels will resume the manufacture of Time-Tight Exhibit Cases, Bronze Tablets, MI-CO Parking Meters, and many other products of ferrous and non-ferrous metals.

MUSEUM CASE DIVISION OF



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

Manufacturers since 1870 of many products in Bronze, Aluminum and other Metals  
COVINGTON, KENTUCKY Experienced Representatives Wanted

(Continued from page 204)

practically any desired number of terminal posts, with each terminal post capable of handling from two to eight wires in the smaller ranges. One type, Series A-200, has terminal posts staggered in V formations, whereas in type Series A-300, terminals are set straight in line. The binding post stud has a slotted channel. The wires are held in this channel between a top clamp built into the nut, and a lower clamp which is secured to the base. This arrangement

locks every wire to a wire in a vibration-proof and low-resistance connection. No lock nuts, washers, lugs or other accessories are required. This obviates soldering, crimping and pressing, and no special tools other than an ordinary socket wrench are required.  
 Manufacturer: L. S. Brach Manufacturing Corp., Newark 4, N. J.

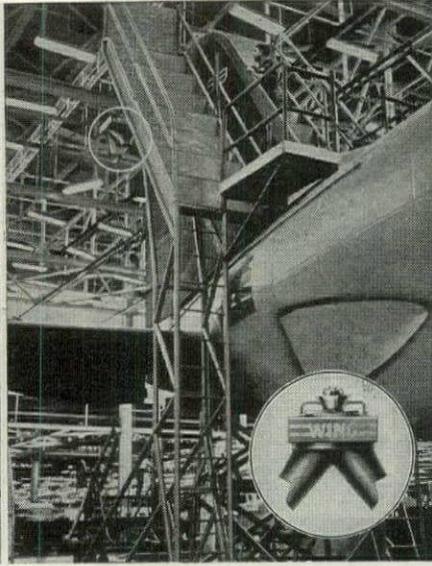
### LISTENING DEVICE

**For private reception without disturbing others.**

The streamlined and improved Hushatone is a miniature, molded plastic ex-



tension speaker for individual listening. Its flat disc shape, 4 3/16 in. by 11/16 in., makes it ideal for under pillow use in bed. Hermetically sealed it can be cleaned in disinfecting solutions not over 120° F. A light weight "Bimorph" crystal element insures uniform response and high sensitivity. Its tone quality is comparable to large cone-type speakers, and it produces sufficient volume with only .01 w. power consumption.  
 Manufacturer: Brush Development Co., Cleveland, Ohio.



## WING *Revolving* HEATERS

### Help Keep Shipbuilders (Sea and Air) on the Job

Two striking instances of the virtues of Wing Revolving Unit Heaters are exemplified in the photographs above.

At the left is one of the shops of a large shipbuilding concern where the Wing Revolving Heaters are located 61 feet above the shop floor. Yet the heated air is projected down to the working level and circulated by the slowly revolving outlets of the heater so that every part of this huge shop (802 ft. x 156 ft.) is kept warm and comfortable, protecting the health of workers and keeping vital shipbuilding production moving.

At the right is part of the assembly shop of one of the world's largest builders of cargo planes, the future merchant ships of the air. This modern

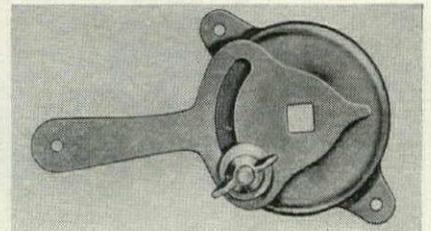
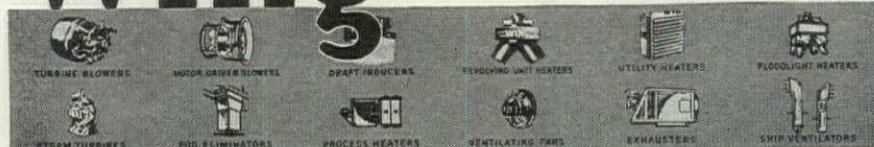
plant is also heated by Wing Revolving Unit Heaters. No other type of heater could so thoroughly and evenly heat a plant of this kind, where the massive planes would form imposing obstacles to the projection of heated air from fixed discharge heaters. But the slowly moving streams of warm air from the revolving discharge outlets of the Wing heaters circulate around and under the huge plane bodies, wings, rudders, stabilizers, etc., and keep the plant at a uniform, comfortable temperature. Employees find that the sensation of warm, live, invigorating comfort is stimulating to production. And in summer, with the steam turned off, and the fans on, an equally pleasant cooling effect may be obtained.

Write for a copy of Wing Bulletin HR-4

**L. J. Wing Mfg. Co.,**

157 W. 14th Street New York 11, N. Y.  
 Factories: Newark, N. J. and Montreal, Canada

# Wing



### QUADRANT DAMPER

**Designed in a modern pattern for light industry and dwellings.**

The device comes in 1/4 in. and 3/8 in. sizes, and is attractively plated with rust-resisting cadmium. Features claimed for the product are ease of installation, dependability of operation and ruggedness of construction.

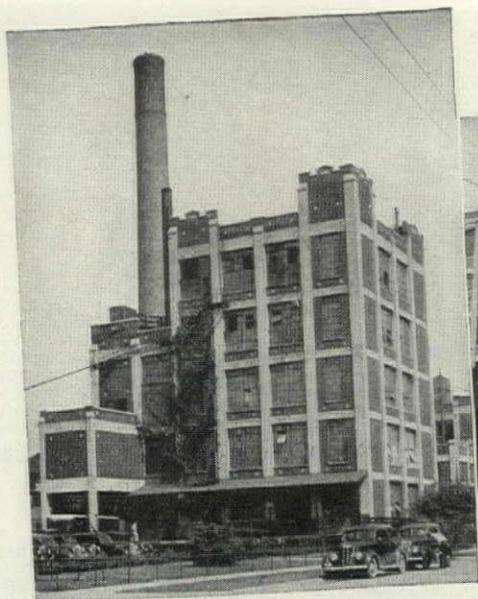
Manufacturer: Western Air Devices, Inc., 1349 E. Vernon Ave., Los Angeles, Calif.

### PORTABLE FIRE EXTINGUISHER

**Engineered carbon dioxide extinguisher is faster and more easily controlled.**

The Alfite Speedex, using carbon dioxide as the fire extinguishing agent, is engineered to more speedily extinguish small oil or electrical fires. The Speedex operating valve lever is directly above the carrying handle and can be instantly opened by hand grip pressure. It is quickly closed by releasing the hand when operator is changing his position.

(Continued on page 212)



You should have  
seen these buildings  
before they got  
their  
Waterfoil "Raincoats"

# WATERFOIL

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

Yes, they were pretty shabby structures—not much credit to the owners or to the community. If your building exteriors need restoration now, make them look like new and protect them for the future with Waterfoil—a product of the Horn Research Laboratories. Manufactured of irreversible inorganic gels, Waterfoil bonds both physically and chemically to masonry forming a dense hard coating. Easy to apply,

Waterfoil lets the masonry breathe as it should but helps to impede water penetration. Free from oil, cement, lime, casein or glue. Send for the Waterfoil literature today.

## A. C. HORN COMPANY

*Established 1897*

Manufacturers of Materials for  
Building Maintenance and Construction  
Long Island City 1, N. Y.  
Houston, Texas  
San Francisco, Calif.





**IN THE DINING ROOM**—Panels of Insulux bring the blessed sunshine in yet keep prying eyes out.

## Sunshine and Light

MANY of the homes of tomorrow are sure to display lustrous, light-flooded panels of Insulux Glass Block.

And here's why!

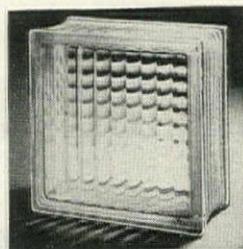
Panels of Insulux transmit and diffuse light better than ordinary construction yet provide privacy along with light.

Furthermore—panels of Insulux reduce heat loss and condensation.

And they're easy to clean and to keep clean.

Panels of Insulux can be used to brighten dark corners all through the house—to add new beauty to an entry way, kitchen, dining room or bath.

*For technical data, specifications, and installation details, see our section in Sweet's Architectural Catalog, or write: Insulux Products Division, Dept. B-21, Owens-Illinois Glass Co., Toledo 1, Ohio.*

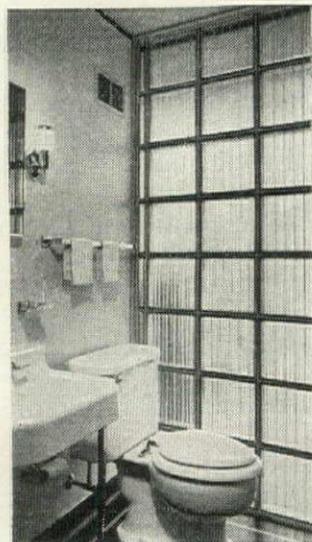


*Insulux Glass Block is a functional building material—not merely a decoration. It is designed to do certain things that other building materials cannot do. Investigate!*

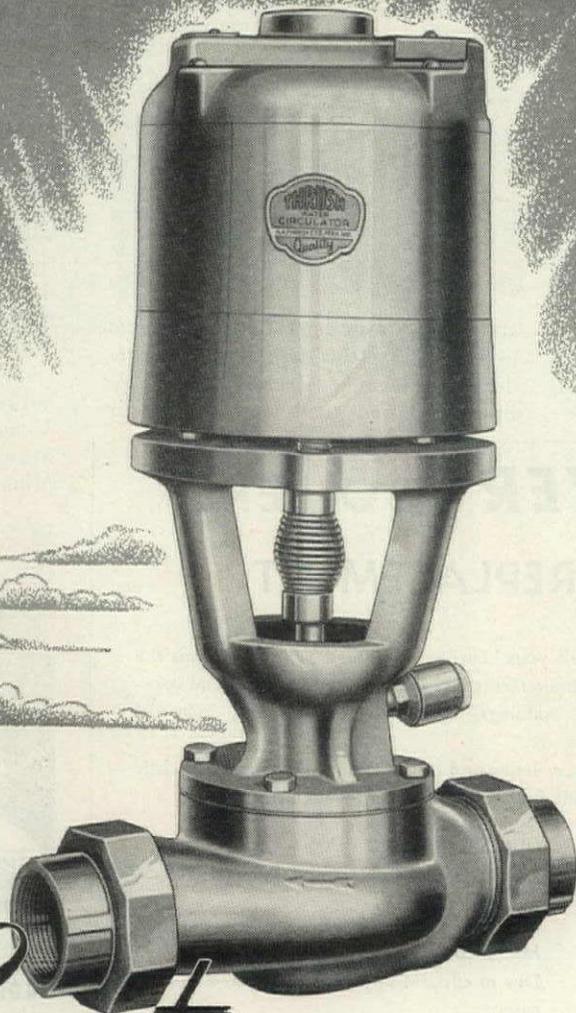


← **IN THE KITCHEN**—Panels of Insulux flood the work counters with natural daylight.

**IN THE BATHROOM**—Panels of Insulux are easy to clean and provide complete privacy along with light. →



**OWENS - ILLINOIS**  
**INSULUX**  
**GLASS BLOCK**

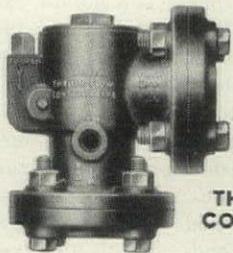


THRUSH WATER  
CIRCULATOR

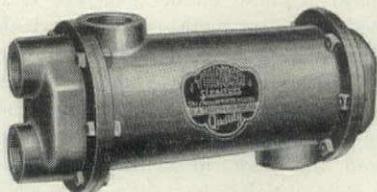
*The Secret* OF HEATING ECONOMY  
**THRUSH** *Forced* **CIRCULATION**  
 NO WASTEFUL OVERHEATING

IN ALL the post-war dreams there's one feature you always find . . . completely automatic heating. And it's one feature that's already a reality! Thrush Forced Circulating Summer-Winter Hot Water Heat is Tomorrow's heating system, here today. Are you telling the people of your community its advantages of greater economy, real home comfort and year 'round Domestic Water supply? Are you getting it drawn in the blueprints and written into the specifications of the homes being planned? Are you recommending it for modernization work now? These are profit opportunities you should not overlook. If you are not familiar with Thrush equipment, see your wholesaler today or write Dept. H-6. for more information.

H. A. THRUSH & COMPANY • PERU, INDIANA



THRUSH FLOW  
CONTROL VALVE



THRUSH WATER HEATER

*Summer - Winter Hot Water Heat!*

(Continued from page 208)

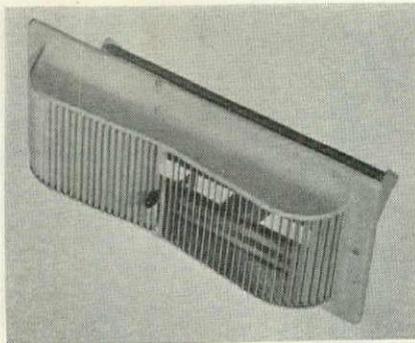
For continuous operation the D-yoke ring is slipped over the operating lever while it is depressed. Available in 15, 10 and 4 pound capacity, the units are approved by Underwriters' and Factory Mutual Laboratories.

Manufacturer: American-La France-Foamite Corp., Elmira, N. Y.

## DOMESTIC WARM AIR REGISTER

Insures even distribution of air, eliminates balancing dampers in duct work.

The manually operated Vol-U-Trol reg-

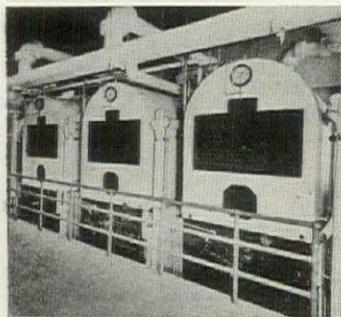


ister for use with domestic forced warm air heating systems, is designed to provide a wide range of easily adjustable diffusion settings, and control of the air

supply volume at the register. The curved extension front together with the individually adjustable diffusion vanes permits adjustment so that any shape room can be blanketed with air regardless of register location. An operating lever projecting through the center of the register changes the amount of opening of the volume control blades, thus placing the volume of the air supply volume at the register and eliminating the need for balancing dampers in the duct work. An adjustable lock allows the register to be closed by the operating lever and reopened to the previously determined point without further adjustment.

Manufacturer: Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., So., Minneapolis, Minn.

## "FUEL-SAVER" BOILERS FOR QUICK REPLACEMENT



Typical Type C Installation.

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

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

### QUICK STEAMING

Due to rapid and positive internal water circulation.

### MAXIMUM HEAT ABSORPTION

Due to effective distribution of heated gases.

### EASE OF CLEANING

Due to accessibility of heating surfaces.

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

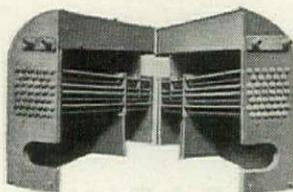
Complete range of standard sizes rated in accordance with S. H. B. I.—15 lb. A. S. M. E. standard—for hand, stoker, oil or gas firing.

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

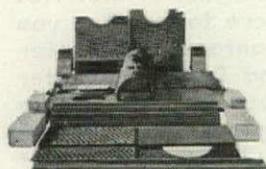
Type KD—knocked down—a heating boiler designed for shipment so that sections can be carried through a door or window. Eliminates expensive cutting or patching of building. Reduces time out when in need of steam.

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

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



Halves of twin section boiler ready for bolting.



Type KD knocked-down for shipment.



## RADIANT HEATING

Baseboard radiation provides 3° floor-to-ceiling temperature gradient.

The Base-Ray Heat Panel, resembling a typical wood baseboard, will be available postwar for all types of hot water heating jobs in modernization and new residential construction. It can also be used with two pipe steam and vapor installations. The panel is a hollow cast iron unit, 7 in. high and 1 3/4 in. wide, connected with the usual heating boiler. Easily installed on the outside walls, it can be painted to match the woodwork of the room. Panel sections are joined by means of push nipple construction with short tie bolts. Valves, ells and traps are connected to the panels at bottom opposite ends, as with tube type radiators. These connections are concealed by a neat metal enclosure which is flush with the front and top of the units. Base-Ray Heat Panels deliver radiant rays at ankle height keeping the floor warm and comfortable. Tests have proved the floor to ceiling temperature differential is less than 3° in zero weather. The units will be manufactured in 12 in. and 24 in. lengths and will be shipped assembled up to 10 ft. Manufacturer: Burnham Boiler Corp., Irvington, N. Y.

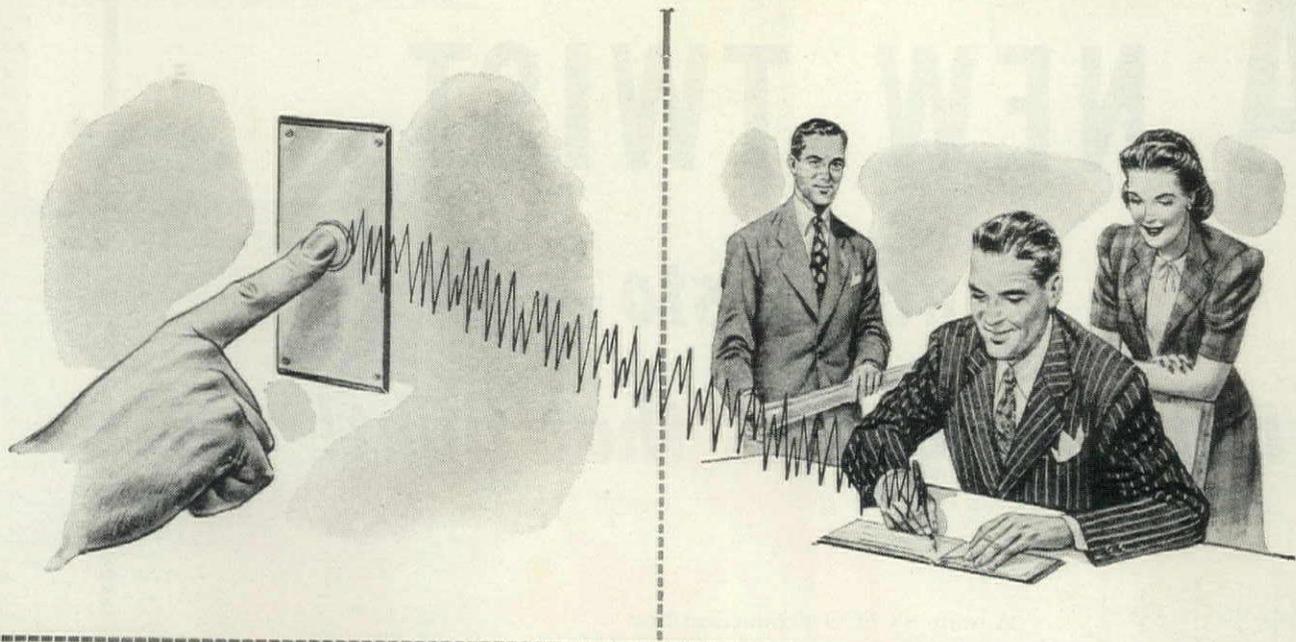
(Technical Literature, page 220)

Boiler Builders for

**59**  
Years

**THE INTERNATIONAL BOILER WORKS CO.**  
HEATING DIVISION  
320 BIRCH STREET · EAST STROUDSBURG, PA.

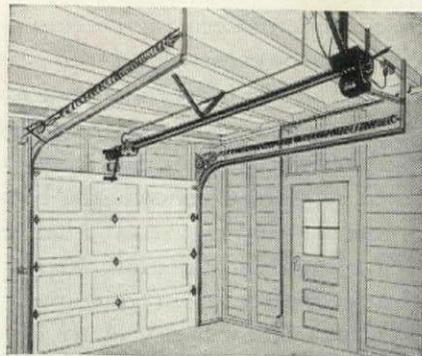
HEATING BOILERS TYPES C, KD, DD, K      POWER BOILERS TYPES CR, FR, LFR, LFS



**"How to push a Button...and SELL A HOUSE!..."**



*"That's right!... Just show Mr. Groom and Mrs. Bride how much convenience, comfort, and safety is added to their new home by an Avco Automatic Door Opener ... and you've got your post-war house half sold before you leave the driveway and enter the dwelling!..."*



Any standard type garage door will take an Avco Automatic Door Opener. Cost is low. Installation simple. Construction sturdy. Once installed, a button in the car and another in the house do the whole job!...



Garage doors open or close, lights go on or off, at the touch of a button. Yard and house entrance lights can be hooked in at slight additional cost. At any hour, in any weather, here is new convenience, comfort, safety!



See for yourself, as forward-looking architects and builders in great number are already doing, what this new device will mean in living convenience... how much it can add in sales appeal to homes you plan or build for sale!

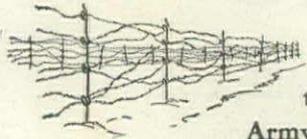
**AVCO**  
*Automatic*  
**DOOR OPENERS**

The Horton Manufacturing Division.  
 The Aviation Corp.,  
 Detroit 9, Mich.



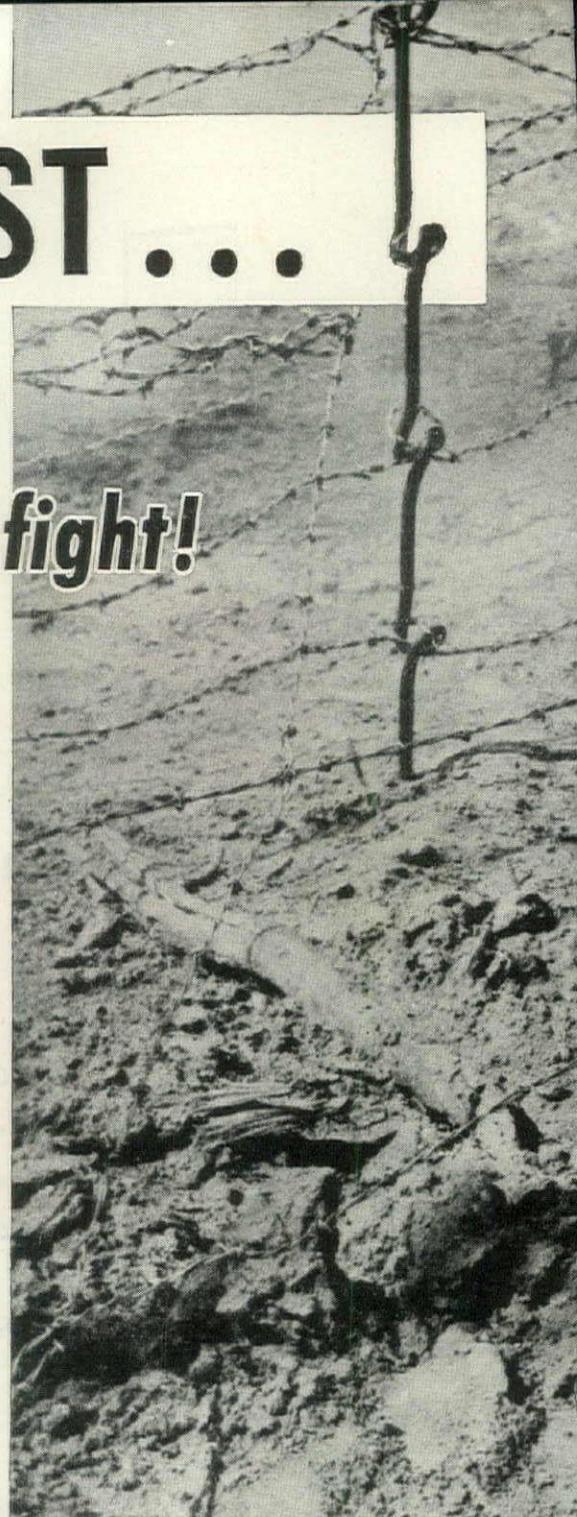
# A NEW TWIST . . .

*and presto —  
reinforcing bars that fight!*

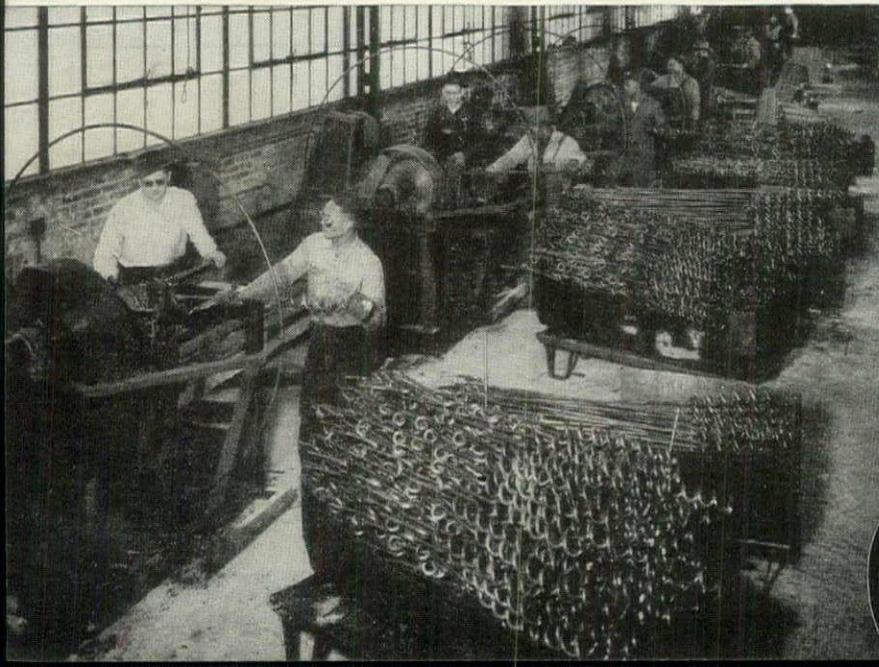


A unique CECO production line twists Ceco reinforcing bars into Army screwposts. Screwposts that, when strung with barbed wire, stand grim sentry duty in jungle outpost and German field.

This simple yet ingeniously contrived fabricating process will, in a little over 2 years, have turned out 3½ million of these reinforcing bars that fight. Just another example of Ceco engineering skill in steel fabrication. And to be expected . . . for in peacetime Ceco is the country's largest independent fabricator of reinforcing bars for reinforced concrete construction. A Ceco coast to coast warehousing service which guarantees builders in reinforced concrete the bars they need, cut, bent, bundled and tagged, and delivered on schedule, ready for speedy installation. Ceco's 30 years of engineering experience in reinforced concrete construction means "know how", so always consult a Ceco trained-in-the-field engineer before you plan to build!



COURTESY U. S. ARMY SIGNAL CO



Complete list of Ceco engineered products for reinforced concrete construction includes: Meyer Adjustable Type Steelforms, Reinforcing Bars, Column Spirals, Welded Fabric, Bar Chairs, Spacers and accessories, Column Clamps and Adjustable Steel Shores.

## ENGINEERING

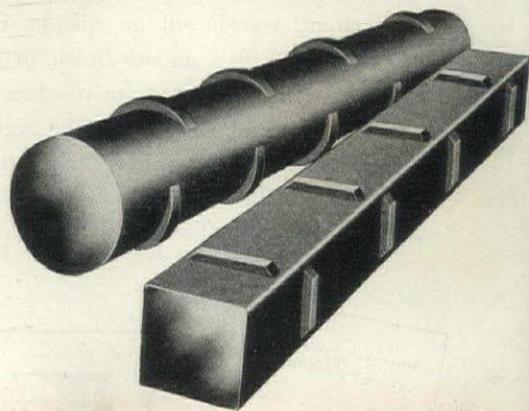


## **CECO STEEL PRODUCTS CORPORATION**

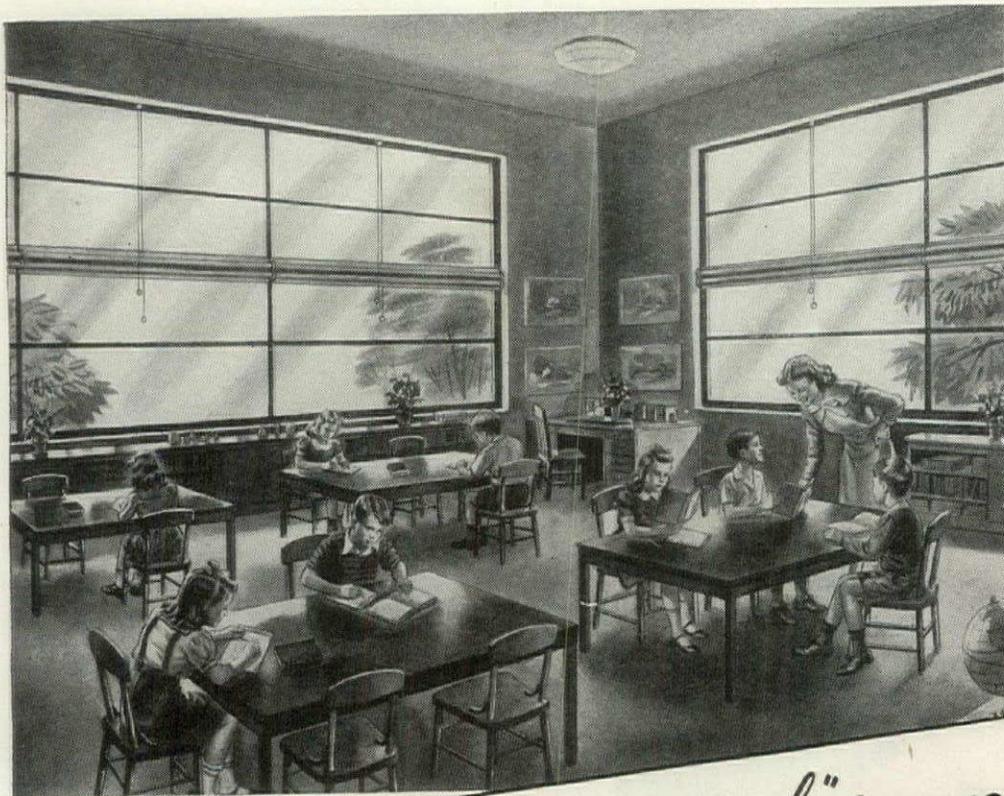
*Concrete Engineering Division—5701 W. 26th St., Chicago, Ill.*

• • •  
**Manufacturing Division:** All types of residential and industrial steel windows, steel doors, metal frame screens, metal lath, metal weatherstrip, steel joists and steel roof deck.

• • •  
**Sheet Steel and Wire Division • Highway Products Division**



**MAKES THE BIG DIFFERENCE IN CECO CONSTRUCTION PRODUCTS**



**DAYLIGHT ENGINEERING** is an important element in classroom design. Provide plenty of well-distributed natural daylight by specifying large windows and light-colored walls and ceilings. Prevent the "shut-in" feeling that leads to restlessness, by placing window sills low enough to permit a view of the outdoors.

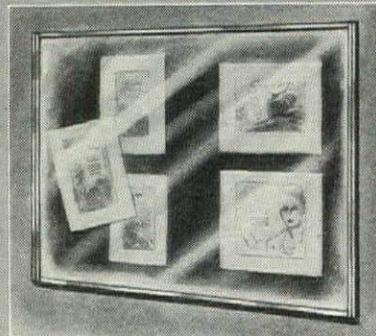
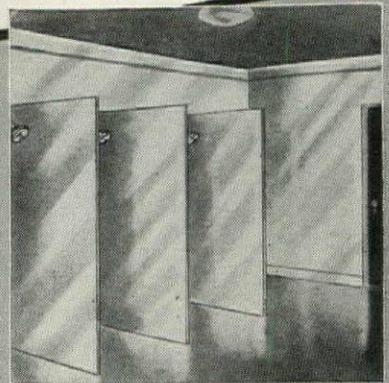
**THERMOPANE**, the L·O·F windowpane that insulates, makes large windows thoroughly practical, whatever the climate. It does away with the need for putting up and taking down extra sash for insulation.

## Why **GLASS** is a "Natural" for many uses in School Buildings

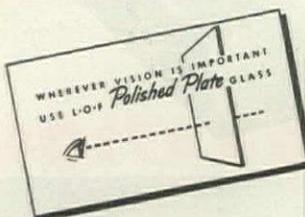
More daylight . . . greater cleanliness . . . a surface that doesn't need refinishing in spite of frequent soiling and washing—these characteristics of glass are good reasons why it is being specified more and more for new schools and for wider use in modernization of existing structures.

The versatility of glass is a valuable aid to school architects. You can have glass that is transparent, translucent or opaque. Colorful or colorless. With a smooth finish, or in decorative patterns. Tempered, for resistance to impact and thermal shock. For the right glass for every use, see your L·O·F Distributor. Libbey-Owens-Ford Glass Company, 1565 Nicholas Building, Toledo 3, Ohio.

**VITROLITE**, colorful L·O·F structural glass, is an ideal wall surface for shower rooms. Water won't harm it, and it never needs refinishing. It keeps its lustrous, easy-to-clean surface.



**INSTRUCTIVE EXHIBITS** along hallways increase students' interest and pride in their work. Provide display cabinets with glass doors for handiwork of art, mechanical drawing, manual training, home economics and other classes. Glass keeps exhibits clean, protects them from handling.

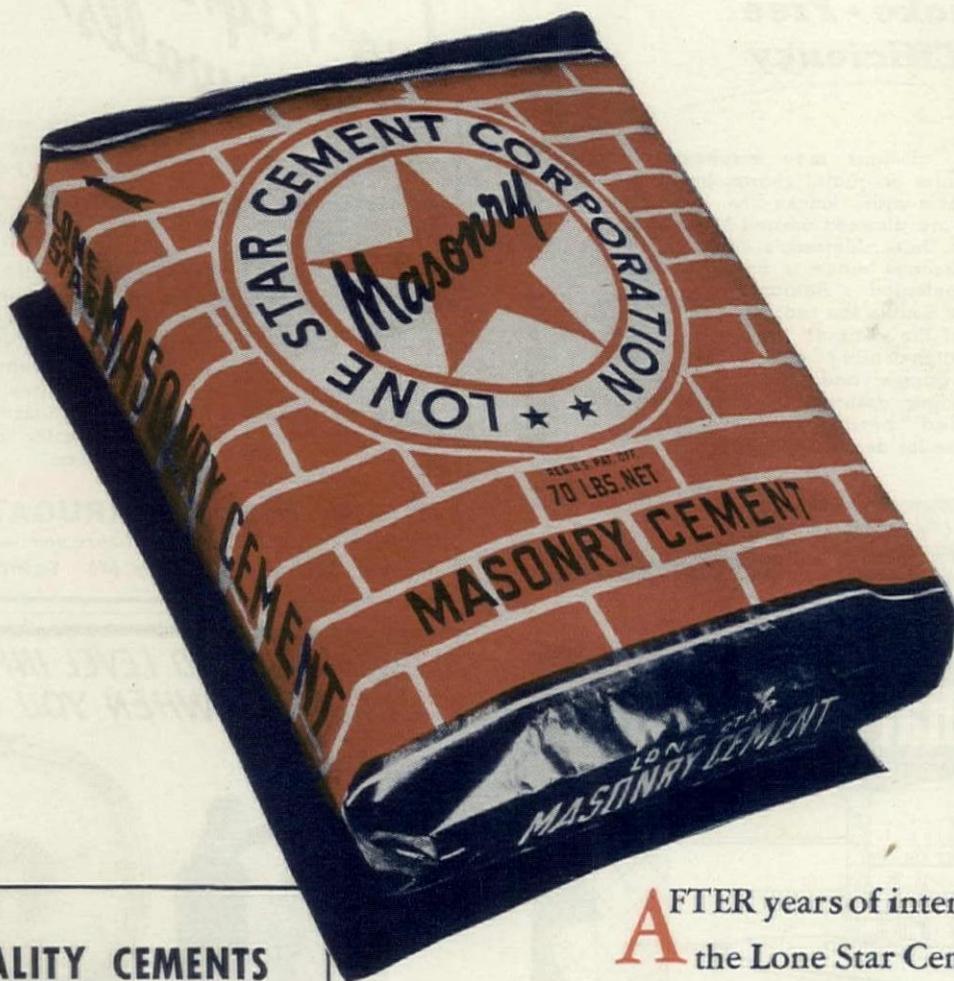


**LIBBEY · OWENS · FORD**

*a Great Name in* **GLASS**

# Announcing

## LONE STAR MASONRY CEMENT



### 3 QUALITY CEMENTS

**LONE STAR PORTLAND CEMENT**  
for quality concrete in all types of construction

**'INCOR'\* 24-HOUR CEMENT**  
America's FIRST high early Portland Cement—saves time, cuts costs

**LONE STAR MASONRY CEMENT**  
The modern masonry cement, for really great job performance

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

**A**FTER years of intensive research, the Lone Star Cement Corporation now takes genuine pleasure in announcing a significant forward step in Masonry Cement. Significant—because this modern masonry cement furnishes important plus properties all along the line—in plasticity, in water-retention, in strength, in bond, and in all the other qualities which add up to *really great job performance*. Trying is believing—specify Lone Star Masonry Cement for your next job.

## LONE STAR CEMENT CORPORATION

Offices: ALBANY • BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS.  
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 15 MODERN MILLS, 25-MILLION BARRELS ANNUAL CAPACITY



# Majestic

## CIRCULATOR FIREPLACE

**Assures Smoke - Free Heating Efficiency**

Your fireplace designs may emphasize either modern smartness or quaint charm, but they will all feature room-wide, smoke-free heating efficiency if they are planned around Majestic Circulator Fireplace Units. Majestic's adjustable frame and grille openings make it adaptable to any plan. It's patented "Radiant Blades" nearly double the radiating surfaces of the ordinary fireplace. Insulation-sealing angle irons, built-in damper and scientific proportioning assure unexcelled performance. Write for details today.

*Also Outdoor Fireplaces  
Underground Garbage Receivers  
Incinerators  
Dampers  
Coal Chutes  
Many others*

**THE MAJESTIC COMPANY**  
1001 Erie St., Huntington, Indiana



Though the back-fill settles  
**LUX-RIGHT AREAWALLS**  
hold fast to foundation

Because  
MASONRY NAILS  
KEEP THEM AL-  
WAYS IN PLACE

**THE  
PERFECT  
RETAINING  
WALL**

# Lux-Right Areawalls

If a retaining wall "pulls away", it's bound to cause dissatisfaction. \*LUX-RIGHT AREAWALLS STAY PUT. They never sag. This means a neat, trim foundation line on every job. No complaints. No back-calls.

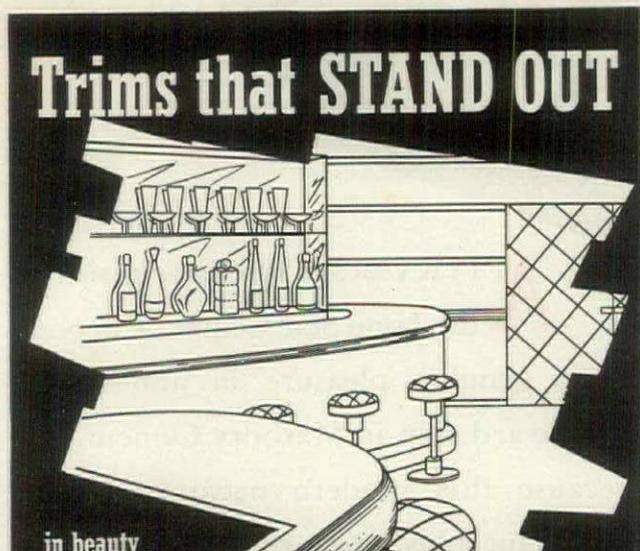
Buy and Hold  
WAR BONDS

**AT OUR PLANT**  
Once this war is won, we shall convert as promptly as possible to regular full-time production of our nationally known products.

LUX-RIGHT AREAWALLS are made of heavy gauge, special corrugated steel, completely HOT-DIPPED GALVANIZED AFTER fabrication. Maximum rust resistance. Two types: Straight and Round. All standard sizes. See your distributor-dealer, or let us send you free folder. \*TM Reg. U.S. Pat. Off.

**SAINT PAUL CORRUGATING CO.**  
1885—Sheet Steel Fabricators—1945  
So. End Wabasha Br., Dept. AF2 Saint Paul 1, Minn.

# Trims that STAND OUT



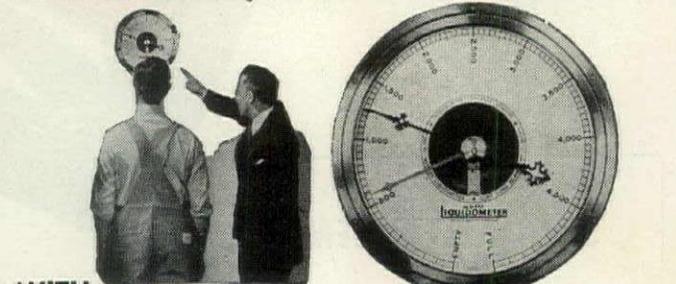
in beauty  
permanence  
and utility

**B&T**  
METAL TRIMS  
trademarked  
**CHROMEDGE**  
REG. U. S. PAT. OFF.

**The B & T Metals Co., Columbus 16, Ohio**

CHROMEDGE Metal Trims add lustrous, new beauty to all types of interiors. Designed by specialists with many years of wall- and floor-covering experience, CHROMEDGE Metal Trims make better jobs easier to install and longer lasting. Specify CHROMEDGE — and keep your eyes on CHROMEDGE for leading new developments in the trim field.

## ACCURATE LIQUID LEVEL INFORMATION AT A GLANCE, WHEN YOU WANT IT—



WITH  
**LIQUIDOMETER Tank Gauges**  
"THEY'RE ALWAYS DEPENDABLE"

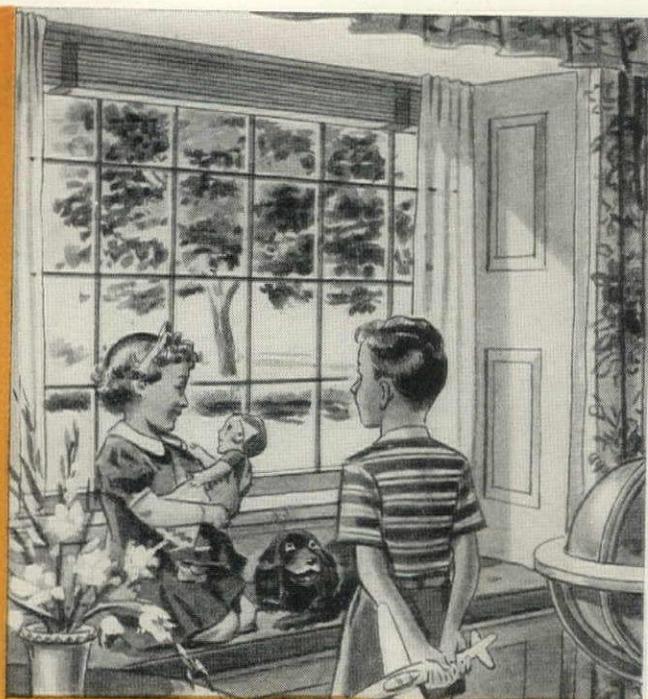
100% automatic.  
No pumps, valves, or auxiliary units needed to read them.  
Models available for either remote or direct readings.  
Accuracy unaffected by specific gravity of tank liquid.  
Approved by Underwriters' Laboratories for gauging hazardous liquids.

Write for complete details.

**THE LIQUIDOMETER CORP.**  
36-30 SKILLMAN AVE., LONG ISLAND CITY, N. Y.



*Warm in Winter*



*Cool in Summer*

*New* FOR POST-WAR . . .

## COMFORT-CONDITIONED HOMES

Double-duty warm-air-type heating systems, which will cool the house in Summer, as well as heat it in Winter! This is one of the remarkable heating and ventilating achievements to come after the war. D & H Anthracite, with its steady, even heat, is the ideal ★ fuel for such systems. To give your clients *comfort-conditioning*, specify Anthracite-burning equipment in plans for post war homes.

★ *Clean—no soot. Healthful—even temperatures; no fluctuation between "hot-and-cold, on-and-off" periods. Economical—more heat, at less cost. Convenient—amazing advances in automatic equipment ahead.*

*"The Fuel of the Future"*

**THE HUDSON**



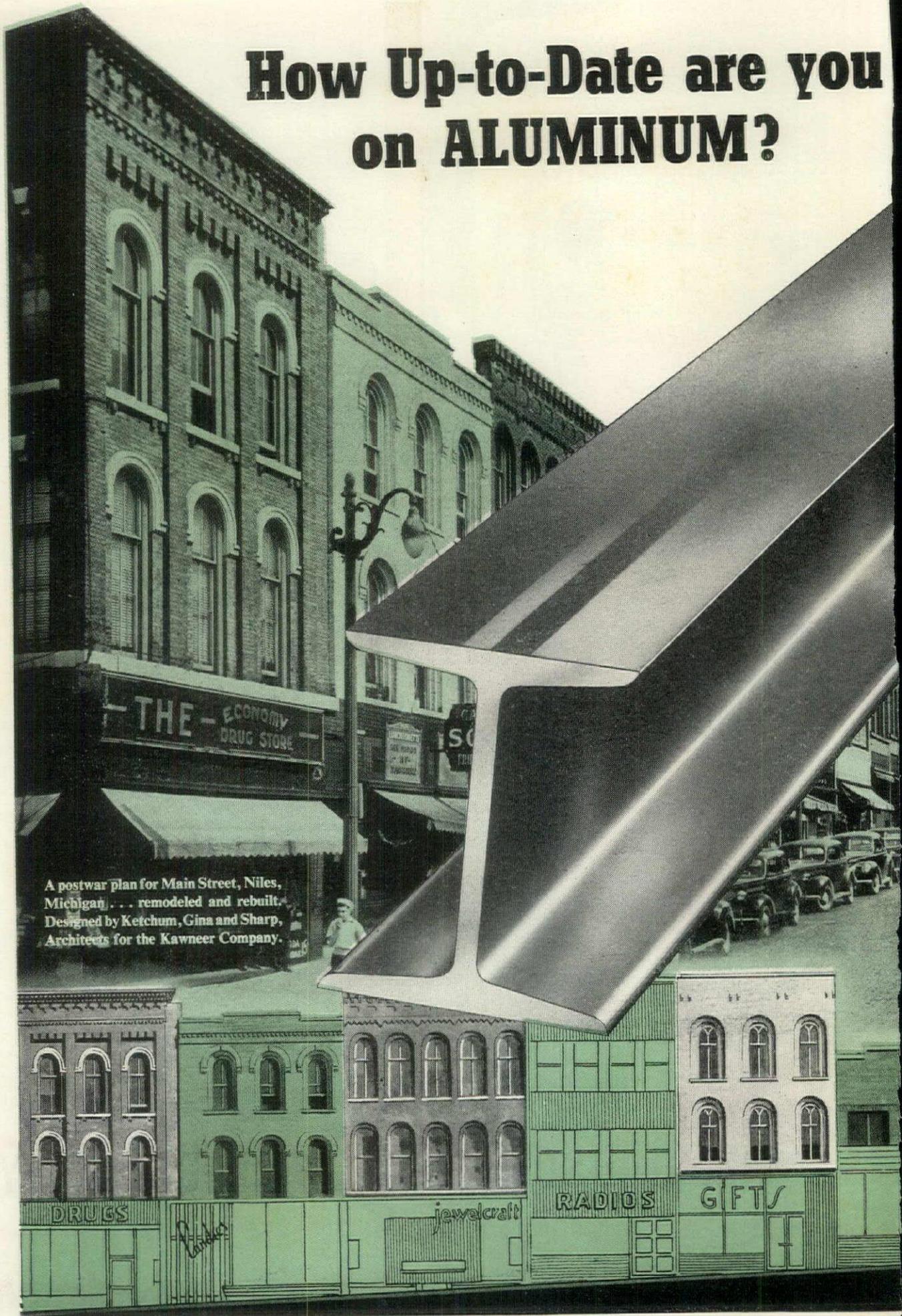
**COAL COMPANY**

SCRANTON

PENNSYLVANIA

TUNE IN D & H ANTHRACITE'S SUNDAY MORNING WORLD NEWS 9 A. M. EVERY SUNDAY, CBS

# How Up-to-Date are you on ALUMINUM?



A postwar plan for Main Street, Niles, Michigan . . . remodeled and rebuilt. Designed by Ketchum, Gina and Sharp, Architects for the Kawneer Company.

# GREAT NEW ALLOYS are ready to help rebuild Tomorrow's "Main Street"

OF THE \$1,000,000,000 a year that authorities estimate will be spent during each of the first postwar years, a considerable percentage is already earmarked for rebuilding towns and villages.

Thanks to great new Reynolds aluminum alloys, today's advanced architectural ideas can be transformed into tomorrow's structures . . . combining beauty, corrosion-resistance and lightness with unit strength greater than many types of steel.

For structures, roofs, doors and fixtures—inside and outside . . . these new alloys open up new horizons, give greater freedom of design to the architects and contractors who will build postwar America.

**R301**—Reynolds armor plate alloy—tomorrow's new sheet and plate alloy. Typical tensile yield strength of 60,000 p.s.i., superior workability, high corrosion-resistance, excellent spot-welding properties.

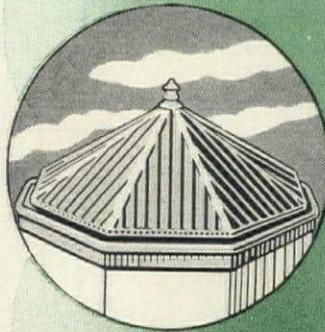
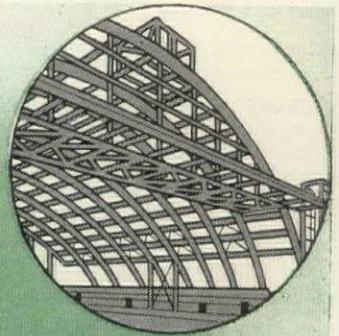
**R303**—Developed primarily for extrusion and forging stock with a higher tensile strength than any alloy ever before used. Available also in sheet form. Splendid corrosion-resistance.

Whatever your problem Reynolds will gladly help you solve it. See catalog in Sweet's or write for Catalog No. 104 "Reynolds Aluminum. Its Important Role in Architecture." Reynolds Metals Company, 2528 South Third Street, Louisville 1, Kentucky.

Keep your dollars fighting . . . Buy More War Bonds

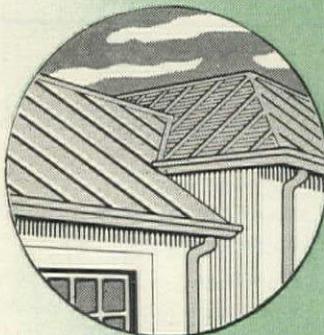
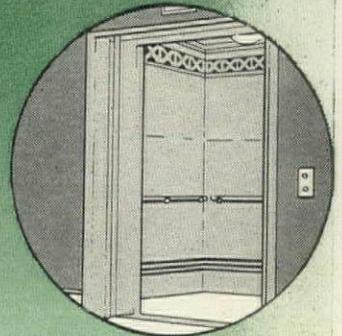


**Structural members . . .**  
New Aluminum alloys permit wide span construction . . . lighten load on walls and foundations.



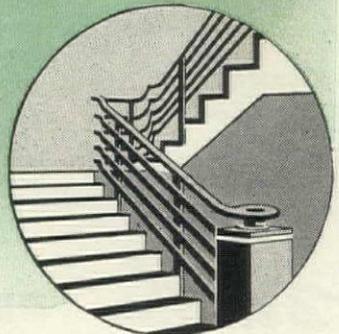
**Gutters and rain spouts . . .**  
highly weather-resistant. Sheen-like texture blends with building trim.

**Doors and partitions . . .**  
New beauty and freedom of design for the homes and offices of tomorrow.  $\frac{1}{3}$  the weight of steel.



**Roofing . . .** Aluminum shingles and flashing resist moisture and corrosion—reflect heat, light.

**Stairways . . .** Combines high structural strength, economical construction, great beauty.



# REYNOLDS

The Great New Source of **ALUMINUM**

7651-A3-4

INGOT • SHEET • SHAPES • WIRE • ROD • BAR • TUBING • PARTS • FORGINGS • CASTINGS • FOIL • POWDER

(Continued from page 212)

**WOOD BEAMS** Mechanical Properties And Design Procedure For Glued Laminated Beams Composed Of Two Wood Species, Bulletin No. 11, 55 pp., 6 in. by 9 in.

This booklet is a report of research on the advantages and disadvantages of laminated glued beams. The study covers selection of woods to be used, principles of design, tests on beams and the properties of the cross sections of laminated beams. Included also are tables, design formulas and illustrations. The study points out an important economy

in beam construction. Cheaper, lighter woods can be used for core material where stresses are lower. Denser more expensive woods are only used where stresses in the beam are high. University of Michigan, School of Forestry and Conservation, University of Michigan, Ann Arbor, Mich.

**BATHROOMS** Planning Your Bathrooms, 28 pp., 8 3/4 in. by 6 in.

This booklet in color contains fixtures, bath and powder room plans and sketches of bathroom arrangements. It is subdivided into the following divisions; planning, remodeling, fixture

groups, ideas, selecting fixtures, accessories, building materials and color treatments. The booklet covers all types of bathrooms including a double-duty bathroom and suggestions for the remodeling of understair closets into powder rooms. Briggs Manufacturing Company, Detroit 11, Mich.

**FLAMMABLE LIQUIDS** The Revised Edition of The National Fire Codes for Flammable Liquids, Gases, Chemicals and Explosives, 1945, 6 in. by 9 in. \$3.00.

Of particular value during war times, this book conveniently assembles the many standards dealing with fire hazards. It is of particular use to those responsible for safeguarding human life, private and public property from the fire and explosion hazards inherent in flammable liquids, gases, chemicals and explosives. Contents by chapters are; flammable liquid storage and handling, oil and gasoline burning equipment, liquefied petroleum gases, utilization of flammable liquids, gases, refrigeration and fumigation, explosives and nitrocellulose materials, tables of properties, flash point tests, and appendix. National Fire Protection Association, 60 Battery-march St., Boston, Mass.

**INCINERATORS** Municipal, Industrial and Residential Incinerators, 8 pp., 8 1/2 in. by 11 in.

This bulletin is the first published by the Morse Boulger Destructor Company to include Kerner Incinerators, a line recently taken over by this company. The bulletin is well illustrated with photographs of various installations. Tables give sizes and capacities. The range of sizes includes incinerators for stores, warehouses and factories and ready built "set on floor" units. Also included is a line of hopper, fire and ash doors. Morse Boulger Destructor Company, New York 17, N. Y.

**PILE DRIVING.** How to Sink Piles Without a Pile Driver, 4 pp., 8 1/2 in. by 11 in.

This pamphlet describes the jetting process of sinking piles and explains how the La Bour Pump is applicable to this form of pile driving. The La Bour Co., Inc., Elkhart, Ind.

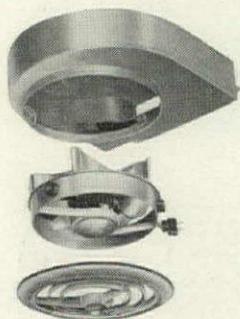
**FLOORS** Building Materials and Structures, Report BMS 103, Measurements of Heat Losses From Slab Floors, 21 pp., 8 in. by 10 1/4 in. Price 10 cents.

This pamphlet describes in detail the results of tests on various types of slab floors. Four concrete floors laid on the ground and three concrete and one wood floor laid over crawl spaces were tested for heat-transfer properties in a special structure provided for the purpose.

(Continued on page 228)



## Don't let this happen again!



EXPLODED VIEW OF

**Blo-Fan**  
"SPOT" VENTILATOR

BLO-FAN "Spot" Ventilators will eliminate this unwanted air *at the source!*

The patented combination of breeze fan and blower principles gives the Blo-Fan *volume plus power*. Ceiling installed—at the spot where odors and vapors originate—a Blo-Fan is twice as effective as a similar size side-wall fan across the room.

The blades of the Blo-Fan supply the blower portion with all the air it can discharge through the duct... That's why the Blo-Fan is so remarkably efficient.

Send for Free Booklet Today

**PRYNE & CO., INC.**

1245 E. 33rd STREET, LOS ANGELES, 54

BRANCHES (TO BE RE-ESTABLISHED AFTER WAR)  
SAN FRANCISCO · SEATTLE · CHICAGO · NEW YORK

"Spot" Ventilation MEANS Blo-Fan

**THIS DROP OF WATER**  
*was*  
**IS THE dangerous one!**  
*might have*  
**IT LEAKED OUTSIDE THE DRAIN... INSIDE THE BUILDING**

**Josam**

**NON-CLOG Triple Drainage DRAIN**  
 PROVIDE COMPLETE PROTECTION AGAINST FAULTY DRAINAGE



Sediment container removed for cleaning

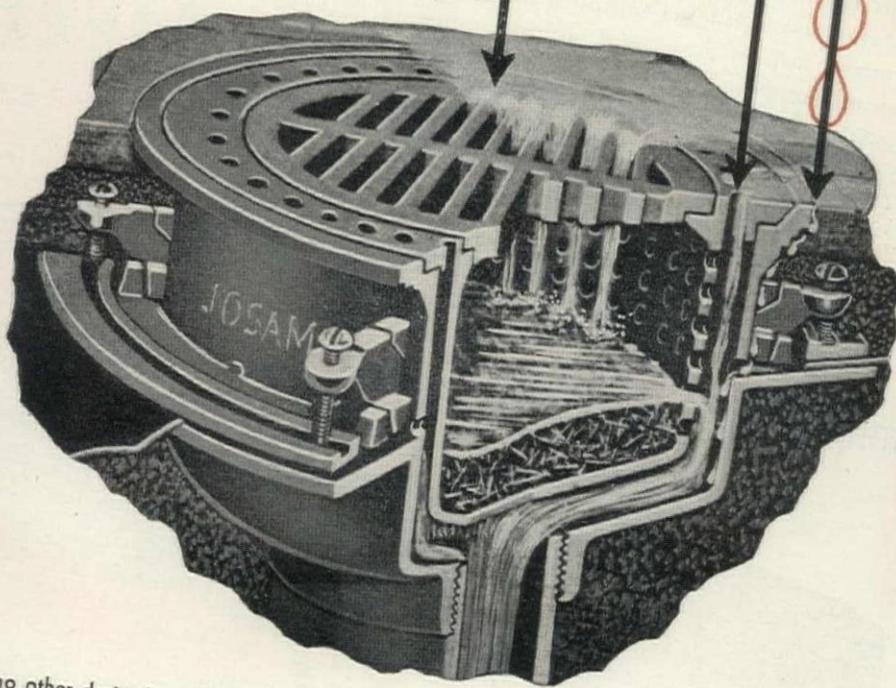


Strainer cannot be replaced without sediment container being in place—no chance of forgetting to put it back



Sediment container in place, strainer fits properly into position

- 1 NORMAL DRAINAGE
- 2 DOUBLE DRAINAGE
- 3 TRIPLE DRAINAGE



There is no other drain that offers the protective drainage feature of the Josam Non-Clog Triple Drainage Drains. Their "three-way" performance not only assures continuous, uninterrupted floor drainage in spite of accumulated debris, but also positive protection against leakage. Sediment container intercepts debris, allowing clear water to flow into drain line (normal drainage). If water seeps into floor around drain, it is returned directly into drain line... does not spread into floor or walls (double drainage). Even if sediment con-

tainer becomes filled with debris, drainage continues through holes in auxiliary rim, signalling need for cleaning (triple drainage). Besides, as illustrated at left, the features of this drain are a positive guard against carelessness in cleaning and replacing sediment container. Don't shorten the life of the buildings on which you are working by taking chances with floor drains that do not have these exclusive features. Give them added years of life and service by specifying Josam Non-Clog Triple Drainage Drains every time!

**Josam**  
**JOSAM MANUFACTURING COMPANY**  
 Founded 1914

Executive Offices, 302 Empire Building, Cleveland, Ohio • Manufacturing Division, Michigan City, Indiana  
 Representatives in all Principal Cities  
 JOSAM-PACIFIC CO., 765 Folsom Street, San Francisco, California—West Coast Distributors  
 EMPIRE BRASS COMPANY, LTD., London, Ontario—Canadian Distributors

**THERE ARE NO SUBSTITUTES FOR JOSAM PRODUCTS**

JOSAM MANUFACTURING CO., 302 Empire Bldg., Cleveland 14, O.  
 Please send me illustrated booklet on the Josam line of "Triple Drainage Drains".

Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_

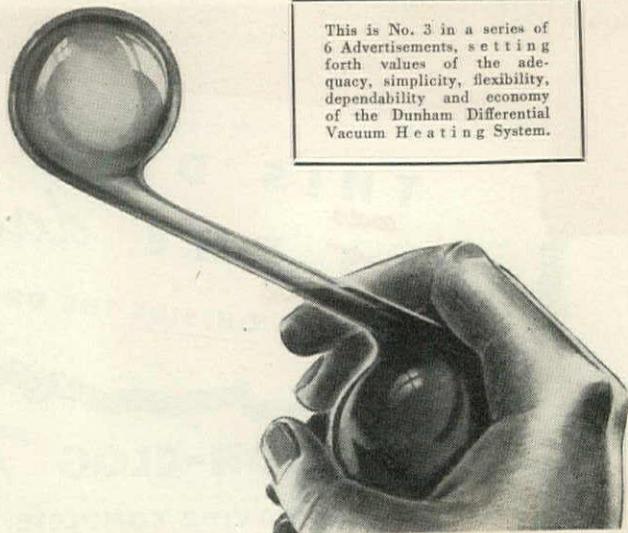
# SIMPLICITY..

Remember in high school? . . . How you held a Franklin Palm Glass and watched the warmth of your hand cause the volatile liquid to pass from the lower to the upper bell?

Dunham Differential Vacuum Heating is as simple as that! It is based on the law that water boils at a lower temperature under vacuum, and that the higher the vacuum, the lower the temperature at which vapor will rise.

The Dunham System reduces to utter simplicity the problem of control. It maintains comfort-level temperatures, with minimum supervision and maintenance, under all conditions. And it accomplishes this with fuel savings of 25% to 40%, as compared with ordinary systems.

May we send you Brochure 632 entitled "High Altitude Heating"? Just write on your letterhead to C. A. Dunham Company, 450 E. Ohio St., Chicago, 11, Ill.



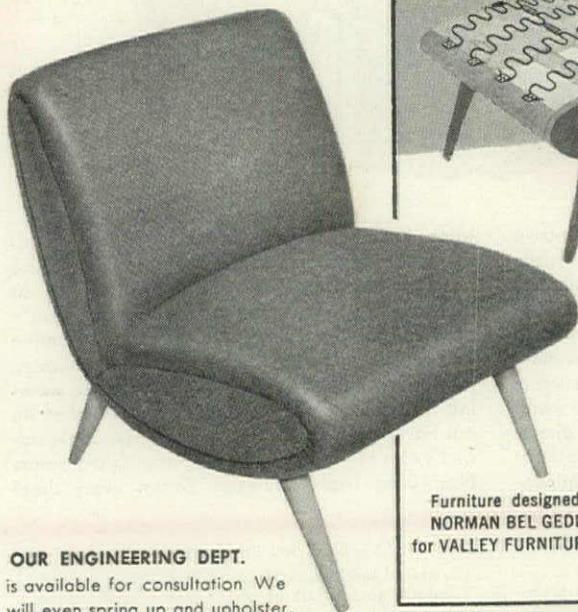
This is No. 3 in a series of 6 Advertisements, setting forth values of the adequacy, simplicity, flexibility, dependability and economy of the Dunham Differential Vacuum Heating System.

# DUNHAM

## DIFFERENTIAL HEATING

CHICAGO • TORONTO • LONDON

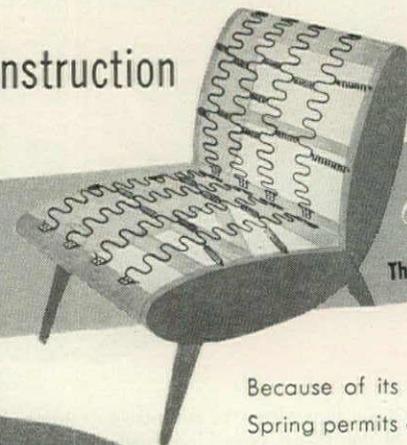
## Limitless Design and Construction



### OUR ENGINEERING DEPT.

is available for consultation. We will even spring up and upholster, free of charge, any sample frame you send us—and return it with complete construction specifications.

Write to Dept. A for "Progress" Booklet describing the numerous applications of these unique springs.



Furniture designed by  
NORMAN BEL GEDDES  
for VALLEY FURNITURE CO.

## Possibilities

*No-Sag Springs*  
The ONLY Self-Supporting • Self-Conforming Spring

Because of its unique and exclusive features, the No-Sag\* Spring permits a designer to expand his post-war scope. For No-Sag Springs make possible the creation of furniture and furnishings that fit into the most progressive type of post-war building design and construction. The advantages of No-Sag Springs lie in their maximum spring surface—maximum efficiency in a minimum of space—the suspension principle of springing that eliminates perishable materials such as webbing and twine-ties—and their adaptability to any design or construction requirements.

\*Patented and Pats. Pending

### NO-SAG SPRING COMPANY

Executive Offices:

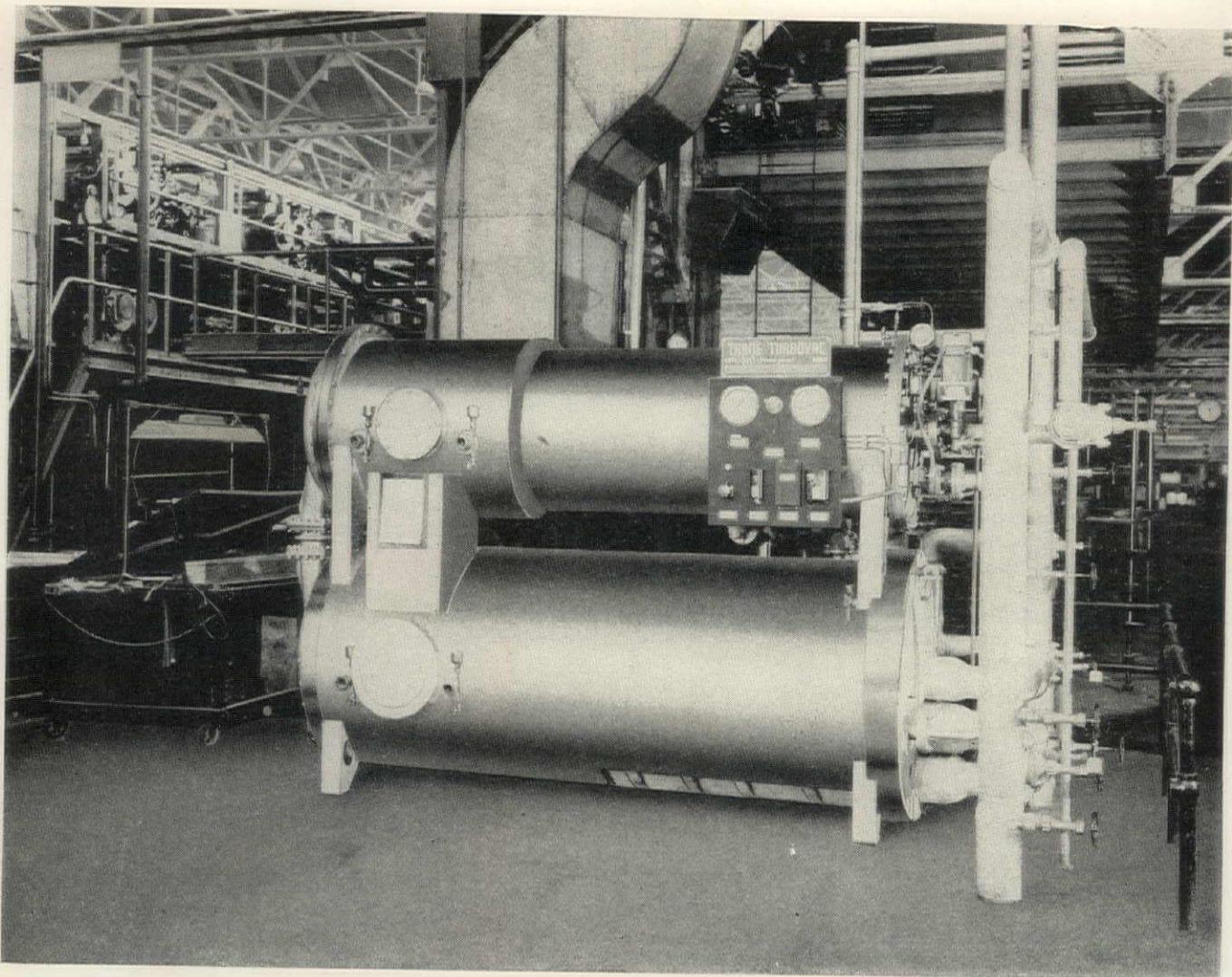
21590 Hoover Road, Detroit, Michigan

Permanent Display Quarters: American Furniture Mart, Chicago

### KAY MANUFACTURING CORP.

Executive Offices:

Foot of Warren Street, Brooklyn, N. Y.



## HOW TRANE EQUIPMENT IS COOLING *HOT PAPER*

At the W. F. Hall Printing Company, Chicago, mammoth rotary presses print four superimposed colors on both sides of a web of paper traveling at high speed.

To eliminate smearing or smudging at maximum operating speeds it was necessary to install a gas drying oven which operated at 1500°. However, this raised the temperature of the paper to a point where it was no longer possible to maintain a high standard of accurate color register.

The problem was solved by installing two 70-ton Trane Turbo-vacuum compressors to cool the paper to normal room temperature... accomplished by supplying chilled water from the versatile Trane Turbo-vacuum compressors to rolls, around which the heated paper passed after the drying operation. These water cooled rolls restored the paper to the normal temperature necessary for the extremely accurate color register.

This is just another case where Trane, manufacturing engineers of cooling, heating and air handling equipment, has been called upon to solve an unusual problem in industry.

For the architects, engineers, contractors, builders of America who are planning today for tomorrow's building and processing, Trane has the products, the knowledge, and the production facilities. When you have a cooling problem, whether for comfort or process, call on Trane first.

# TRANE

AIK

THE TRANE COMPANY LA CROSSE, WISCONSIN

TRANE COMPANY OF CANADA, LTD., TORONTO

AIR CONDITIONING •• HEAT TRANSFER •• AIR HANDLING EQUIPMENT

# Modernizing a School with Light

## THE PROBLEM:

How to relight a school building which had been allowed to run down. This picture at the right shows one of the dingy classrooms with its lighting system "20 years behind the times."

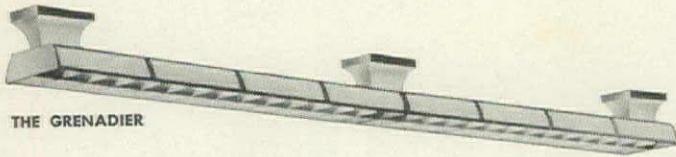
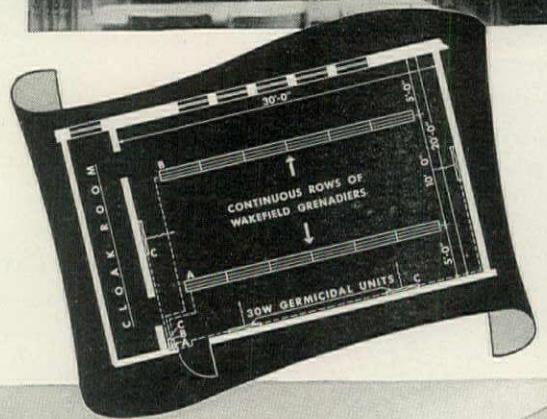
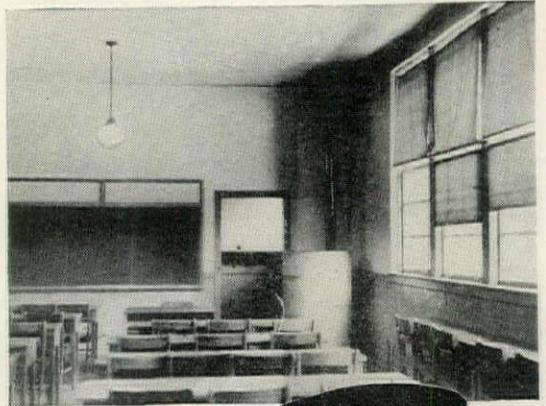
## THE LIMITATIONS:

First and foremost, money. Funds had to be raised to swing the job since the school did not have the money. Second, for the same reason, the installation must provide minimum cost operation. And rewiring must be kept to a minimum.

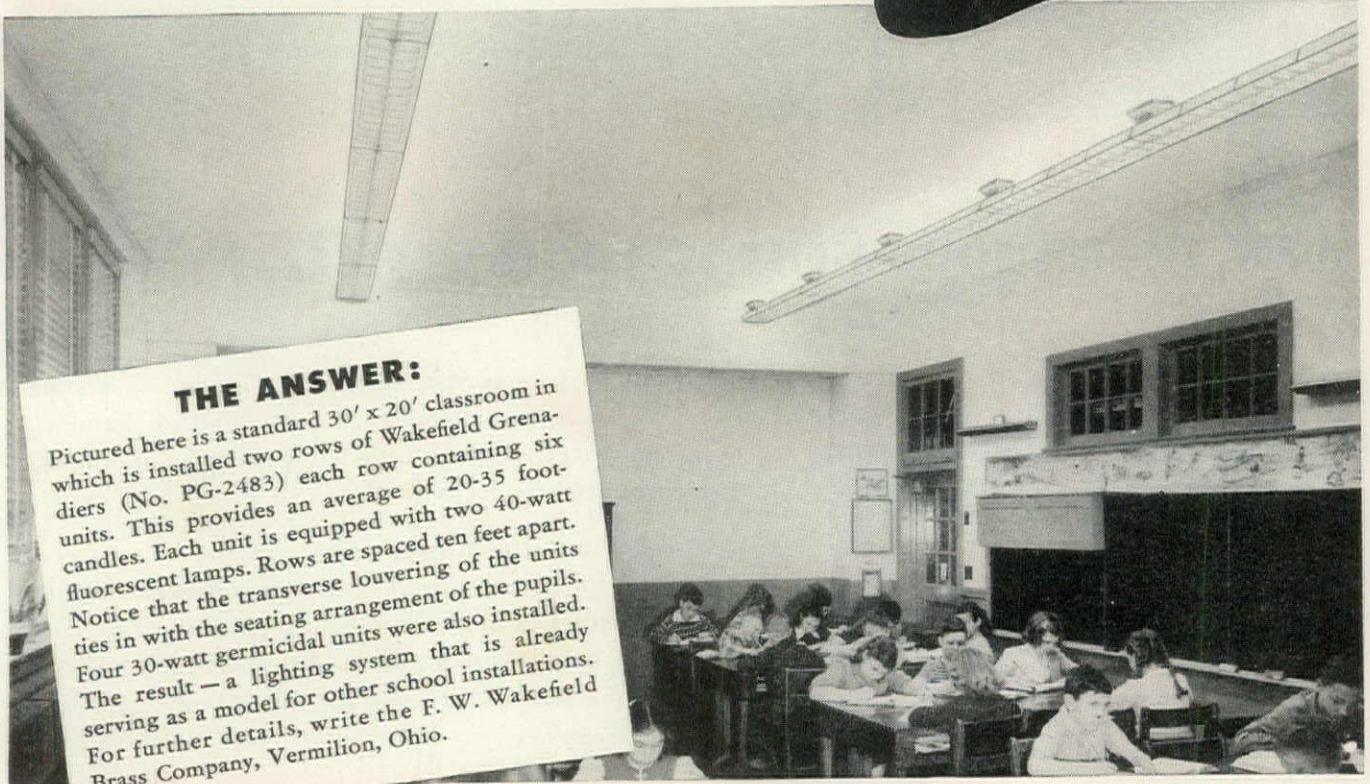
## THE PLAN:

This typical classroom layout, drawn up by lighting engineers of Birmingham Electric Co., employs fluorescent lighting, with two continuous rows of Wakefield GRENADIERS. Through these units, considerable saving in wiring time was made, since wire could be run along as an integral part of the fixture. This also reduced to a minimum the ceiling outlets necessary (required about one-third the outlets needed for previous types of lighting). Separate switch controls were provided for the units nearest the window and for the inner row.

Shades-Cahaba School, Birmingham, Ala.



THE GRENADIER



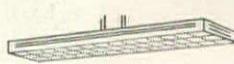
## THE ANSWER:

Pictured here is a standard 30' x 20' classroom in which is installed two rows of Wakefield Grenadiers (No. PG-2483) each row containing six units. This provides an average of 20-35 foot-candles. Each unit is equipped with two 40-watt fluorescent lamps. Rows are spaced ten feet apart. Notice that the transverse louvering of the units ties in with the seating arrangement of the pupils. Four 30-watt germicidal units were also installed. The result — a lighting system that is already serving as a model for other school installations. For further details, write the F. W. Wakefield Brass Company, Vermilion, Ohio.

# Wakefield



ALSO THE GRENADIER



THE ADMIRAL



THE COMMODORE

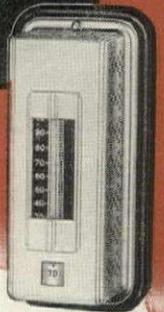


THE BEACON

# Another Example of **JOHNSON** *Individual Room* **CONTROL**



Royal York Apartments, Columbus, Ohio.  
Mr. Robert W. Schiff, owner.  
Mr. M. H. Terry, manager.



Too warm! Windows thrown open! Result—fuel wasted! Naturally, some families want more or less heat than others. When each apartment dweller controls the temperature to suit his own needs, comfort is assured and fuel is saved. That is why a Johnson thermostat was installed in each of the 72 apartments in the Royal York when this exclusive building was built in 1938.

In keeping with finer living, Johnson Automatic Temperature Control for individual rooms offers the apartment dweller the comfort of a private home... Apartment owners and managers discover many direct and indirect benefits.

Years of experience with Johnson Room-by-Room Control clearly indi-

cate that such facilities will be an important consideration in post war plans for buildings in which people live and work.

Johnson is nation-wide. Direct branch offices in principal cities afford practical cooperation in solving temperature control problems. Johnson designs, manufactures, installs and services with its own full-time personnel. Ask a Johnson engineer from a nearby branch office. There is no obligation, of course.



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

(Continued from page 222)

Ground temperatures were observed at various depths down to 13 ft. below grade. The report is illustrated with diagrams and cross sections and some factors are suggested for estimating floor heat losses. Dept. of Commerce Bulletin, Sup't of Documents, U. S. Govt. Printing Office, Washington, D. C.

**BOILERS.** How to Handle Heat Generation for Radiant Heating Systems, 4 pp., 8½ in. by 11 in.

A typical residential boiler room instal-

lation for radiant heating systems is illustrated and described. Details of the boiler-burner apparatus are indicated and their application explained. The H. B. Smith Co., Inc., Westfield, Mass.

**RADIANT HEATING** Byers Wrought Iron for Radiant Heating, 52 pp., 8½ in. by 11 in.

Chief purpose of this handbook, one of the most complete manuals on radiant heating published to date, is to serve architects and engineers as a working manual. Detailed procedure is listed for figuring heat losses and piping requirements, designing the coils, supply and return mains. Factual data is pre-

sented on the relative merits of locating the coils in the floor and ceiling. Included is a full-page drawing of a floor type radiant heating system for a representative structure in which both continuous coils and grids are used to advantage. The book records in picture and text 23 typical installations covering a wide range of structures from the monumental type to low cost houses.

The advantages of even temperature distribution is shown in a series of cross section drawings and graphs. In addition to chapters on the theory, history and achievement of radiant heating in more than a thousand installations functioning in the U. S., the handbook devotes twelve pages to answering 34 common questions on radiant heating. Typical questions are: what effect will heat have on wood floors? and, will heat loss to the soil be excessive with floor coils in a basementless house? The book represents a thorough coverage of an important subject. A. M. Byers Company, Pittsburgh, Pa.

**DOORS** Kinnear Rolling Doors, 39 pp., 8½ in. by 11 in.

A complete folder on the Kinnear line of doors. The material is divided into six sections, steel rolling service doors, steel rolling fire doors and window shutters, Rol-Top sectional overhead doors, Bifolding doors, rolling metal grilles and special applications and special type doors. The booklet is well illustrated and contains tables and scale details to aid in the proper selection of doors. The Kinnear Manufacturing Co., 174 N. Wacker Dr., Chicago 6, Ill.

## REQUESTS FOR LITERATURE

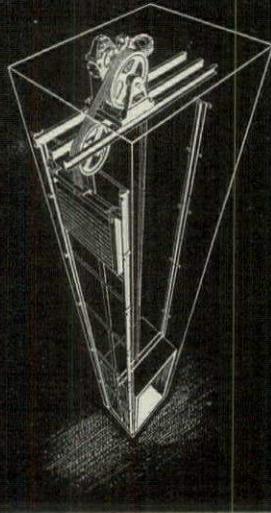
JOHN Y. SLOAN, architect, and JOHN A. BEANE, engineer, 296 Delaware Ave., Buffalo 2, N. Y. request literature and catalogues for an AIA file.

THE WALKER ART CENTER, 1710 Lyndale Ave. So., Minneapolis, Minn., is opening a Consumer Education Library and would like to receive manufacturers' catalogues dealing with home and neighborhood planning and design, home equipment, interior finishes and furniture.

LAKEWOOD INC., P.O. Box No. 944, Salisbury, N. C. (Att. of W. C. Heitman) would like to receive literature on prefabricated houses and equipment and furniture for prefab houses.

F. H. WHEELER & Co., LTD., electrical engineers and contractors, 39 Victoria St., London, S.W.1, England, would like to receive literature from firms supplying materials and fixtures for lighting equipment and installations.

## THIS IS AN ELEVATOR



**LOOK AT** an elevator from the outside and all you see is the box-like car. It appears a simple gadget. But above and below the car—and attached to it—is the real elevator.

The car of a Sedgwick Electric Freight Elevator, for example, consists of a structural steel frame or sling to which traction steel hoist ropes are attached—a steel-framed platform with a hardwood-over-sheet-steel floor—and a sheet steel enclosure with a wire mesh or perforated sheet steel top.

### SEDGWICK SAFETY FEATURES

At the top of the hoistway is a worm geared V-groove traction machine with internal spur gearing—special steel gear and sheave shafts with anti-friction bearings—and an electromagnetic brake to stop the car if the current is interrupted from any cause.

A centrifugal speed governor operates the car safety which brings the car to a complete stop should it descend at excessive speed or should the cables break.

### SELF-ALIGNING MOTOR CUTS COSTS AND SIMPLIFIES INSTALLATION

An efficient single speed, reversible type motor, especially designed for heavy duty service, provides the power to operate the elevator. Its high starting torque and low

starting current help cut operating costs. And the self-aligning mounting facilitates installation.

### MADE IN ANY SIZE TO LIFT ANY LOAD

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If you are planning the modernization, re-conversion and new installation of elevators and dumb waiters—if you are confronted by perplexing lifting and lowering problems—tell us about them. Our engineering staff is at your service now ready to help and show you how Sedgwick elevators and dumb waiters reduce costs by making the vertical movement of men, material and merchandise safer, surer, more economical.

And we would like to reserve your copy of our new booklet "Standard Specifications for 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.

## SEDGWICK MACHINE WORKS, INC.

140 WEST 15th STREET, NEW YORK 11, N. Y.

ELEVATORS • DUMB WAITERS • ROTO WAITERS • SPECIAL LIFTS

# Standard Specifications for

## DOUGLAS FIR

# FACTRI-FIT

## DOORS

**EASY TO SPECIFY - - MADE  
TO FIT STANDARD HARDWARE  
- - THEY MEAN A BETTER  
INSTALLATION EVERY TIME!**

FACTRI-FIT sizes: Doors pre-fit to exact net book standard stock sizes listed in the U. S. Commercial Standard 73-43. This means, for instance that a 2'6" x 3'0" Factri-Fit door is furnished exactly the specified width and length. Factri-Fit doors are scuff-stripped for protection. Grade-marked for easy identification. Included in the line are basic 3-panel layouts, adaptable to all types of building.

FACTRI-FIT Gaining: 7" from top of door, 11" from bottom. Standard butt on 1 3/8" doors is 3 1/2" x 3 1/2" —on 1 3/4" doors, 4" x 4", square corners. Center gaining, recommended for heavy construction, is equidistance between other two. In routing, lips are left on to be knocked out by carpenter for right or left hand swing.

FACTRI-FIT lock Bore. All boring for locks to center knob 36" from bottom of door. Machining specifications that will be standard for all completely-machined Factri-Fit doors *unless otherwise specified*: Diameter of bore-in, 15/16"; length of bore-in, 3 3/4" from edge; face plate,

1" x 2 1/4" x 1/16", square shape; cross bore, 5/8" diameter on 2 3/8" center. Virtually all nationally-distributed bored-in type locks will fit these specifications. Trend today is to bored-in locks. Doors can be ordered mortised, or machined to other specifications, on special order.

## Douglas Fir DOORS

### FIR DOOR INSTITUTE

Tacoma 2, Washington

**Remember!**  
NATURE MAKES  
DOUGLAS FIR  
**Durable!**

Durable Douglas Fir Doors are made from all-heart-wood, vertical-grain, soft, old-growth Douglas Fir.

THE NATIONAL ASSOCIATION OF FIR DOOR MANUFACTURERS

# BUILDERS PREFER *Tru-sized* DOORS FOR BETTER, MORE ECONOMICAL JOBS

Says B. G. YOUNG, Manager,  
W. P. Fuller & Co., Tacoma Wash.  
Prominent Western Jobber

  
 Paints *They last* Glass  
 PIONEER WHITE LEAD • MIRRORS • VARNISHES • WALLPAPER • SASH • DOORS  
**W. P. FULLER & CO.**  
 TACOMA, 1, WASHINGTON  
 1117 A STREET  
 B. G. YOUNG, Manager  
 April 10, 1945

The Wheeler, Osgood Company,  
1216 St. Paul Avenue,  
Tacoma, 1, Washington

Gentlemen:

In a talk today with your salesman about our opinion of factory-fitted TRU-SIZED doors, he remarked that you would like our personal opinion of them.

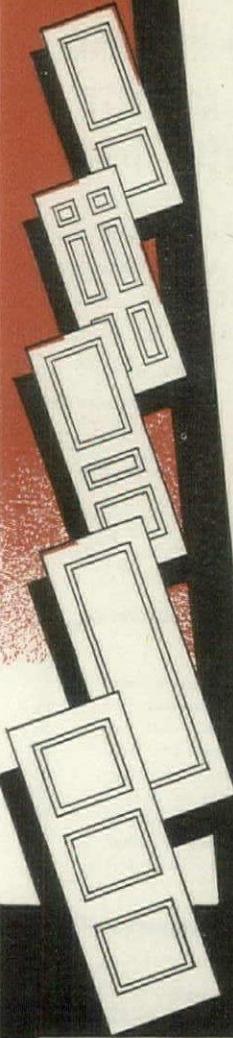
Speaking for the local branch of W. P. Fuller & Co., we have successfully used TRU-SIZED and machined doors on several emergency housing jobs, and thoroughly believe they were responsible for considerable saving in valuable time. They also contributed to a better job, and in our opinion were more economical than the old type of door installation, and in fact some of our large local builders in Tacoma have demanded TRU-SIZED doors for the above reasons.

Undoubtedly, the examples we are seeing today of better installations; better buildings; made possible through the use of TRU-SIZED and machined doors, will carry over into the post-war building era.

The dependability of a completely finished product like TRU-SIZED and machined doors, we believe will receive ready acceptability in the future on the part of the carpenters and builders.

Yours very truly,  
W. P. FULLER & CO.  
By *B. G. Young*  
Manager.

BCY:J



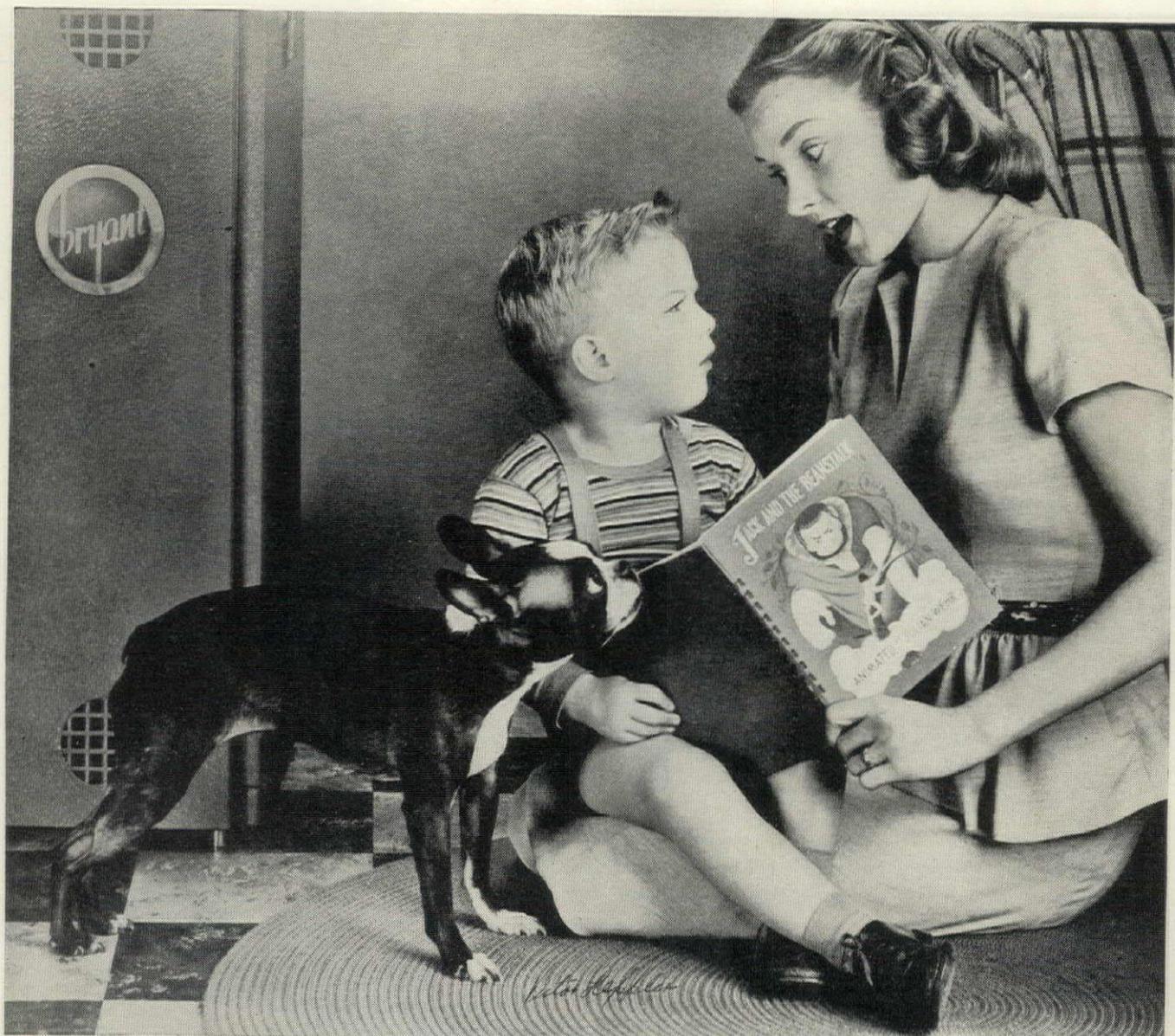
More and more builders are telling their jobbers, "Send us Tru-Sized Doors—they save time and money, and we get better finished jobs." Each Tru-Sized Door is a high quality product, finished to exact book opening size and ready to hang—no sawing—no planing—no fitting required. Time saved in installation averages 55 minutes per door and this saving can be increased to 70 minutes if doors are ordered fully machined for locks and hinges.

## WHEELER OSGOOD *Tru-sized* DOORS

The Wheeler, Osgood Company, Dept. 11-29  
Tacoma 1, Washington.

Please send me free literature and detailed guide sheet for ordering Tru-Sized Doors.

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 ADDRESS \_\_\_\_\_  
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Illustrated from Bryant national advertisement

## YOU WRITE THE HAPPY BEGINNING!

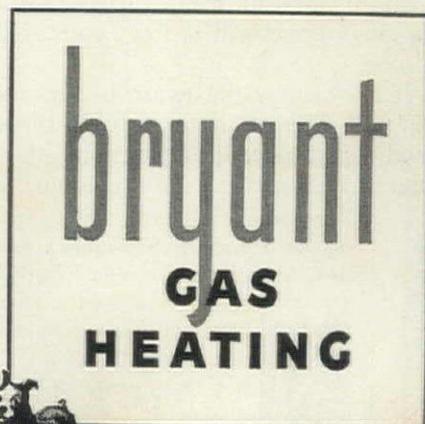
Tomorrow's new home buyers will be wise buyers. They will expect from you what you always have wanted to give them . . . *homes with more comforts!*

The problem of heating probably will be left more completely in your hands. And Bryant gas heating, backed, postwar, by the nation's most complete line of gas home heating equipment, often will supply your best answer. You will have a far wider choice of efficient, automatic gas-operated units, ranging from in-

dividual room heaters to complete central heating installations, equipment to accomplish zone heating for the large residence or to tuck away in a closet of the small basement-less home.

Yes, an expanded line of Bryant gas heating equipment will be available in the days ahead. With it, you can start new homeowners off without a single heating worry by writing Bryant gas heating into your plans.

THE BRYANT HEATER CO., CLEVELAND, OHIO  
One of the Dresser Industries



LET THE PUP BE FURNACE MAN

**We are asking  
PROSPECTIVE HOME BUILDERS  
an unusual question**

**HOW OFTEN  
DO YOU EXPECT  
TO REPLACE  
HARDWARE—**

**IN YOUR HOME  
OF TOMORROW?**



The answer, naturally, is "never." Hardware is a permanent construction item of the home and should be considered as such. Every moving part of your home depends on hardware. It is a part of every day living in

In our current advertising to the prospective home builder we say—

"Make sure then for the home you are planning that hardware is given the consideration it deserves. Make sure first that your architect or contractor allows enough of the contract price for hardware—at least 2% is good building practice. Bring this matter up to him before specifications are written.

Within a week after you award your contract, select enough hardware—and durable, quality hardware of the style you want."

Home builders rely on you to give proper consideration to this permanent construction item. They will expect you to advise them on how much will assure adequate hardware.

At least 2% of the contract price set up definitely for hardware will mean satisfaction when the home is completed and will protect your reputation for sound advice.

If McKinney hardware is also recommended, that 2% will be certain to provide the right quality and good design as well as the required quantity of hardware for the home.

Write for a copy of McKinney's new booklet, "Details and Data on Hinges."



**McKINNEY**  
SINCE 1865  
**MANUFACTURING COMPANY**  
PITTSBURGH 12, PENNSYLVANIA

**SPECIFICATION AND**

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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Architect: Philip B. Maher, Lake Bluff, Ill.

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*Professor of Architectural Construction  
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A clear, concise presentation of the basic principles and modern methods of structural engineering. This book covers the design of the most common structural steel members that occur in building construction, and by applying the fundamentals of mechanics to seemingly difficult structural problems, the solutions are greatly simplified. The inclusion of all necessary tables eliminates the necessity for additional reference books. Features illustrative examples, problems and their solutions.



CONTENTS: Structural Sections. Unit Stresses. Reactions, Moments and Shear. Bending Stresses; Properties of Sections. Design of Beams. Floor Framing. Riveted Connections. Welded Connections. Plate Girders. Columns. Miscellaneous. Structural Elements.

(1945) 226 Pages Flexible Binding \$2.75  
JOHN WILEY & SONS, Inc. 440 4th Ave., New York 16, N. Y.

### ON APPROVAL COUPON

JOHN WILEY & SONS, Inc.

440 Fourth Ave., New York 16, N. Y.

Please send me a copy of Parker's STRUCTURAL STEEL on ten days' approval. At the end of that time, if I decide to keep the book, I will remit \$2.75 plus postage; otherwise I will return the book postpaid.

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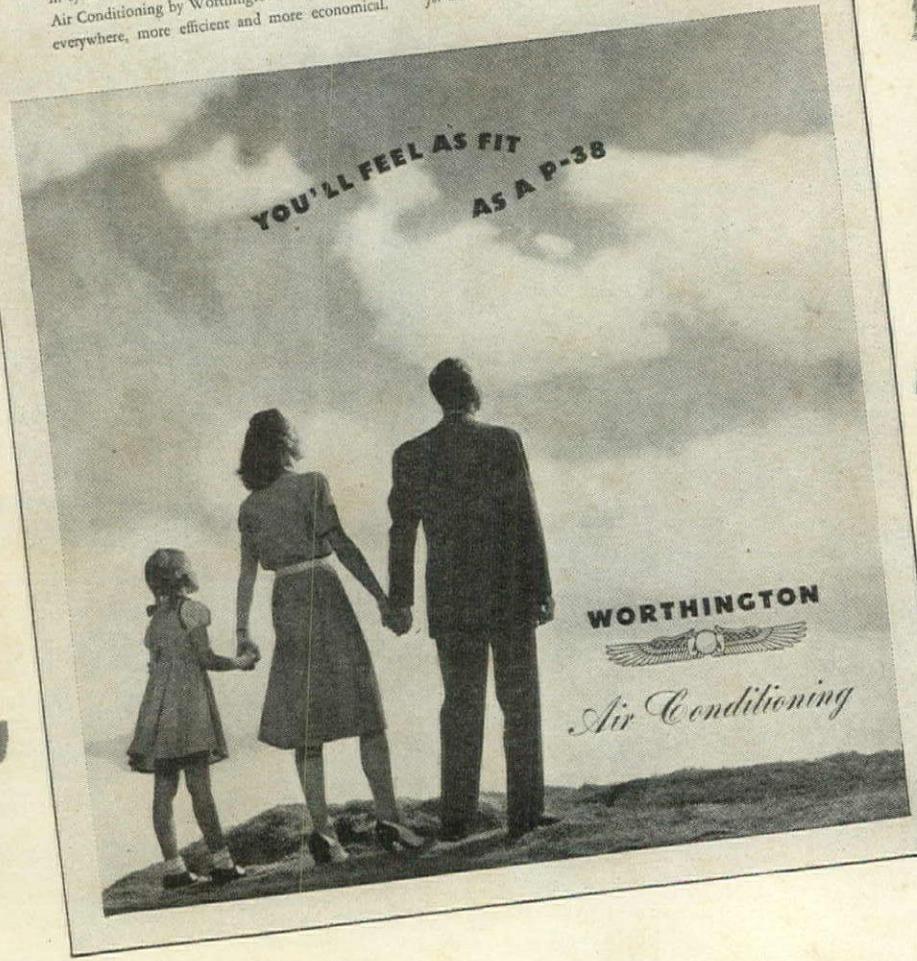


You're going to be *habited* after these wars are over. You're going to walk into stores and work in offices and eat in restaurants where the air makes you feel like a million dollars. You'll feel like those P-38 "Lightnings" must feel that are built in factories where the air is "made up" as carefully as a doctor's prescription.

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If the place that you're in is air-conditioned by Worthington, you'll benefit especially from the fact that Worthington makes so many of the "vitals" of air conditioning and refrigeration systems—engines, turbines, condensers, compressors, pumps, valves, fittings. This means more reliable performance of machinery—whether unit conditioners or completely-engineered systems . . . machinery that is interdependent and should be integrated for the best results.

Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J. Specialists in air conditioning and refrigeration machinery for more than 50 years.



"You'll feel as fit as a P-38" is a promise Worthington has made to readers of TIME, BUSINESS WEEK and WALL STREET JOURNAL to interest them in better air conditioning. We repeat that promise to you.

Whether you buy, sell, install or operate air conditioning, you'll benefit from what Worthington has done during the war . . . in aircraft factories, synthetic rubber plants, research laboratories. Air Conditioning by Worthington is coming out of the war . . . more efficient and economical.

If Worthington Air Conditioning is specified for the

installation you're interested in, you'll benefit especially from the fact that Worthington makes so many of the "vitals" of air conditioning and refrigeration systems—compressors, engines, turbines, condensers, pumps, valves, fittings. This means more reliable performance of machinery—whether unit conditioners or completely-engineered systems . . . machinery that is interdependent and should be integrated for best results.

A talk with a Worthington sales engineer does not obligate you in any way, but it may convince you that *there's more worth in Worthington.*



Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J. Specialists in air conditioning and refrigeration machinery for more than 50 years.

AS. 12

# PERHAPS YOU WOULDN'T THINK OF USING *Plastics* HERE



A product designer did . . . producing a new and improved grommet design using a special flame resistant Lumarith\* CA formulation.



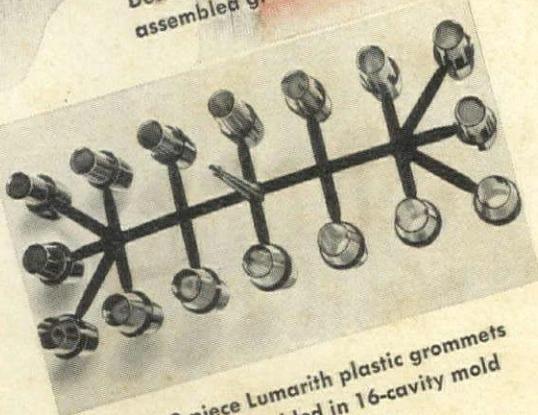
Des-Grommet components and assembled grommet

THERE ARE sound reasons why Jan De Swart of Victory Manufacturing Company turned to Lumarith plastics when he developed the "Des-Grommet" for use on U. S. naval vessels. In abrasion tests using braided metal cable the Lumarith grommet showed less deterioration than did grommets made of lead, and caused far less wear to the braided cable than steel grommets did.

By taking full advantages of the physical characteristics of Lumarith, the Des-Grommet is designed to be self-locking, capable of blind installation (from one side of partition), and adjustable to as many as five different wall thicknesses. A special *non-burning* formulation of Lumarith CA (cellulose acetate) was used to meet Maritime Commission requirements for fireproof material.

The use of Lumarith in place of metal reduces production time and manufacturing costs. Grommets are injection molded in a matter of seconds—using multiple cavity molds. Finishing and polishing operations are reduced to a minimum. No machining, plating or enamelling is required.

The development of the Des-Grommet is a good example of the right approach to plastics. It is the type of project that the technical staff of Celanese is prepared to help you accomplish with your product. Your inquiries are invited. Celanese Plastics Corporation, a division of Celanese Corporation of America, 180 Madison Avenue, New York 16, New York.



Eight 2-piece Lumarith plastic grommets are injection molded in 16-cavity mold

# LUMARITH\*

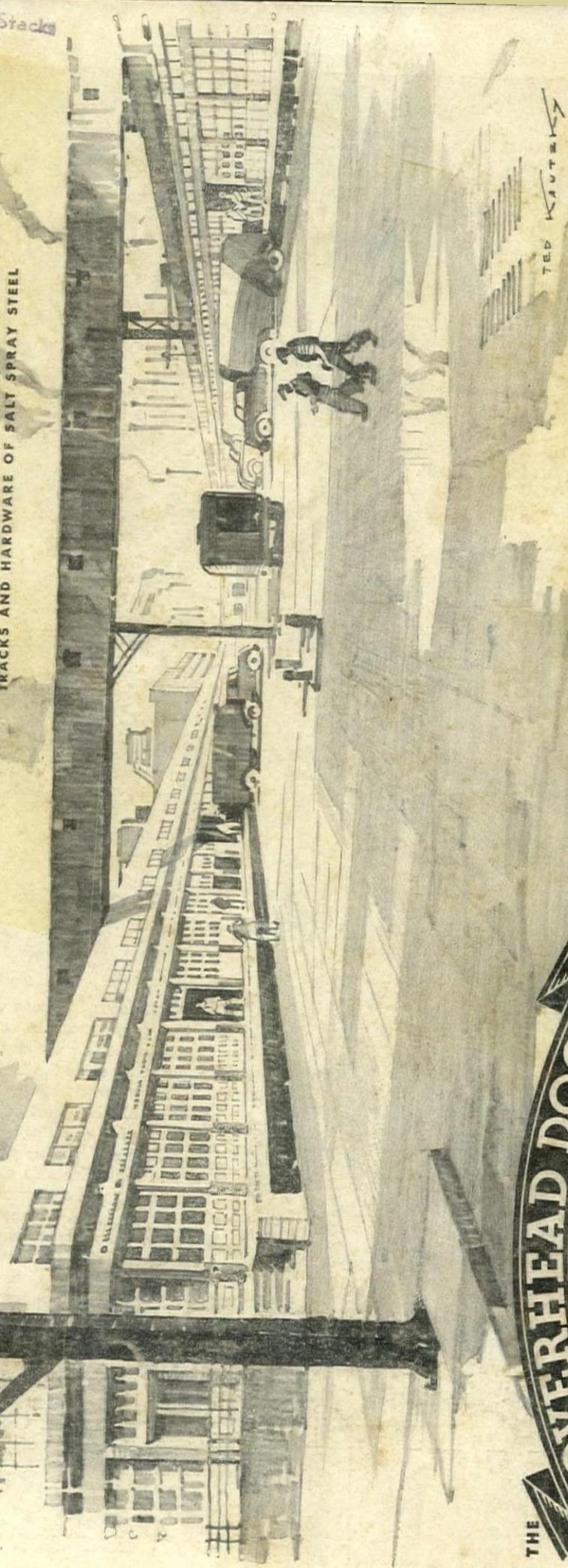
*A Celanese\* Plastic*

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

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