

THE ARCHITECTURAL FORUM

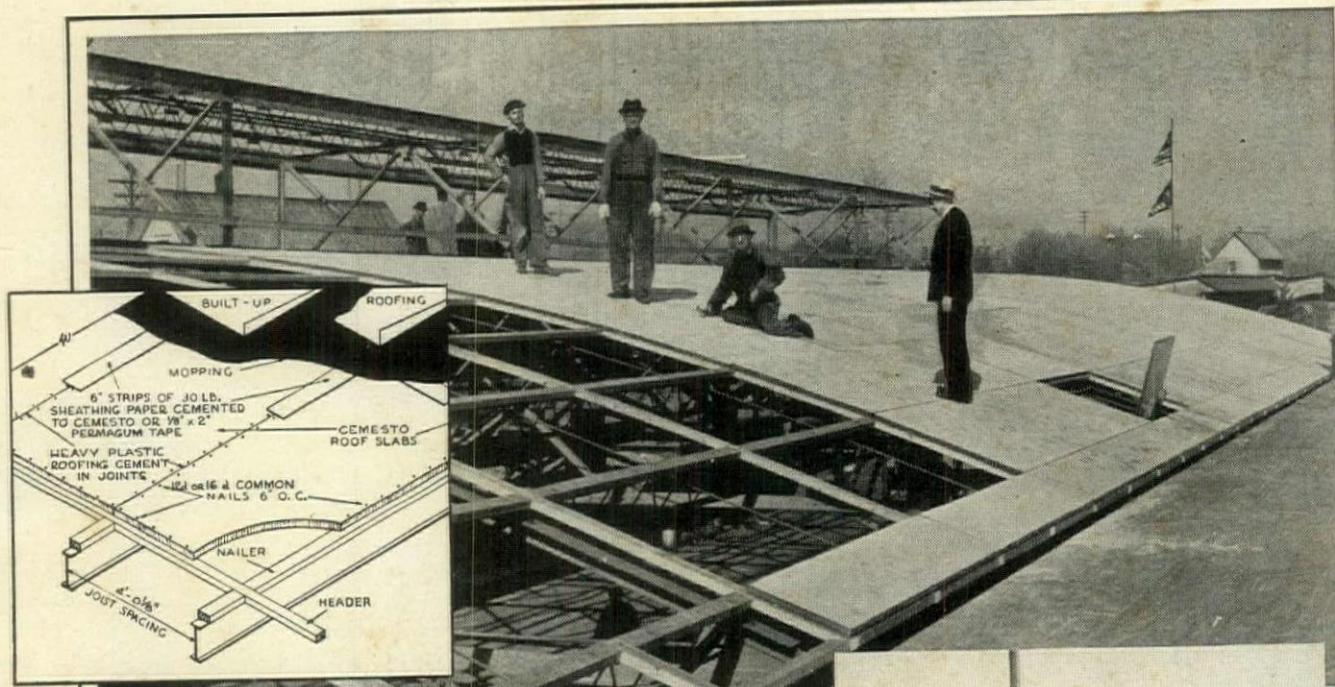
JULY 1945

Lamantia

For Modern Insulated Roof Decks... Specify

CEMESTO

REG. U. S. PAT. OFF.



A Cemesto roof deck applied to steel framing on this modern plant in Ohio. Isometric cut shows how Cemesto is applied to nailing strips on steel. It may also be applied directly to steel members with clips.

...get ALL FIVE of these major advantages!

1. Speed and economy of application!

The Cemesto roof deck incorporates in *one* material both structural deck and insulation... can be pre-cut to needed size. This makes for speed and economy of application.

2. Structural value!

Cemesto is lighter than common roof decks, yet rigid and permanent. Recommended maximum span 48 inches for 50 pound design load. Thus you can save on supporting members and superstructure, too!

3. Weather-resistant surface!

The smooth, firm asbestos-cement surface protects the material during application... provides an ideal base for composition roofing.

4. Self-finish interior surface!

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5. Excellent insulating value!

Conductivity of the Celotex core in Cemesto has been established at 0.33 B.t.u. per hour per square foot per degree F. per inch of thickness. Over-all heat transfer coefficient of Cemesto decks—including built-up roofing, underside exposed—is 0.18 for the 1-9/16" thickness... 0.14 for the 2" thickness. Thus heat loss through the roof is reduced respectively from 40% to 56% over 2" wood sheathing. What's more, Cemesto is fire-and-moisture-resistant!



The completed plant and roof deck—incorporating 18,112 square feet of Cemesto.

**At Your Service—
Celotex Service Engineers!**

Without obligation, one of these specialists will meet with you, review designs you are developing, and suggest efficient and economical methods of installing Cemesto Insulating Roof Decks. Address: The Celotex Corporation, Dept. AF-745, Chicago 3, Illinois.

Quick Facts for Architects about Cemesto

Cemesto is a multiple-function building material with a core of Celotex cane fibre insulation, sheathed on both sides with an eighth-inch layer of asbestos cement bonded to the core with waterproof, vapor-proof, bituminous asphalt adhesive. Both faces are smooth and hard, warm grey in color. The patented Ferox process protects the core against damage by dry rot, fungus growth and termite attack. Cemesto comes in 4' wide panels, 4', 6', 8', 10' or 12' long, and in thicknesses of 1-1/8", 1-9/16" and 2". It is also used as an exposed exterior wall material or for interior partitions.

CELOTEX

REG. U. S. PAT. OFF.

BUILDING PRODUCTS

THE ARCHITECTURAL FORUM

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JULY

1945



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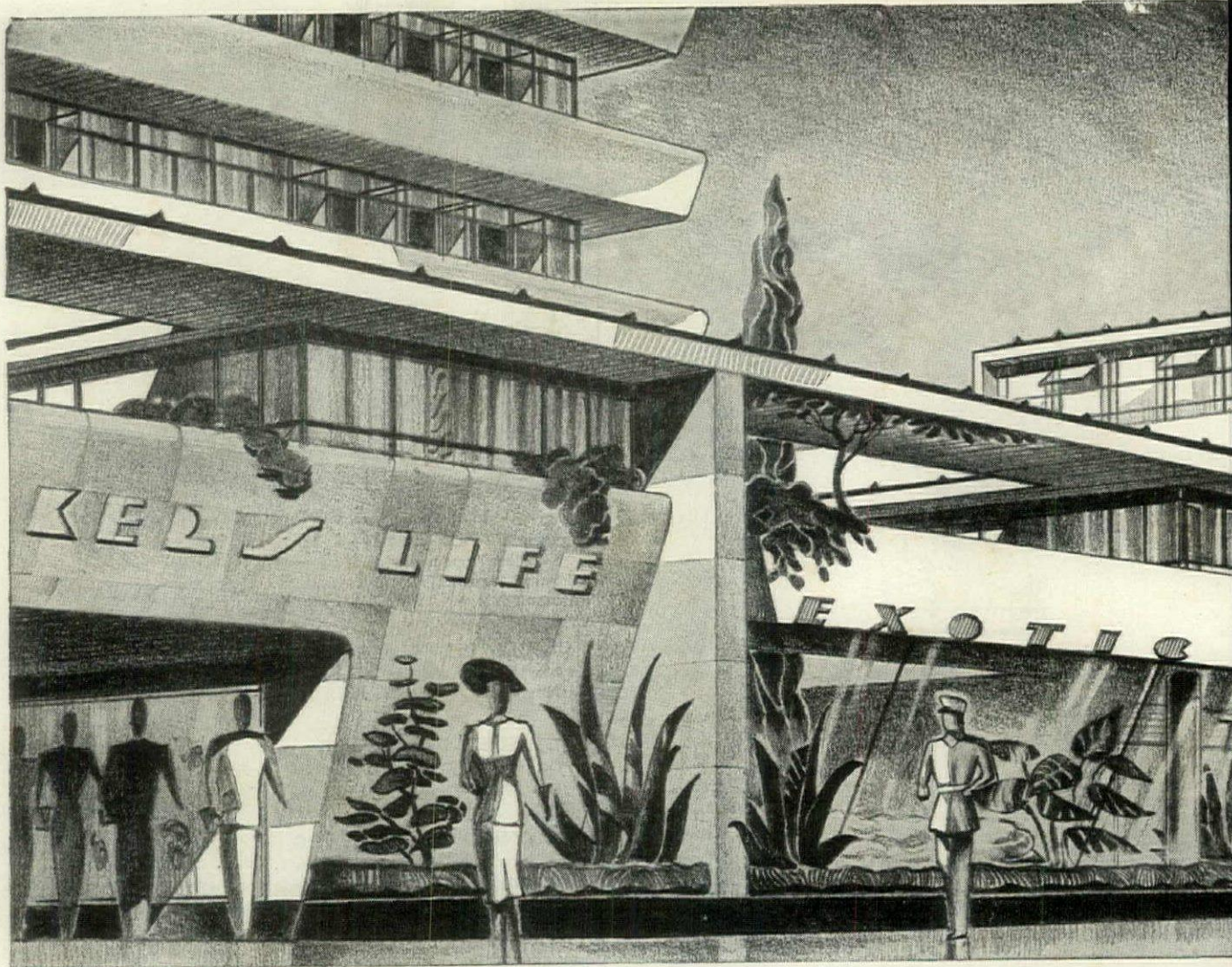
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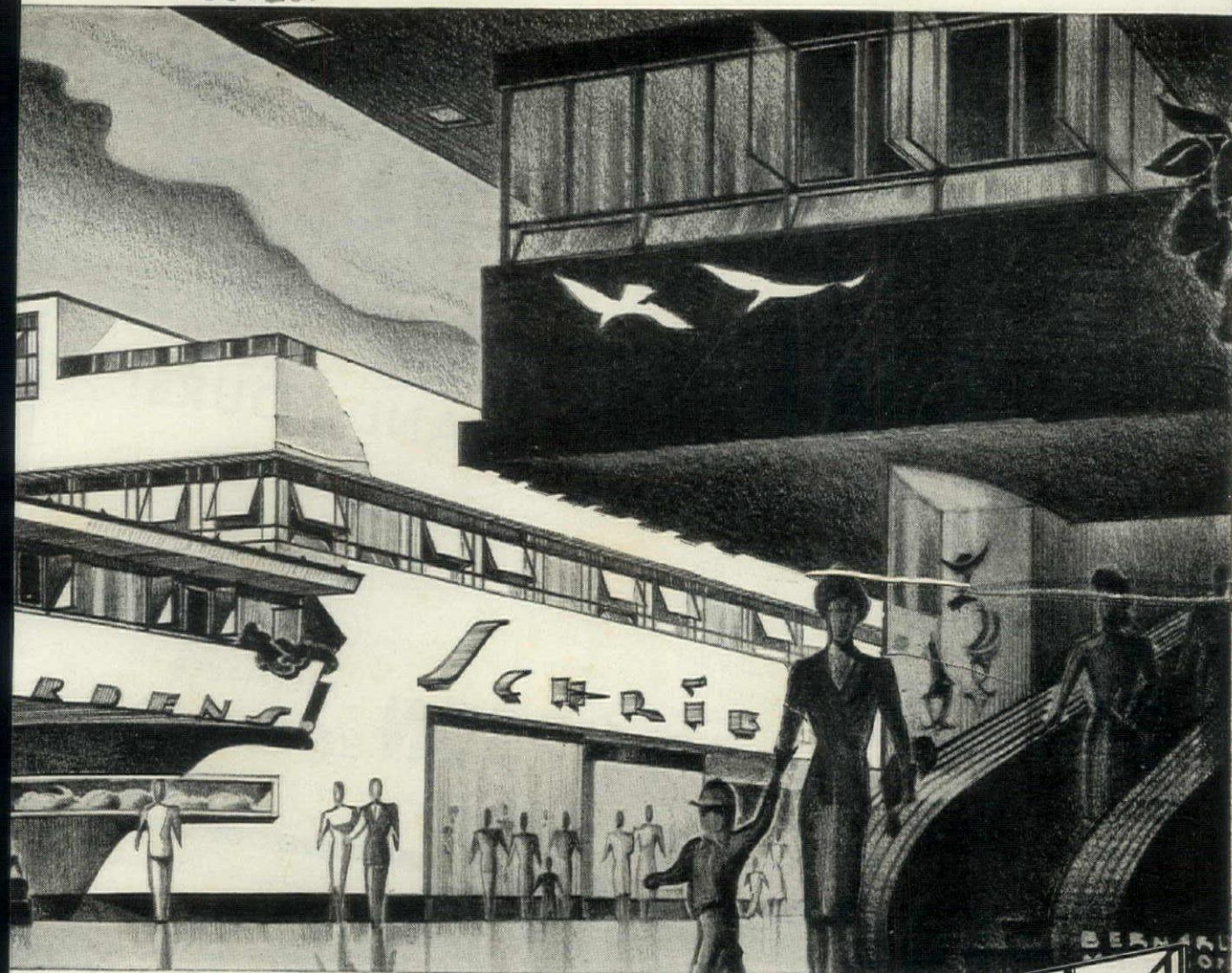
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POINT NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
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MESKER	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
SASH-A	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
SASH-B	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SASH-C	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SASH-D	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
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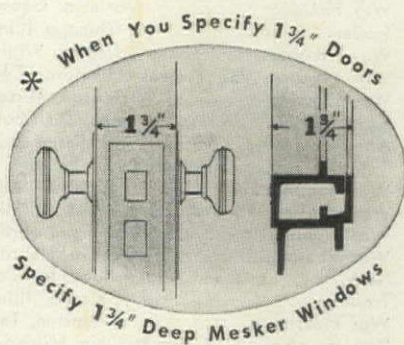
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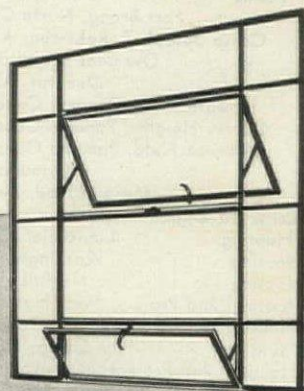
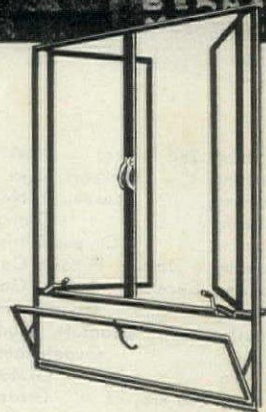
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 Army Indiantown Gap, Pennsylvania
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 Navy Housing, 2nd Project Norfolk, Va.
 Army Ft. George Meade, Maryland
 Navy Housing Yorktown, Virginia
 Army Camp Lee, Virginia
 Army March Field, California
 Navy Housing Long Beach, California
 Navy Housing San Diego, California
 Marine Corps Housing Quantico, Virginia
 Navy Housing Yukon, Florida
 Army Westover Field, Massachusetts

War Housing Bristol, Pennsylvania
 War Housing Charleston, South Carolina
 Dormitories Norfolk, Virginia
 Dormitories Newport News, Virginia
 Dormitories Mineville, New York
 War Housing Atlanta, Georgia
 Dormitories Neville Island, Pennsylvania
 War Housing, 3rd Project Groton, Conn.
 War Housing Vancouver, Washington
 War Housing, 4th Project Groton, Conn.
 Army Walnutport, Arkansas
 Army Neshota, Alabama
 Navy Melbourne, Florida

Navy Overseas Construction
 War Housing Arlington, Virginia
 War Housing New Britain, Connecticut
 War Housing Elmira, New York
 War Housing, 2nd Project Detroit, Mich.
 War Housing Battle Creek, Michigan
 War Housing Midland, Michigan
 War Housing, 2nd Project Dayton, Ohio
 Trailers Bourbon, Indiana
 War Housing Rosslyn, Virginia
 War Housing East Hartford, Connecticut

THIS IS OUR WAR RECORD—AND YOURS!

IN HOSPITALS . . . in military buildings . . . in war housing both here and abroad, the construction projects where Upson Panels have been used literally dot the map of the world.

In all climates, more often in the hands of unskilled labor, and usually under the most difficult conditions, Upson Panels have demonstrated amazing qualities—certain to be extremely valuable in postwar construction and modernization.

Your own patriotism and cooperation . . . your understanding of the tremendous war need for Upson

products have helped us fulfill vital war assignments. And we are grateful!

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UPSON

PACEMAKER IN CRACKPROOF PANELS

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 Navy Housing Newport News, Virginia
 Navy Housing Lakehurst, New Jersey
 Navy Housing Orange, Texas
 Navy Housing Corpus Christi, Texas
 Navy Housing Balboa, Panama Canal Zone
 Navy Housing, Coco Solo, Panama Canal Zone
 Navy Housing Guantanamo, Cuba
 Navy Housing Quonsett, Rhode Island
 Navy Guantanamo, Cuba
 War Housing Groton, Conn.
 War Housing, 2nd Project Groton, Conn.
 War Housing Sidney, New York
 Army Fort Bragg, North Carolina
 Army Camp Joseph T. Robinson, Arkansas
 Navy Overseas Hospital Units
 Army Decatur, Alabama
 Army Howard Field, Panama Canal Zone
 Army Quarry Heights, Panama Canal Zone
 Army Albrook Field, Panama Canal Zone
 Army Bermuda Island
 Navy Indian Head, Maryland
 Lend Lease to England
 Army Housing Louisville, Kentucky
 War Housing Washington, D. C.
 War Housing Norfolk, Virginia
 War Housing, 2nd Proj. Washington, D. C.
 Navy Housing Groton, Connecticut
 Army Housing Pine Camp, New York
 Navy Housing, 2nd Project Yukon, Florida
 Army, 2nd Project Ft. Bragg, No. Carolina
 Navy Housing Banana River, Florida
 Navy Housing Otis, Florida
 Navy Housing, Green Cove Springs, Florida
 Army Iceland
 War Housing Macon, Georgia
 Navy Washington, D. C.
 War Housing Evansville, Indiana

War Housing Dayton, Ohio
 War Housing Wellston, Georgia
 Dormitories Springfield, Vermont
 Army Las Vegas, New Mexico
 Army Camp Perry, Ohio
 War Housing Rockford, Illinois
 Army Oriana, Virginia
 Army Kingsbury, Indiana
 Army Engineers Providence, R. I.
 Army White Station, Tennessee
 Army Forsythe, Tennessee
 Trailers & Mobile Houses, Flint-Saginaw, Mich.
 Army Centerville, Mississippi
 Dormitories Elkton, Maryland
 Navy Sampson, New York
 War Housing South Portland, Maine
 War Housing, 3rd Proj. Washington, D. C.
 Army Jonesboro, Arkansas
 War Housing Burns City, Indiana
 War Housing Seneca, Illinois
 Army Chambersburg, Pennsylvania
 War Housing Pittsfield, Massachusetts
 War Housg., 2nd Proj., Charleston, S. Carolina
 War Housing Middle River, Maryland
 War Housing Detroit, Michigan
 War Housing Ypsilanti, Michigan



This is only part of the story. Many other millions of feet have been used indirectly for war purposes. In addition, still other millions of feet have gone for military uses which can not be revealed now.

Trailers Vicksburg, Mississippi
 War Housing Stratford, Connecticut
 War Housing Niagara Falls, New York
 War Housing Muskegon, Michigan
 War Housing, 3rd Project Dayton, Ohio
 War Housing, 3rd Project Detroit, Mich.
 War Housing Ecorse, Michigan
 War Housing Bay City, Michigan
 War Housing, 3rd Project Norfolk, Virginia
 War Housing Hartford, Connecticut
 War Housing Marietta, Georgia
 Trailers Chicago, Illinois
 War Housing South Arlington, Virginia
 War Housing, 2nd Project, Hartford, Conn.
 War Housing Dodson, Missouri
 Navy Hospital Units, Distributed
 Army Engineers, Overseas Task Force Bldgs. Distributed
 War Housing, 2nd Project Ypsilanti, Mich.
 War Housing, 4th Project Detroit, Mich.
 War Housing Bruning, Nebraska
 War Housing Geneva, Nebraska
 Navy Bainbridge, Maryland
 Trailers Chicago, Illinois
 War Housing Houston, Texas
 War Housing Camp McCain, Mississippi
 War Housing Biloxi, Mississippi
 Navy Sewalls Point, Virginia
 Navy Brooklyn, New York
 Navy, Overseas Task Force Bldgs., Distributed
 Navy San Diego, California
 Navy, 2nd Project Sampson, New York
 Navy Rosslyn, Va.
 Marine Corps, 2nd Project Quantico, Va.
 War Housing Benton Harbor, Michigan
 Navy Overseas Use
 Army Engineers, Overseas Task Force Bldgs. (2nd Project) Distributed
 Army Engineers, Overseas Task Force Bldgs. (3rd Project) Distributed
 Navy, 2nd Proj. Overseas Task Force Bldgs.
 War Housing, 2nd Project Ecorse, Mich.
 Navy, 3rd Proj. Overseas Task Force Bldgs.
 Navy, 2nd Project Bainbridge, Md.

NEWS . . . How Congress will back housebuilding (this page) . . . Slide-rule guide for investors (page 6) . . . Veterans build their own community (page 8) . . . Brick shortage looms (page 8) . . . Kitchen, bathroom, furnace in one package (page 9) . . . Cleveland makes planning everybody's job (page 20).

REVIEW

June was a month for laying foundations for the building pick-up not far ahead. Although WPB would name no day, there were plenty of signs that building controls would soon be lifted in areas where labor is available. Some of them:

▶ Go-ahead for foundation and site preparation operations that will start sizeable building jobs which cannot now qualify for priorities. Boosting ceilings for non-priority construction—residential up to \$1,000, commercial to \$5,000, industrial to \$25,000 (FORUM, June '45)—WPB made it clear that the lift was intended to start earth-moving as well as remodeling.

▶ "Open-ending" of the order controlling utility extensions. Electric, gas and water connections may now be made at any building site, unless the extension costs more than \$25,000—which almost none do.

▶ Authorization of preliminary construction work on public highways and streets.

▶ Start on sizeable production of mechanical refrigerators (265,000 over the next three months) and washing machines (350,000).

While Building's shovels began to turn again in earnest, Congress was at work on foundations of its own. The omnibus housing bill, which will help the industry get on with its job, was at last taking shape, and many a Congressman was lining up back of the new financial aids it will offer private building. Senator Elbert Thomas (Dem., Utah) started the ball rolling for public works construction, offering a bill calling for \$6 billion worth in the first three years after the war, with federal funds to match state and local contributions. In Connecticut and Illinois (FORUM, April '45), new laws to clear the way for rebuilding got enthusiastic approval, while New York City added ten public housing projects amounting to \$95 million to its postwar works list. In Minneapolis, veterans found a way to get the homes they needed, launched the nation's first all-veteran community. From Detroit, where the last bomber had long since passed down the lines at Willow Run, came word that Henry Kaiser was

discussing operation of the giant plant with United Auto Workers' R. J. Thomas. One possibility that might interest Kaiser: production of a packaged home mechanical unit like the one designed by Dow Chemical Co. researchers (page 9). Biggest war housing news of the month was the Army's purchase of 12 million lbs. of aluminum which it will use for roofing 28,000 portable shelters destined for the Pacific.

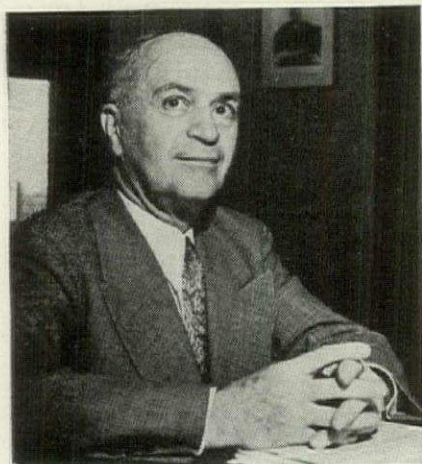
There were still plenty of question marks ahead of Building, but one of them at least seemed to be finding an answer. Meeting with European lumber experts in London, WPB's lumber chief, Philip Boyd, got the cheerful news that Germany and the Scandinavian countries may be able to take care of the Army's re-crating needs for the Pacific shipment. But as lumber looked up, brick and cement producers said lack of labor may hold up supply of these basic building materials.

WASHINGTON

HOUSEBUILDING OMNIBUS

Big wartime housebuilding jobs have shown the way to cost-cutting. Planned building for a whole season, even if parts of the job are on a small-scale, has many of the cost-cutting advantages of a 200 or 300 house project. Housing legislation soon to be introduced in Congress will offer the housebuilder a way to plan his output by the season—and buy his materials in quantity—whatever the size of his operations. Intended to help the builder reach farther down into the low-cost market, firm commitments for mortgage insurance covering a whole season's work will be offered by the Federal Housing Administration. This means that FHA will agree in advance to insure mortgages covering a certain number of houses and, just as under the Title VI war housing insurance plan, the builder will not have to find customers until the houses are finished. But commitment privileges will be limited to houses selling for \$6,000 or less, offering a positive incentive for building in this price class.

This new aid to private building en-



FERGUSON: six million home owners

terprise is only one of many housing steps ahead that will probably be embodied in the omnibus bill soon to be introduced under the joint sponsorship of Senator Robert Wagner (Dem., N. Y.), Senator Robert Taft (Rep., Ohio), and Senator Allen Ellender (Dem., La.). These Senators are in agreement that it is time for a broad attack on all sectors of the U. S. housing front.

Senator Ellender told the National Public Housing Conference at its Washington meeting last month that he would back no one-sided piece of legislation looking to a big public housing program as a cure for all our housing ills. The Senator spoke plain words that made sense: "Congressmen come from the communities. They will not be for public housing until their communities are for public housing. Their communities will not be for public housing until it is made part of an effort to improve the housing conditions of the whole community, middle-income families as well as low-income families, through private as well as public housing . . . We cannot make housing a national cause by talking to ourselves . . . Organize your program and sell it to the people—on a local level. You have an educational job to do that is just important as building houses."

The Senators who will back the forthcoming bill are, like the National Housing Agency, interested in increasing the nation's supply of good rental housing. Prospect is that yield insurance will become a working part of FHA's operations. Current plan is to require the sponsor to put up 100 per cent in cash, with a 3½ per cent return on investment to be guaranteed by FHA. This device would be of primary interest to insurance companies, who are about the only housing investors able to put up a sizeable cash investment. Stock-selling schemes would be forbidden.

Federal loans and grants for urban redevelopment are almost certain to be a part of the bill. Only with such aid can most cities tackle the central problem in rebuilding—writing down the high cost of urban land. Federal loans for municipal land acquisition would probably have a 60 year term and be supplemented by annual grants over a 45 year period. Cities would sell the land for about one-half its acquisition cost minus buildings. Cities would probably be required to contribute 25 per cent of land buying costs, but this would not have to be cash—it might be in the form of streets or other improvements. At month's end action that would go far to start the nation building one million houses a year was close.

DIVIDENDS

When Abner Ferguson walked out of his Washington law office in 1934 to become assistant general counsel of a fledgling New Deal experiment intended to bolster the panic-stricken housebuilding business, an amortized mortgage was a novelty. Second and third mortgages were standard practice, interest was what the market would bear, planning and construction standards were anything the market would buy. When Abner Ferguson at month's end hung up his hat again in his own law office,* six million home owners were living in soundly built and well planned houses which they were paying for over a 25 year period at interest rates of about 4½ per cent. For over half of these home owners, monthly payments amounted to no more than \$40. Those who had paid off their mortgages were getting dividends. The Federal Housing Administration, which building conservatives had once believed would bankrupt the nation, had paid its own way and, through its pioneering risk rating system, opened large new sources of capital to the housebuilding business.

Looking back over the books, the smart lawyer who had from the beginning helped to put FHA on its sure course and for the last four years headed the agency as commissioner, had reason to be proud of the record. Always a little right of center, Ferguson had been a good man for a job which marked out a new kind of teamwork between private initiative and public credit. FHA's job over the next decade would be bigger than ever (see above). In late June, Building men were still trading tips over whom President Truman would tap as Ferguson's successor.

* Watters, Cowen, and Baldrige of Washington and New York, which last month got a new client: the U. S. Savings and Loan League.

HOW MUCH PUBLIC WORKS?

Can public works be timed to even out the bumping, booming construction industry? With Building opinion sharply divided, the Federal Works Agency last month decided to take an extended look at this question. Named for the job: construction statistician Robinson Newcomb, who has had a finger on Building's jumping pulse for almost two decades. Newcomb will start by setting up machinery for charting the volume of public works construction throughout the country, which, except for federal



NEWCOMB: public works formula

building, has never been adequately reported. Part of the job will be to establish a precision formula for estimating exactly how much public works construction must accompany a given volume of residential building.

BUILDING MONEY

REBUILDING SLIDE-RULE

Miles Colean and Arthur P. Davis, a couple of building economists as able as the industry boasts, have just finished a well-documented cost measurement study which proves, beyond any reasonable doubt, that it is not feasible to build single-family houses on most urban land. Those who receive this piece of news with scarcely a start of surprise may, however, look farther for secondary and more surprising plums, not quite hidden in the ample Colean-Davis charts and tables: At a land cost of about 12 cents per sq. ft., a six-story apartment building will earn exactly as much money as a twelve-story apartment building, and both will earn a good deal less than two- and one-story houses. But as soon as land cost reaches even the moderate figure of 75 cents per sq. ft. the

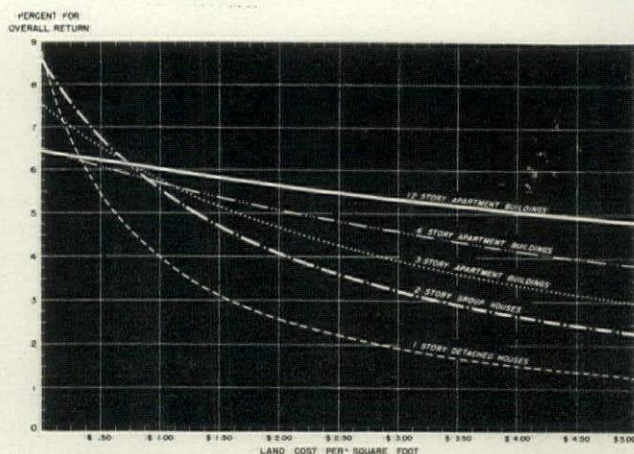
twelve-story apartment building must be the prudent investor's choice (see cut).

Prepared under the auspices of the energetic National Committee on Housing, the Colean-Davis study is a laudable effort to trap the variables of building investment in charts that the investor can use with little more trouble than a slide rule. Like the charts developed by the Federal Housing Administration to check the financial outlook for rental housing schemes proposed for mortgage insurance and the Rent-to-Space studies published by the FORUM in 1936, it is part of the industry's urge to put its investment operations on something of the sure footing of an exact science.

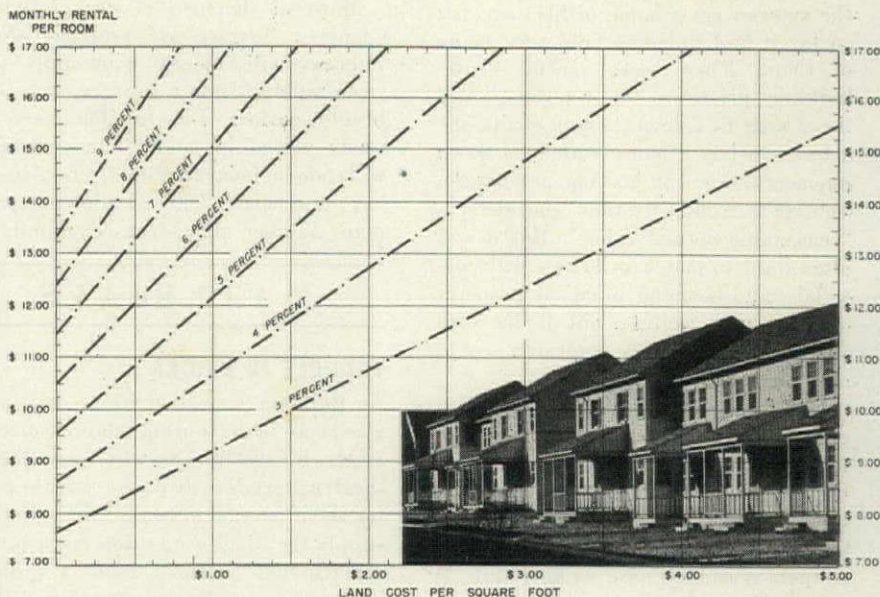
If you want to do something about urban rebuilding and have a chance to buy some blighted land at \$3.00 per sq. ft., a look at the charts will tell you exactly what room rents, according to various building types and annual rates, you would have to charge to make a reasonable amount of money. In the case of the twelve-story apartment and an annual rate of 6 per cent (interest, amortization and taxes), this turns out to be \$14 a month per room, as Metropolitan Life could probably tell you. (see cut).

To reach any approximation of the blissful certainty calculated to attract building money, it has, of course, been necessary to assume certain constants. Thus, cost of construction, cost of operation, and land coverage (25 per cent) are assumed to be constant for purposes of this tabulation. The tabulators provide an equation for adjusting variations in these factors so that an individual building project can be measured against the standard scales. The tables themselves are derived from actual plans for projects ranging in type from the one-story detached house to the twelve-story apartment building.

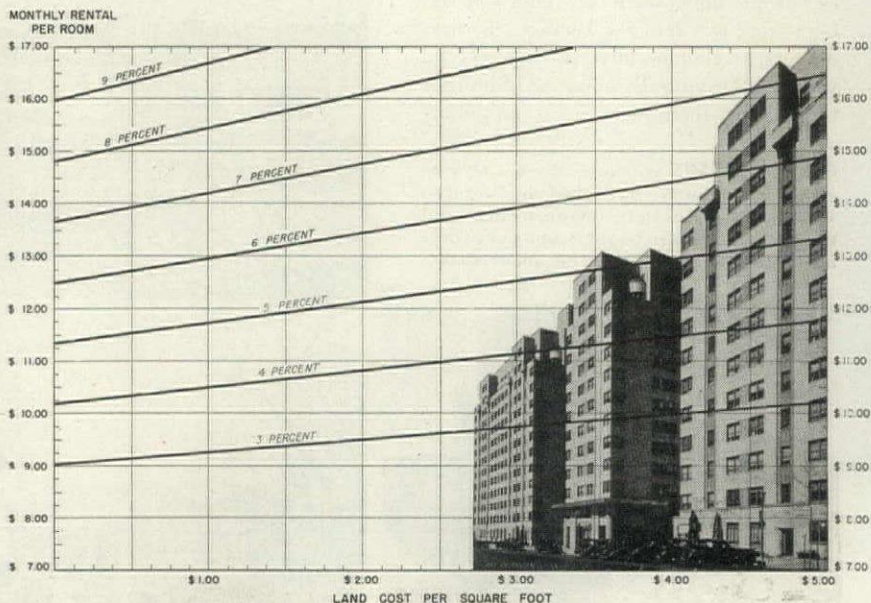
Thumbing over their tables, Colean and Davis reach the conclusion: "Barring drastic reductions in building or operating costs, land cost is the most critical element not only in rent, but in the selection of building type and the number of families per acre to be accommodated." Unquestionably valuable to investors who contemplate urban rebuilding within the realities of the present land cost situation, the study may be even more valuable as one more way of focusing attention on the basic unreality in the whole matter of urban rebuilding: high cost of land. As the tabulators sum up: "The cost of land within the central city, thus tends at once to great concentration and to greater dispersion. The push behind the decentralization of cities is a push for space and economy. The pull of the central city is for convenience and saving of time and travel. For the present, the push greatly exceeds the pull."



EFFECT OF LAND COST on rate of return is illustrated in this interesting Colean-Davis graph, which assumes a rental of \$13 per room. Point of intersection of the lines representing various types of construction shows that the 12-story apartment becomes the best investment at even a low land cost.



TWO-STORY ROW HOUSE, favorite of many an investor, can rent for \$12 per month per room only at land cost of \$1 per sq. ft. or less and rates of 5 per cent or less. Rates shown may be distributed to interest, amortization, taxes.



TWELVE-STORY APARTMENT is choice of most investors who build on high-cost urban land. Graph shows that room rents for this type of construction do not rise very rapidly with rise in land costs.

HOMES FOR VETERANS

The veterans were coming home at last—25,000 of them every week. But for many a veteran, coming home meant something he hadn't counted on, a worrying housing problem. Congress, looking anxiously at the homeless veteran's plight, hurriedly told the National Housing Agency to provide emergency housing for veterans in the same way it has housed war workers. To many a builder, working hard to get materials for a home for a veteran customer, temporary housing looked like a short-sighted way to meet the veteran's needs.

A lot had already been done to help the veteran get a home of his own, but so far it had failed to help very many of them. There were special house-building priorities for veterans. And there were G. I. loans, which enable the veteran to buy a house without a down payment—if he can find one at what the Veteran's Administration considers a "reasonable normal value." But it was often hard to match priorities with materials, and booming prices of property on the market were far out of line with what a conscientious appraiser could call "reasonable normal value."

In Minneapolis, William Howard, discharged after two and one-half years of Navy service, looked for months for a house to rent, finally got a housebuilding priority. Planning for his own home, Howard began to wonder how other Minneapolis veterans were making out. It would, Howard thought, be both easier and cheaper to build a number of houses than a single house. Why couldn't veterans get together and help each other to become home owners? This was the beginning of Glenview Terrace, the first all-veteran community in the U. S., which will eventually house 125 families. Organizing themselves as a neighbor-

hood long before they knew where the neighborhood would be, the veterans arranged for group buying of materials and equipment. The Scherer Lumber Co. promised lumber for the project. The Towle Co. arranged for 100 per cent mortgages, backed by VA guarantees. Builder Paul Enghauser went to work laying out a neighborhood which will include parks, playground, shopping center. Using three basic plans with exterior variations, Enghauser delivers a comfortable five-room house for \$6,200. With interest at 4 per cent, veterans pay \$41.58 per month for their houses—and make no down payment.

Many of the men at work building Glenview Terrace are veterans, while veterans will operate community services ranging from a grocery store to a beauty parlor. Ten families have already moved in, and 20 more houses will soon be finished. Builder Enghauser has purchased 200 additional acres, plans another all-veteran community.

MATERIALS

TROUBLE IN BRICKS

As Building measured its reconversion prospects, labor shortage showed plainly as the biggest reason why basic structural materials will be in short supply for some months to come. With lumber supply the biggest question mark in the construction outlook, many a builder has turned to masonry construction. But

last month brick and cement producers, most of whom are now operating at one-third capacity, saw no way to step up production until they can get labor.

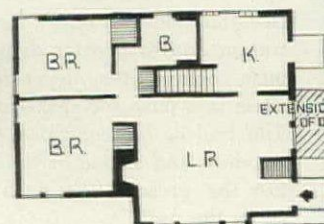
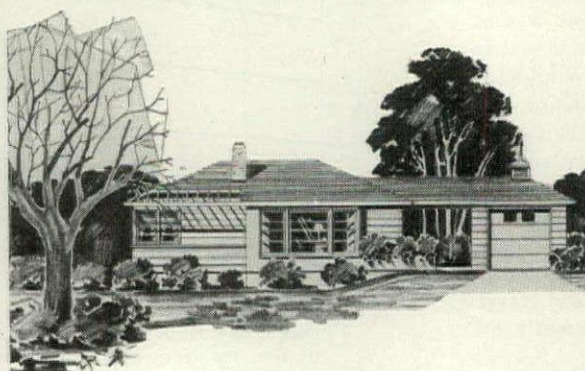
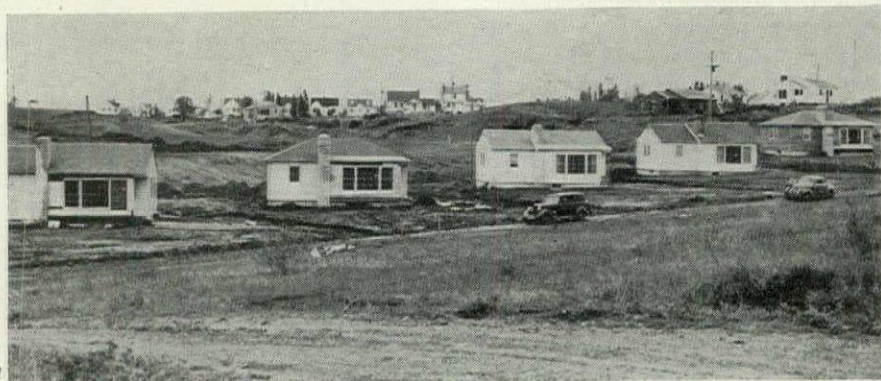
Spot-checked by the FORUM, brick producers in all parts of the U. S. reported acute labor shortage with no prospect of relief in sight. Cement producers reported labor shortage their biggest production handicap, with need for replacement parts running a close second, and shortage of cement bags a headache in some sections.

In many areas—Chicago, Cleveland, Boston, Los Angeles, Denver—where over-all supply of labor is still critically acute, there seemed no answer to brick and cement producers' needs. But in St. Louis, classed by the War Manpower Commission as an area where substantial labor reserve exists, the Alton Brick Co. said it was operating at less than 25 per cent capacity because of labor shortage. "Our base pay rate is 28 per cent higher than 1939. Our applications for further advances have been denied so far. We do not expect much relief until manpower policies are revised as concerns our industry." In Fort Worth, where WMC says labor supply balances demand, the Acme Brick Co. reported that lack of labor is keeping its production far under capacity. "We are paying wages approximately 50 per cent higher for labor far less efficient than we could get in 1939, thus doubling labor costs."

In Atlanta, Memphis and Portland, Me., where WMC says there is a labor

ONLY VETERANS will live in new Minneapolis community, launched by veteran William Howard (left) planned and built by Paul Enghauser (right), who uses three basic plans to cut prices to about \$6,000.

Photos: Russell Bull



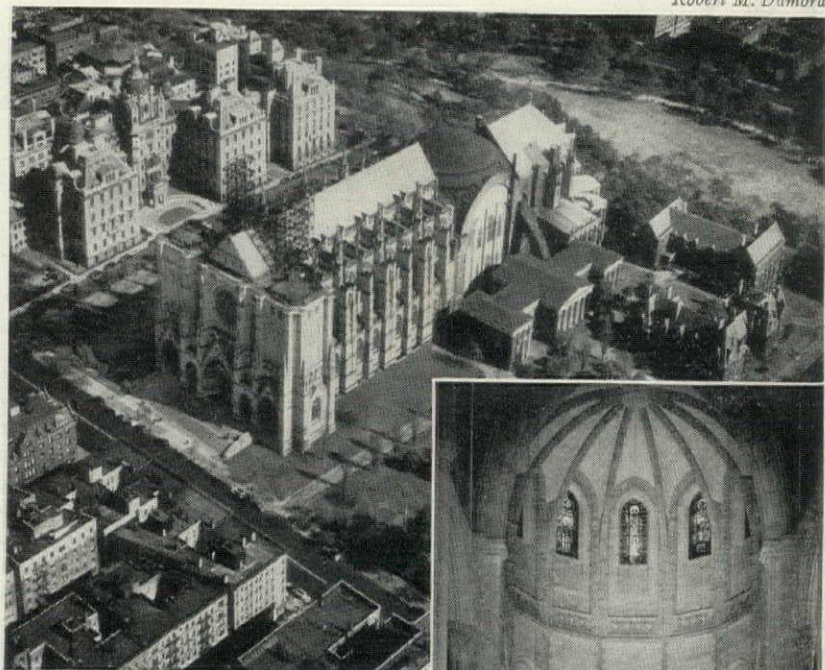
reserve, brick and cement producers were no better off for labor than those in No. 1 labor short areas like Newark, Reading, Pa., Cedar Rapids. While many brick producers have shut down entirely, only one (Washington State) reported capacity production and an adequate supply of labor.

Total need for the labor that would put the brick industry on its feet, according to the Structural Clay Products Institute, amounts to only a drop in the nation's manpower bucket—about 10,000 workers. Brick producers can make use of any kind of manual labor, require few men with special skills. But brick-making is hard work, and few workers will choose it if they can get comparable rates at a factory job. Overtime is no good as a way of stretching out scanty labor supply; after eight hours at the brick kilns, workers are ready to go home.

The Structural Clay Products Institute has appealed to WMC to channel workers into brick plants, but so far WMC has turned down the petition. WMC says it might be able to give producers some help in getting labor if they will specify construction uses to which their product will be put. But producers, weary of war controls, shrug at the prospect of trying to label their output. If a controlled market is the only way to get labor, most producers say they would rather wait for war cut-backs to come to their rescue. Meantime, Building men, estimating their chances, saw brick and cement joining lumber as threats to a prompt building pick-up.

DOMESTIC POWER PLANT

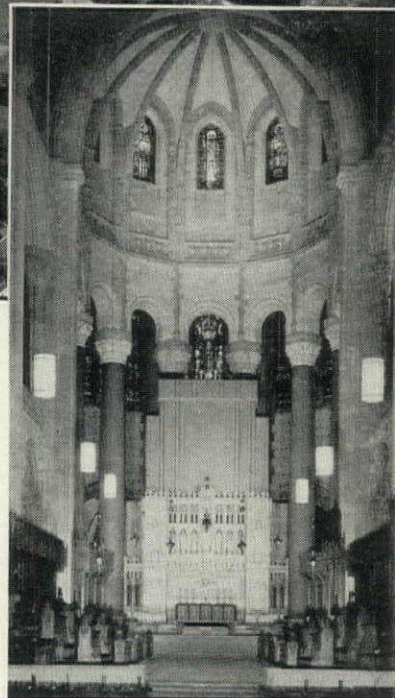
In tomorrow's house a single source of heat may fry an egg and iron a shirt, heat the water in your bathtub and cool the beer in your refrigerator. A fully equipped kitchen-bathroom-laundry may be delivered from the factory in a 3,500 lb., magnesium-wrapped package—ready to slide into the house as easily as a nickel in a slot. This domestic power plant, which will heat the whole house, wash the dishes as well as the clothes and run a deep-freeze unit, may sell for about \$1,000—or about half the combined cost of the appliances and fixtures if produced as individual units. But this is only the beginning of the cost savings it promises. Two rooms in itself, it means lopping the cost of kitchen and bathroom space off the structural cost of the house. Because every piece of equipment will be in place, it will require a minimum amount of the most expensive kind of construction labor—plumbing and wiring installation. Because it can use any kind of fuel for its basic source of heat, it will be economical to operate.



MONUMENT FOR MANHATTAN

In the year 7,000 A.D. when Manhattan's proudest skyscrapers are only a footnote in an archeological text, the Cathedral of St. John the Divine may remain to mark the site of an ancient city. St. John's, the world's largest Gothic cathedral, is built mostly from solid granite, and its builders give it a life expectancy that may exceed the civilization that produced it. Already 52 years of building and \$16 million have gone into St. John's gray stone walls, and it will take at least six years and another \$10 million to finish them.

Like many a householder throughout the U. S., Bishop William T. Manning last month saw his way clear to undertake a remodeling job. The job: removal of the reredos, a carved



stone screen back of the altar, which will give St. John's the "longest uninterrupted vista in Christendom." From the rose window (also the largest in Christendom) that lights the nave to the choir, this measures one-tenth of a mile.

Blueprints for this new kind of mechanical unit are finished in the physical research laboratory of the Dow Chemical Co.'s plant in Midland, Mich. Dr. John Grebe, its inventor, set himself not only the problem of combining the various pieces of domestic machinery as a single design unit but also the problem of operating most of them from a single source of energy. Like the John B. Pierce Foundation's experimental "liquid heat" kitchen (see ARCH FORUM, June, '45), the Grebe unit uses a single fire from which it distributes heat by means of a high boiling point liquid. Dow-Therm—the heat-conveying medium in Grebe's unit—does not boil until it is about 300 degrees hotter than boiling water. This is why Dow-Therm will fry an egg and do a number of other domestic jobs that water cannot handle.

Grebe's plan puts all the kitchen and bathroom equipment into a U-shaped unit, 8 by 12 ft. and about room height. A gas, coal or electric fire burning in a section at the base of the U, heats the Dow-Therm. A three-sleeved chimney not only carries off the gases of combustion, but also takes care of heating and ventilation for the whole unit. The inner core does the job of the ordinary chimney, while a surrounding sleeve admits fresh air, which is heated by contact with the flue. Outer ring of the chimney draws off foul air from the interior.

Dow-Therm carries heat to the steam pressure cooking range and to the ironer. A Dow-Therm rod actuates the refrigerator and deep freeze unit, which operate like a gas-burning refrigerator. Water used in the dish and clothes washing

NEWS

units and in the bathroom is heated in a coil around the stove. Washer is of the continuous-cycle type and dries clothes by making use of heated air from the stove section adjoining. Tops of all heating units are insulated with Dow's Stryofoam and other plastics providing a work table the full length of the unit. A unit intended for a one-story house will arrive with its roof attached, and this, too, will probably be made of Stryofoam. No fabricator, Dow will not produce Grebe's mechanical package, but will be happy to supply the magnesium and Stryofoam which will go into it.

NON-MAGNETIC BUILDINGS

Building without iron is a good deal harder than making bricks without straw. The Navy, which has been up against many a tough building problem, not long ago took on this one. Now almost finished, the five Navy buildings on the outskirts of Washington (see cut) look not much different from buildings you could find in almost any town. But the Navy's buildings have no counterpart anywhere, because they are built entirely of non-ferrous materials.

Part of an ordnance laboratory that will include 48 permanent and 20 temporary structures and cost about \$15 million, the non-ferrous buildings will be used for experimental study of underwater magnetic weapons, like the magnetic mines invented by the Germans for World War II.

Taking the iron out of building—if you've never happened to think about it—means using copper nails, downspouts, radiators, heating pipes. It also



NAVY-BUILT magnetic ordnance lab

means eliminating red bricks (iron oxide) and reinforced concrete. The Navy used solid concrete foundations, built walls of concrete blocks. Soil pipes are asbestos and cement, and electric fixtures of brass or plastic. Roofs are slate.

A sixth building, to be used for testing equipment designed to detect magnetic fields, will be without heating

system, electric wires, telephone, water pipes—or anything else that would set up a magnetic field. Architects for this extraordinary construction are Eggers & Higgins, New York. Taylor and Fisher, Baltimore, are associates.

CITIES

CONNECTICUT BACKS REBUILDING

When Hartford, Conn. goes to work on its pet postwar plan, a triple-deck parking plaza connected by subway to the central shopping district, it won't have much trouble buying the land—or buying it at a fair price. Whether the city itself builds these needed off-street parking facilities or whether private enterprise steps in to take on part of the job, land buying—knottiest problem in any urban redevelopment undertaking—will be minus both headaches and high prices. Like every other city in Connecticut, Hartford will be able to take advantage of a new redevelopment and improvement law, which got the state legislature's blessing early in June. Enabling Connecticut cities to use the power of eminent domain in acquiring land for redevelopment, the new law is a formula broad enough to cover almost any type of private or public improvement of a substandard area.

Notable for its freedom from narrow restrictions and for its flexibility, the Connecticut law emerged from months of argument and mediation as a blend of opinion from the many groups concerned with housing, planning, building, industrial expansion and government. Aware that many such state laws have been geared to the special needs of housing redevelopment projects, sponsors of the Connecticut law carefully leaned over backward to look at what might be needed for other types of rebuilding enterprise. They also took a look far enough ahead to leave the way open for financing aids not yet in evidence, directing cities to comply with any conditions that may be set up as the basis for state or federal grants or loans for land buying purposes. Taking account of need for rebuilding outside city limits, they empowered two or more municipalities to cooperate in land assembly for rebuilding.

Housing authority leadership versus creation of a new redevelopment agency had been a particularly hot controversy. "Why not capitalize on the planning and land assembly experience of the local housing authorities?" said Bertholt Pettit, director of the New Haven Housing Authority. With Dr. Charles-Edward A. Winslow, Authority chairman, Pettit

Joseph Stone



Reni



CONNECTICUT REDEVELOPMENT LAW got biggest boost from postwar planners Orr and Dudley.



Housers Cox and Pettit backed appointment of housing authorities to boss the job, which law makes optional.

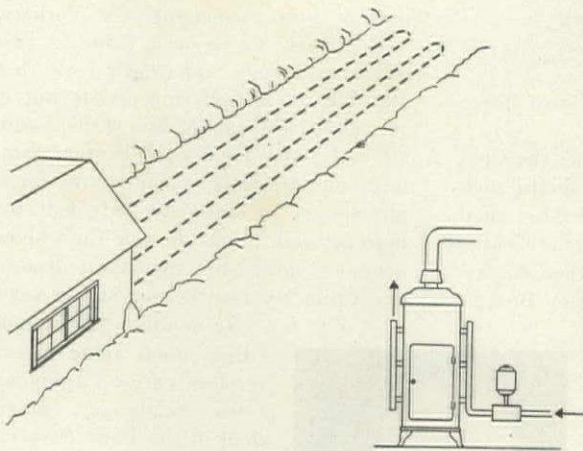


Architect Lawrence Moore worked for law as state legislator; city planner Peter Hale mobilized New Haven support.

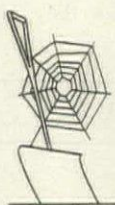
had worked hard on a bill that would give local housing authorities the job of supervising redevelopment. "Why should the housing authorities boss redevelopment projects concerned with transportation, commercial expansion, many other kinds of civic improvement?" countered others interested in rebuilding. Compromise on the final bill gave the cities freedom to decide whether to set up a redevelopment agency or ask the local housing authority to take on the job. But if the redevelopment plan is predominately housing, local housing authorities must pass on its merit.

The State Housing Authority, headed by Berkeley Cox, offered a bill under which it proposed to lend state funds to housing improvement corporations for purchase of land assembled by the city. Hartford, with its eye on its parking project and local housing authority

(Continued on page 12)



Here's another
new wrinkle for the
homes of tomorrow . . .
that's already here . . .



Every householder who has ever come out in the morning to find his driveway blanketed with ice or snow has wished he could work a miracle and magically melt it away. There's an engineer in Pennsylvania who literally does just that, and whose Byers Snow Melting System may presage complete emancipation from the snow shovel for millions of Americans.

The driveway was on a grade, so that even slight icing or a minor snow fall marooned the car. The solution was very simple. A return coil of Byers Wrought Iron pipe was laid under each track, and covered with a traffic strip of black-top. The pipe coils were connected to an automatic gas water heater, and a circulating pump installed to circulate the hot water, to which anti-freeze was added.

The owner reports that since installing the Byers Snow Melting system he has had no snow-bound cars, and no snow shoveling. A half-inch of ice was removed from the drive in only 20 minutes. A 15-inch fall of snow was cleared in 2 hours, at a cost of only 60 cents for gas.

That the same idea can be applied to sidewalks was demonstrated by an installation in another locality, where an industrial plant installed Byers Wrought Iron pipe coils under the walk to the cafeteria. Hot water was used as a heating medium, and kept the way clear all winter.

These installations demonstrate the complete practicability of the principle of Byers Snow Melting, but they merely suggest its possibilities. It can be used in the aprons of service stations; in the parking



BYERS SNOW MELTING

areas of supermarkets; in the sidewalks in front of large commercial buildings . . . in any application, in fact, where interference with normal traffic can cause loss, and where it is difficult or impossible to immediately obtain men and equipment to cope with heavy snows.

In any jobs of this kind, the pipe material must have unusual service qualities. Severe corrosion can be anticipated both from within and without. Byers Wrought Iron has served for years in hundreds of applications where it was buried in the ground or embedded in concrete, and where it carried a variety of corrosive waters, and its superior durability has been conclusively demonstrated. Then Byers Wrought Iron expands and contracts at practically identical rates with concrete, which helps prevent thermal cracking. Finally, wrought iron has a high heat emission, and it can be readily formed and welded, which facilitates installation.

A Case History has been prepared, illustrating and describing several Byers Snow Melting Installations. Ask for a copy.

A. M. Byers Company, Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS WROUGHT IRON

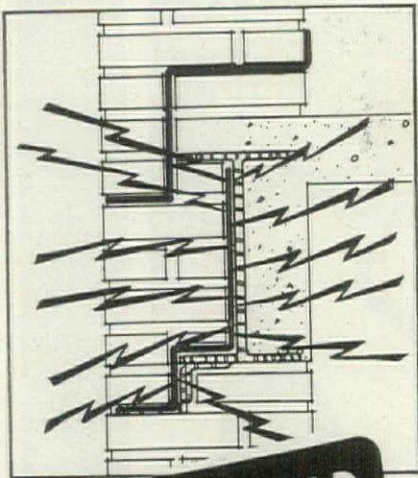
FOR EXTRA SERVICE

IN CORROSIVE APPLICATIONS

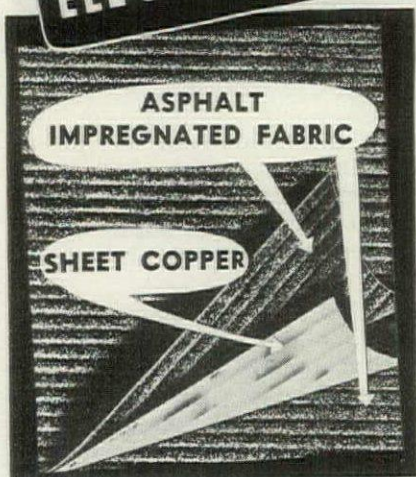
CORROSION COSTS YOU MORE THAN WROUGHT IRON

(Continued from page 10)

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we're ready to go—ample
stock for immediate delivery



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AGAINST
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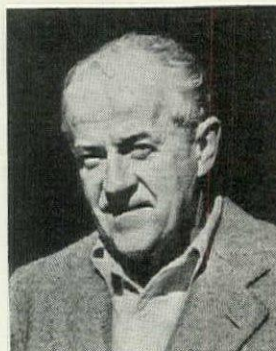
plans, had a bill to suit its own intentions.

Serving as patient midwife, the Connecticut Postwar Planning Board took on the job of reconciling all these good but various intentions. Director George Dudley painstakingly smoothed controversy into compromise. The Board's committee on community development and housing, chaired by architect Douglas Orr, outlined a bill that would cover the broadest possible area of agreement. Housing-conscious state legislators headed by George C. Conway, representative for Guilford, went to work drafting the broadened bill.

Approved with little argument by the state legislature, the redevelopment law gives cities everything they need to start some large-scale rebuilding—except the money. But many Connecticut cities have been clearing up their debts, are in good shape for bond issues. Almost every city had its own plan for making a rebuilding start. New Haven looked forward to a community market, with a good deal of the financing to come from the wholesalers and farmers who would use it. The Hartford Chamber of Commerce boosted a plan for reclaiming 800 acres of flood land, developing sites for modern factories and housing. For these and many another plan, the land assembly hurdle had been cleared, anybody with a good idea could go to work in earnest.

TREES

Philip LeBoutillier, a man inclined to make up his mind, last month decided that it is unfair to trees to plant them in city streets. Because LeBoutillier is president of Best & Co., which plans to build a new store on a Fifth Avenue corner opposite Rockefeller Center, his



LeBOUTILLIER: no trees

feeling about trees is a matter of some concern to a good many New Yorkers. LeBoutillier, whose own home is just off Fifth Avenue, apparently feels that city life is all right for people but is sure that trees cannot live without sun, air and room for roots. Furthermore, trees obscure good architectural lines, provide an inconvenient lodgment for pigeons, and, unlike Best & Co.'s show windows, unreliably shed their decorative value six months out of the year.

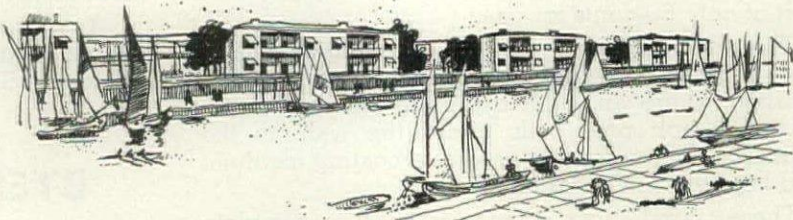
By month's end LeBoutillier stood alone in his treeless corner. Iphigene Ochs Sulzberger, president of the Park Association and wife of the publisher of the *New York Times*, led the ranks of those who believe that trees can survive Fifth Avenue if we can. Borough president Edgar Nathan polled Manhattan architects, found everybody in favor of trees. Landscape architect Ellen Shipman thought trees better citizens than people. Their advantage is not only beauty and shade; they also "absorb the poisons which are given off by man and cleanse the atmosphere." Landscape architect Charles Downing Lay said LeBoutillier was wrong about pigeons. "They seldom are seen in trees since they are rock cliff dwellers."

OVERSEAS

RIMINI'S WAY

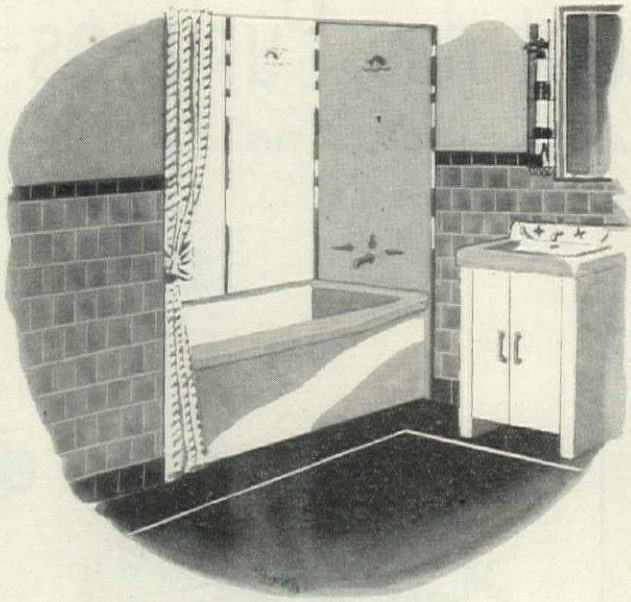
In the 2,000-year-old Adriatic town of Rimini, Guiseppi Bartolomeo, barber by trade, one day last week hung a "closed" sign on the door of his shop. That day everybody shaved himself and nobody got a haircut. It was the day when Guiseppi—and every other barber in town—put down his razor, picked up a shovel. Like everybody else in Rimini, the barbers were going to work without pay at the job of cleaning up bomb damage, laying sewers, putting up tempo-

(Continued on page 16)



FISHERMEN IN RIMINI will live in modern houses like these in sketch for harbor development. Plan for rebuilding this Italian city was prepared by architect Attilio LaPadula, who has organized his design around administrative, sports, school and religious centers. All citizens are at work on rebuilding.

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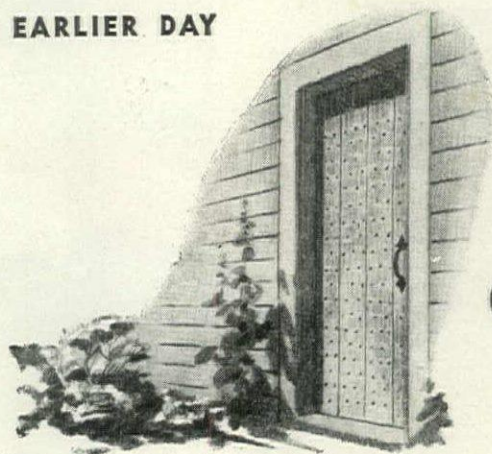
WASHINGTON, D. C.

A primer for present-day Puritans—

ON SOME OF THE MOST EXPRESSIVE CHARACTERISTICS OF THE
HOUSE BELOVED BY LIKE-MINDED FOLK OF AN EARLIER DAY



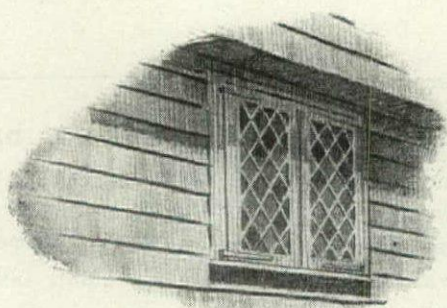
■ This is a classic example of Early American—the house your Puritan forefathers fancied. They knew it first in rural England. And, having found it eminently suitable to quiet tastes there, they transplanted it here early in the 17th Century. Here, this gabled graceling took root—firmly. So firmly that its straightforward, unadorned simplicity is as much a part of the American scene today as it was during those far-off colonial times.



■ This is the type of doorway on the oldest Early American houses. It is wide-boarded, dumpling-plain. Yet this Early American doorway always had beautiful, hand forged iron hardware. And if the latches and locks on *today's* Early American doors yield nothing to the past in gracefulness and authenticity, it is due to the success Russwin has had in recreating the best of colonial craftsmanship.

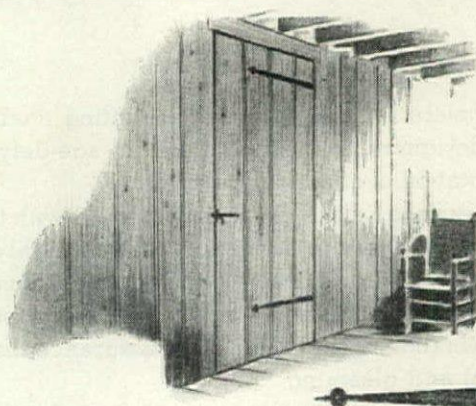
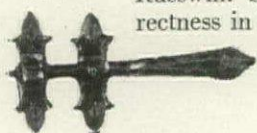


Tewksbury
Design
Russwin
Colonial
Entrance
Door Handle
No. 3509



■ This casement, too, is in strictest Early American tradition. Sometimes it has diamond-shaped . . . sometimes rectangular panes. Its adjusters and fasteners—call for black, hand forged hardware. This chastely designed hardware for casements, shutters, cupboards and everything else in period houses is made by Russwin. So your simplest way to assure correctness in hardware is to budget no less than 2% . . . and Russwinize throughout!

Russwin
Casement
Fastener
No. 3575



■ This is a typical Early American interior door. It is plain as punch but truly beautiful in its austerity—as are its long, hand forged, hinge straps. These charming colonial interiors demonstrate the wisdom of using *good* hardware—hardware that is faultless in function and design. To get an idea of the distinction such beautiful hardware gives, write for Russwin's interesting and authoritative *Residential Hardware*. It is free. Write, Russell & Erwin Manufacturing Company, New Britain, Connecticut.

Tewksbury
Design
Russwin
Hinge Strap
No. 3555



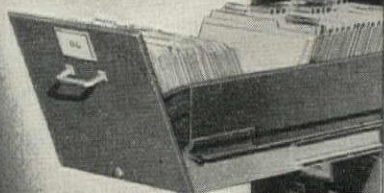
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FOR DESIGN AND WORKMANSHIP . . .

SINCE 1839
RUSSWIN
DISTINCTIVE HARDWARE



SUPER FILER
The
Mechanized File



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LIFT YOUR office to a higher plane, in keeping with the character and progress of your company, by the use of G-F Super Filer, the mechanized file . . . a Revolutionary Contribution to Modern Business.

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YOUNGSTOWN 1, OHIO

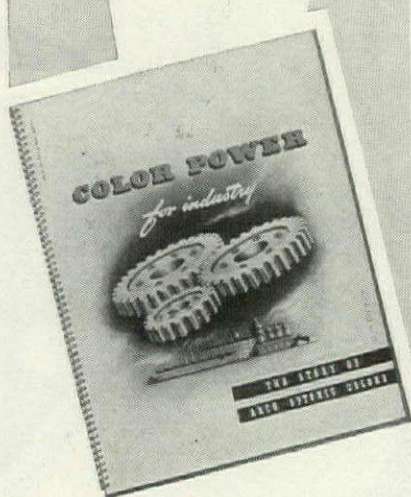
METAL DESKS—GOODFORM ALUMINUM CHAIRS—METAL FILING CABINETS—STEEL SHELVING—FILING SUPPLIES—STORAGE CABINETS

(Continued from page 12)

This New
COLOR SCIENCE

Optonics

will increase
**EMPLOYEE
EFFICIENCY**
in your plant



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Learn how Optonics, the scientific use of color in industrial painting, speeds production, improves safety conditions, employee efficiency and morale, and reduces absenteeism. "Color Power for Industry", a new publication, describes the Optonic Color System. A note on your business letterhead will bring you a copy with our compliments.

THE ARCO COMPANY
CLEVELAND, OHIO • LOS ANGELES, CALIF.



rary houses. They were clearing the way for a rebuilding program that will take 12 years, house 300,000 people, cost \$200 million.

Tactical pivot for the Po Valley, Rimini has been in the path of every Italian war since Julius Caesar mobilized his legionaries there for the march on Rome. World War II took the biggest toll. By the time the Allied 8th Army had driven the Wehrmacht out, there was not much of Rimini left. But rebuilding had begun even before liberation—in the dark, crowded tunnels of nearby San Marino where almost all the civilian population of Rimini fled to wait for Allied victory. Here architectural students, engineers and building craftsmen drew up the first plan for rebuilding their city, decided what their planning purposes were, figured how they could raise the money.

When the AMG engineering officer, Lt. Peter Natale of Hoboken, N. J., arrived to make a start on the reconstruction job, the town was ready with an outline of a rebuilding plan. All political parties pledged cooperation, and everybody went to work tearing down the shattered buildings, carefully salvaging all usable material for the building to come. A free technical school—the first such free school in Italy—was established. Sponsored by AMG and paid for by local professionals, the school is turning out thousands of skilled building workers. Financing to cover the first two years of building has already been raised, \$1 million of it by public subscription.

MARKET

HOW MANY BABIES?

In older nations it was an old subject. But in the sprawling big U. S. a bounty for babies last month made news. First such proposal ever to come before the U. S. Congress, the bill introduced by Senator William Langer (Rep., N. D.) would give parents \$500 for every second child, \$750 for every third, and \$1,000 if they will go so far as a fourth.

Canada has already approved cash allowances for babies under a plan going into effect in July, while 39 other nations have some form of allowances for families. Great Britain and France are now considering what can be done to boost war-drained populations.

Not many population experts believe that marriage loans and bonuses for babies are an effective way to maintain a healthy population. Most think that employment and wage levels, health services and conditions of family living are

the basic considerations in rate of increase of industrialized populations. But Senator Langer's bill made the U. S. rub its eyes at some wry realities: We are no longer a young nation. Like the older nations of Europe, our birth rate is declining. Merely to maintain our present population (134,989,345) 28 million families (or all families capable of child-bearing) must have an average of 2.8 children each.

But while 28 million families should have nearly three children each, there are only about 12 million houses in the U. S. big enough for families of this size. Of 34,854,000 occupied houses in 1940, only 35 per cent had six rooms or more, according to Robinson Newcomb the construction research specialist (see page 6) whom the National Lumber Manufacturers Association asked to take a measure of family-sized housing. About 54 per cent or almost 19 million houses had five rooms, enough, Newcomb thought, to raise one child to maturity. To Building, Newcomb offered some advice:

"If industry does not provide six room houses at a cost which the average family can afford we may find the birth-rate continuing to be unsatisfactory. Failure to provide what the community needs will, therefore, in the long run go against the building industry. If its volume is to be maintained it will have to provide housing which will encourage the maintenance of the population."

HAVE YOU HEARD ABOUT PREFAB?

As anxious as any other big-time publisher you could name to fish for some of the facts from which advertising is made, the Curtis Publishing Co. has been out paddling around the big pond of U. S. housing demand. Curtis sent surveyors to interview 4,007 families in 35 states and 118 cities, found housing demand, to nobody's surprise, high in all areas. The West is ready to buy the most houses in proportion to population, but the heavily-populated Northeastern and North Central regions will see the most building in terms of housing units.

More interesting than Curtis' soundings of the depth of the housing market were its analyses of the character and quality of the market. Interviewers asked: "Have you heard of or read about or seen any prefabricated houses?" Some 75.5 per cent said they had, while 25.5 per cent claimed no acquaintance with prefab. Of those who said they had been introduced, half had nothing at all to say to the question, "What if anything about prefabricated houses appeals to you?" Only 17 per cent said they would be interested in a prefab house for a year-round dwelling; 57.5 per cent said they might buy one for a

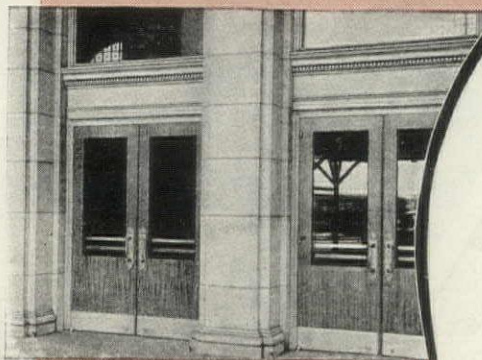
(Continued on page 20)



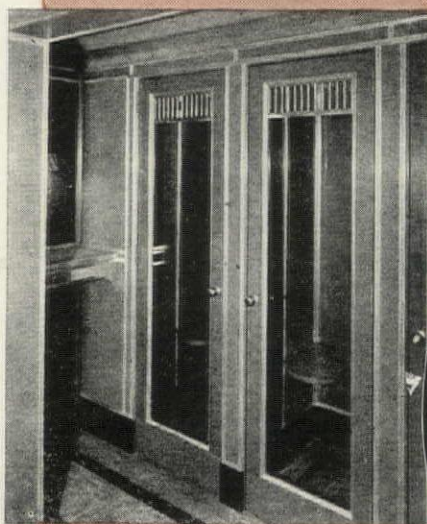
← Department Store
Perfume Bar
of Formica



→ Cocktail Tables
Washington's
Statler Hotel



Doors of the Washington Union
Railroad Station



Formica Telephone Booths
Library of Congress

FORMICA *Beauty* IS INTRINSIC BEAUTY

Formica comes in many colors and fabric or wood finish effects but the color is not on the surface where it can wear off by abrasion or be worn off or faded by washing. It never requires renewal or salvation by any kind of treatment whatsoever. Colors are achieved by fadeless pigments and dyes deeply imbedded in plastic, while fabric patterns and actual wood veneers, plastic impregnated, are thickly covered with clear transparent plastic.

Even when used on restaurant tables and hotel dresser tops, abrasion is scarcely ever perceptible after years of wear, for the plastic is harder than marble.

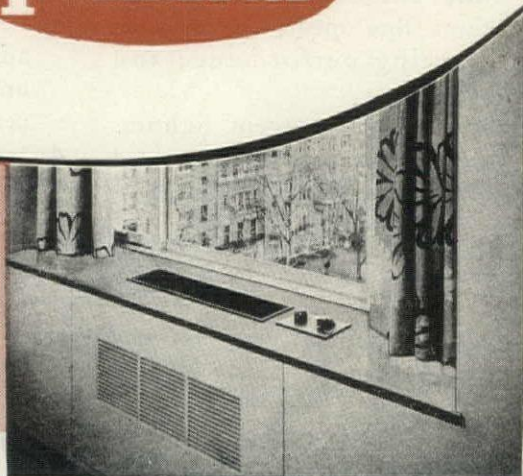
Formica does not check or chip. Water, food, alcohol and even lighted cigarettes do not spot or stain it. Ordinary washing brings out *all* the original intrinsic beauty after years and years of use.

The Formica Insulation Co., 4620 Spring Grove Ave., Cincinnati 32, O.



← Formica
Wainscot,
Chicago Bus
Station

→ Window Sill
Washington
Statler



WHEN YOU SPECIFY LIGHTING

make this the heart of your plans



* Certified Ballasts and Starters are an important part of Fleur-O-Lier Certification.

See how the Fleur-O-Lier label helps you—

1. It marks fixtures built to definite, authoritative specifications that mean the best in lighting performance and service.
2. It marks fluorescent lighting fixtures that are subject to rigid test by Electrical Testing Laboratories, Inc., and Certified by them as meeting Fleur-O-Lier specifications.
3. It helps you and your clients benefit from the knowledge and research of many of the finest technicians in fluorescent lighting.
4. It gives you more than thirty leading makers of fluorescent

fixtures as source of supply. And this includes the biggest and oldest manufacturers in the business.

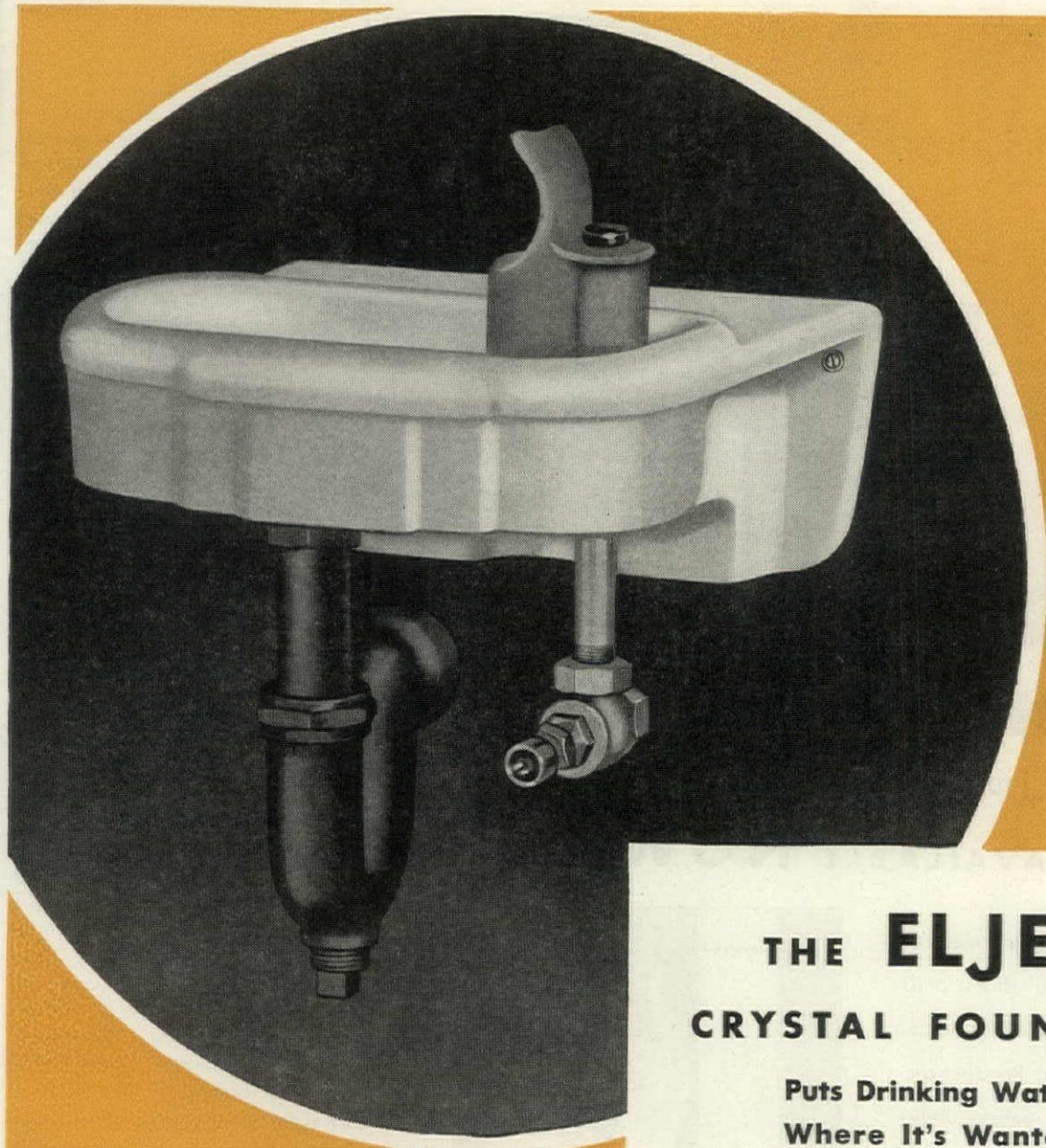
5. Thanks to this label, you can choose from a wide variety of fluorescent fixtures, designed to fit different style and application needs—and be sure of top quality!

*So when you plan for fluorescent lighting, be sure that the fixtures you specify wear the famous Fleur-O-Lier label of Certification.**
 Fleur-O-Lier Manufacturers, 2116 Keith Building, Cleveland 15, Ohio.

FLEUR·O·LIER *Manufacturers*

CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING

Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements



THE CRYSTAL B-4595

1. Vitreous china
2. Sanitary bubbler
3. Iron trap
4. Strainer
5. Automatic stream regulator
6. Width 11", projection 11 1/2"

**WRITE FOR
GENERAL CATALOG**

THE **ELJER** CRYSTAL FOUNTAIN

**Puts Drinking Water
Where It's Wanted**

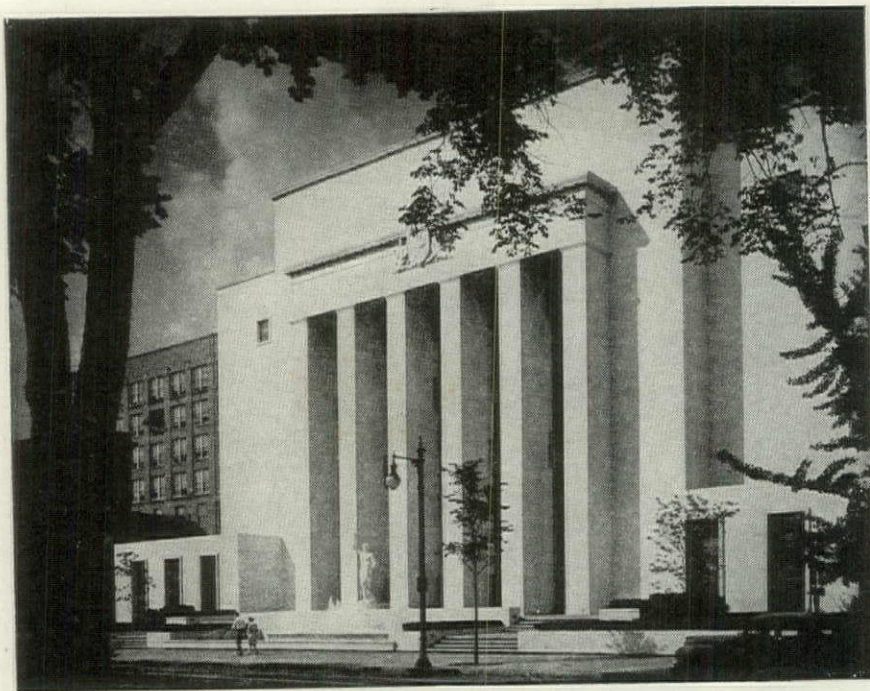
In planning, constructing and remodeling most all types of structures, there are many needs for installing the Eljer Crystal Fountain . . . an attractive unit that efficiently delivers drinking water when and where it is wanted.

Make a note of the Crystal Fountain. A dozen of them is an inexpensive addition which enhances the usefulness of the building and is appreciated as such. No other fountain in a comparative price range carries all the features of the Eljer Crystal.

Specify Eljer and build with Eljer plumbing fixtures of Vitreous China and Enameled Cast Iron.

ELJER CO. * * * FORD CITY, PA.
SINCE 1907 MAKERS OF FINE PLUMBING FIXTURES

(Continued from page 16)



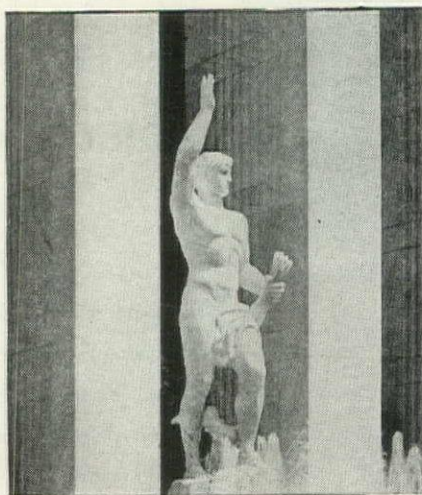
GEORGIA MARBLE

for impressive structures

IS AVAILABLE NOW!

Georgia marble has been selected for many of America's finest and most beautiful buildings and pieces of sculpture. Production facilities are being substantially increased, and we have no reconversion problem.

In order to render better service to architects and designers, new sales offices have been opened in Boston, Philadelphia, Washington and Cleveland.



Dauphin County Court House, Harrisburg, Pa., built of Georgia Marble; Laurie & Green, architects.

THE GEORGIA MARBLE COMPANY, Tate, Georgia

SALES AND SERVICE OFFICES:

Bona Allen Building
ATLANTA 3, GA.

419 — 4th Avenue
NEW YORK 16, N. Y.

300 No. Beacon Street
BRIGHTON 35, MASS.

513 Liberty Trust Building
PHILADELPHIA 7, PA.

Bond Building
WASHINGTON 5, D. C.

1570 Hanna Building
CLEVELAND 15, OHIO

"The Marble with the Sparkling Crystal"

vacation house. Interest in prefab for year-round living was strongest among the lowest income group. Observed Curtis: "Even among those who are presumed to have some knowledge of prefabrication, there is as yet no high degree of acceptance of this type of construction as a permanent family dwelling. Intense merchandising and promotional campaigns accompanied by continuous product improvement will probably be necessary to stimulate and maintain sales volume for the prefabricated house manufacturer."

Curtis thinks customers are much less hopeful of dream houses and push-button miracles than a nervous industry has feared. "Most people are primarily interested in housing developments which are of a practical nature and structurally possible for the building industry to supply." Building materials having the most popular appeal are: glass for structural purposes (18 per cent mentioned this); plastics (13 per cent); glass for other purposes (8.7 per cent); insulation (5.9 per cent).

Construction features that many buyers are looking forward to are: new type floor and wall construction (19.2 per cent); modern kitchens (15.8 per cent); new type windows (4.5 per cent); built-in features (3.5 per cent). Most alluring equipment features are: air conditioning (12.1 per cent); heating equipment (11.7 per cent); fluorescent lighting (5.8 per cent); home freeze units (1.9 per cent).

More than 75 per cent of all prospective buyers have set aside money for home purchase, Curtis said. More than 11 per cent say they will need to borrow no money at all to pay for their houses.

OPINION

EVERYBODY'S JOB

Like most planning realists, John T. Howard, director of the Cleveland Planning Commission, believes that action for rebuilding must come, not from specialists, but from the hundreds of thousands of city dwellers to whom it will mean the most. Said he:

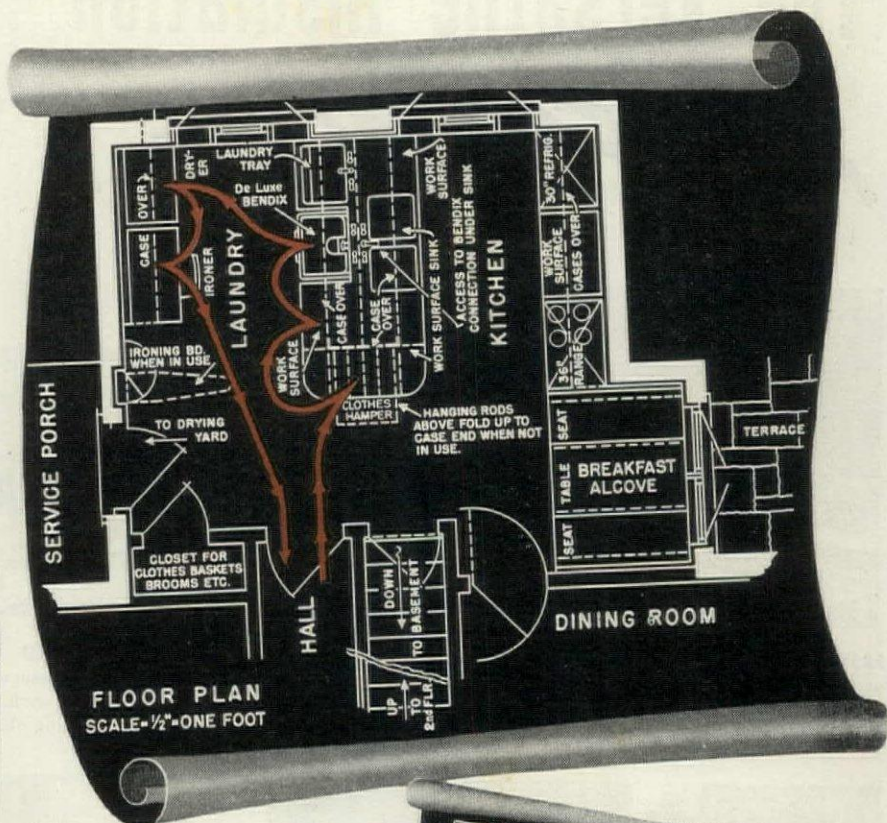
"The bottleneck in effective city planning is people. Planners make the plans, strategic or tactical; the people build them—or don't—by their votes, and by their individual private decisions."

Not long ago planner Howard sorted out his thoughts on democratic planning for the *Antioch Review*, a thoughtful quarterly published by Antioch College where he was once a student. Howard

(Continued on page 24)

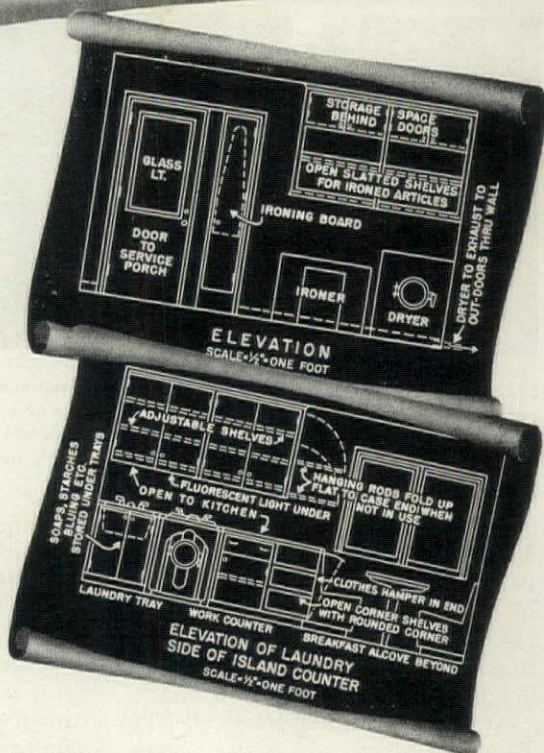
The New Combination Kitchen-Laundry

Featuring the
BENDIX
automatic
 Home Laundry



BENDIX DE LUXE
 MODEL: 26" wide,
 36" high. (Control
 panel back board at
 rear; 38" high from
 floor.) 23 $\frac{3}{4}$ " deep.

BENDIX STANDARD
 MODEL: 25 $\frac{1}{4}$ " wide,
 35" high, 22 $\frac{3}{4}$ " deep.



The Bendix is perfectly suited to installations in kitchen, laundry, playroom, basement or utility room. It takes but 4 square feet of floor space. Eliminates at least one set-tub. Doesn't slop, spill or drip. Is as smart and streamlined as an electric kitchen. In many states, can be financed with other appliances under FHA.

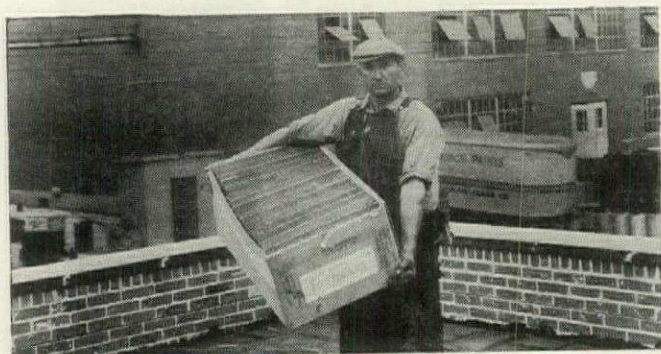
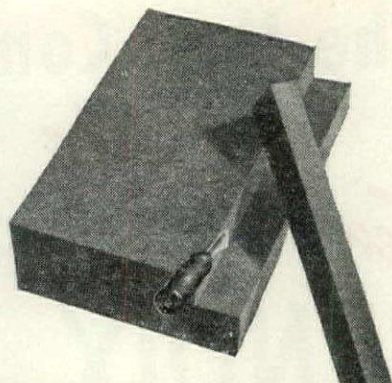
Your Bendix distributor will be glad to give you full particulars about the amazing Bendix, that automatically washes, rinses and damp-dries clothes. His name is in the classified section of your phone book.

Look up your Bendix Distributor in your classified telephone book . . . he will gladly cooperate.

BENDIX *automatic* Home Laundry

Bendix Home Appliances, Inc., South Bend, Indiana...Pioneers and Perfectors of the Automatic "Washer"

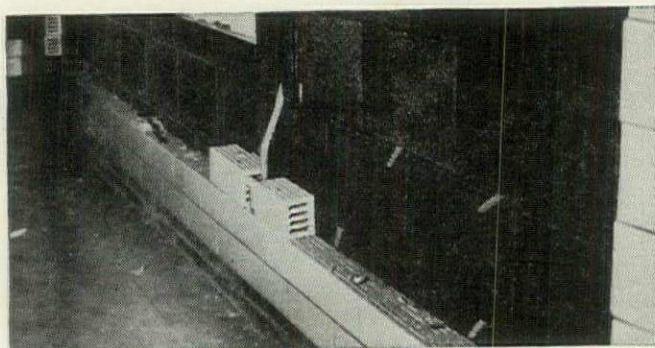
The Versatile Insulation *PC FOAMGLAS...*



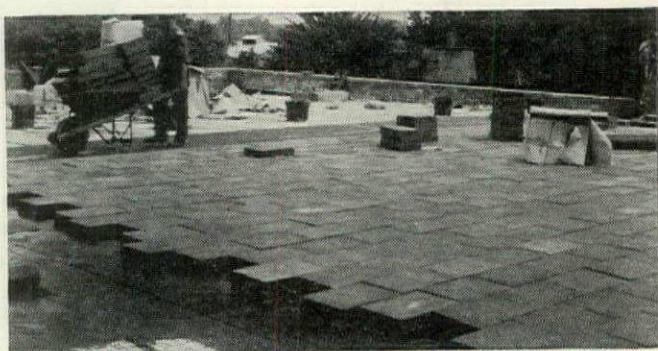
EASILY HANDLED—Light, rigid, strong, the big pieces of PC Foamglas are conveniently packaged, easily handled. They can be cut to fit around openings and obstructions right on the job. When you install PC Foamglas the first cost is the last cost.



STANDS THE LOAD—Under concrete wearing floors, PC Foamglas withstands pressure much greater than normal floor loads. It has proved able to maintain desired temperature levels over cold ramps and open loading platforms, to prevent heat travel from rooms below.



STAYS IN PLACE—In core walls, PC Foamglas becomes an integral part of the structure, can be tied in to brick, tile or other backing and facing. This rigid, cellular glass material does not pack down, slip, warp, or rot—it is damp-proof, verminproof, incombustible.



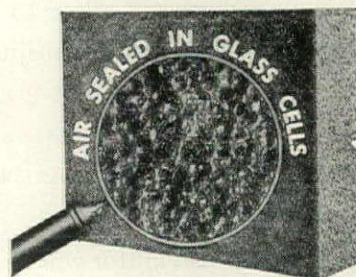
INSULATES PERMANENTLY—A firm, level base for roofing felt. PC Foamglas is so easily installed it speeds up the job. It insulates efficiently, protects roof slabs. Even a break in roofing felt entails no expensive repairs or replacement of PC Foamglas.

ON roofs, in floors and core walls, on tanks and other equipment, PC Foamglas has proved its efficiency in all sorts of plants where temperature and humidity levels must be maintained, condensation prevented.

Made of air-filled glass cells, PC Foamglas does not warp, check, swell, shrink or rot. It is impervious to moisture, vapor, fumes and acid atmospheres, elements that cause other materials to lose insulating efficiency. Freedom from repairs and maintenance makes its use a positive

economy. Owners of all sorts of plants all over the country can tell you that PC Foamglas has licked many a tough insulating job—permanently.

Our specialists will be glad to consult with you on any problem that involves insulation. Also you will find a wealth of helpful information in the booklets we offer. Check the convenient coupon, mail it in today and your selection of literature will be sent to you promptly. Pittsburgh Corning Corporation, 632 Duquesne Way, Pittsburgh 22, Pa.



• Also makers of PC Glass Blocks •

PC FOAMGLAS *Waterproof Fireproof* **INSULATION**
T. M. REG. U. S. PAT. OFF.

Pittsburgh Corning Corporation
Room 656, 632 Duquesne Way
Pittsburgh 22, Pa.

Dear Sirs:

Please send along my free copies of the booklets I have checked. It is understood that I incur no obligation.

Roofs..... Walls..... Floors.....

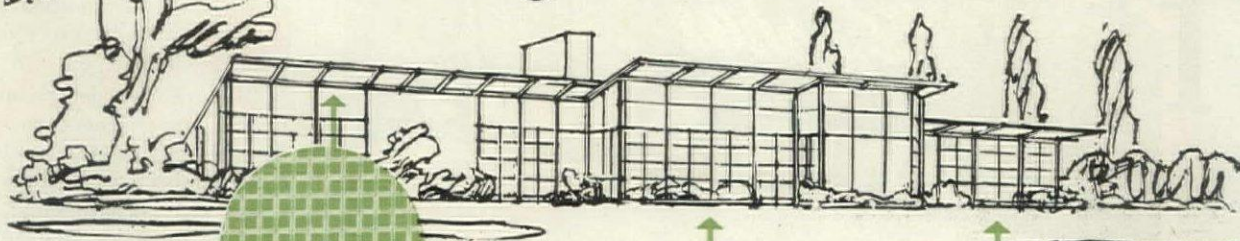
Name.....

Address.....

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



design for lasting appreciation with Dow plastic



Screen from SARAN leads the way

Among countless plastic materials Saran has the inside track in the architectural field. Screen from Saran has already proved itself—is an accepted product in up-to-the-minute building plans. High ranking among advantages that have brought it popularity over the best metal screens is resistance to corrosion. Saran simply *can't* rust. It's not affected by salt air, rain, snow, or fog. It possesses stamina, has a tensile strength of 50,000 pounds per square inch, yet is extremely resilient. Saran's beautiful colors are a part of the material itself—there's no need of repainting and there's no danger of ugly streaking of sills. These and other advantages support the prediction of a brilliant future for screen from Saran.

Other Dow plastics are headed for success in building—close on the heels of the leader. For example, Styron and Ethocel possess properties definitely fitting them for many unique architectural duties. These materials are worthy of your consideration—any Dow plastics technician will be glad to discuss them with you.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

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



TRIM WITH ETHOCEL

Tough trimming material that absorbs bumps without bruising. It's available in many attractive colors—transparent or translucent. Ethocel trim lends color and protection to many a corner.



FIXTURES OF STYRON

Low priced plastic available in beautiful colors—clear, opaque or translucent. Styron is light in weight yet dimensionally stable. You'll see a lot of it in future homes and buildings.

Let's work it out together



We at Dow feel that the successful use of plastics in architecture is not a one-man nor even a one-industry job. It calls for the combined skill and experience of architect, plus fabricator, plus raw materials producer. Working together, this team saves time and money and puts plastics to work successfully. Call us—we'll do our part.



PLASTICS

STYRON • STYRALOY • ETHOCEL • ETHOCEL SHEETING
SARAN • SARAN FILM • STRIPCOAT

FIAT

Zephyr SHOWER DOORS

NOW AVAILABLE

The Fiat Zephyr is a high quality shower door designed for service in finest installations. Yet the moderate cost of the Zephyr permits it to be used extensively on all types of shower cabinets and built up showers.

Practical features in design and construction developed through twenty-five years' experience in building shower equipment are incorporated in the Zephyr door. For example—the water deflector with gutter prevents water dripping on the floor when door is open after taking shower, full length piano hinge, bullet type catches that eliminate possibility of door binding, and offset handles are features found only in the best type of shower door construction.

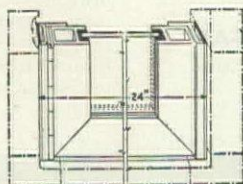
Economical manufacturing methods and volume production enable Fiat to offer to the trade a shower door of high quality at a moderate price.

CONSTRUCTION FEATURES

- Frame:** One-piece heavy aluminum alloy.
- Jambs:** Heavy aluminum alloy.
- Hinge:** Specially constructed, continuous aluminum piano hinge.
- Lock:** Two bullet catches, prevent door binding.
- Glass:** Clear glass, set into a heavy rubber "U" channel.
- Handles:** Special offset design on both sides of door.
- Water Deflector:** Made of heavy aluminum alloy with gutter to prevent water from dripping on the floor when the door is opened after taking shower.
- Grille Vent:** Horizontal aluminum bar.
- Finish:** Satin "Alumilite."

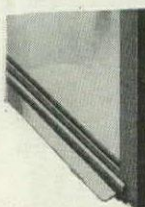
STANDARD SIZE

- The standard size (24" x 72") door is built to fit an exact opening 24 inches wide by 72 inches high. All other opening sizes require a specially built door. When ordering a door, state the size of the opening, model, hinging (either right or left when facing), and whether for tile, structural glass, marble or FIAT shower cabinet.



CONSTRUCTION DETAILS

The water deflector with gutter prevents water dripping on the floor when door is opened.



FIAT METAL MANUFACTURING COMPANY

1205 Roscoe St., Chicago 13, Illinois
21-45 Borden Ave., Long Island City 1, New York
32 S. Gabriel Blvd., Pasadena 8, California

MONTH IN BUILDING: NEWS

(Continued from page 20)

asked himself a question which might well be echoed by every conscientious planning official:

"How can we get private citizens—be they home owners, businessmen, industries, or banks—to go along with our city planning? Their daily decisions—where and when to build, remodel or move, to subdivide land, to plant trees, even to cut the grass—these things *are* the growth and development of the city."

His answer: neither compulsion (zoning, subdivision regulation, etc.) nor education are good enough tools for the job. Democratic participation—putting the planning problems up to the people, before the plan is developed—must have "first place among the tools of planning."

Job for special interests. "Both in city-wide and in neighborhood planning the planner must pull into the process each of the interests which will have a part in carrying out the job." Public officials must make "the broad geographical decisions (to be given authority through the zoning laws that they will enact) that such and such an area will be heavy industry, or single-family houses, or apartments. The interests, the pressure groups, that will directly benefit or suffer from such decisions have to be in on them too . . .

"It isn't enough for these groups to hear speeches on planning, to pass resolutions and attend public hearings. It isn't enough for them merely to pass judgment on the work of the planning technicians. They each have a genuine contribution to make. They *know* what they will or will not do to carry out a plan. They may be 'wrong' about what 'ought' to be done. But a practical plan has to be in terms of what can be done."

Cleveland's method for city-wide participation is a representative citizen advisory committee, a working adjunct to the planning commission. "It is not a rubber stamp, hand-picked to endorse the Commission's proposals; it is expected really to advise, and its advice carries weight."

Where is a neighborhood. But neighborhood participation in neighborhood planning is, Howard says, a much tougher problem. In the first place, it is hard to find a neighborhood; few urban communities now feel like one. When you do roughly measure off a neighborhood, you will probably find that it fits into one of four types "arranged in concentric rings around the downtown center. Counting from the outside inward, they can be identified in homely lan-

(Continued on page 28)

NOW...the FUNCTIONAL Attic

The basement houses the heating equipment...the attic, the cooling equipment. Full-page advertisements such as this in GOOD HOUSE-KEEPING sell your future clients on the importance of the attic as the seat of summer comfort just as the basement now is the source of winter warmth. For more liveable postwar homes, specify attic installation of Emerson-Electric Home Cooler Fans.



"We're gonna build our home from the attic down!"



...that's where we'll install the Emerson-Electric Home Cooler Fan

"I found out about Emerson-Electric Home Cooler Fans when I was stationed down in Texas. Almost every house had a fan in the attic. It gets darned hot down South in summer and those people know all the latest tricks on keepin' cool. When the sun went down, they'd turn on the attic fan, and presto, all the hot air was pulled right out of the house and replaced with cooler outside air, drawn in through the open windows and doors. It was really neat.

"I figured right then that when we planned our house we would start with the attic and specify an Emerson-Electric Cooler Fan."

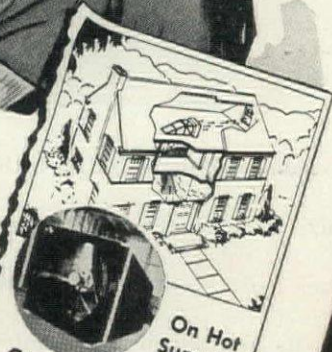
Smart figuring, Soldier...because Emerson-Electric Cooler Fans are first in their field. They're made by the same people who have produced the famous Emerson-Electric fans since 1890.

THE EMERSON ELECTRIC MANUFACTURING CO. • ST. LOUIS 3, MO.
Branches: New York • Chicago • Detroit • Los Angeles • Denver

EMERSON
MOTORS • FANS



ELECTRIC
APPLIANCES



On Hot Summer Nights
Cool Your Entire Home
With This Fan

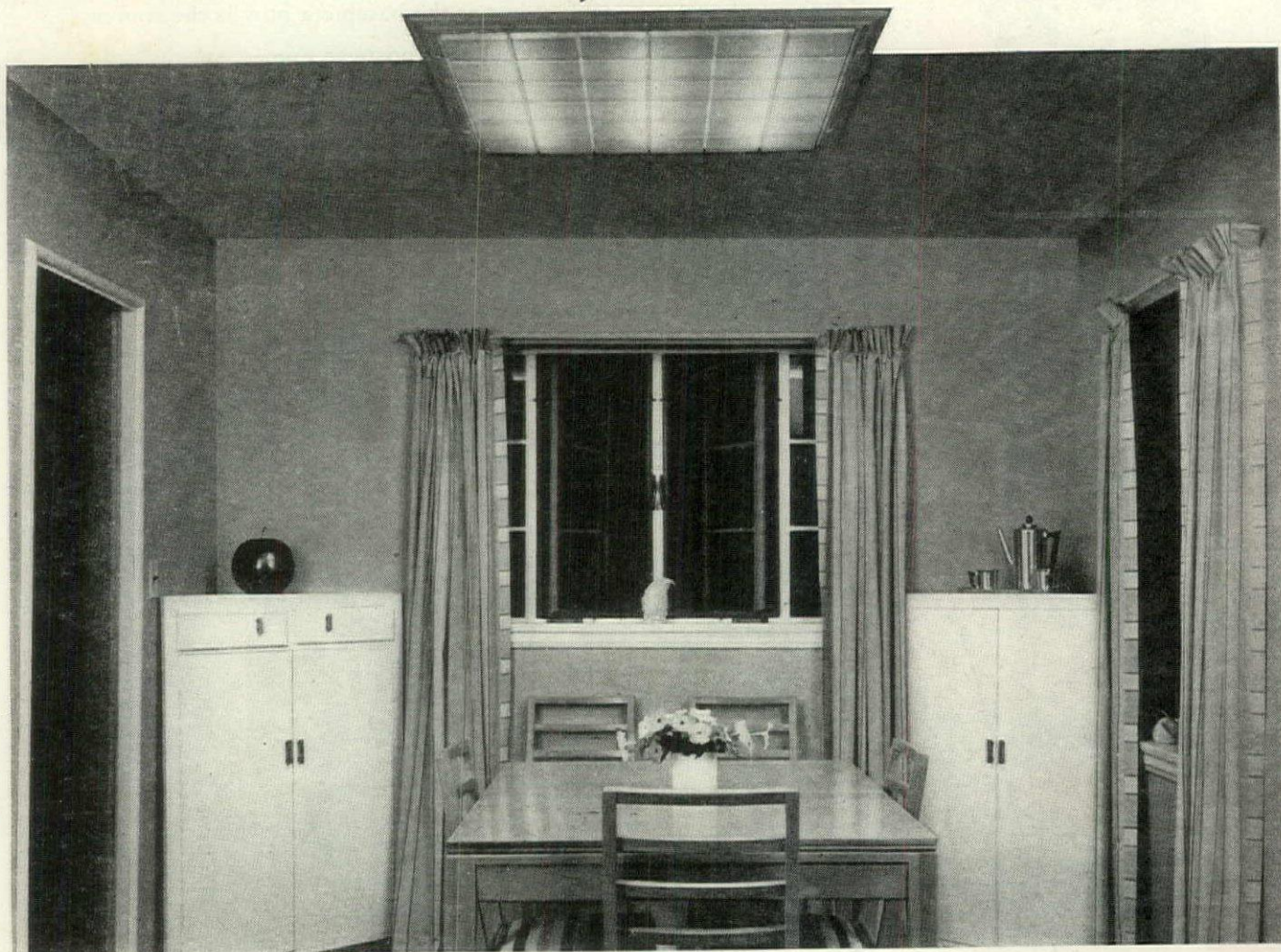
Breezeless, humid, sleepless summer nights...you fighting fatigue, nerves, hot clothes wilted, your temper sizzling. Cool off with a powerful EMERSON-Electric Home Cooler Fan installed in the attic! Then, with a click of the switch, you can drive out the heat of day...draw in fresh night air...make every room as cool as a sleeping porch. A low-cost cooling system every home can afford!

Are you going to modernize or build a new home? Write for complete information on Emerson-Electric Kitchen Ventilating Fans and Home Cooler Fans.

FLUORESCENT LIGHTING

Home Style

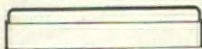
WITH LUMITILE



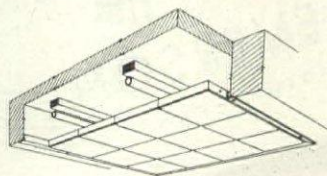
Lumitile at last makes tube lighting a thing of beauty and practicability in the home. It enhances all the advantages of this better modern lighting, and retains its high efficiency. Lumitile is a plastic shield that is architecturally attractive, protects tubing and diffuses light. Lumitile is a

tool with which the architect can create highly effective custom-built lighting. Production is now restricted, but Lumitile will be available postwar through authorized contractors, in varying transmission and diffusing characteristics. For additional information, write today for free folder.

Section of individual tile, 6-inch square



Typical installation over tubing



Pat. Pend.

4527 READING ROAD
CINCINNATI 29, OHIO


A Circuit Breaker with a Brain



TYPE AC



THERMAG^{*}

CIRCUIT BREAKER

It breaks electric circuits with a THERmal, MAGnetic brain. That's how it got its name. People who believe in taking care of their electrical equipment like the discrimination the  Type AC THERMAG circuit breaker uses in deciding *when* circuits should be broken.

The THERmal trip interrupts only sustained overloads — making allowances for starting load and normal momentary overloads. The MAGnetic break, however, has a single track mind . . . *break that circuit fast* on any short circuit before damage can occur.

Small and compact, there is nothing to replace . . . service is restored with a flip of the finger. Capacities of 15, 20, 25, 35 and 50 amperes at 120 volts, AC only, provide a wide range of protection for appliances and lighting.

THERMAG circuit breakers come in  Panelboards for factories and large buildings . . .  Load Centers or Service Equipment for homes . . . in dust-tight cabinets for Class II, Groups F and G, hazardous locations. Write for BULLETINS 63 and 67 for full details.

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



^{*}Trade Mark Reg. U. S. Pat. Off.

(Continued from page 24)



NO WONDER WINKLER OWNERS ARE ENTHUSIASTIC BOOSTERS!

When you specify Winkler automatic coal burning equipment, you'll find your judgment fully sustained by the results. The following letter is a typical expression of user satisfaction—

"The city, in enforcing a smoke ordinance, made it necessary for us to find some method of eliminating this nuisance from our apartment building. We investigated the use of stokers and after looking at several makes in operation, we could see that the Winkler Stoker was really doing the job, at the same time saving Winkler users a lot of money by reducing coal consumption.

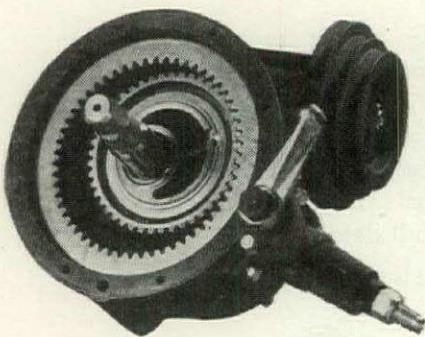
"We purchased a Winkler Stoker from your distributor and he installed it in our boiler. Since this installation, we have had no smoke and the heat is more even than we have ever had in our apartment building. At the same time, we have reduced our coal consumption from 321 to 241 tons, a saving of 80 tons.

"We have half as much ash and there is no dust from it. Our firemen have 6½ hours each day to help in the maintenance of the building. Also the Winkler Stoker is helping us with our share in National Defense by relieving the railroads from hauling as much coal as was previously necessary."

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

FULLY AUTOMATIC TRANSMISSION—NO SHEAR PIN!

The Winkler "Inter-plan" Transmission is one of many features which enable Winkler Stokers to give service without needing it. Its extra power design overcomes ordinary operating hazards . . . its Automatic Safety Release protects against damage caused by a blocked feed screw. That's why the Winkler Fully Automatic Transmission is guaranteed for three years.



WINKLER

fully automatic STOKERS

U. S. MACHINE CORPORATION • LEBANON, INDIANA.

guage as coming, arrived, going, and gone."

"Coming" neighborhoods in land being converted from country to city cannot rely much on neighborhood participation—because the neighborhood has not moved in yet. "Arrived" neighborhoods often have "protective associations . . . awake to what helps or hurts living conditions and property values. It is not too difficult to fit into the city-wide plan the "arrived" neighborhoods and their plans—which are usually plans to stay the way they are."

Here is your job. "Gone" neighborhoods require rebuilding on a scale large enough to set a complete new pattern. "This means big operations, backed up with authority and large amounts of capital. In this job, neighborhood participation is out. People who live in hopeless slums are at the bottom of the ladder. There is no way that they can take, or be given, a direct hand in planning the clearing and rebuilding of their neighborhoods . . . Citizen participation in such action can only be through political action."

But "going" neighborhoods—not bad enough to warrant clearance from the ground up, not good enough to keep going without basic remodeling—are the toughest problem of all. These are neighborhoods of "many individual owners who think what they have is not so good, whose tradition is to move out to something better when they can afford it," of "absentee landlords, milking their property as they see values go down, instead of trying to save their investments."

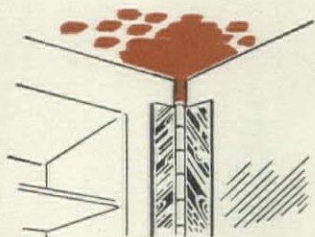
Here the planner must look for neighborhood leaders. "He is probably looking for you; if you live in a city, the chances are 4 to 1 you are in a 'going' area."

Prima Donnas not wanted. Cleveland's experiments in seeking local planning leadership, which has ranged from Civilian Defense organizations to church support, have turned up an "astonishing capacity to grasp long-range, complex concepts where we least expected it. We have met a vitality and initiative that has made us take neighborhoods out of the 'gone' pigeonhole and promote them, with real hope that they can be saved by the people that live there. Local leadership is waiting, to be uncovered, to be shown how . . .

"City planning can be effective. But not with the planner as a prima donna. He is just one of the newer mechanics on the crew that makes the machinery of democratic government produce results."



Who *hid cabinet lighting* for a better "look"?



NO SAG--NO WARP--NO STICK.
Miami-Carey was first with piano-type hinges and one-piece mirror frames.



ROSETTES "WENT OUT" when Miami-Carey introduced the mirror clip—now standard in the industry.

MIAMI-CAREY did it first . . . introduced concealed lighting for more comfortable, better seeing . . . modern appearance. In fact, Miami-Carey was first to introduce bathroom cabinets complete with electric lights.

In addition to looking to Miami-Carey for the "firsts" and finest in design — architects, builders and owners have also come to expect the most in utility and quality. For example: non-rusting steel construction . . . 5-year guaranteed copper-backed mirrors . . . high quality finishes . . . solid brass hinges and mirror frames . . . to mention just a few.

Expect more "firsts" from Miami-Carey when facilities and materials become available. For information on models currently available, write

MIAMI
Carey

THE PHILIP CAREY MANUFACTURING CO.
LOCKLAND, CINCINNATI 15, OHIO



CONCEALED LIGHTING — another Miami-Carey first in beauty and convenience.



A SAFETY "FIRST"—introduction of the razor blade drop eliminated a major bathroom hazard—enhanced convenience.

THE MIAMI-CABINET DIVISION,
MIDDLETOWN, OHIO

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

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NOW is the opportune time to anticipate your postwar library requirements and start planning. While our plant is working at full capacity on war contracts, our engineering facilities are available for a careful study of your requirements.

Snead library engineers are now working with architects and librarians on postwar construction and modernization. Plans and specifications for many of these projects have been completed, and some have been ordered, ready for immediate construction when materials are released. Such projects will, naturally, be given priority by us when the anticipated postwar rush for deliveries materializes.

We will be glad to place at your disposal our wide experience in library design and construction, without cost or obligation. Our engineers will help you prepare plans and specifications, and will submit a mutually protective bid. Write us.

Send for Snead & Company's free illustrated book on library planning and construction. Here are some of its contents:

Procedure and Planning • Shelving for Small Libraries • Special Purpose Shelving • Newspaper Stacks • Stack Floors, Stairs, Ventilation and Lighting • Communication Between Stacks • Shelf and Stack Data

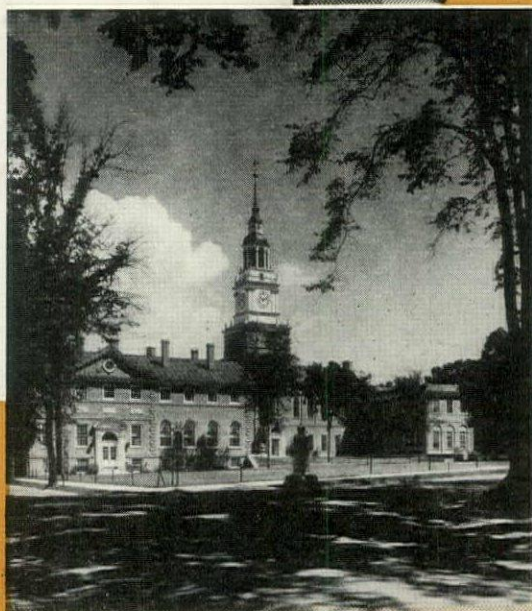
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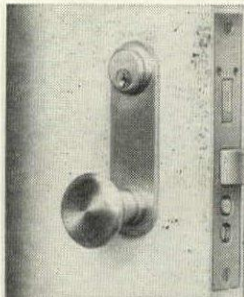
Baker Memorial Library
Dartmouth College, Hanover, N. H.
JENS FREDERICK LARSON, Architect

While the exterior of this outstanding American library was designed to harmonize with old surrounding buildings, its equipment fulfills the complex requirements of modern library usage. The library was equipped with Snead bracket stacks with closed ends, Snead Stack Aisle Light Reflectors, U-bar shelves with hinged brackets, and Snead concrete decks.

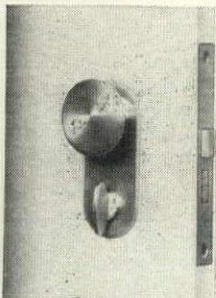
Lockwood Leads

WITH PROVED FEATURES FOR POSTWAR BUILDING

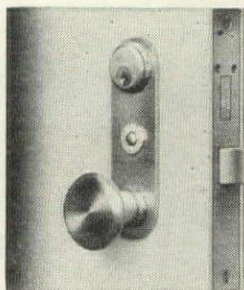
The Evidence



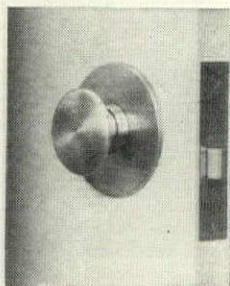
Lock Set for Entrance—
Vestibule and Office Doors



Lock Set for Communicating Door. Thumb
Turn Both Sides.



Lock Set for Hotel Corridor Door with Indicator
Button.



Latch Set for Bath, Closet and other non-
locking doors.

Lockwood "Ambassador" Builders' Hardware was designed for each special function—entrances, shops, laboratories, public rooms, guest rooms . . . Above are shown a few examples with cylinder locks part of a Great Grand Master Key System . . .

In Washington's Hotel Statler you will find Lockwood "Ambassador" . . . the hardware that overcame precedent and established a new standard for quality, design, finish—and appropriateness.

Its basic conception of Spartan simplicity was created by Holabird & Root, and interpreted by Lockwood in rich, natural bronze. An essential part of the design motif was the absence of screws in all surface plates. Lockwood engineers solved this problem with ingenious concealed fasteners.

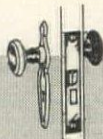
"Ambassador" and other fine hardware will be available to you as soon as materials can be released for this purpose. At the moment we can offer you full co-operation in specifying this splendid line for your postwar projects—and the help of our engineers in the development of any special features.

You will find Lockwood hardware specifications simplified in Sweet's Architectural File 17 b 1, 1945 edition. A few additional copies are available. Write for yours, if interested.

A-4

LOCKWOOD
HARDWARE MFG. CO.
FITCHBURG, MASSACHUSETTS
Division of Independent Lock Company

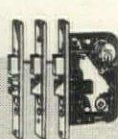
PATRICIAN



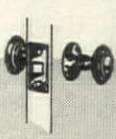
POLYFLEX



MORTISE LOCK



BOR-LOC



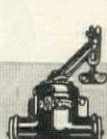
UNIFAST



CAPE COD



BALL BEARING CLOSER

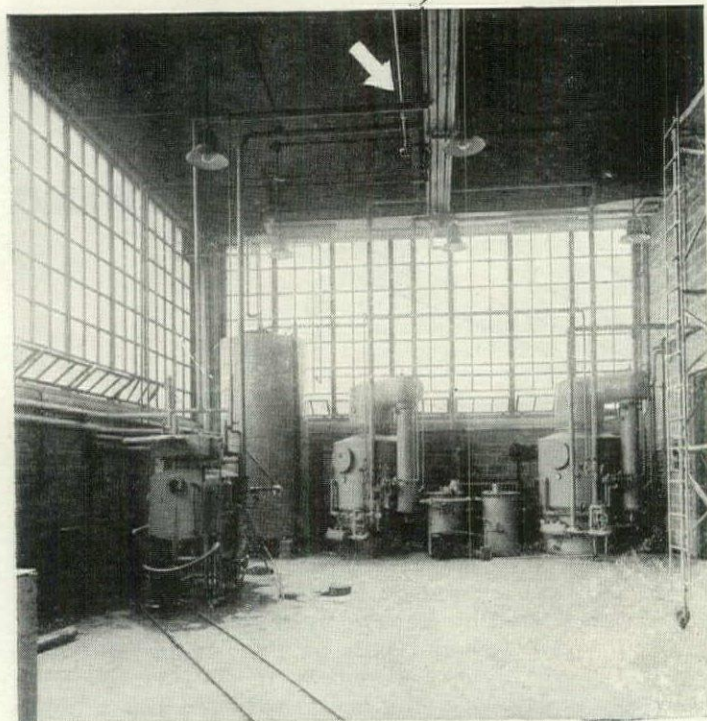


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Carbon Dioxide

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For protection of
Industry's tough fire hazards

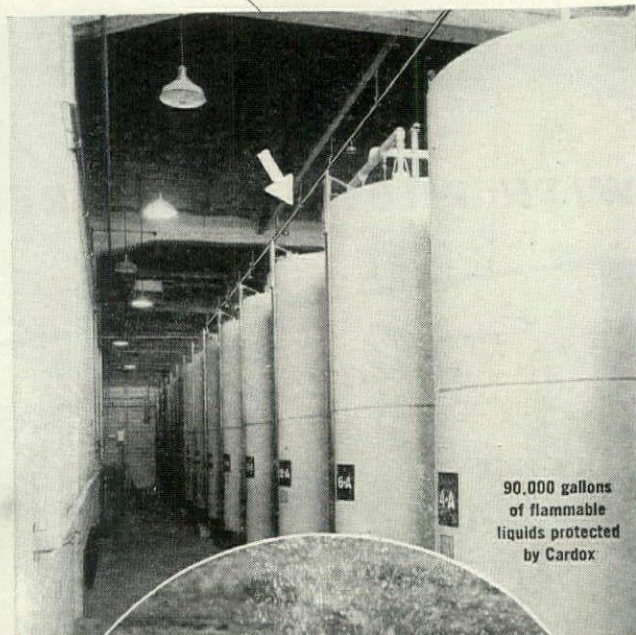


Part of Cardox protected oil reclamation plant

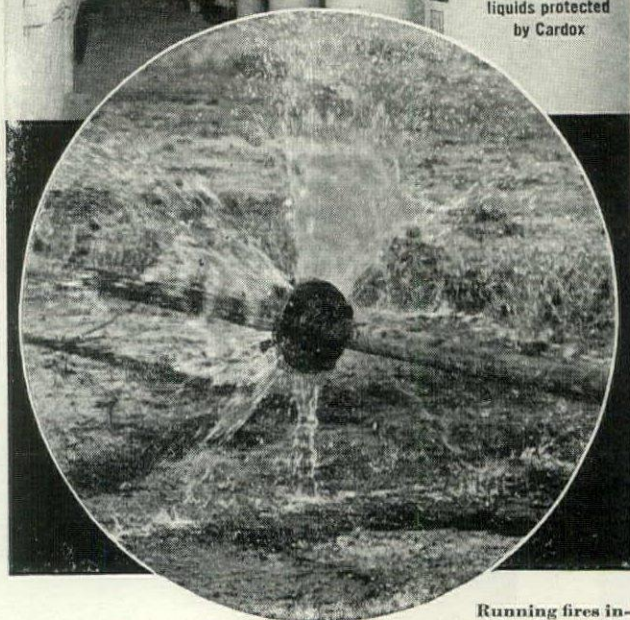
The features that have made Cardox Fire Extinguishing Systems first choice for protecting so wide a variety of tough fire hazards are many. For example, they harness carbon dioxide, in *pounds* or *tons*, and, through engineered control and application, make it equally effective for large or small hazards . . . single or multiple . . . similar or diverse!

Furthermore, Cardox CO₂ is given enhanced extinguishing performance. It has uniform extinguishing characteristics regardless of plant or atmospheric conditions. It provides high CO₂ "snow" yield, thus increasing the cooling effect upon fire zone and combustibles. In addition, it provides effective projection through relatively great distance . . . even outdoors through strong winds.

If industrial buildings you are planning will be used to process or store materials that classify as tough or unusual



90,000 gallons
of flammable
liquids protected
by Cardox



Running fires involving flammable liquids are quickly extinguished by Cardox.

fire hazards draw on the Cardox Research Division and Engineering Staff for practical cooperation in determining the most effective protection. Ask for Bulletin 675.

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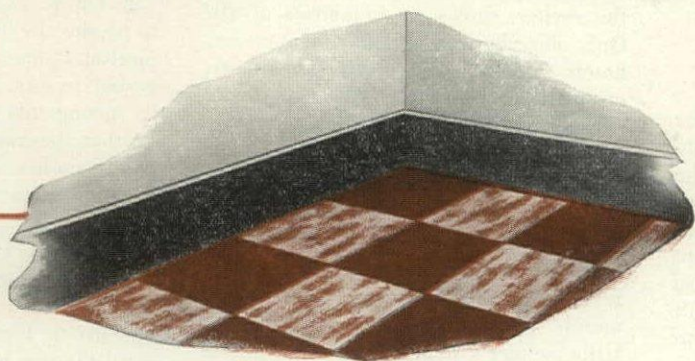
CO₂ FIRE EXTINGUISHING SYSTEMS



Cardox CO₂ 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.

Have You these Wrong Ideas about Floors?

In the average room the floor represents about one-fifth of the room's surface area. It is almost the only surface to receive wear and certainly receives the most dirt. And it affects your comfort more than any other surface. Yet many people—even architects and builders—have some very wrong ideas about floors. Do you, too, believe some of these wrong notions? Check yourself below. Then, if you would like to know *all* the advantages of MODERN floors—send for the interesting, colorful fact-book about Kentile floors—sent without obligation. Consult your local flooring dealer or write David E. Kennedy, Inc., 80 Second Avenue, Brooklyn 15, N. Y.



FALSE: *The thicker a floor, the longer it will wear.*

TRUTH: Where traffic is heaviest (corridors, stores, etc.) $\frac{1}{8}$ " Kentile will outwear very much thicker material by many, many years because of its superior resistance to abrasion and because it is of equal durability through its *entire* thickness (whereas other apparently thicker materials often include much non-durable "backing").

FALSE: *The harder a floor the longer it will wear.*

TRUTH: Kentile will wear longer *because* it is resilient. It "yields" to impact instead of abrading under traffic. In some cases quiet and comfortable Kentile has outworn marble in busy entrance halls.

FALSE: *The adhesive used should set "gooey and hard".*

TRUTH: Strange as it seems, the adhesive used under Kentile never hardens. Pick up the tile ten years later and the adhesive is still "tacky". This "sub-resilience" is another reason for Kentile's comfort and durability.

FALSE: *Some floors are slippery.*

TRUTH: No ordinary floor coverings are slippery by themselves. It is the wax used on them that sometimes causes slipperiness. Kentile can look good and wear indefinitely without waxing. It can be kept clean by simple mopping. Of course waxing refreshes its fine appearance but it requires only a *thin* coat and because the wax merges with the invisible granulation of the surface it need never be slippery.

FALSE: *Before decorating one should learn what colors and patterns are available for the floor, so that the walls and accessories can harmonize.*

TRUTH: Except when war restrictions prevent, Kentile is made in 44 colors, each available in 15 sizes plus 8 feature strip widths. Pattern and color combination possibilities are so unlimited there are hundreds to go with any color scheme.

FALSE: *Tile-set floors have dirt-catching seams.*

TRUTH: Kentile is cut so micromatically sharp and square the tiles are seal-set against each other, creating an absolutely *solid* germ-proof surface.

FALSE: *You can't install any floor on concrete that is in contact with earth or below-grade.*

TRUTH: Kentile is so moisture and alkali resistant it can be laid right on such concrete with absolute safety.

FALSE: *If grease falls in the room you can't use asphalt tile.*

TRUTH: Seventeen Kentile colors (fewer during war time) are also made in Greaseproof Kentile and can be used in combination with standard Kentile wherever greases fall. The cost is only a few cents more; it is still one of the lowest price floors you can buy.

FALSE: *If a floor is inexpensive the colors will "wear off".*

TRUTH: Kentile's pure, bright, non-fading colors go right through to the back—can't "wear off".

Disintegrating binding . . . New views on "The New City" . . . Recent developments in Puerto Rico's planning program . . . Memorial explosion . . . A letter from the Western Caroline Islands.

APRIL ISSUE

Forum:

Today I received my copy of the April issue of *THE ARCHITECTURAL FORUM*.

I had a few minutes to glance through it and so far have spent nigh on to three hours reading it and am not through yet.

In my opinion, you have made a real "scoop"—just another in *ARCHITECTURAL FORUM*'s history.

Congratulations to you and your staff.

SUMNER C. RIDER

New York City

FORUM UNBOUND

Forum:

The information contained in your magazine is not only excellent, but probably is better assembled than could be obtained from any other source. I never saw better illustrations, and the whole magazine is strictly high class, except for one thing which ruins it. Because the material is so valuable I, along with probably every other subscriber, want to save back issues for future reference. But the binding is so poor that before I have given *THE FORUM* more than a casual reading, it disintegrates.

I hope you won't blame it on the war, because we subscribe to the following magazines: *American*, *Woman's Home Companion*, *Yachting*, *Motor Boating*, *Rudder and Field & Stream*, none of which all during the war, have had poor binding, and the yachting magazines in my files for the past three years are in excellent shape although much handled and read. . . .

B. A. LANING, *Utility Officer*
Veteran's Hospital
Columbia, S. C.

Still determined to have this magazine open flat, the *FORUM* agrees its recent binding performance has been terrible. Current negotiations, calling for a changed binder and binding promise success shortly.—Ed.

OCCUPATIONAL DISEASE

Forum:

The review in your May issue of Ludwig Hilberseimer's *The New City* misses the meaning and real purpose of the book completely. Essentially this is a book of planning principles and criteria. In order to illustrate the criteria, actual cities are planned—but of course on a purely abstract basis, purposely ignoring anything that would complicate and

confuse the illustration. Quite naturally, existing structures and many another thing would, in actual practice, materially affect the plan. But Hilberseimer, for the moment, wishes to show us the nest and not the hedge. See pp. 128 and 132 in *The New City*.

Yes, book reviewers sometimes have an occupational disease—impaired vision. They misread or even skip the most important things, and reach the strangest conclusions. The sketch for the commercial area of Manhattan, contrary to the review, shows no industries at all. Only office buildings, department stores, hotels and residential areas. The laborious criticism by the reviewer, that industries should have water frontage, really gives the show away.

If the reviewer would now read the book very carefully, he might even discover how to spell the author's name correctly. If he now would read his own review, perhaps he might reflect how merely pert it was to have appended Hilberseimer's demonstration of transportation in the centric and the ribbon systems by saying "It is a matter of opinion." It is a matter of demonstration. The reviewer should do some demonstrating or else leave the thing alone. For instance, the binomial theorem may be false, but it is definitely not a matter of opinion. It is a matter of proof or disproof. Whether *The New City* will or will not be read by laymen as well as planners is, however, only a matter of opinion.

ALFRED CALDWELL

Chicago, Ill.

The *FORUM* stands chastized for its misinterpretation of Mr. Hilberseimer's map but ventures to predict that it will not be alone in its shame. As seasoned topographers we still consider legibility a primary requisite of good maps though the author apparently considers it superfluous.

Lugubriously, we point out to critic Caldwell that the "matter of opinion" referred not to the relative merits of the centric and ribbon transportation systems, but to Mr. Hilberseimer's befuddling prose.—Ed.

MODIFIED NEUTRA

Forum:

The article on Puerto Rico in your March issue prompts me to make a few comments. As "architect and hospital consultant" to the Government of Puerto Rico for the hospitals mentioned in this

article, I am particularly desirous to point out a number of inaccuracies contained therein. . . .

1. The sketches by Mr. Neutra which appear on pp. 122 and 123 of your March issue, together with the preliminary studies of the hospital, first suggested by him, have been discarded. The final drawings for the hospital were developed from preliminaries prepared by myself and Frank Beck, architect, with Mr. Neutra responsible for the character of the exterior design.

2. On p. 122 appears what purports to be the site plan for the 600 bed hospital at Ponce. This site plan, first suggested by Mr. Neutra, was rejected for its incongruity with the accepted premise that, because of the prevailing trade winds, no low building be placed on the lee side of a tall structure in Puerto Rico.

3. On pp. 122 and 123 appears Mr. Neutra's suggested scheme of a typical hospital ward (plan, section and perspective). The special features emphasized thereon have also been rejected as impractical, unsanitary and wasteful. Specifically the intermediate slab over the balcony was eliminated because it was agreed that it would constitute a dirt collector. Also it was found in experiments on scale models to be an impediment to natural light and that it would have resulted in a maintenance nuisance. The sloping overhanging slabs were also eliminated as a likely obstacle to natural ventilation and light. Besides, it was deemed that there was no justification for the construction of these slabs.

4. The floor plans of the nurses' dormitory on p. 124 are also at variance with the actual solution which superseded Mr. Neutra's original version.

5. The contagious pavilion shown on p. 125 was eliminated from the district hospitals on recommendation of the writer because adequate isolation facilities have been provided within each patients' building for the acutely ill. So here, too, Mr. Neutra's drawings represent his suggestions long since discarded.

For the sake of emphasizing these facts permit me to quote from the Annual Report to the Governor of Puerto Rico, p. 31:

"Under his (Mr. Blumenkranz's) supervision, the preliminary designs for

(Continued on page 36)

Where is the Radiator?

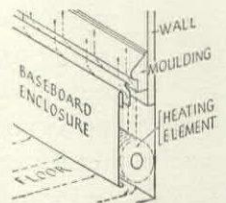


In the Home of Tomorrow the radiator is conspicuous by its absence—it is everywhere, and nowhere. In Webster Baseboard Heating, the heating element is something so small that it fits behind the baseboard and runs in a continuous line all around the exposed walls of the room.

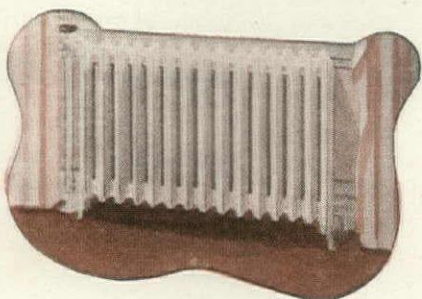
The baseboard unit supplies heat to the room using "forced" hot water. Air goes in at the floor-line, passes over the heating element, is warmed and comes out at the top—a constant, even circulation. No cold corners. No hot spots. No hot-or-cold levels . . . Installations of Webster Baseboard Heating show a variation of less than 2° from floor to ceiling.

With Webster Baseboard Heating there is nothing to limit or mar plans for interior decoration and furniture arrangement . . . And you will find that the absence of radiators in the room gives considerably more useable space.

Webster Baseboard Heating has been under development for several years and has met the most severe operational tests. It will be available to home owners and home builders when war conditions permit.



The Webster Baseboard Heating Element is copper tubing around which are coiled copper fins. Baseboard Enclosure is removable for cleaning.



Make this test: Cut out illustration of radiator at left. Place cut-out picture under right window in main illustration above. See how presence of a radiator in the room interrupts whole scheme of decoration . . . A leading architect, collaborating with a well-known interior decorator, is preparing a series of paintings showing application of Webster Baseboard Heating to different types of rooms. When completed, these paintings will be reproduced in full color. Write today for your copy of this brochure on Webster Baseboard Heating. Dept. AF-7

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1.

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RITTENHOUSE has always subscribed to the belief that true product worth has its inception in the manufacturing integrity and skill of those who produce it.

► Upon the foundation of skilled craftsmanship, quality materials and continually improved production methods, Rittenhouse has attained a standard of manufacturing leadership that has won and held *national recognition* for years.

► Built into every Rittenhouse Electric Door Chime is the ingenuity and "know-how" acquired since 1903, when Rittenhouse first began the manufacture of electrical equipment. During the ensuing years it has been Rittenhouse policy to maintain product control from the raw material right through to the finished appliance. This time-tested policy continues today. Virtually the entire chime is made in the Rittenhouse plant, by Rittenhouse craftsmen; each stage of the manufacturing process under expert supervision.

► These and many other noteworthy factors of leadership will be reflected in the Rittenhouse Chimes of Tomorrow—chimes that will meet every challenge of peacetime performance.

Rittenhouse

Tomorrow's Better Door Chimes

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

LETTERS

(Continued from page 34)

the Ponce District Hospital (prepared by Mr. Neutra) were restudied, resulting in elimination of some elements, regrouping of many functions as to scope, and reexamination of the location of some of the services. For instance, the boiler house was taken out of the patients' building; likewise was the laundry removed from it with the suggestion that a study be undertaken to determine whether or not centralized laundries might not be preferable to individual laundries in each institution. The outcome of these proposals was that new preliminary drawings were prepared, keeping the design of the exterior as expressed in earlier studies prepared by the architect and consultant (Mr. Neutra)."

JOSEPH BLUMENKRANZ

New York, N. Y.

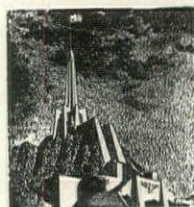
The FORUM thanks consultant Blumenkranz for this latest report from the Puerto Rican planning front and for his detailed analysis of the modification of plans as published in our March issue.—Ed.

DEPARTMENT OF EXASPERATION

Forum:

Printing Mr. Todaro's proposed Pearl Harbor shrine was more than I could stand. My long patience in restraining past desires to criticize you has finally been exhausted, and not wishing that such plans should be projected unopposed here it is:

What point is there in encouraging that pompous human impulse of erecting worthless monuments at great expense to such horrible experiences as World War II? Aren't the many cemeteries with seas of crosses marking our war dead reminder enough? (As if we need one.) What happens in Todaro's shrine? What penitents shall walk those steps?



And after the hundred steps are mounted, what is the reward? Or are those rising stairs for future military ritual to rolling drums and long trumpets? In this

case I recommend that the swastika be put back under that eagle that graces the facade.

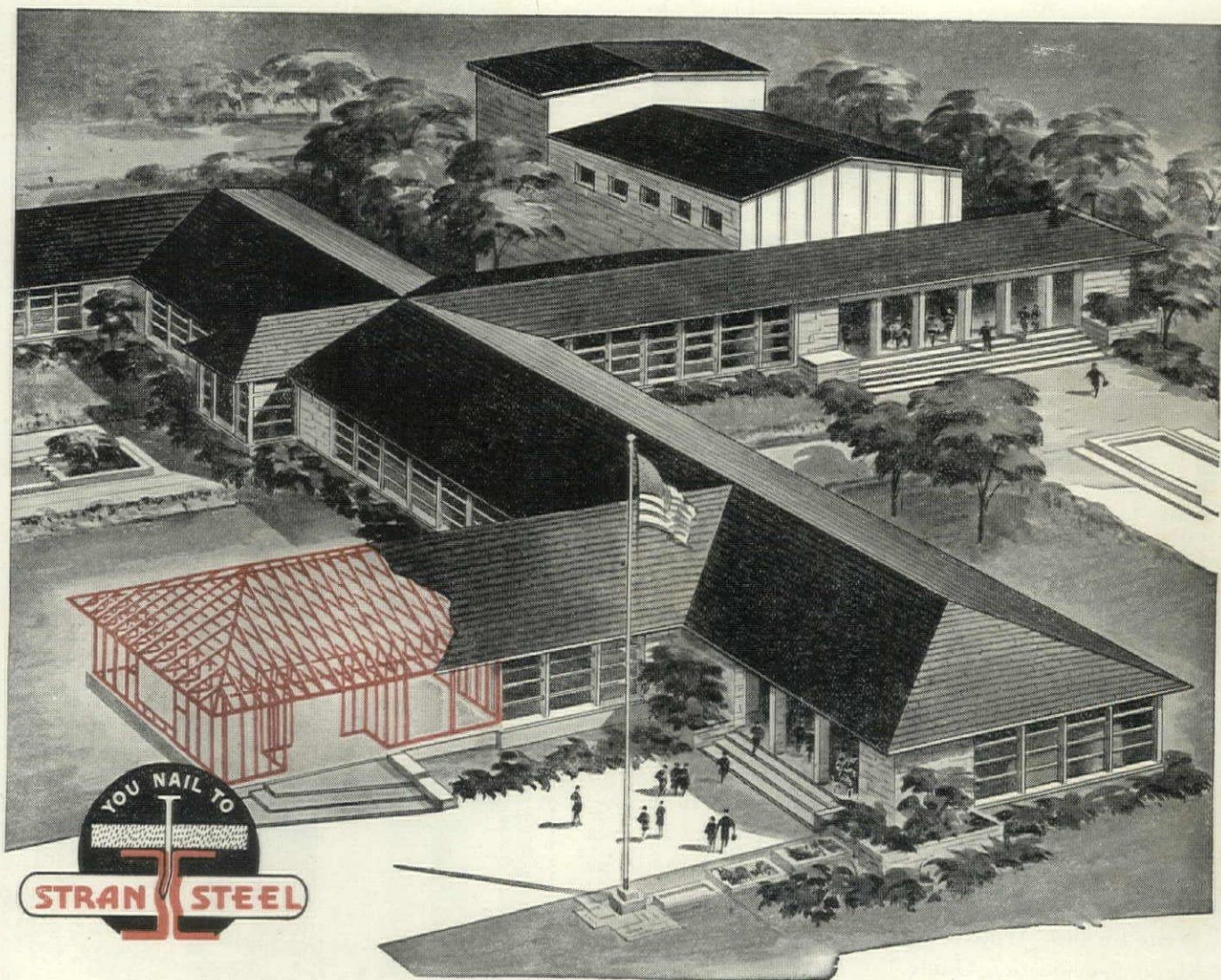
To make use of your phrase, let's do away with the excesses of earlier patriots by discouraging World War II memorializers. My wife and family could use a more fitting memorial right now: a four room prefab with a back yard.

PFC. ALBERT RADOCZY

Long Island City, N. Y.

Publication of a letter in the FORUM does not mean endorsement of its ideas.—Ed.

(Continued on page 40)



Foundation of democracy— framed in steel for lasting strength

Think in terms of

STRAN STEEL

SERVING TODAY IN THE
QUONSET HUT

Stran-Steel, the universal light framing member with the patented nailing groove, brings permanence, rigidity and fire-safety to schools, institutions, homes, factories and light commercial structures.

Stran-Steel framing systems provide sag-proof, warp-free strength—reducing maintenance, eliminating plaster cracks and sagging floors. They are adapted readily to efficiency in design, and enable versatility in arrangements.

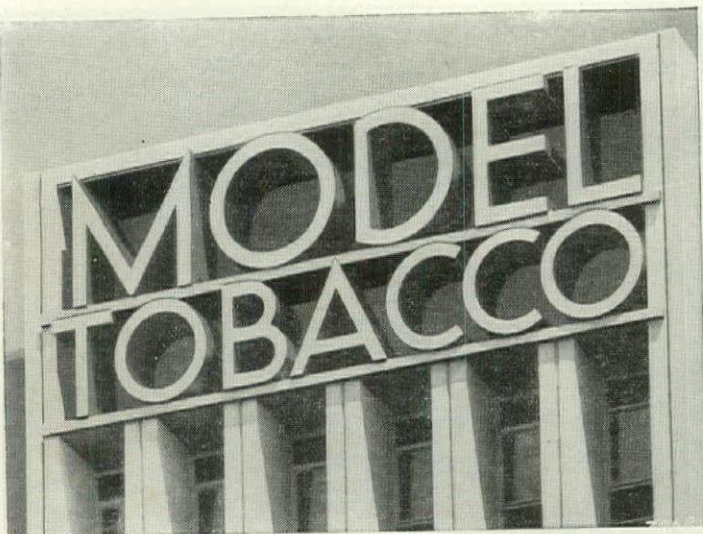
Leading architects and engineers are thinking in terms of Stran-Steel construction to protect the schools of tomorrow. Explore the lasting values inherent in Stran-Steel. Plan and build in steel for lasting strength.

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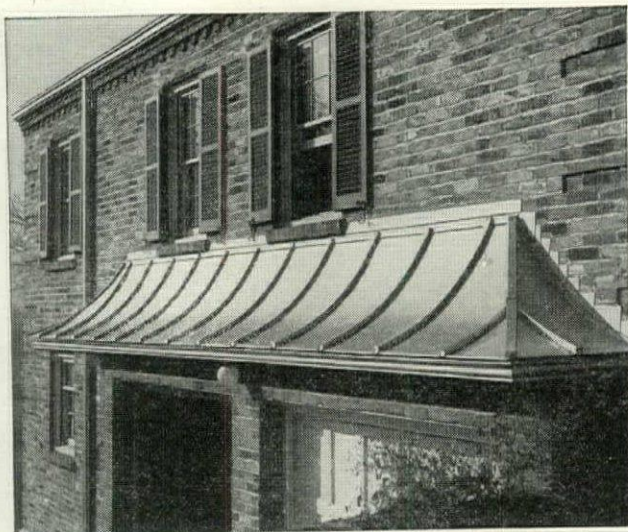
Manufacturer of the Famous Quonset Hut for the U. S. Navy

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UNIT OF NATIONAL STEEL CORPORATION



• Individuality and high visibility in signs are easily achieved when stainless steel is used. The letters in this U. S. Tobacco Company sign at Richmond, Va., are ARMCO Stainless Steel.



• Stainless steel canopies, gutter and downspouts resist discoloration and corrosion, give a modern touch to the home. The roof drainage system of this home is constructed of ARMCO Stainless Steel.

It's a versatile metal— this stainless steel!

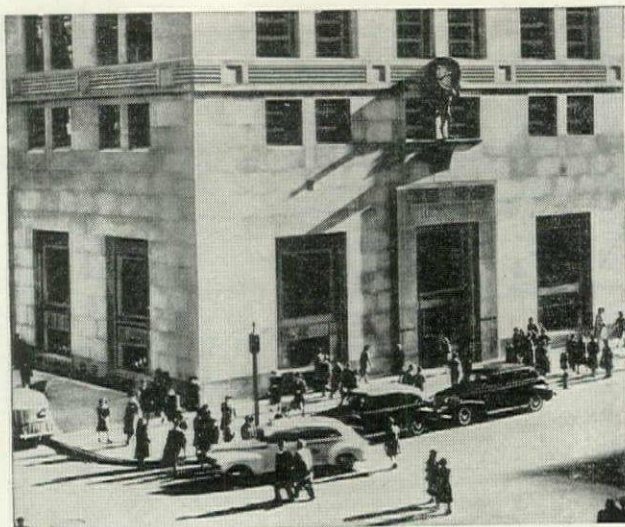
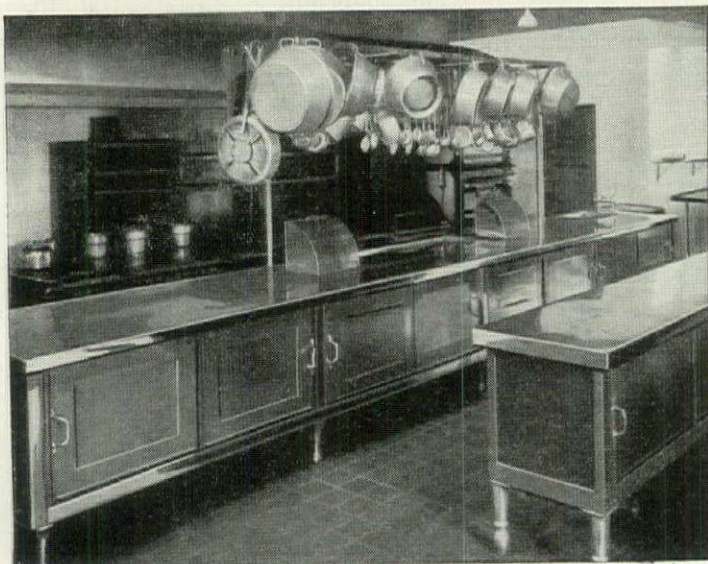
When you need a sheet metal of distinctive appearance, that's smooth, rustless and magically easy to clean—ARMCO Stainless Steel is your logical choice. Its uses range all the way from the practical to the esthetic, as these few examples show. Write for the "Armco Sheet Metal Specification Guide." The American Rolling Mill Company, 1621 Curtis St., Middletown, Ohio.

FOR EXPORT: THE ARMCO INTERNATIONAL CORPORATION



SPECIAL-PURPOSE SHEET STEELS

• ARMCO Stainless Steel is the ideal metal for kitchen equipment where the handling of food requires absolute cleanliness. It is the metal used in the kitchen of this Law Club cafeteria, University of Michigan, Ann Arbor.



• Tiffany and Company, New York, are artists in fine metals. When they designed a new home farther uptown, they chose ARMCO Stainless Steel for the window frames. There'll be no rust problem here.

• The permanent sparkle of ARMCO Stainless Steel gives theater fronts and marquees the visibility and distinction that pay off at the box office. The Esquire Theater in Kansas City, Mo., suggests why.



HERE'S A WHITE ONE LADY..
SORT OF..



WELL...

you'll have to launder it sometime!

When shoppers go into a store they expect to find clean, fresh merchandise—or else! And, this “or else” can cost stores a big chunk of sales, and reputation, too.

Question: What can be done about sales-robbing store-dust?

Answer: There's only one *sure* way of banishing the air-borne dust and dirt that settles on and gets rubbed into merchandise—Westinghouse Precipitron*!

This remarkable Westinghouse development *collects* dust and dirt electronically. It removes more than 90% of *all* foreign particles in the air—and operates 5 to 10 times more efficiently than mechanical filters. In all types of commercial businesses and in many industries, Precipitron is the most effective answer science can provide to solve the problem of unclean air. You can find out more about Precipitron, and how you can benefit by it by calling any Westinghouse Office. Or write Westinghouse, P. O. Box 868, Pittsburgh, Pa.



Westinghouse PRECIPITRON
PLANTS IN 25 CITIES... OFFICES EVERYWHERE

WHAT PRECIPITRON DOES

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



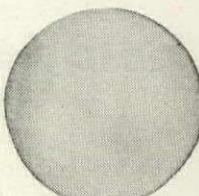
Uncleaned Air

The result 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, was drawn through a cloth area for a 60-minute period!



Mechanically Cleaned Air

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



Electronically Cleaned Air

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



Homes, Hotels and Apartment Buildings



Laboratories and Hospitals



Retail Stores, Banks and Office Buildings



Theatres, Restaurants and Night Clubs



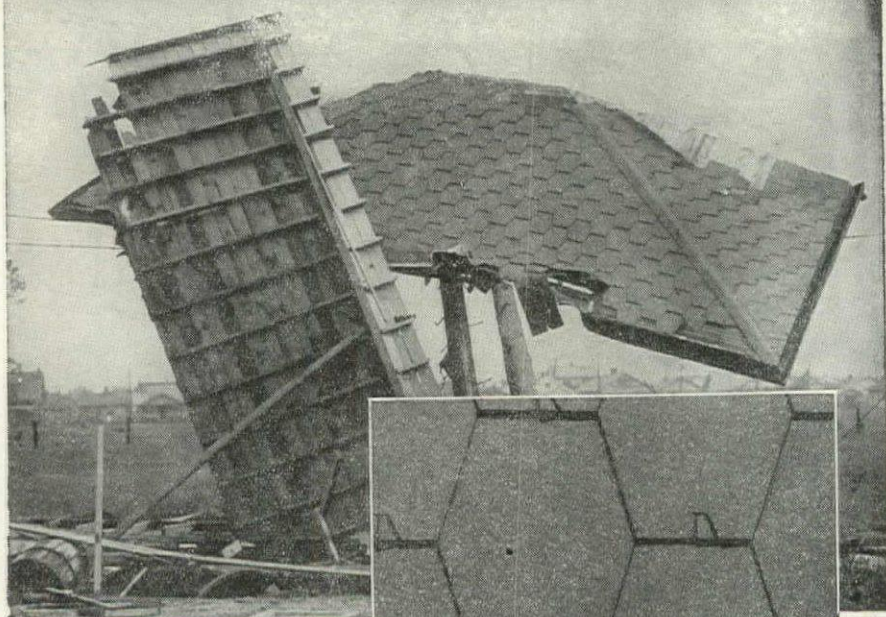
Mills, Factories and Machine Shops

*Trademark registered in U. S. A.

J-04513

(Continued from page 36)

*The roof blew off,
but the shingles held on*



Photograph of roof deck blown completely off the house but with practically every Cyclone shingle intact.

FORD *Cyclone*

SAFETY SHINGLES

hold fast in strongest winds

This shingle is designed specifically as a windproof shingle. The locking notch anchors each butt securely to the lower course so that high winds cannot loosen the shingles or drive snow and rain underneath to cause leaks. The Ford Cyclone, "locked-to-the-roof" shingle, is a sure cure for wind trouble and can be recommended with complete confidence for localities where high winds are encountered. Roofers find the interlocking operation simple and fast in applying.

The Cyclone Safety Shingle is an exclusive Ford product backed by eighty years experience in making quality roofing materials.

FORD ROOFING PRODUCTS CO.

Established 1865

111 W. WASHINGTON ST. CHICAGO 2, ILL.

ASPHALT ROOFING • SHINGLES • SIDINGS • FORD-Y-NEER

REGISTRATION QUESTION

Forum:

... I feel that my particular situation will encompass that of those men whose participation in the war effort has brought to a standstill any activity in the direction of registration.

The profession of Law, for example, has let down its barriers, and has admitted to the Bar men who have completed the requirements of the formal part of their education, without the preliminaries of apprenticeship and examination. I do not suggest that architecture follow the example of its fellow profession, but that a compromise be set up so that a man returning to the architectural field would have a lower obstacle to hurdle than the "three year plan." Can you tell me if such a plan has been instituted?

DONALD D. FISHER, 2d Lt.
c/o Postmaster, New York, N. Y.

Although the three year hurdle will not be reduced, the New York State Board accepts as credit architectural or engineering work done while in the armed services.—Ed.

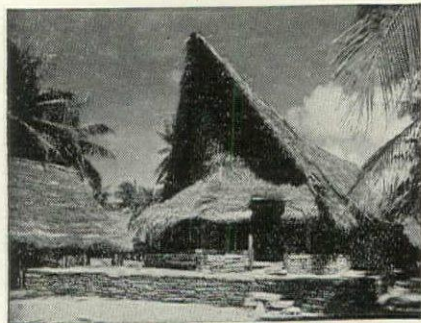
LETTER FROM ULITHI

This report from a naval lieutenant stationed in the land of the grass skirt gives a clear-cut description of native architecture.

Forum:

As far as the Western Carolines are concerned, the little grass shack of popular song and story isn't exactly "little," it isn't made of "grass" and it is by no means a "shack." In fact, some of the

Official U. S. Navy photo



Ulithi community house

men's community houses, whose peaked roofs are typical of Western Caroline native architecture, are 100 ft. in length, are built of good, stout logs, and are so well-constructed that they withstand the 100 mph typhoons which roar up from the Equator.

Despite some early European influences and considerable Japanese cultural pressure, native modes of architecture have persisted in the Western Caroline Islands. Some fine examples are to be found at Ulithi which was captured by elements of the 81st Army Division on September 21, 1944.

(Continued on page 44)

Good Buildings Deserve Good Hardware



Announcing important developments
to make selling good hardware easier
installation simpler... profits larger

1.

2.

3.



P. & F. Corbin

THE AMERICAN HARDWARE CORPORATION, SUCCESSOR

New Britain, Conn.

since 1849





Sherarduct

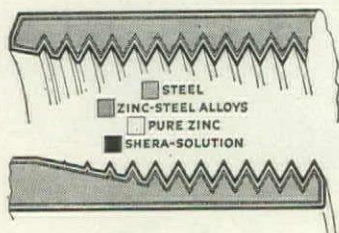
A RIGID STEEL CONDUIT

worthy of your

finest buildings

NATIONAL ELECTRIC SHERARDUCT

- IS MORE HIGHLY RESISTANT TO MOISTURE AND CORROSIVES.
- BENDS MORE READILY.
- FABRICATES INTO THE JOB EASIER.
- "LASTS AS LONG AS THE JOB."

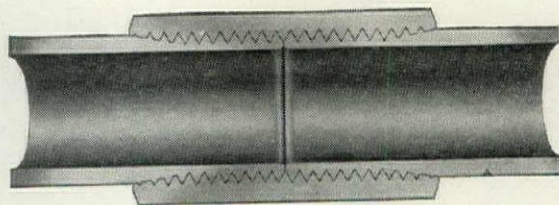


Cross-section of Sherarduct



NE Sherarduct is a rigid steel electrical conduit that is worthy of the finest buildings. National Electric pioneered "Sherardizing" over thirty years ago. This process, by which zinc dust is driven into steel pipe and applied to the surface under heat, is unsurpassed for protection against rust and corrosion.

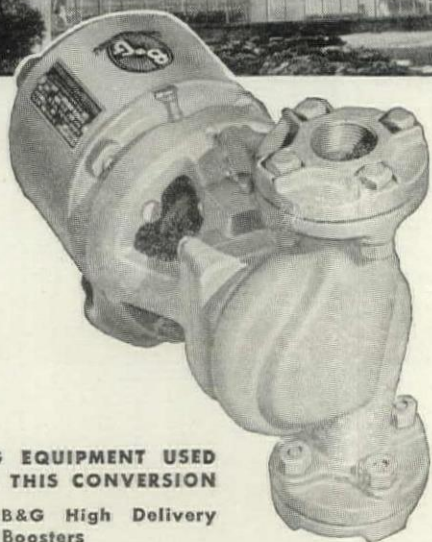
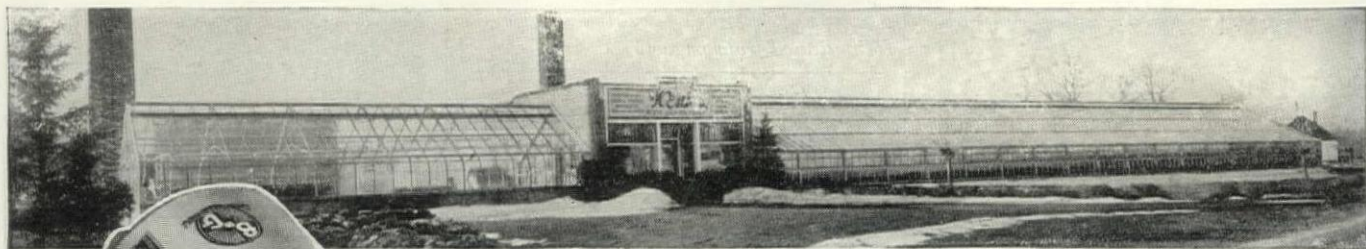
Even deposit of the zinc gives a uniformly protected, smooth surface over which is applied Shera-solution which impregnates the zinc. In addition, the steel is "Spellerized" to produce a pipe which works more smoothly, bends easier and threads cleaner.



The craftsmanship in this conduit is illustrated by the coupling. The tapered threads provide strong, close union which keeps out corrosion. For complete information write for our 350 Page Engineering Data Book—free.

CONDUITS, RACEWAYS, WIRES
AND CABLES FOR EVERY
ELECTRICAL PURPOSE.

National Electric
PRODUCTS CORPORATION
Pittsburgh, Pa.



CONVERSION TO FORCED HOT WATER SAVES 20%

The owner of this greenhouse says—"Last year, through your advice, we changed the heating system to forced hot water, using B & G equipment. After using this system, I want you to know that it was a real pleasure to operate this winter. Heat was quickly distributed where it was called for and we estimate a saving of 20% in coal, which is very gratifying in times like this."

Described briefly, this 6760 sq. ft. converted system is divided into five zones, each controlled by a B & G Booster and Flo-Control Valve. All zone circuits are tied in to a common header, to which is connected a large Booster. In the event of motor failure in any zone or combination of zones, this auxiliary Booster can be cut in by opening and closing the proper valves.

A new boiler house was built at grade level and the supply and return mains carried through a trench to the old basement boilerroom and there connected to the system. A B & G Tankless Heater installed at the same time supplies hot service water.

The fuel savings effected by modernization of this system were made during one of the coldest New England winters in 40 years. The installation is of particular interest today, when conservation of fuel is of utmost importance.

Contractor: W. W. Murphy Company, Springfield, Mass.

B & G EQUIPMENT USED FOR THIS CONVERSION

- 6—B & G High Delivery Boosters
- 5—B & G Angle Flo-Control Valves
- 3—B & G Compression Tanks
- 1—B & G Simplex Relief Valve
- 20—B & G Automatic Air Vents
- 1—B & G Tankless Heater

SEND FOR THIS HANDBOOK

Complete design and installation data on B & G Forced Hot Water Systems for new or conversion installations.

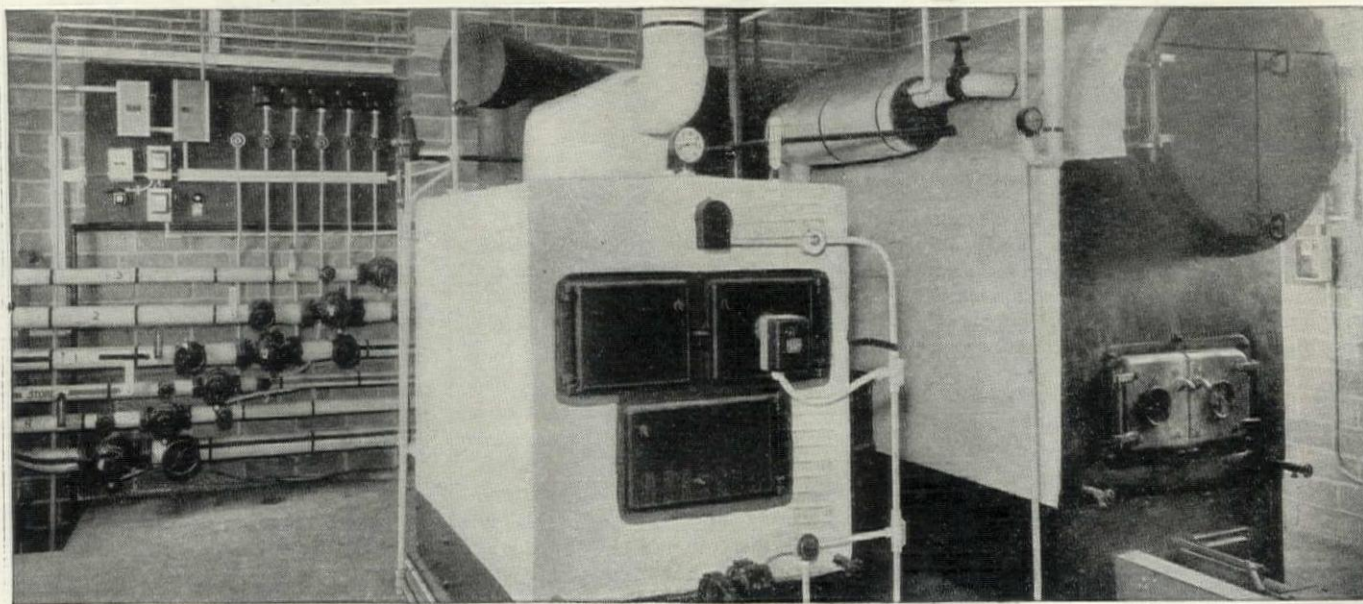


Photo shows the piping arrangement and B & G Boosters which control the five zones of this modernized installation.

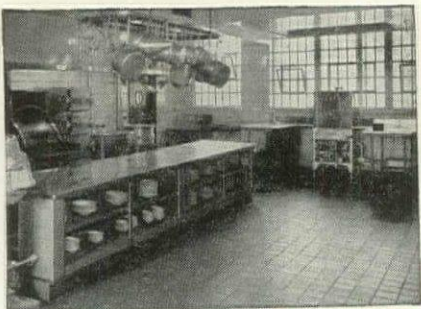


B & G

BELL & GOSSETT CO.
MORTON GROVE, ILLINOIS
Canadian Licensee: S. A. Armstrong Ltd.,
115 Dupont St., Toronto

FORCED HOT WATER HEATING SYSTEMS

(Continued from page 40)



Functional Design for INSTITUTIONAL KITCHENS

● No departments of hospitals, schools, colleges, hotels and other institutions involve more complex problems of functional design than those in which food is to be prepared and served. These departments must be directly accessible from outside the building as well as to ramps, elevators and other service facilities inside. Leading institutional architects, therefore, submit their plans in the preliminary stage for functional detailing by

JOHN VAN RANGE FOOD SERVICE ENGINEERS

If you have such projects on your boards or in prospect send us your blue prints. Let us suggest the most efficient layout for all food service facilities, one that will make the best use of floor space, straighten the line of handling, from receipt of provisions through all processes of preparation and serving and the final washing of dishes and disposal of garbage. Upon approval of the layout developed by cooperation of our engineers and your own organization we will design all equipment, incorporating automatic devices for temperature control and safety of operation. We will use only the best materials and we will fabricate the equipment with invisible, welded seams and sanitary rounded corners. We will assume full responsibility for installing the equipment, thereby relieving your staff of many troublesome delays and assuring long continued service at minimum cost for operation and maintenance.



Send us your inquiries

The John Van Range Co.

EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

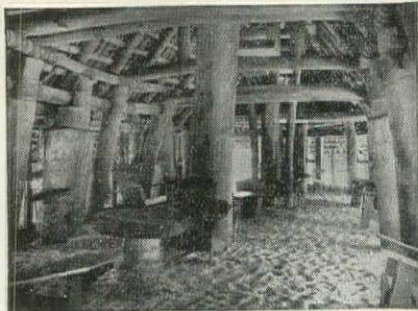
Division of The Edwards Manufacturing Co.
328 EGGLESTON AVE. CINCINNATI 2, O.

In addition to the great men's community houses (sometimes called the men's house or the boy's house) there are dwellings, cook houses and canoe houses—all embodying the same fundamentally sound architectural principles.

The men's community house served native Ulithians as a solemn council hall, as a social gathering place and as living quarters for boys and young men. When used for a council hall it was cleared of all outsiders and great decorum was observed. As a clubhouse it became the focal point for masculine activities. And in it lived the boys and young men who had not yet married. When they took a wife, the couple moved into one of the smaller dwellings.

The native buildings at Ulithi conform to a general pattern with some slight deviation in structural form according to size, purpose or the inclination of the native architect. Basic principle for all Western Caroline architecture is an inner framework supporting a protective shell. Look at one of our most modern New York skyscrapers and you'll see the same thing: an inner framework of structural steel supporting a protective shell of masonry or concrete.

Official U. S. Navy photo



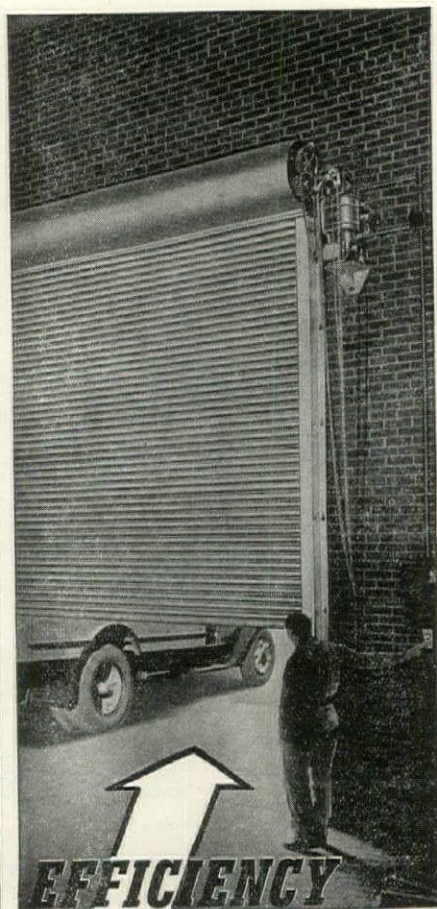
Interior construction

Construction starts with the preparation of the site, a raised mound of coral, 15 in. to 18 in. high, held in place with a retaining wall of coral slabs.

The inner framework consists of four posts, set well into the ground. A cap log runs between the two posts on each side of the structure. The corners are stiffened and secured by a pair of curved log beams at each end of this framework, resting upon capped logs and bracketing the corner posts. Two poles are placed vertically on each outer curved log beam at the center. Their tops are notched to receive a ridge pole cut the same length as the cap logs.

Roof rafters are then cut from poles and placed in position spanning the space between the cap logs and the ridge pole, and crossed at the peak to provide a saddle for a cluster of bamboo poles. A wall is then built outside the

(Continued on page 48)



**EFFICIENCY
GOES UP**

When **KINNEAR
ROLLING DOORS
ARE ON THE JOB**

You can make sure doorways are geared to high-speed production by specifying Kinnear Rolling Doors—operated by motor for maximum efficiency. Their vertical, coiling operation gives you full use of all floor, wall and ceiling space. The doors open overhead—completely out of the way of traffic and plant operations. The interlocking steel slat curtain—originated 46 years ago by KINNEAR is flexible (for ease in rolling) and rugged (to withstand years of hard usage). It affords high protection against theft, riot, wind and weather. And with remote-control switches, openings can be cleared or closed by a split-second touch of a pushbutton, from as many strategic points as efficiency demands.

Write today for complete information. The KINNEAR Mfg. Co. Factories: 1640-60 Fields Ave., Columbus 16, Ohio; 1742 Yosemite Ave., San Francisco 24, California.

Offices and Agents in Principal Cities.

SAVING
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DOORWAYS

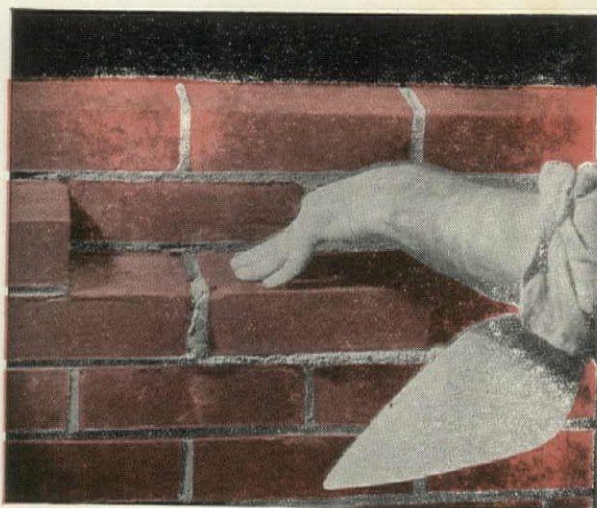
KINNEAR
ROLLING DOORS

BRIXMENT MORTAR

Is More Plastic



To compare the plasticity of any two mortars, try shoving a brick into place, with a full head



joint. The more plastic the mortar, the easier the work. Try this with Brixment mortar!

AND GOOD PLASTICITY

IS THE FIRST REQUIREMENT OF GOOD MORTAR

One of the most important characteristics any mortar can possess is *plasticity*. Within certain limits, plasticity is the greatest single factor not only in the *economy* of the brickwork, but also in its strength, its neatness, and its resistance to the passage of water.

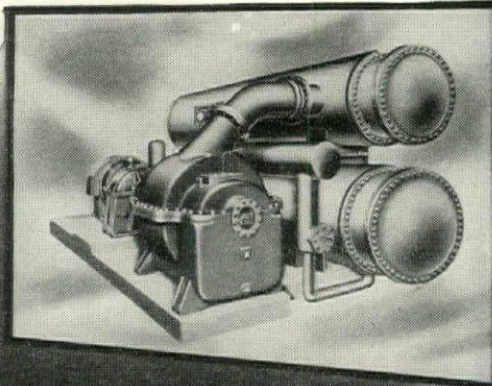
One of the outstanding characteristics of Brixment mortar is its unusual plasticity. For twenty-five years, brick-

layers all over the United States have agreed that the workability of Brixment is comparable to that of straight lime putty. This exceptional plasticity makes it easy for the bricklayer to secure neat, economical brickwork, with the brick properly bedded, and the joints well filled. And because of this unusual plasticity, a bag of Brixment will carry three full cubic feet of sand and still make an ideally workable mortar.

LOUISVILLE CEMENT CO., Incorporated, LOUISVILLE 2, KENTUCKY
CEMENT MANUFACTURERS SINCE 1830

To Prevent Gas Leakage

Accurately Finished REFRIGERANT SHAFT SEAL



The YORK Allis-Chalmers Turbo REFRIGERATION Compressor

Two stationary carbon rings contact opposite sides of a special seal ring which rotates with the shaft for effective sealing. The seal surfaces are accurately finished and sealed with oil from the compressor lubricating system, thereby preventing leakage of refrigerant from the compressor—or air into the compressor. Pressure of the oil is maintained so that the seal is unaffected by changes of pressure due to ordinary operating conditions. The carbon rings are kept always in contact with the shaft seal ring. During shut-downs oil head on the seal is maintained by a gravity oil tank mounted above the seal housing. York Corporation, York, Pennsylvania.

Other outstanding features:

1. Stainless steel impeller blades resist erosion and corrosion assuring perfect wheel balance. Blade rivet heads are eliminated to provide unobstructed gas flow.
2. Low center of gravity of compressor—permitted by trough type cooler—cuts vibration, provides more accessible operation.
3. Balance piston to equalize wheel thrust makes necessary only a positioning thrust bearing, and results in less bearing friction losses.
4. Pre-rotation vanes permit greater capacity reduction (down to 10%).
5. Permanently silver-sealed condenser joints.



YORK REFRIGERATION AND AIR CONDITIONING

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

FITS ANY KITCHEN



No matter what size or shape kitchen you engineer into a house or an apartment, there's a simple combination of AMERICAN KITCHEN units which fits it as though made to order. And your client won't be pestering you to make changes, as these styles are dictated by thousands of homemakers the country over. Pictured at the left are four basic styles.

AMERICAN KITCHENS are easy to specify! They require no special plans, wiring or plumbing, and can be installed with no extra work for you. There are good reasons why AMERICAN KITCHENS are welcomed by homemakers everywhere for their postwar homes. First, there is the truly modern design . . . the functional beauty of sparkling white with chrome hardware, black trim and black linoleum work surfaces (Raymond Loewy is our designer). Second is the sturdy construction, made of steel to last a lifetime . . . the sinks are porcelain enamel finish, acid-resisting; the cabinets are coated with easy-to-clean DuPont DuLux. Third are the work-saving features built into step-saving arrangements to fit any floor plan.



AMERICAN KITCHENS will suit every budget, because our huge facilities for mass production make possible complete kitchens of highest quality, priced at only a trifle more than a new refrigerator. Also, to save on original investment, units may be left out and added later without harming the ultimate result. All these features combine to make clients your enthusiastic boosters when you specify AMERICAN KITCHENS.

ALL INQUIRIES GLADLY ANSWERED BY EXPERTS

American
KITCHENS

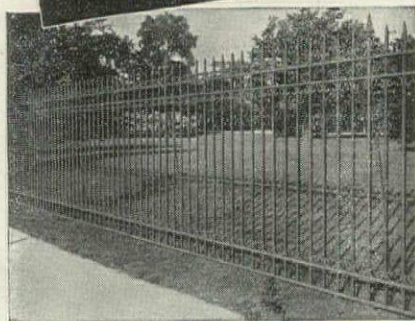
AMERICAN CENTRAL MANUFACTURING CORPORATION, CONNERSVILLE, INDIANA
BUILDER OF JEEP BODIES

LETTERS

(Continued from page 44)

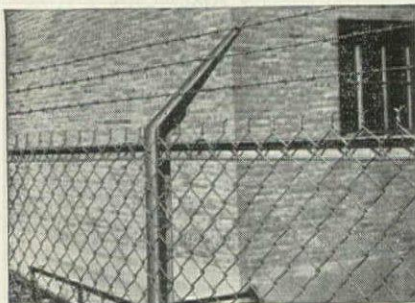
**IF IT'S
A FENCE
FOR A
HOME
OR A
FACTORY—**

**CONSULT
Stewart
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● Stewart Iron Picket Fence is manufactured in a wide range of standard designs. But where a special fence is required, Stewart will faithfully reproduce architects' drawings and specifications. Chain Link Wire Fence is made in several styles from low lawn fence to non-climbable type with barbed wire overhang. Talk over your fence plans with Stewart . . . there's no obligation. Catalogues sent on request.

THE STEWART IRON WORKS CO., Inc.
1265 Stewart Block, Cincinnati 1, Ohio
Experts in Metal Fabrications Since 1886



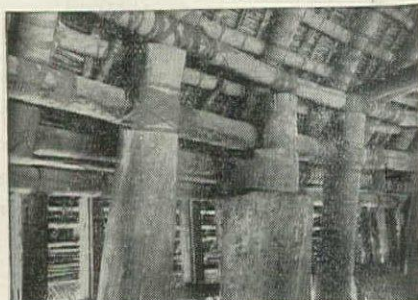
Stewart IRON
and WIRE
FENCES

supporting frame, starting with a plate of square edged timbers. These timbers are cut with a native handtool shaped like a small adze and called a "putch-a-gul."

Before the cap is placed on this wall, the sheathing, either of driftwood or hand hewn lumber about 1 in. thick is inserted between the square posts. Two clear openings are left between posts in each end and in each side and lipped doors are blocked into these openings from the inside.

The roof is framed of horizontal poles on about 8 to 10 in. centers, secured to the roof rafters, and vertical ties of doubled bamboo poles are fixed to these horizontal poles at about 12 in. centers. Pandanus and palm thatch are the ordinary roof cover.

Official U. S. Navy photo



Detail of tied joints

A skirting is formed at the juncture of the wall and roof by inserting short poles at right angles to the roof between the lower two horizontal poles of the roof framing. The ends of the hut are lightly framed between the two roof planes and the top of the wall and a skirting, similar to that used on the sides, extends outward from the top of the end walls as a protection from driving rains.

Nails are not used. Cleverly worked wood joints and woven cord joints make for a highly flexible structure. The old native who told about this work had a little knowledge of English. His description of this method in comparison with our structures is evidence of years of trial and error. He pointed to the cord bound joints and said, "Good." He then pointed to a nail and said, "Nail—no good—one moon—all gone."

LT. ELMER L. MARSHALL, USNR
c/o FPO, San Francisco, Calif.

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 lb. (1,450 freight carloads) less paper than in 1942. In view of the resulting shortage of copies, please share your copy of the FORUM with friends.

(Continued on page 52)

**In This Land of
Many Waters**

**YOU NEED
PERMAGLAS!**

**"THERE IS ONLY ONE
PERMAGLAS"**

PERMAGLAS "asks no favors" of any waters . . . it likes them all . . . hard waters of the plains, soft waters of the mountains, acid waters of the bayous, iron-laden waters of the ore regions, or whatever type of water predominates in your part of this land of many waters.

A. O. Smith engineers devoted 23,000 test-years to perfect Permaglas . . . the one and only sparkling blue, mirror-smooth, glass-fused-to-steel that resists corrosive action in ALL waters, and delivers hot water as clear and pure as the source of the water itself, *always*.

WRITE for "The Inside Story of Permaglas." It will help you give valuable water heater facts to your clients.

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**AUTOMATIC STORAGE
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Gentleman's corner...

Typical of Tomlinson's way of thinking about furniture in related groupings. For the Tomlinson Plan coordinates furniture in color and design... displays it in our exhibits so that your clients gain the quicker impressions that result in quicker decisions. Furniture by Tomlinson is a compliment to your fine planning.

Illustrated at the left is the famed Gainsborough Chair, starting point in many interesting Tomlinson groupings.



Furniture by

TOMLINSON

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IN NEW YORK:
385 MADISON AVENUE

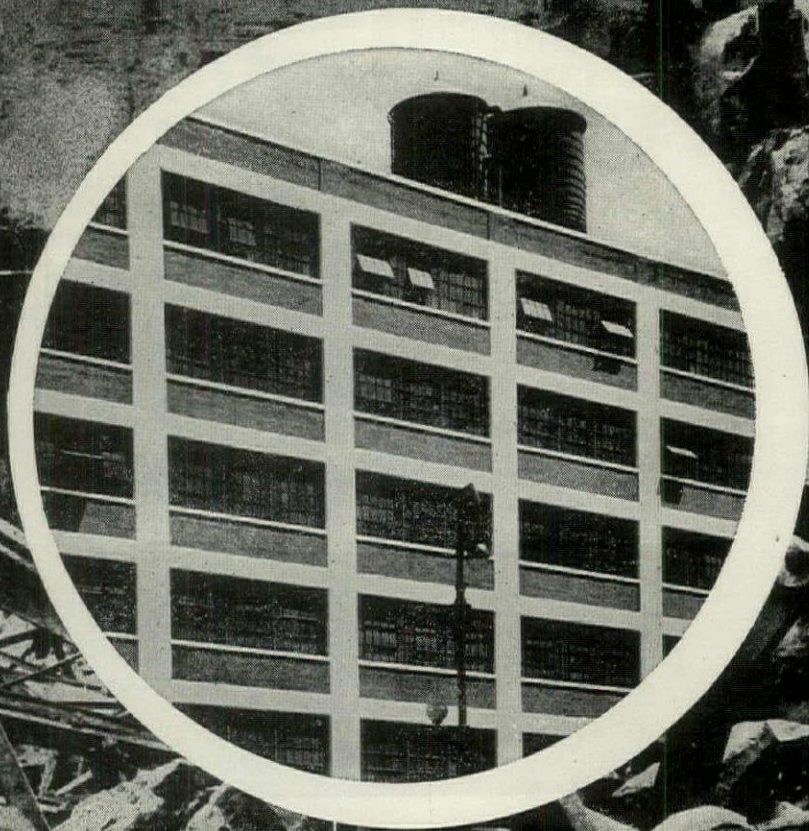
IN CHICAGO:
1666 MERCHANDISE MART

IN PITTSBURGH:
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AND IN HIGH POINT,
NORTH CAROLINA

RAINCOAT YOUR BUILDINGS

Against weather bombing



Restore and protect your property now

Waterfoil is made of irreversible inorganic gels. These gels bond both chemically and mechanically to masonry surfaces to form a dense hard coating. Because of its microscopic porosity this "raincoat" lets the masonry breathe and helps impede water penetration which causes reinforcing bar rust, spalling and disintegration.

The Horn Research Laboratories took ten years to develop and test Waterfoil. It has a true scientific basis for its formulation and contains no oil, cement, lime, casein or glue. Waterfoil is unlike any other masonry protective coating. Send today for the Waterfoil literature. Restore your property against weather bombing.

*Horn Products and Methods Protect Millions of
Square Feet of Surface Throughout the Nation*



WATERFOIL

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

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.

KEEPS OUT



Termites
Rodents
Insects

—another *plus* advantage of Steel Insulation

Ferro-Therm Steel Insulation does more than *insulate*—although its high reflectivity makes it the most effective barrier known for resisting the penetration of heat from either side. Ferro-Therm pays valuable dividends in comfort and safety, because it is *all-metal*.

One of the greatest advantages of this all-metal construction is Ferro-Therm's complete resistance to *vermin*. No termites, rodents or insects can penetrate a wall of Ferro-Therm. This is *extra* protection—for the house itself, and for the comfort of those who live in it.

Its construction—all-metal—is the reason why Ferro-Therm can offer *more* in protection and comfort to the home-builder. It is the reason why Ferro-Therm (1) is a definite *fire-stop* for wooden framework; (2) does

not absorb moisture or convey any moisture to wooden framing members; (3) cannot settle or pack down; (4) makes a *permanent* installation—with 100% efficiency for the life of the building.

Ferro-Therm is a thin sheet of special alloy-coated steel that *reflects 95% of all radiated heat*. It takes up far less space than bulk insulation. And it is light—easy to handle. One man can install 1,000 to 1,200 ft. in a day.

Investigate Ferro-Therm—the insulation that gives you the *plus* advantage of *steel*. Complete information on its application to modern homes and methods of installation will be sent upon request. Just mail the coupon.

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

American Flange & Manufacturing Co. Inc.
Ferro-Therm Division, 30 Rockefeller Plaza,
New York 20, N. Y.

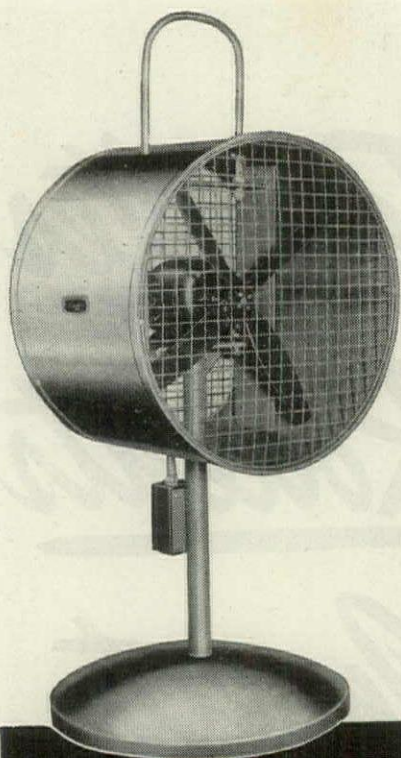
Please send me, without obligation, complete information on Ferro-Therm Steel Insulation.

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COOL**

Practically unlimited is the number of places where Propellair Man Coolers step-up production.

Their high-velocity blast provides welcome relief to men working in radiated heat from furnaces or hot materials. Dead air, wherever encountered, is dispelled by these portable units. And the lively air flow they create speeds product cooling. All-steel construction assures both ruggedness and safety so essential under many operating conditions.

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Efficient airfoil-section propellers deliver air at high velocity and volume because the whole blade works, not just the tips. Scientific variation of pitch, curvature, and thickness imparts uniform air movement over whole fan area. Air output ranges from 9,000 to 20,650 c.f.m. Ask us for Folder No. 1879-AF.

SEND FOR THIS BOOK



72 pages of facts, figures, and installation information showing fans for ducts, walls, windows, roofs. All have Propellair airfoil-section blades for maximum volume from minimum horsepower. Catalog No. 10-AF.

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PROPELLAIR
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SPRINGFIELD OHIO

A LETTER FROM THE PUBLISHER



Dear Reader:

These deceptively Floridian surroundings are not, as might be supposed, props from the warehouse of the inventive Steve Hannagan. The scene is Guam, the date recent and the characters some 8,000 air miles from their peacetime journalistic retreat. Starting at the left, we see FORTUNE's Managing Editor "Del" Paine, TIME-LIFE's Shelley Mydans, FORUM's "Dick" Saunders, LIFE's J. R. Eyerman—a study in rampant ubiquity by the Time Inc. publications. Saunders, now returned from Iwo Jima and other Pacific outposts, will report to FORUM readers next issue.

On a recent morning we nearly stumbled over our own Red Cap staggering into the office with a decrepit, label-studded bag. A hasty check threw a bewildering itinerarial light on the subject: England, France, Spain, Italy, Switzerland, Germany, Holland, Belgium, Sweden, Austria, Hungary, Yugoslavia, Czechoslovakia, Rumania, Bulgaria, Greece, Albania, Turkey, Rhodes, Crete, the Aegean Islands, Egypt, India, Ceylon, Malay States, Java, Siam, Indio-China, Philippines, China, Japan, Manchuria, Korea, Hawaii, Peru, Chile, Argentina, Uruguay, Paraguay, Brazil, Caribbean Islands, Canada, Nova Scotia, Canal Zone, and the entire United States. This incident signaled the opening of our postwar plans with the arrival on our

editorial staff of Leslie Cheek, Jr., recently of the OSS and before that Director of the Baltimore Museum of Art, Head of the Department of Fine Arts of William and Mary College and graduate of Harvard and Yale. Cheek now spends his working hours in the FORUM's office.



Cheek

The arrival of another male is particularly welcome. There have been many recent occasions when we felt just like Phil Spitalny.

* * *

Our pleasantly plump register of visitors to FORUM's new offices in the Empire State Building has recently



Hatch

added these among other valuable autographs: Captain Don Hatch, back from two Marine years in the Pacific, with his glittering bride, First Lieutenant Margaret Hatch of the WAC.

Design wizards Eero Saarinen and Amedeo Leone from Detroit and Mario Bianculli from TVA.

Fred Babcock, inventor of "yield" insurance. Rock-ribbed Alonzo Harriman, escorted by Mayor Alton A. Lessard, of



Leone

Mayor Alton A. Lessard, of Lewiston, Maine. Todd Sloan, pioneer solar-houser. Refugee from his glass-and-plastic kitchen, H. Creston



Denton

Doner. Harold Denton of TNEC Report fame. Milton Wend, who authored *How to Live in the Country Without Farming*.

Alice Woodard Fordyce, beautiful spouse of rotund Allmon. And to maintain our one-world note, Americo Campello of Brazil, F. W. Nicolls, Director of Housing, Canada, and José Sert, now of the U. S., but once of Spain.

* * *

FORUM's G. I. Jobs program moves from this department into operation (see page 150). This service is freely available to all discharged service men seeking jobs in the building field, and to all building men with jobs to offer. Use this service, and kindly tell others about it who should.

H. M.

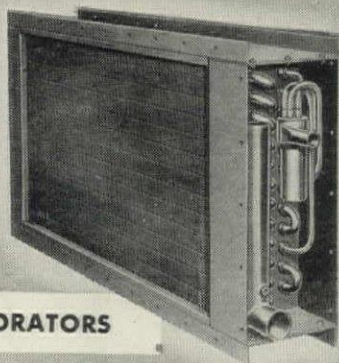
G.I. JOBS

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

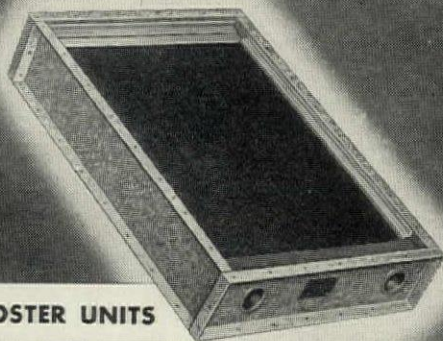
Architects, draftsmen, engineers, builders, contractors
Executives in—realty management, sales and appraisal,
mortgage finance, title and legal work, retail materials sales. (see page 150)

Coils

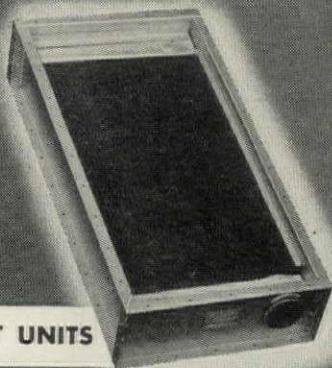
**ONE AT A TIME
OR BY THE
CARLOAD!**



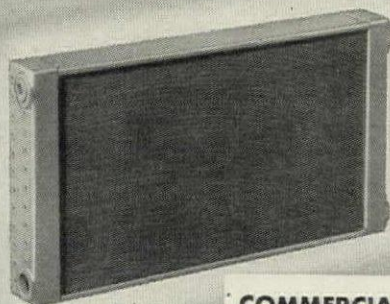
EVAPORATORS



BOOSTER UNITS



BLAST UNITS



COMMERCIAL UNITS

● No coil job in the heating, cooling and air conditioning field is too large or too small for Young. There are versatile Young Units for every need. From architects, engineers... men responsible for results... comes testimony of the dependable performance of Young Heat Transfer Surfaces in office buildings, auditoriums, schools, theaters, stores, restaurants and other places where people gather... in drying rooms, paint spray booths, malt houses, dry kilns and dozens of types of commercial installations. Write for Young Coil and Evaporator catalog. No obligation.

YOUNG **HEAT TRANSFER PRODUCTS**

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

OIL COOLERS • GAS, GASOLINE, DIESEL ENGINE COOLING
RADIATORS • HEAT EXCHANGERS • INTERCOOLERS • ENGINE
JACKET WATER COOLERS • UNIT HEATERS • CONVEC-
TORS • CONDENSERS • EVAPORATORS • AIR CONDITION-
ING UNITS • HEATING COILS • COOLING COILS • AND A
COMPLETE LINE OF AIRCRAFT HEAT TRANSFER EQUIPMENT.

YOUNG RADIATOR CO., Dept. 155-G • RACINE, WISCONSIN, U. S. A.

Windowalls





ENCLOSE COMFORT, DISCLOSE A VIEW

**DINING PORCH, SUN-CONDITIONED WITH
ANDERSEN COMPLETE WOOD WINDOW UNITS**

In this suburban New York house, WINDOWALLS perform their three functions perfectly. They enclose comfort in cold weather, provide superb ventilation in mild weather and disclose a lovely view of the outdoors. To make this charming WINDOWALL, five Andersen Horizontal Gliding Window Units are arranged in a

sunny corner. All sash can be removed in summer to turn this dining room into an airy porch.

Architect Julius Gregory and his clients, Colonel and Mrs. Carl Norcross, used Andersen Horizontal Gliding Window Units, Number 40046, sash opening size 4'0" x 4'6".

See our catalog in Sweet's—or write us for additional information.

Reprints of Andersen Windowalls advertisements, in a convenient file pocket, are available upon request.
Just ask for the "Windowalls File."

Andersen Corporation

BAYPORT, MINNESOTA

IT'S A CELLAR FIRE ESCAPE TOO!

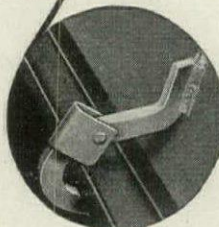
BILCO

Copper Steel

CELLAR BULKHEAD

FOR
ACCESSIBILITY
PERMANENCE
SECURITY

You give the home cellar real utility when you provide a direct-to-the-yard cellarway. And in modern cellars with game rooms and workshops, *safety* demands a second exit. BILCO Hatchway Doors provide a modern, trouble-free and attractive outside entrance. Copper steel lasts a lifetime. Leak-proof, warp-proof, fire-proof, termite-proof and burglar-proof. Can't be blown or knocked shut.



Automatic Safety Catch

BILCO also specializes in
BULKHEAD DOORS • STEEL ROOF SCUTTLES • SIDEWALK DOORS

FILL OUT AND MAIL THIS COUPON TODAY!

The BILCO Manufacturing Company
162 Hallock Avenue, New Haven 6, Conn.

Please send me specifications and prices of Bilco copper steel cellar bulkheads for homes and other structures.

Name.....

Address.....

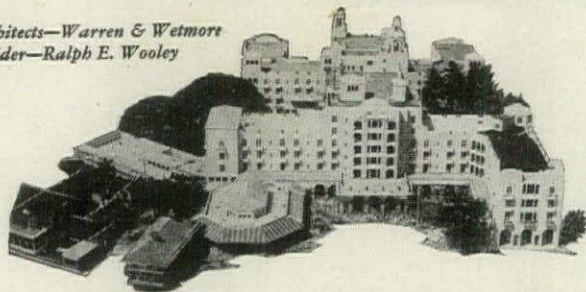
City..... State.....

Your Dealer's Name.....

Fuel is Scarce . . .

CONSERVE IT!

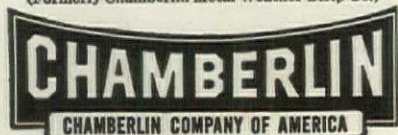
Architects—Warren & Wetmore
Builder—Ralph E. Wooley



Chamberlin Metal Weather Strips Are Available Now!

Royal Hawaiian Hotel, Honolulu, is among the well-known public buildings that are equipped with Chamberlin Metal Weather Strips. These efficient weather strips provide maximum fuel economy and give an extra measure of comfort by eliminating cold spots near window areas. Chamberlin does the complete job from manufacture to installation, assuring best results. For complete details call the nearest Chamberlin office.

(Formerly Chamberlin Metal Weather Strip Co.)



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



See Insert in
Sweet's Catalog

Home Office: 1233 LaBrosse St. • Detroit 26, Mich.

IN THE FORUM

In 1928 James F. Eppenstein, designer of the Michaels house (p. 120) looked the future in the face and turned his back on the past. At that time a frustrated executive, he became bored with tossing night after night in the grip of insomnia. Despite wife, children and Colonial house, he quit a good job and set out with his family for the University of Michigan to satisfy long-thwarted architectural yearnings. The results have been good for architecture and Mr. Eppenstein seems satisfied to have substituted counting clients for counting sheep.



One of our many repressed desires is to publish an issue of the FORUM dedicated to horrible houses by our favorite architects. We are convinced that every

stark modernist has at least one skeleton tucked cautiously out of sight and Paul Thiry, architect for the Holly Park Community Center (p. 101), has now given our dream new impetus. We just discovered that he once designed a genuine Norman cottage for a Seattle real estate development. Our spies are out trying to locate the plans, but for once Thiry has proved completely uncooperative.

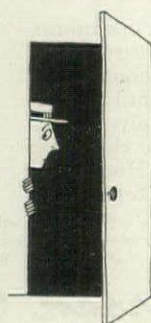


G. Howard Smith who wrote the article accompanying the Swedish portfolio (p. 86) first hitched his wagon to modern design in 1935 when he started exporting furniture from Sweden to his native England. Now with the Swedish-American News Service, he arrived in this country just before Pearl Harbor via Finland, Moscow, the Trans Siberian Railway, Japan and Hawaii. Most exciting part of the trip to Smith was not his trek through the Far East, but his cross-country journey on that exotic form of transportation, the Greyhound bus.



Conditioned as we are to bold, aggressive men who burst into our office like a high wind from the Sierras,

we gathered our usual resistance about us to meet a recent visitor who murmured that he was from Green's Ready-Build Houses, Chicago prefab outfit (p. 125). The initial shock of his modest and diffident manner dissolved into a glow of fellowship as he quietly explained why the company had taken a flyer in modern. Not until we checked with our secretary did we discover that this unpretentious gentleman was himself Mr. Green.



WE'RE "TELLING THE WORLD" ABOUT YOU!

• The eye-catching advertisements shown below are part of a series we're publishing to remind the public that, when it comes to building a home right, "there's no madness in method!"... and that the only right method is to employ an Architect's experienced services.

Yes, we've been "telling the world" ... and to date over one hundred thousand home-planning couples have said: "Tell us more!" So to each couple we've sent "How to Plan Your New Home," the now-famous book Edwards and Company has prepared in cooperation with the A.I.A.

Many architects have requested extra copies of this book as an effective means of keeping prospective clients aware of the architect's proper place in their building dreams. Limited quantities are still available ... imprinted with your name, if you so wish.

EDWARDS

AND COMPANY

NORWALK, CONN.

IN CANADA: EDWARDS & CO., LTD.

The collage features several distinct advertisements:

- Top Left:** An illustration of a man and a woman looking at a book together.
- Top Right:** An illustration of a man and a woman smiling, with the man holding a book.
- Middle Left:** An illustration of a man and a woman looking at a large architectural drawing on a table. Text includes "Is there an ARCH in you?" and "...and tomorrow a blueprint".
- Middle Right:** An illustration of a man and a woman looking at a book. Text includes "The stuff of dreams..." and "How to Plan Your New Home".
- Bottom Left:** An illustration of a man and a woman looking at a book. Text includes "Start Right - With an Architect" and "EDWARDS AND COMPANY".
- Bottom Right:** An illustration of a man and a woman looking at a book. Text includes "Start Right - With an Architect" and "EDWARDS AND COMPANY".



Assurance


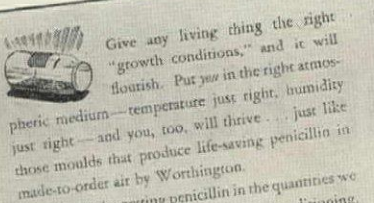


A FINISHED PRODUCT reflects the degree of assurance with which the original planning was undertaken. Proper tools help to provide this assurance... drawing pencils for example, that assure accuracy of detail, perfect rendering and reproduction.

VENUS Drawing Pencils are engineered to give you drafting perfection without failure: accurately *graded* to assure uniformity in all 17 degrees... *strong* in performance... *smooth* and *clean* in action.

VENUS DRAWING PENCILS

AMERICAN LEAD PENCIL COMPANY, HOBOKEN, NEW JERSEY



Give any living thing the right "growth conditions," and it will flourish. Put you in the right atmospheric medium—temperature just right, humidity just right—and you, too, will thrive... just like those moulds that produce life-saving penicillin in made-to-order air by Worthington.

Today, we're getting penicillin in the quantities we need, with the help of this better air conditioning. Tomorrow, you'll feel better in stores, restaurants, theatres, offices, factories that use up-to-date Worthington air conditioning to put people in top spirits, top efficiency.

Since Worthington makes so many of the "vitals"

of air conditioning and refrigeration equipment—compressors, engines, turbines, condensors, evaporators, valves, fittings—it is well positioned to study what makes air conditioning most successful at a lowest cost.

Many wartime applications have proved that Worthington's happy *integration* of the various components—in unit conditioners or completely unconnected systems—is extremely vital for complete success.... a reason why there's more worth in Worthington.

Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N.J. Jersey. Specialists in air conditioning and refrigeration machinery for more than 50 years.

**YOU'LL THRIVE
IN THIS "CULTURE MEDIUM"**



Air Conditioning

"You'll thrive in this culture medium" is part of a message Worthington delivered recently to readers of TIME, BUSINESS WEEK and WALL STREET JOURNAL to point out that the air conditioning that helps produce better penicillin will make them, their customers and employees thrive, too.

Your business — buying, selling, installing, or operating air conditioning — can also thrive on up-to-date Worthington Air Conditioning.

Since Worthington makes so many of the "vitals" of air conditioning and refrigeration systems — compressors,

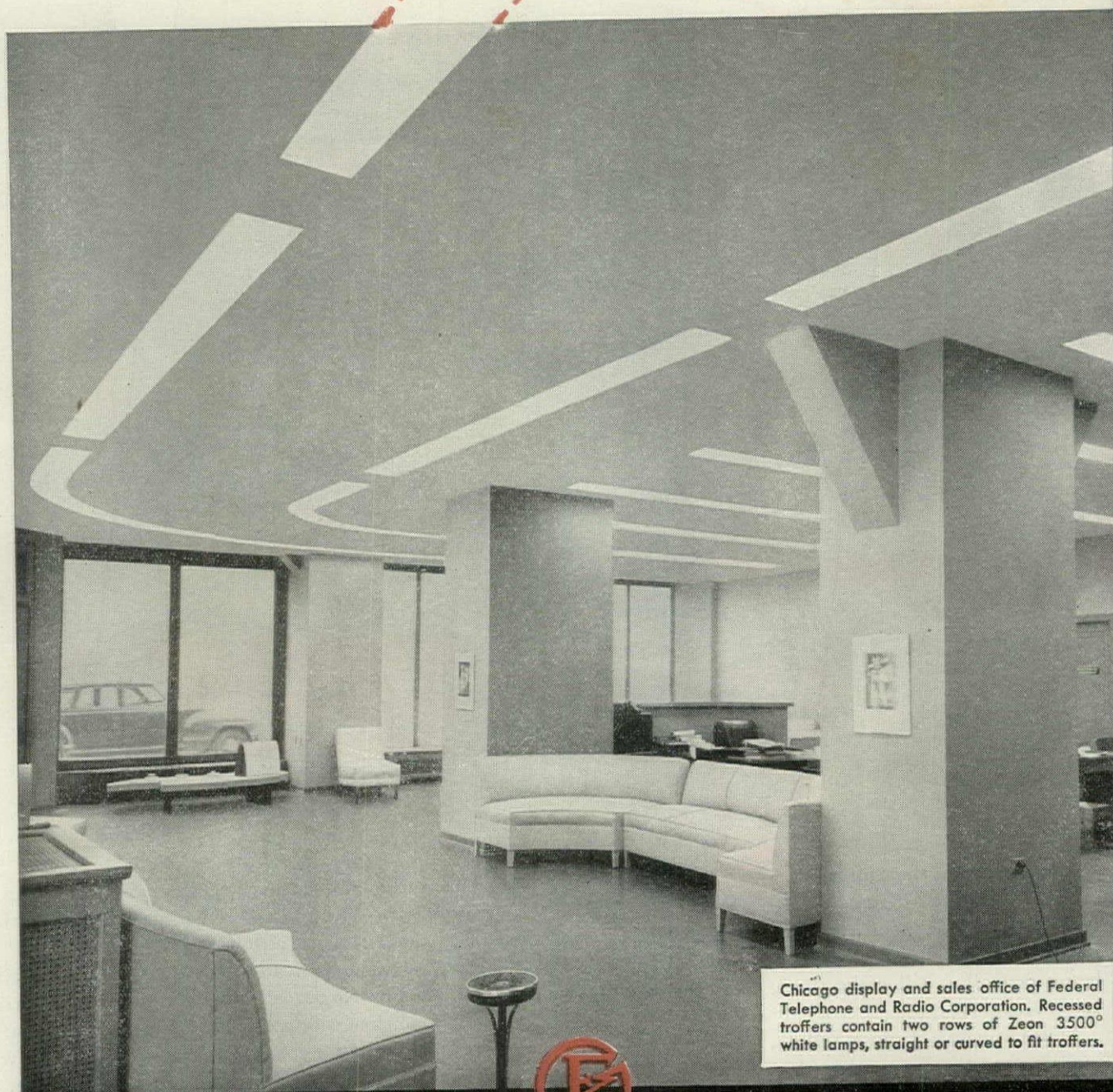
engines, turbines, condensers, pumps, valves, fittings — it is well positioned to know what makes air conditioning most successful . . . at lowest cost.

Many wartime applications have proved that Worthington's happy *integration* of the various components — in unit conditioners or completely-engineered systems — is extremely vital for complete success . . . a reason why *there's more worth in Worthington* . . . for the buyer or dealer, contractor or engineer.

A get-together with a Worthington sales engineer costs nothing . . . is not binding. Let's talk things over.

Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J. Specialists in air conditioning and refrigeration machinery for over 50 years.

WHY COLD CATHODE Fluorescent Lighting



Chicago display and sales office of Federal Telephone and Radio Corporation. Recessed troffers contain two rows of Zeon 3500° white lamps, straight or curved to fit troffers.



FEDERAL ELECTRIC COMPANY, INC.

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

225 N. MICHIGAN AVE., CHICAGO 1, ILL.
TELEPHONE STATE 0488

SUBSIDIARY COMPANY . . . FEDERAL
BRILLIANT COMPANY, ST. LOUIS, MO.

Branch Offices: Cincinnati • Dallas • Duluth • Houston • Indianapolis • Kansas City • Louisville • Milwaukee • Minneapolis
New Orleans • New York • Philadelphia

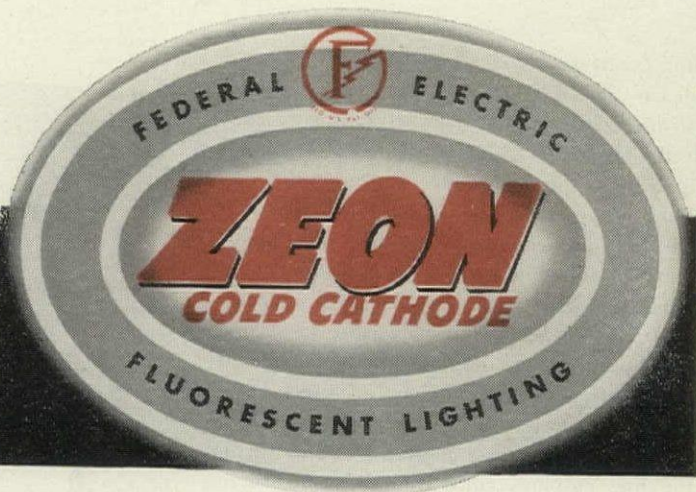
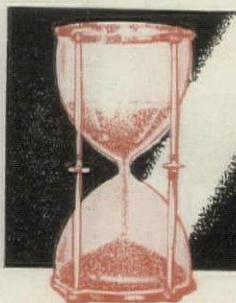
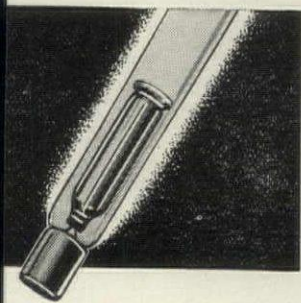
Gives

Longer Life

WHEN you specify fluorescent, specify the kind that offers the greatest flexibility, the lowest maintenance cost, the longest life. Zeon Cold Cathode lamps are made in a wide range of types, sizes, and colors. Intensity can be controlled with a dimmer in a series circuit. Lamps are rated at 10,000 hours—and start instantly. This life rating is not limited by any number of starts.

Investigate Zeon. Federal Electric lighting engineers will be glad to give you unbiased information, to help you check your plans, to be sure you have the right amount, type, and color of light and the best location for fixtures. Call or write any branch office, or Federal Electric Company, Inc., 8700 South State Street, Chicago 19, Illinois. Address "Lighting Information Service."

Why Longer Life...



ON ELECTRODES Shell electrodes, of pure Swedish tungsten, strike the arc instantly without heating, flicker, or noise. No starter is used; there is no filament to be replaced. These Zeon shell electrodes last indefinitely—beyond the 10,000-hour rating of Zeon Cold Cathode fluorescent lamps.

AGING AND TESTING After sealing, lamps are operated for a specified time. While aging, they are checked for any possible leaks and darkening, and for light intensity and color. Lamps that pass the tests are ready for shipment—ready to start upon their long life, which means fewer lamp replacements, and substantially lower maintenance costs.

CIRCUITS Zeon Cold Cathode lamps may be operated on high voltage series circuits up to 100 feet of lamps; or on low voltage multiple circuits; or on small ballast transformers at voltages practically the same as those for hot cathode lamps. In any case, Zeon Cold Cathode fluorescent lamps start instantly, without delay, without flicker.

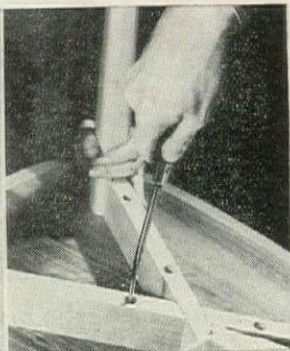
ASK FOR "Lighting Information Service"

You are invited to submit your problem in detail. Federal Electric lighting engineers will make a sincere effort to help you with your plans, in cooperation with your architect, consulting engineer, and electrical contractor, so that you may get the best possible results from whatever fluorescent lighting you install. There is no obligation for this service, except your cooperation in helping us to help you. Write Federal Electric Company, Inc., 8700 South State Street, Chicago 19, Illinois.



FORUM OF EVENTS

Low priced Swedish furniture is packed flat, shipped direct to the consumer for home assembly.



Copyright: Nordiska
Kompaniet, Stockholm



DINING CHAIR is best designed item. Diagonally opposite front and back legs and back support are factory joined in a flat piece. Two such sections, assembled in an X, form the frame.

Shipping furniture unassembled is by no means a new idea to the U. S. Distribution from manufacturer to dealer is frequently handled in this way but to date the practice has not been generally applied to shipment to the consumer. In Sweden, however, manufacturers have found that home assembly of furniture allows enough saving in factory labor, warehousing and shipping costs, because of flat packaging, to warrant a higher quality of material and workmanship at a modern price.

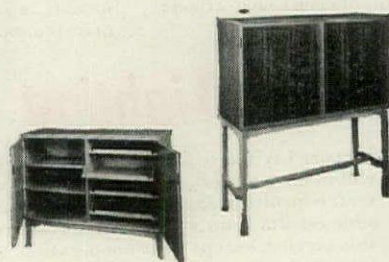
"Triva-Assemble," a complete line of living and dining furniture, was designed by architect Elias Svedberg. It reveals no startling innovations in appearance but, like most modern Swedish furniture the line employs conventional forms where they are practical. (Continued on page 64)



ARM CHAIR has easy-to-assemble metal connectors. Upholstered portion is shipped in two parts.



CABINET SECTIONS may be fitted with either high or low legs, are available with various types of shelving for different purposes.



Sanymetal

TOILET COMPARTMENTS and TOILET ROOM ENVIRONMENTS

Refer to Sanymetal
Catalog 19b/5, Sweet's
Architectural File for
1945, for complete in-
formation on Toilet
Environments.



Create an Element of Refinement with
Sanymetal Porcena (Porcelain on Steel)
Ceiling Hung Toilet Compartments. The de-
sign and construction details for the new
ceiling hung toilet compartments, as well as
the usual standing types, may be obtained
from Sanymetal's Catalog in Sweet's and
from the Sanymetal Representative in
your city. Use Sanymetal Porcena (Por-
celain on Steel) Toilet Compartments to be
sure of strictly modern toilet room environ-
ments, and to insure against obsolescence.

Sanymetal

Porcena (Porcelain on Steel)

TOILET COMPARTMENTS AND TOILET ROOM ENVIRONMENTS

CATALOG NO. 83

THE SANYMETAL PRODUCTS CO., INC.

1701 URBANA RD.

CLEVELAND, O.

A GUIDE TO TOILET ROOM TREATMENTS FOR Buildings of the Future

The aesthetic treatment of a toilet room environ-
ment is no longer secondary to its utility. A late
pre-war trend toward blending the utility of toilet
fixtures with appropriate toilet room environments
will have its full unfoldment in all types of the
buildings of the future.

Great strides have been achieved in the develop-
ment of toilet room environments in keeping with
other environmental treatments of a building.
Sanymetal Porcena (porcelain on steel) Toilet
Compartments, of which there are several types,

lift the toilet room environment into harmony
with other modern appointments of the building.
Sanymetal Catalog No. 83 for 1945 illustrates
Sanymetal Ceiling Hung and Standing Types of
Toilet Compartments that are suitable for creat-
ing original toilet room environments in all types
of buildings. Ask the Sanymetal Representative
in your vicinity for a copy of this catalog or refer
to Sanymetal Catalog 19B-5 in Sweet's Architec-
tural File for 1945. If you need an extra copy
of the catalog, use coupon.

THE SANYMETAL PRODUCTS CO., INC. • 1689 Urbana Road, Cleveland 12, Ohio

Sanymetal*

Trade Mark Reg. U. S. Pat. Off.

TOILET COMPARTMENTS and Office Partitions

THE SANYMETAL PRODUCTS CO., INC.
1687 Urbana Road, Cleveland 12, Ohio

Please send Sanymetal Toilet Room Environ-
ments Catalog No. 83.

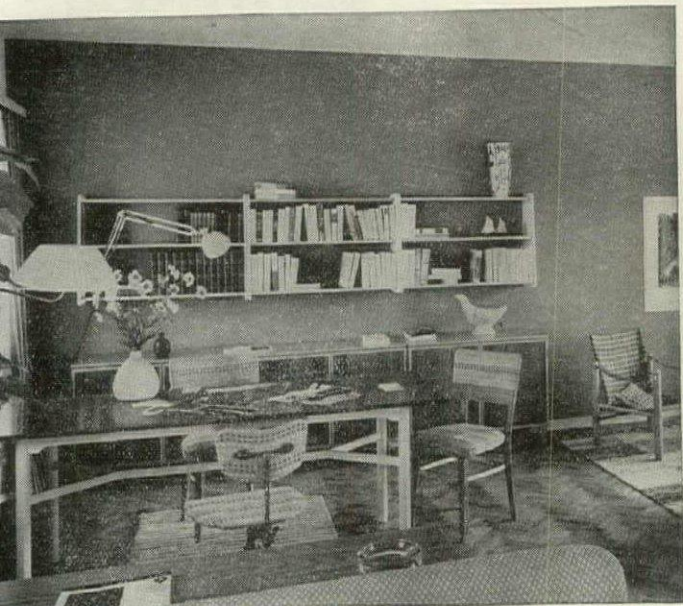
Name Position

Firm

Address

City State

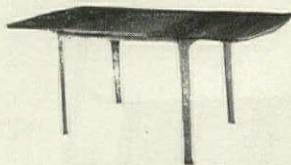
Please attach this coupon to your business letterhead.



BIRCH AND ELM ARE THE PREDOMINANT WOODS USED

Both cabinet and upholstered pieces are easily put together with ordinary screws and require no technical skill. All upholstering is done in the factory. In view of the economy of labor and space, and the low cost of the end product, it is interesting to note that in America, where shipping space is held at such a premium, similar methods of furniture merchandising have been adopted only by a few large mail order houses.

(Continued on page 68)



CENTER LEAF EXTENDS DINING TABLE



After the war What?

- Postwar building will keep in step with modern design—with new techniques of proven worth. And it will continue to make skilled use of those products of nature handed down by the wisdom of the ancients: wood, stone, brick, mortar and good lime plaster.

- Scientifically processed from rock quarried from the heart of the world's purest deposit of dolomitic limestone, the original Ohio White Finishing Lime and its famous twin, Hawk Spread will continue to assure walls and ceilings of enduring beauty.

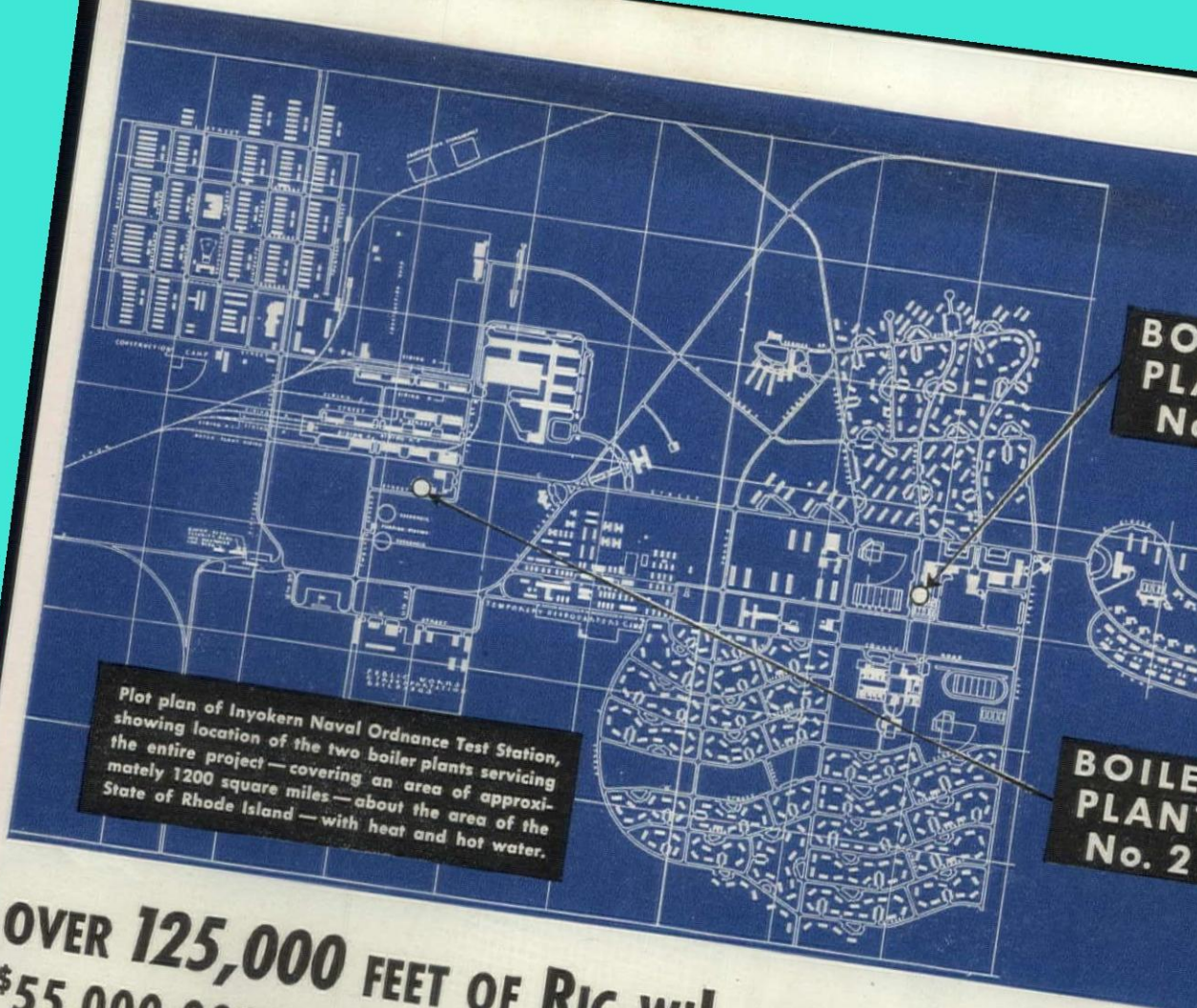
- Both brands are always fresh, both make pure white easy working putty that spreads far.

- For your protection the original Ohio White Finish and its famous twin, Hawk Spread are always packed in bags distinctively marked with Red Zig Zag Stripes.



For literature describing our complete line of Ohio lime products, write to

THE OHIO HYDRATE & SUPPLY CO.
Woodville, Ohio



Plot plan of Inyokern Naval Ordnance Test Station, showing location of the two boiler plants servicing the entire project — covering an area of approximately 1200 square miles — about the area of the State of Rhode Island — with heat and hot water.

BOILER PLANT No. 2

OVER 125,000 FEET OF RIC-WIL CONDUIT SYSTEM AT INYOKERN NAVAL ORDNANCE TEST STATION

\$55,000,000

Heat and hot water supply for the mammoth Inyokern Naval Ordnance Test Station near Inyokern, California are provided centrally from two boiler plants, through underground distribution piping, all insulated and protected by more than 125,000 feet of Ric-wil Conduit. The system includes 437 Ric-wil prefabricated expansion loops. The 9500 people employed in the area are housed in several hundred buildings comprising homes, dormitories, barracks, mess halls, post-office, theatre, school and hospital—all heated and supplied with hot water from the two central sources. By using Ric-wil products, installation time and cost were held to a minimum, and a permanent, trouble free distribution system is assured.

For Your Postwar Construction, Consider These Advantages of Central Heating...

- Savings of 15% or better in overall fuel consumption.
- Elimination of separate boiler tending for each building unit.
- Elimination of smoke and soot which destroy original beauty of buildings.
- Increase of available space in building basements.
- Elimination of coal delivery and ash removal from buildings.
- Uniform, clean heat provided quickly, whenever needed.
- Central unfailing source of hot water.

Engineers and architects with present or post-war projects on their boards, will find the new Ric-wil Catalog No. 44 a valuable source of information on efficient Central Heat Distribution for institutions, industrial or commercial building groups, housing projects and municipalities.



Official U. S. Navy Photo

Distribution Piping being installed in Ric-wil Tile Conduit at Inyokern.

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS
THE RIC-WIL COMPANY • CLEVELAND, OHIO
AGENTS IN PRINCIPAL CITIES

Your telephone might be like this!

Simplification is the order of the day. A telephone to which you listen and into which you talk, without having to hold a transmitter, is a future possibility. Similar improvements will be made in many other familiar products, and you will see too, a great variety of new things.

Many of these will call for wider use of the light alloys—aluminum and magnesium. Bohn engineering and research facilities will be at your disposal, in making the widest possible use in your products of the many sales and operating advantages of these light alloys.

BOHN ALUMINUM AND BRASS CORPORATION, DETROIT 26, MICHIGAN

GENERAL OFFICES—LAFAYETTE BUILDING

*Designers and Fabricators—*ALUMINUM • MAGNESIUM • BRASS • AIRCRAFT-TYPE BEARINGS



BOHN

BUY
WAR
BONDS





Allen Township School, Williston, Ohio. Architect—C. H. Shively, Fremont, Ohio

How to make full use of Natural Daylight

School boards have made an important discovery! They have found that they can save money and—more important still—they can save *children's eyes* by installing light-giving panels of Insulux Glass Block.

Panels of Insulux Light-Directional Block transmit and diffuse light far better than ordinary construction and, at the same time, provide privacy along with light.

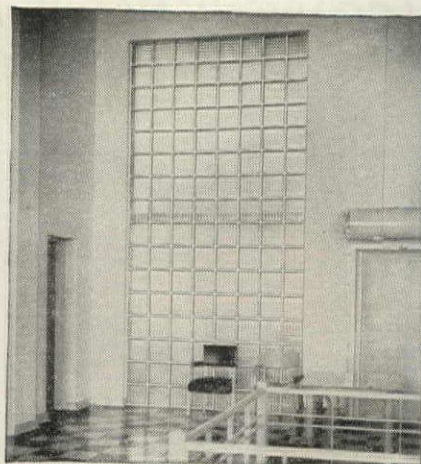
When these Light-Directional Block are used, natural daylight can be projected deep into the interior of classrooms, laboratories, gymnasiums, corridors and entrance ways. *There is light for all—without objectionable glare!*

There are other advantages, too. Panels of Insulux cut down sound transmission — lock out dirt and dust, and reduce materially the cost of cleaning, heating and air conditioning.

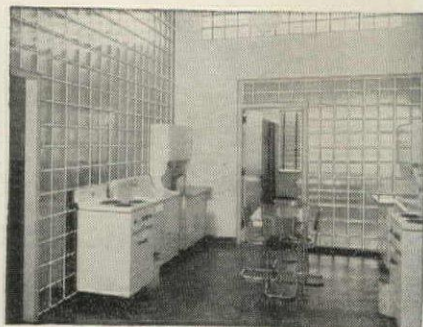
OWENS - ILLINOIS

INSULUX

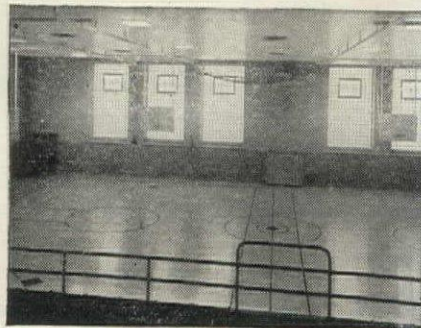
GLASS BLOCK



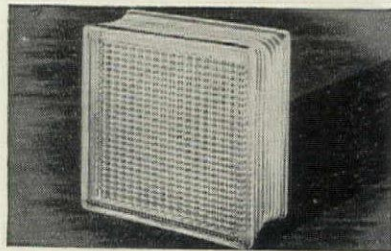
Colorado State Teachers College, Greeley, Colo.
Architect—F. W. Ireland, Greeley, Colo.



Beall Junior and Senior High School, Frostburg, Md.
Architect—Robert Holt Hitchens, Cumberland, Md.



Cardinal Hayes High School, New York City, N. Y.
Architects—Eggers & Higgins, New York City



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!

For technical data, specifications, and installation details, see our section in Sweet's Architectural Catalog, or write: Insulux Products Division, Dept. B-22, Owens-Illinois Glass Company, Toledo 1, O.

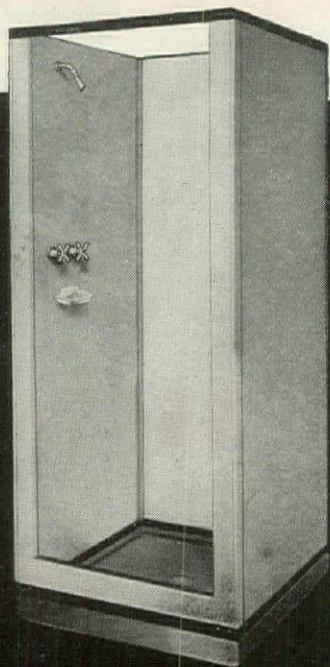
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"BATHE-RITE" SHOWER CABINETS for post-war are designed in *standardized sizes* on the modulus of 4. Place "Bathe-Rite" in your new or remodeled home plans now. Suitable for all types of structures. Simple to install, durable in construction, attractive in styling. Illustrated catalogue sent you upon request. See our postwar catalogue in Sweets.



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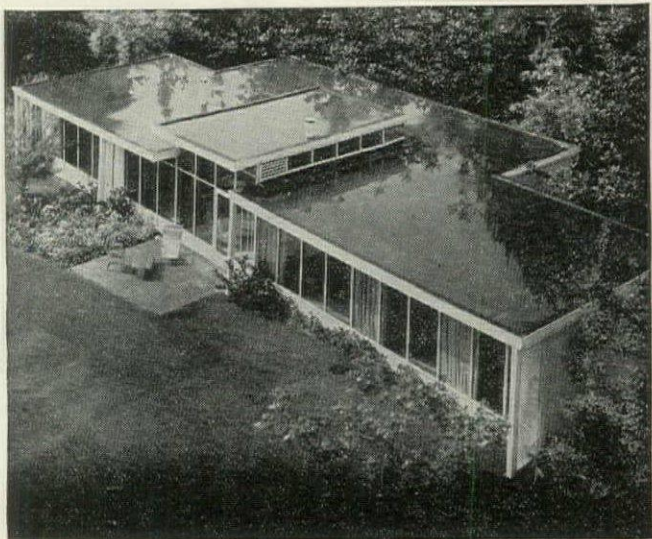
FORUM OF EVENTS

(Continued from page 64)

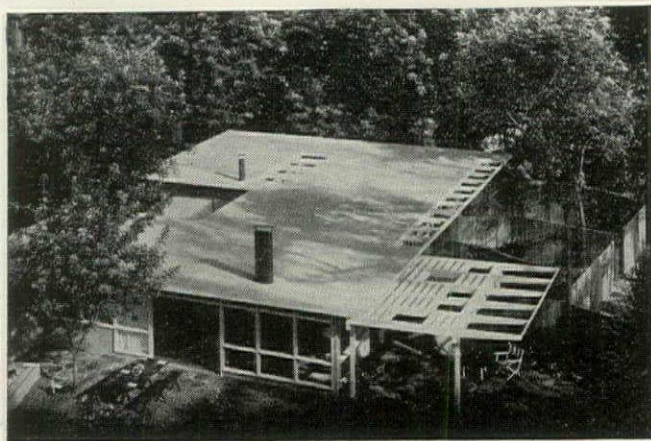
EXHIBIT: Tomorrow's Small House

Models of eight modern houses and a modern community are on view at the Museum of Modern Art until Sept. 30. Designed at the request of Richard Pratt, architectural editor of the *LADIES' HOME JOURNAL*, the houses are the work of George Fred Keck, Carl Koch, Philip Johnson, Mario Corbett, Hugh Stubbins, Jr., Plan-Tech Associates, Vernon DeMars and Frank Lloyd Wright. The April issue of the *FORUM* included three of these in the House Omnibus section; the Stubbins, Plan-Tech and DeMars houses. With the exception of Wright's design the others employ substantially the same approach. Beautifully executed models, originally made to provide realistic color photographs for publication in the *JOURNAL*, lend themselves admirably to exhibit purposes. Built of wood, metal and various other materials at the scale of one inch to a foot, they were made by Devon Dennett and Raymond Barger Studios, with furniture by Betty DeMars

Courtesy: Museum of Modern Art



George Fred Keck, architect



Mario Corbett, architect

and Raymond Barger. All of the plans incorporate modern principles of design such as large glazed areas, open planning and radiant heating. With the exception of the two-storied Koch and DeMars houses, all are arranged on one floor with no cellars or attics. All, with the possible exception of the brick, steel and concrete house by Wright, were planned for mass-production, in accordance with Editor Pratt's theory, frequently expounded in

(Continued on page 72)

IN PITTSBURGH, TOO

Reliance is placed on Norge "Products of Experience!"



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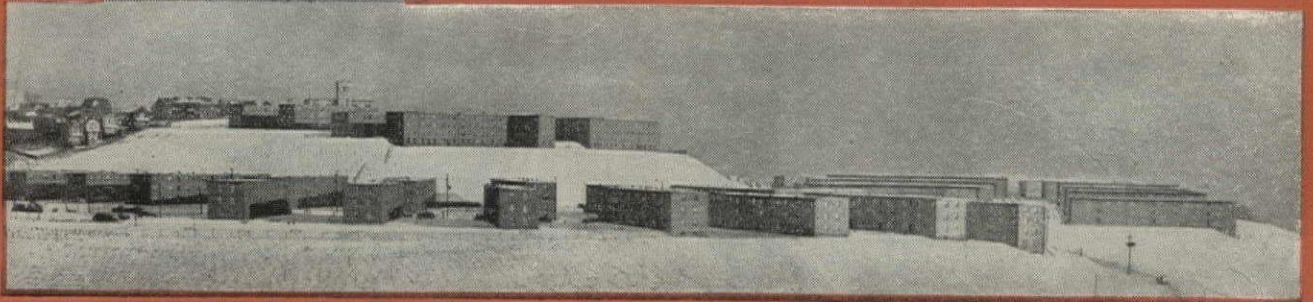
NUMBER OF BUILDINGS: 87

NUMBER OF DWELLING UNITS:
1851

NORGE EQUIPMENT: 1851
GAS RANGES

At left: Wadsworth Terrace

Below: Alliquippa Terrace



The combined WADSWORTH and ALLIQUIPPA housing projects, located in the "Terrace Village" section of Pittsburgh and consisting of 87 separate buildings, furnish further evidence of the high regard in which Norge household products are held by eminent architects and builders.

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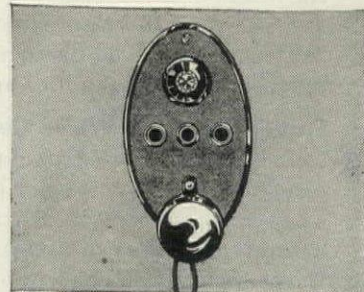
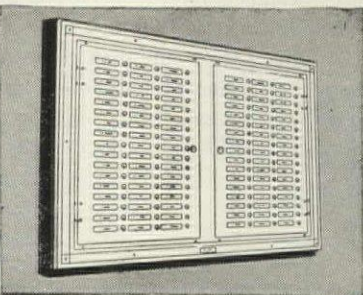


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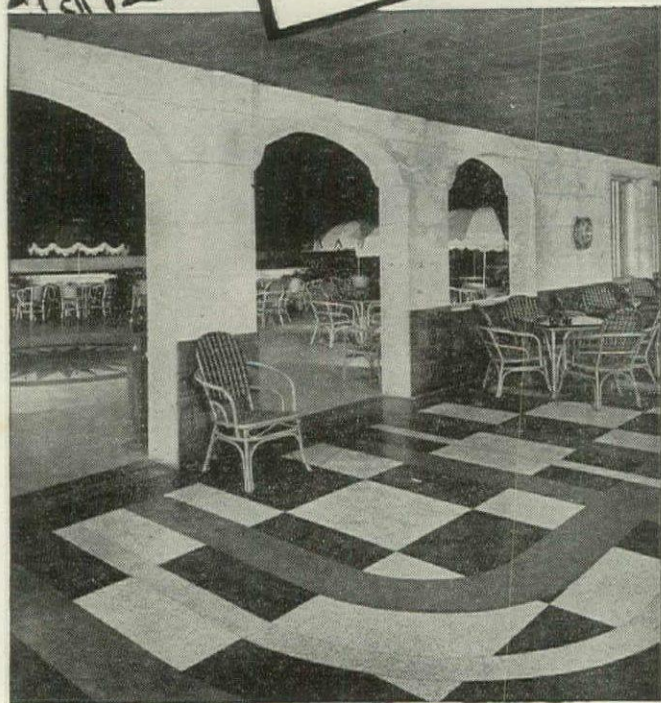
MERIDEN



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DOCTORS' REGISTRY • INTERIOR TELEPHONE SYSTEMS • NIGHT
LIGHTS • NURSES' HOME TELEPHONE AND RETURN CALL SYSTEMS





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For further information, write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

The matrix is as important as the marble chips

AF-T-8

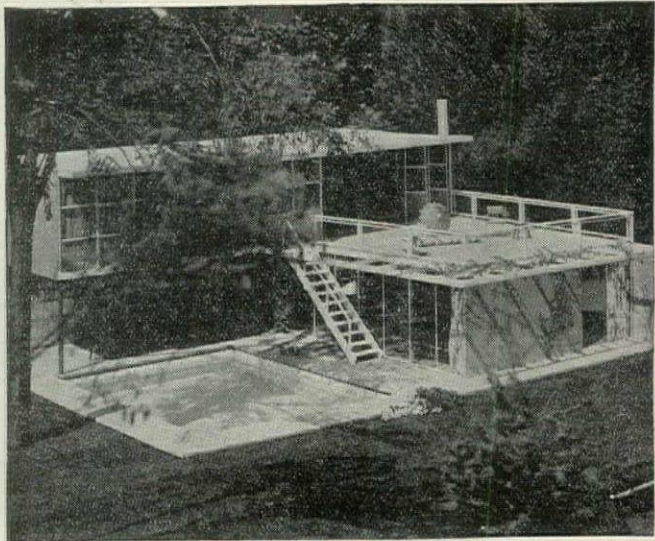


ATLAS WHITE CEMENT
for FINE TERRAZZO

FORUM OF EVENTS

(Continued from page 63)

Courtesy: Museum of Modern Art



Carl Koch, architect

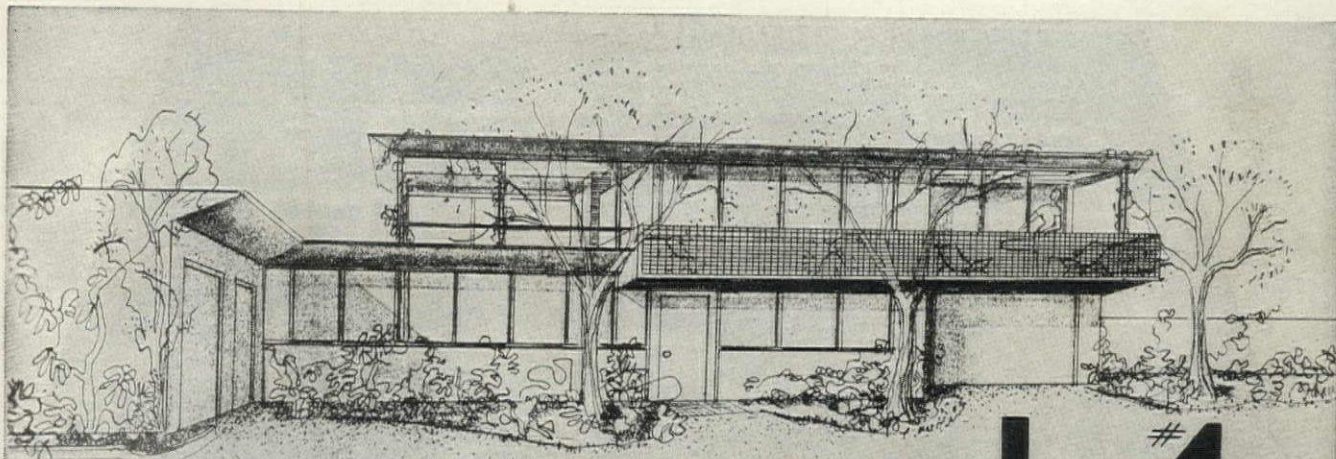
the JOURNAL, that the "average American family (of two adults and from two to four children, with an income of from \$2,000 to \$3,000 a year) has been unable to buy or rent a really adequate house" but that a house, ". . . costing from \$4,000 to \$6,000, can be realized by utilizing to the full our present potentialities in planning, materials, manufacture, assembly methods and financing." It is questionable whether all of the houses, even under these conditions, would actually prove accessible to this income bracket, but the designs do provide a mark for the prefabrication industry to shoot at.

Recognizing that a house design alone is not a complete solution to the housing problem, Pratt has included in the exhibit a neighborhood project planned by Serge Chermayeff, Susanne Wasson-Tucker and Vernon DeMars, from a site-plan by Vernon DeMars. The model built at a scale of 1/16 in. incorporates all the houses designed for the JOURNAL, as well as eight-story apartment blocks, a shopping center, schools and recreational facilities. The site-plan follows modern planning principles with location of houses on cul-de-sacs, segregation of through traffic, common interior spaces and separate pedestrian and motor car access to the commercial district.

DIED

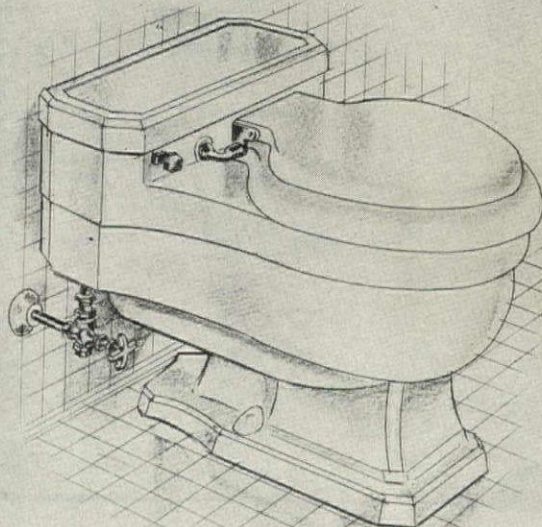
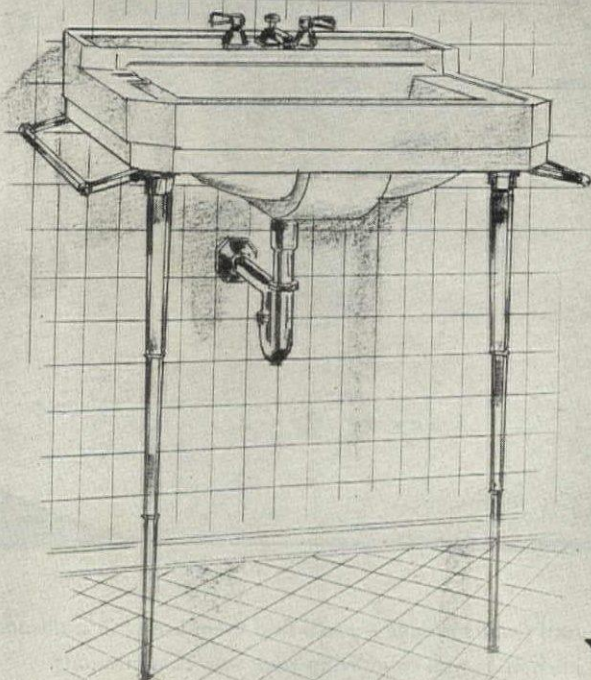
LEON N. GILLETTE, of Walker & Gillette, architects, on May 3, in New York City, at the age of 67. He was graduated from the University of Pennsylvania in 1899 and from the Ecole des Beaux Arts, Paris, in 1903. During the First World War he was assigned to the Surgeon General's Office for hospital construction. He was president of the New York Society of Beaux Arts Architects in 1935 and 1936. He was a fellow of the AIA, and a member of the Architectural League of New York. Among the awards won by Walker & Gillette are the AIA medal for apartment house design in 1910; the gold medal of the Architectural League of New York for excellence in residential work in 1922; the gold medal of the AIA for domestic architecture in 1925 and the medal award of the Pittsburgh Glass Institute for the entrance to the 40 Wall Street Building.

(Continued on page 76)



Case Study House #1

SPONSORED BY ARTS & ARCHITECTURE MAGAZINE
J. R. DAVIDSON, DESIGNER



...with plumbing fixtures by **Case**

WHEN your objective is "a simple and straightforward expression of the living demand of modern-minded people," the selection of Case vitreous china bathroom fixtures is natural and logical.

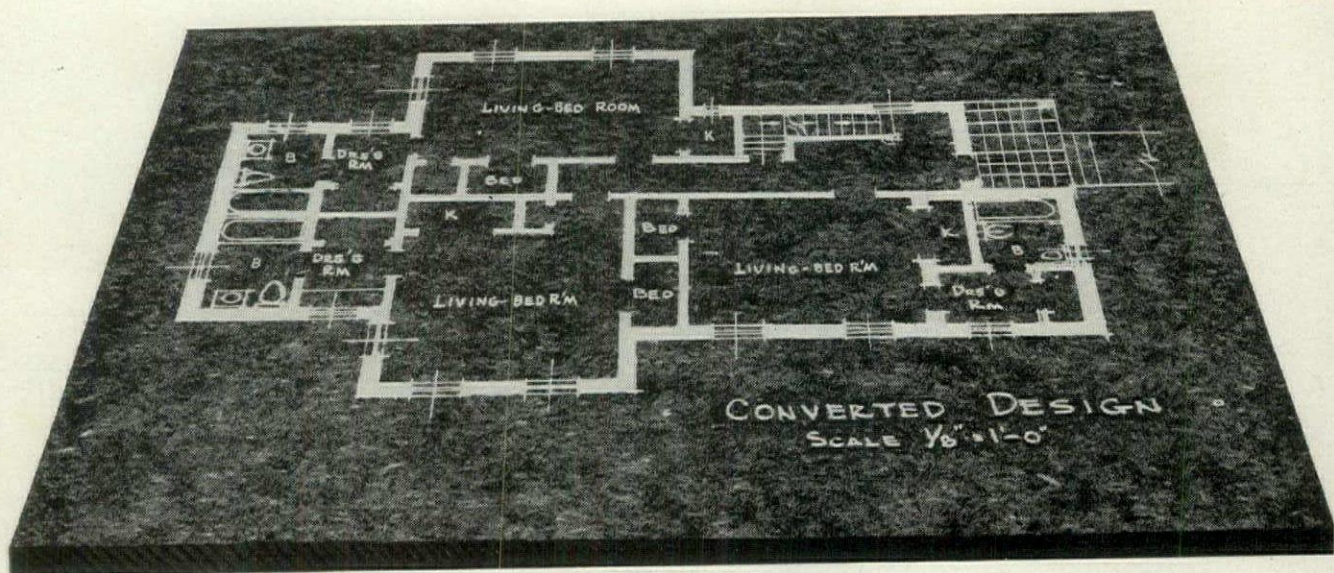
The pleasing outward appearance as well as the excellent mechanical construction of these fixtures continues to win the favor of leading architects concerned with comfort, serviceability and convenience.

Mr. Davidson has specified Case fixtures for "Case Study House #1," first in an interesting group which is to be constructed as soon as conditions permit. His selection reflects the acceptance of "Case quality" by professional men and home owners alike.

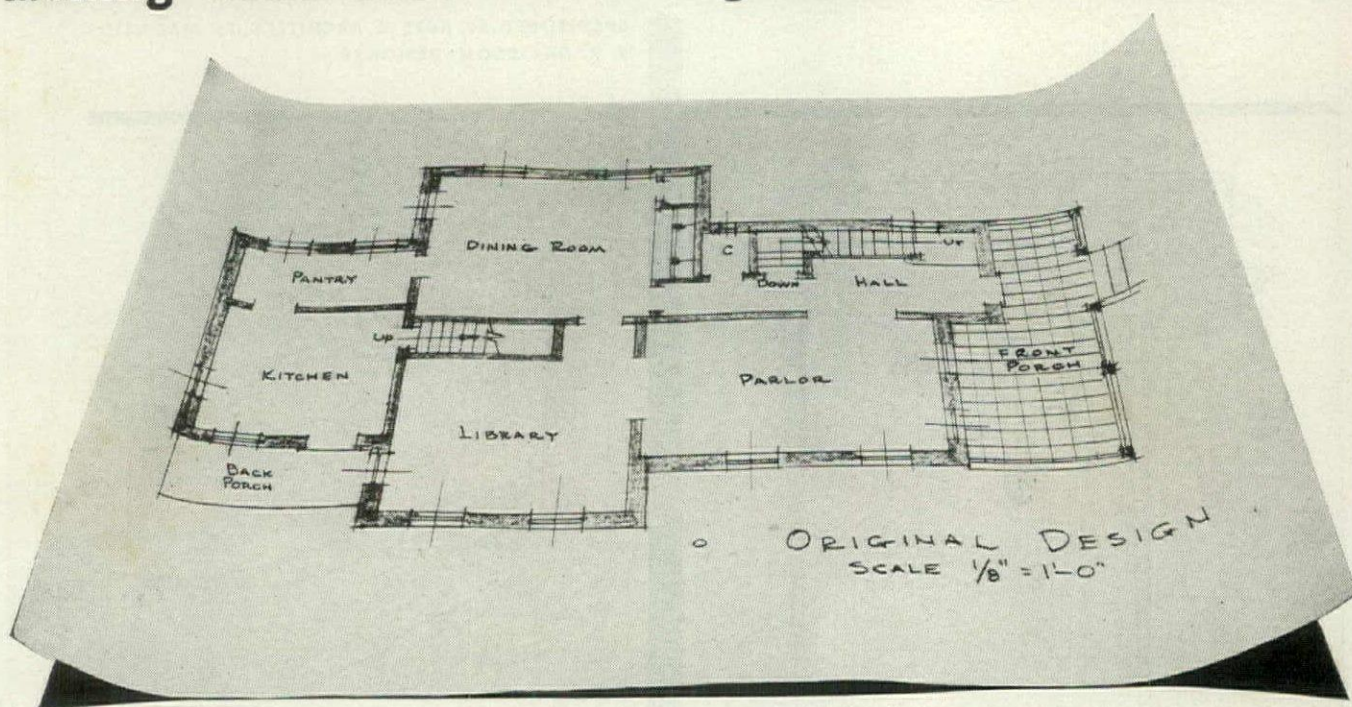
Case plumbing fixtures are distributed nationally. See the Classified Telephone Directory or write to W. A. Case & Son Mfg. Co., Buffalo 3, New York. Founded 1853.

ABOVE—America's most popular water closet is the T/N. Modern in design, quiet in operation, precision-built, non-overflow, non-syphoning. An adaptable free-standing fixture.

LEFT—The famous Winston Lavatory "fits" equally well in the formal house or the cottage. For convenience and utility it features an integral shelf, extra large basin, anti-splash rim and concealed front overflow.



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The advantages of small, modern, efficient units count double when your clients consider rent income, the needs of returning service men, and the relentlessly growing housing shortage.

In remodeling—as in new construction—the slogan, "make every inch count," pays out all around. That's where the Masonite* Presdwoods can help you in many ways.

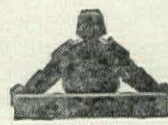
These hard, smooth, grainless boards allow you great latitude in design and decorative effects—natural or painted. For durable dry walls, ceilings, partitions, built-in cabinets

and work surfaces—you'll find them useful in bathroom and kitchen as well as in living-bedroom combinations.

The Presdwoods go up easily and quickly over old construction—simplify new construction or alteration work immensely. They come both smooth and tile-patterned. For complete data on all the Masonite building products, write to Masonite Corporation, Dept. AF-7, 111 West Washington Street, Chicago 2, Illinois.

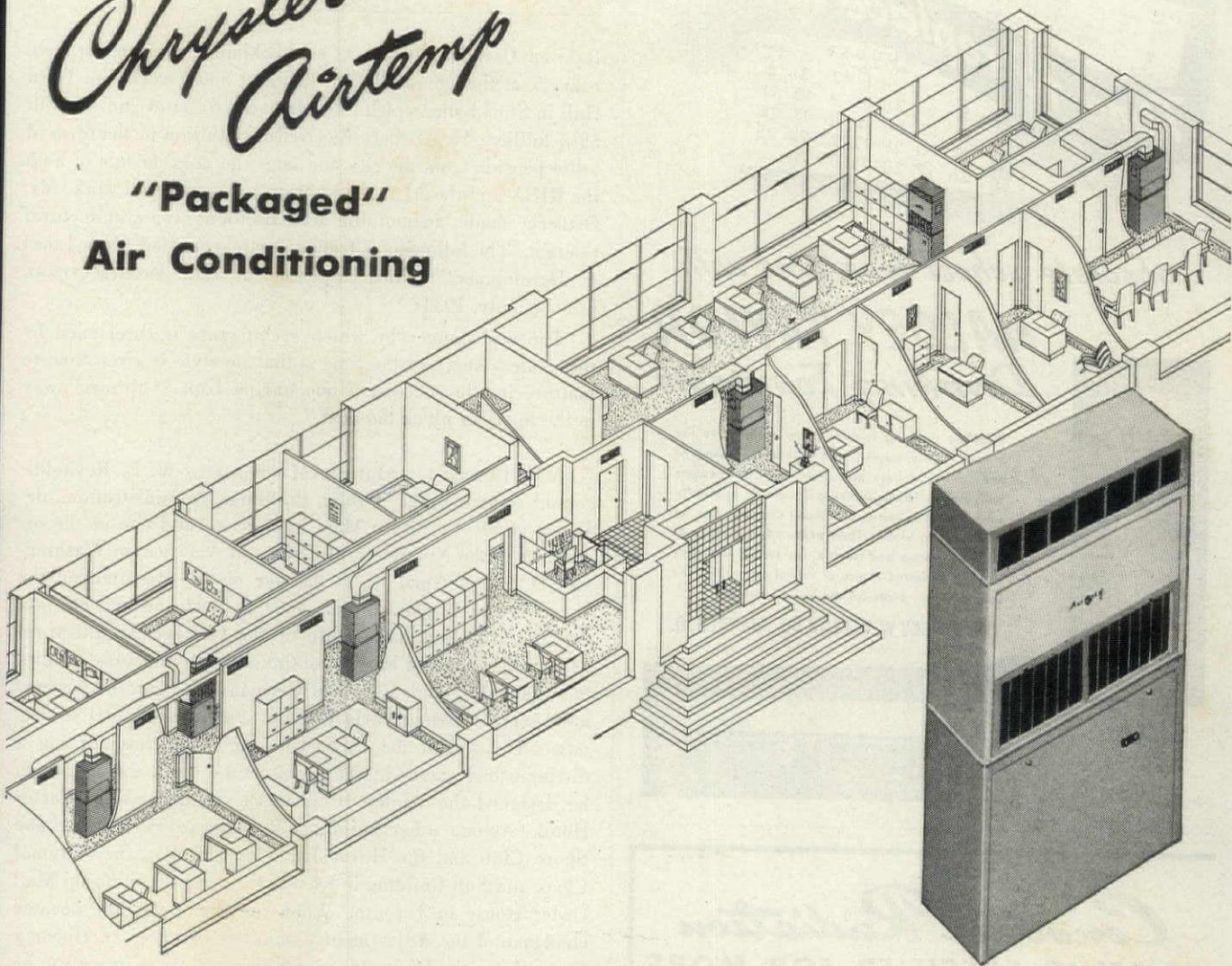
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properly dehumidified and gently circulated air in many of our offices today. Flexible and easy to install, these dependable, trouble-free and time-tested Chrysler Airtemp "Packaged" Air Conditioners, with the hermetically sealed radial compressors, can be used singly or in multiple—with or without a duct system. Specify Chrysler Airtemp "Packaged" Cooling as a sound investment in factory offices. • Airtemp Division of Chrysler Corporation, Dayton 1, Ohio.

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CHRYSLER AIRTEMP

HEATING • COOLING • REFRIGERATION

(Continued from page 72)

RAGNAR OSTBERG, architect, in Stockholm, Sweden, on February 5, at the age of 78. For his most noted work, the Town Hall in Stockholm, which took ten years to build and cost but \$2½ million, Mr. Ostberg received recognition in the form of a life pension from the city and later the gold medals of both the RIBA and the AIA. In addition to his material work, Mr. Ostberg made memorable contributions to architectural thought. The following is from an article entitled "New Lines of Development" which appeared in THE ARCHITECTURAL FORUM, July, 1934:

"The real danger by which architecture is threatened by the restless hurry of the time is that no style is given time to mature, but in succession one unripe fruit is thrown away in the hurry to pluck the next."

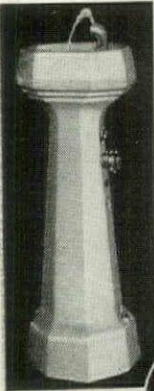
N. MAX DUNNING, architectural advisor to W. E. Reynolds, commissioner of the Public Buildings Administration, designer of the Furniture Mart in Chicago and one of the organizers of the Architectural League of America, in Washington, D. C., on April 19, at the age of 72. He attended the University of Wisconsin from 1891 to 1894 and in 1900 won the first traveling scholarship of the Chicago Architectural Club which enabled him to continue his architectural studies in France, England, Italy and Germany. He entered Government service during World War I as a member of the Requirements Division of the U. S. Housing Corp., interrupting a distinguished career in the architectural field, during which he designed the Winton Hotel in Cleveland, now the Carter Hotel. Among other buildings he designed were the Lake Shore Club and the Hayes Hotel in Chicago; the National Cloak and Suit Building in Kansas City and the Simpson Mail Order House in Toronto. When the war ended, he became chairman of the Adjustment Committee of the U. S. Housing Corp. After the Reconstruction Finance Corp. was set up, he became its architectural advisor in 1933.

JOHN AUGUR HOLABIRD, architect, on May 4, his 59th birthday, in Chicago. The firm of Holabird & Root, of which he was a member, designed many of Chicago's important buildings; the Illinois Bell Telephone Building, the Palmolive Building, the Patton Gymnasium and the Technological Institute Building of Northwestern Univ., International House of the Univ. of Chicago, the Palmer House, Stevens Hotel, Hotel Sherman and Passavant Hospital. Mr. Holabird was chief architect for the Jane Addams and Trumbull Park Housing projects and the firm won the competition for the Chrysler Building at the Century of Progress in 1933 and for the Art Institute and Soldiers Field. Mr. Holabird was trustee of the Art Institute, a fellow of the AIA, a member of the Chicago Plan Commission and belonged to the Committee of Architects that designed the Century of Progress.

JOSEPH BENEDICT REINHALTER, prominent sales manager, on March 28, in Washington, D. C., at the age of 70. During his 14 years with the Woodbury Granite Co. of Vermont, Mr. Reinhalter handled sales which amounted to about \$20 million and was also in charge of various construction details. He was associated with the Gray Knox Marble Co. for 15 years, was the vice-president of this firm for five years, and for two years was in direct charge of the business which took in the quarrying and fabrication of materials and other detail work.

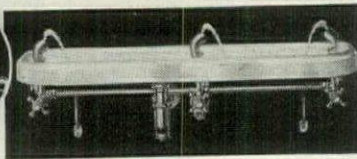


...obsolete school fountains with **HALSEY TAYLOR** *Drinking Fountains*



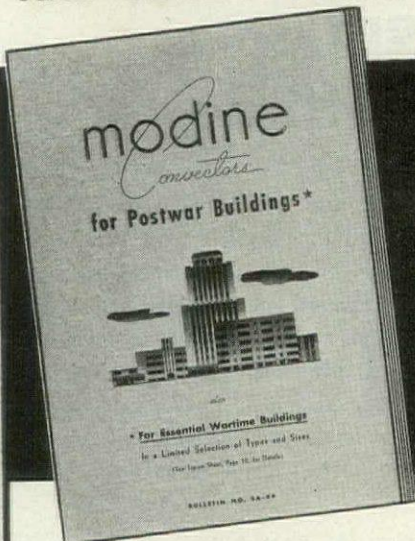
Obsolete drinking fountains are a threat to the health of the pupils, and above all costly to maintain in dollars and cents. Why not replace with Halsey Taylor Drinking Fountains, especially since their first cost is practically the only cost for a long, long while. Their patented features promote sanitation and trouble-free service and they are the preferred choice of school authorities the country over. Write for the latest catalog.

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S-4

Convactor Radiation IS BEING SPECIFIED FOR MORE AND MORE POSTWAR BUILDINGS



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Modine Convectors

THREE AIRLINE OFFICES

1. CHICAGO Architects Holabird and Root use a sloping ceiling and cove lighting in an office space planned to serve passengers for twenty-three daily flights.

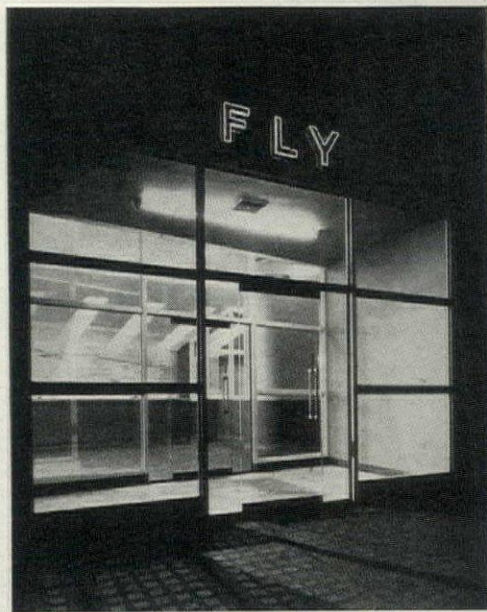
An evidence of the coming postwar expansion is the opening on June 1 by Northwest Airlines of the fourth transcontinental air route, with planned extensions to the Orient. To handle the expected passenger volume along the new airway the company has built eight new offices, three of which are shown here.

The office in Chicago is located at the street level corner of a typical business building. Entrances open from both streets and the lobby of the building. There is a separate entrance for baggage. The plan clearly reflects its function, the main traffic moving directly to the ticket counter and then to the more secluded waiting area. Stairs lead to a lower floor devoted to toilets, communications, additional offices, storage, and ventilating machinery.

The unusual ceiling is of metal lath and plaster, suspended to allow room for air conditioning ducts whose outlets are in the central lighting cove running the full length of the office. Walls are painted in white, gray and red; ceiling is white with sloping portion in blue to relate to the blues and grays of the mural map by Edgar Miller. The waiting room is furnished with couches and chairs upholstered in blue grospoint. All wood trim is birch finished in silver gray.

CARROLL CONSTR. CO., General Contractor

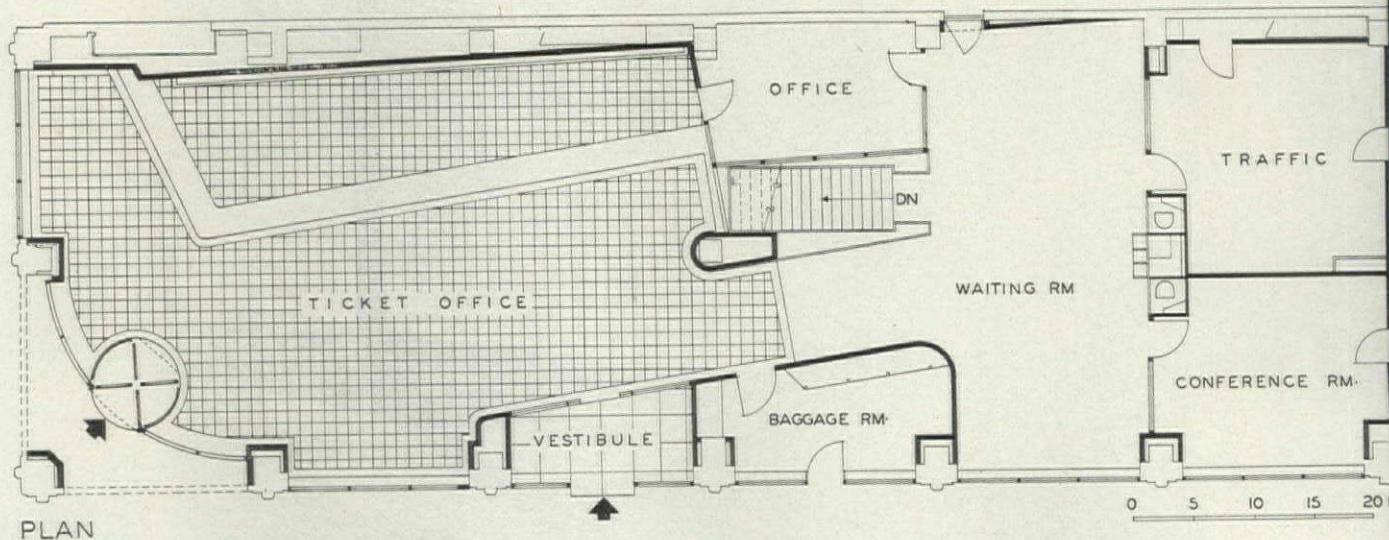
Photos: Hedrich-Blessing

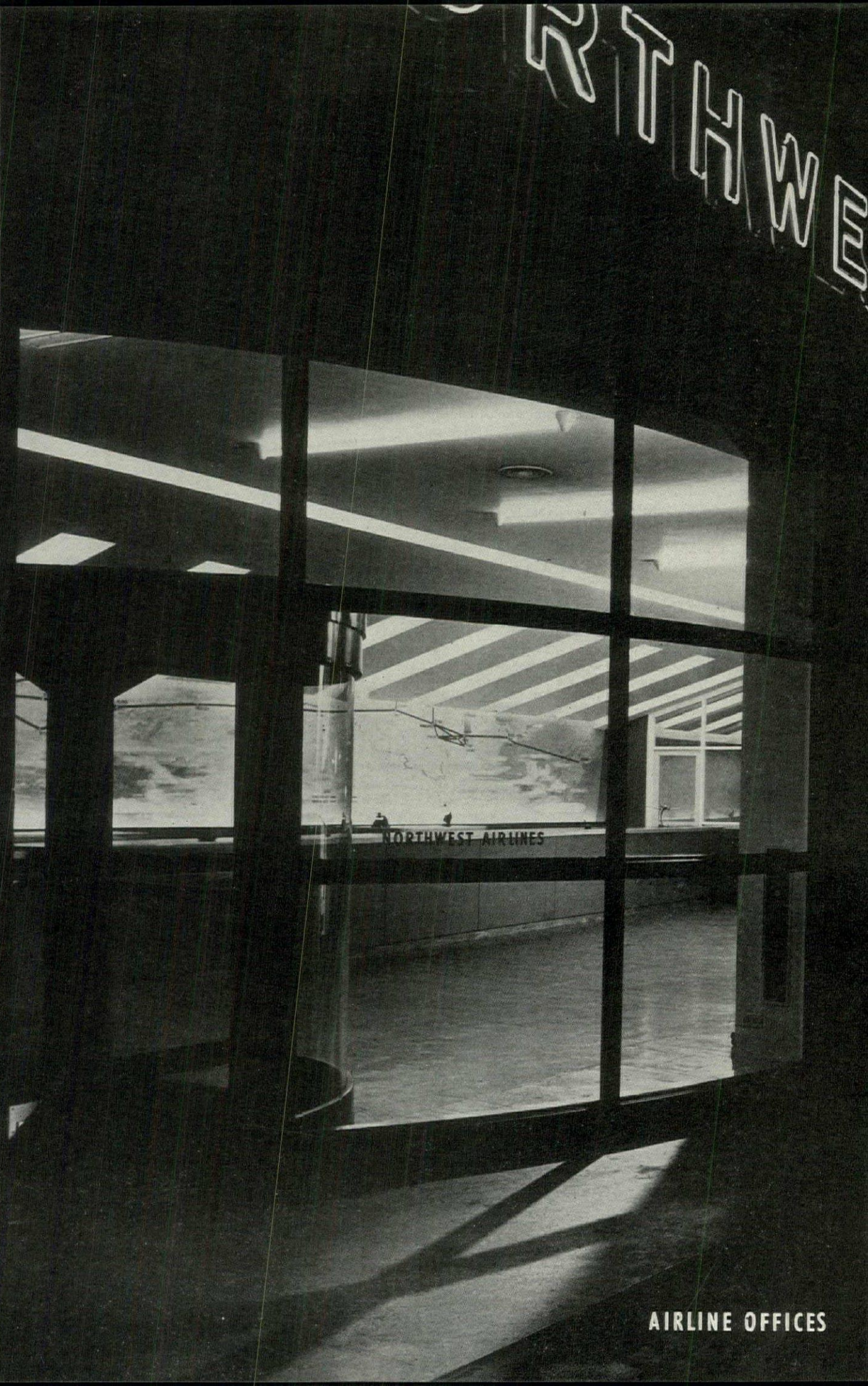


TEMPERED GLASS ENCLOSES VESTIBULE

FINISHES AND EQUIPMENT

STRUCTURE: Exterior walls—show window construction, 11/32 in. black Vitrolite with backing of Haydite and tile above transom; interior—metal lath and plaster. Floors—asphalt tile, Tile-Tex Co. **WINDOWS:** plate and etched glass, Pittsburgh Plate Glass Co. **ELECTRICAL INSTALLATION:** Wiring—230 and 208 v. Fixtures—cold-cathode tubing, General Luminescent Corp. **HEATING:** Forced warm air system, designed for future cooling with Climate Changer unit, Trane Co. Regulators—Minneapolis-Honeywell Regulator Co. Grilles—Barber-Colman Co. Concealed outlets—Tuttle & Bailey.

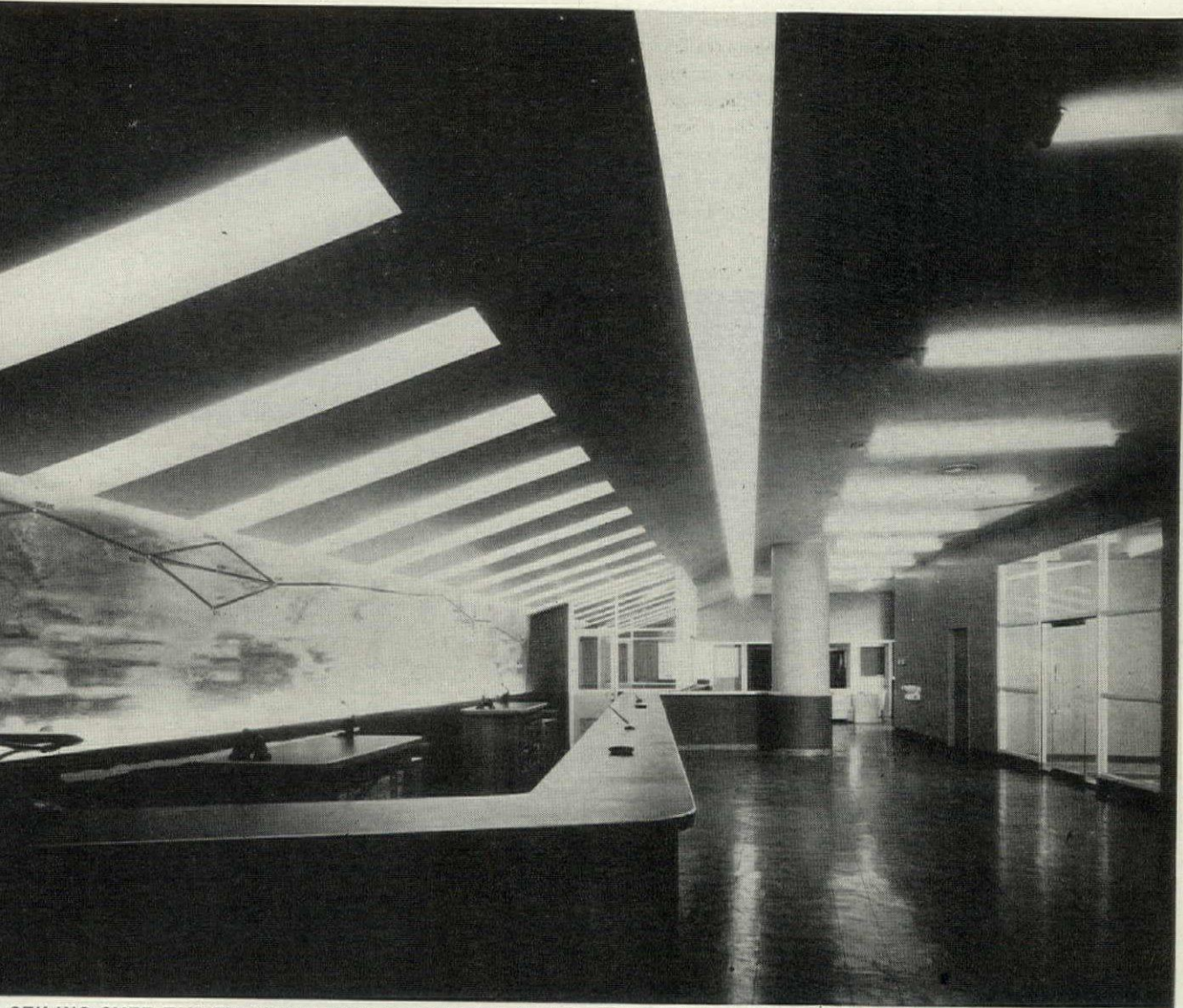




NORTHWEST

NORTHWEST AIRLINES

AIRLINE OFFICES



CEILING OVER TICKET AREA REDUCES FORMALITY, PROVIDES INCREASED ILLUMINATION NEEDED FOR WORKING

AREA IS LIGHTED BY EXPOSED TUBES, COUNTER BY COVES

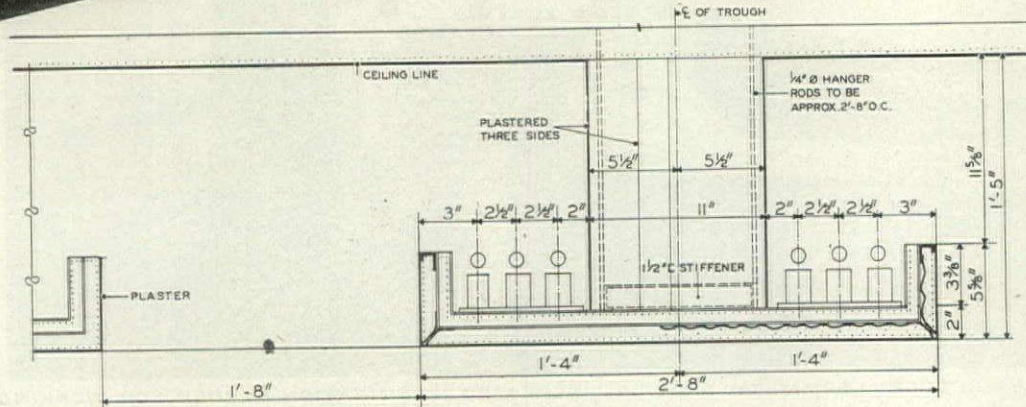
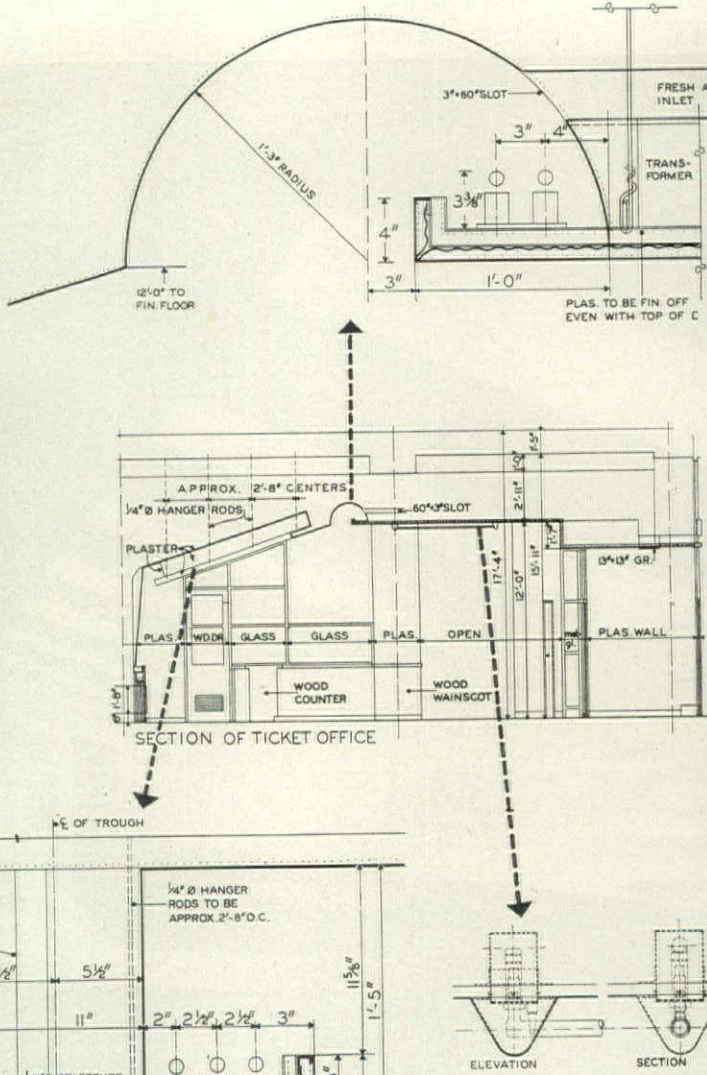


ENCLOSED OFFICE VIEWS INTERIOR



Interior lighting has been carefully planned, and does not have the spotty effect in actuality which the photographs suggest. Some 2,000 ft. of cold-cathode tubing, plus incandescent fixtures, are used. The public areas are illuminated by exposed tubes mounted on the ceiling, and the ticket and office areas by tubes concealed in 36 parallel coves and a single longitudinal one 80 ft. in length. The 8 ft. tubes in the parallel coves are wired in three circuits for proper intensity control.

Hedrich-Blessing

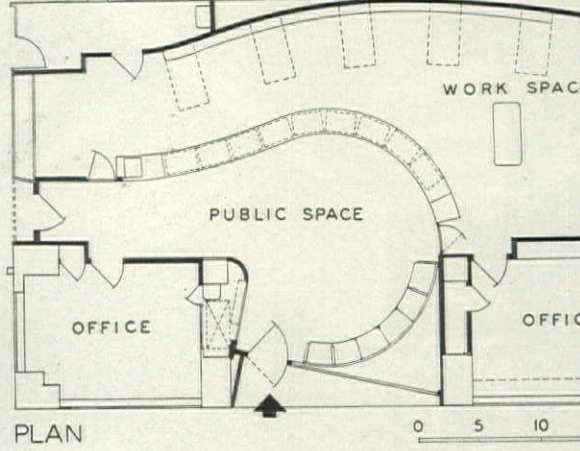


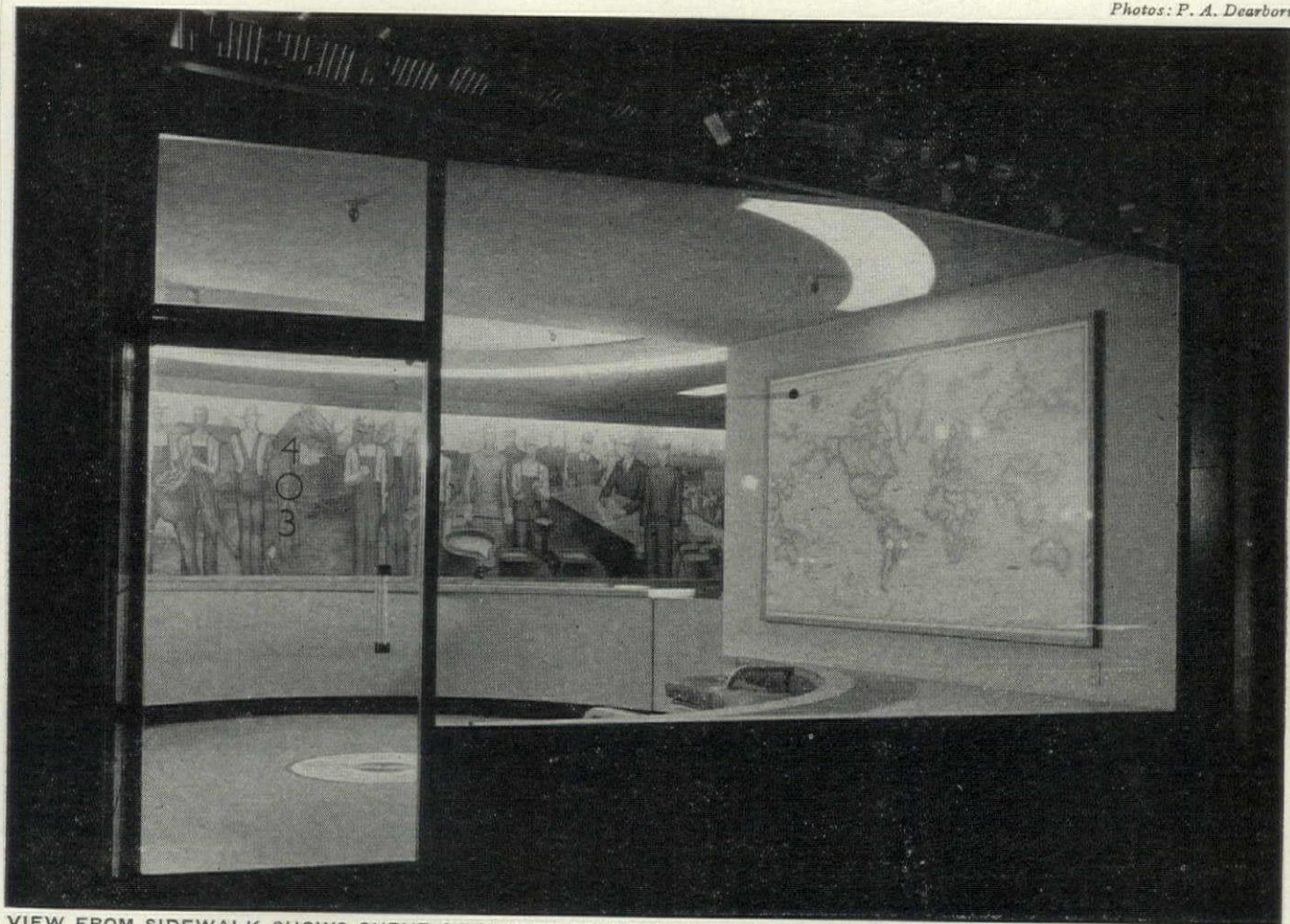
2. SEATTLE

A handsome interior seen through large windows attracts patrons to this office designed by architect William J. Bain of Naramore, Bain, Brady and Johanson.

In this usual hotel ground floor space the architect was required to provide two private offices, a public space with seating, a curved counter and adjoining work space, air conditioning equipment, and a baggage room accessible both to the interior and exterior. As no exterior advertising was permitted, a colorful mural by John and Ann Winters was placed to attract the eye of passersby. Air conditioning machinery occupies the space between two columns, and is accessible for repair through removable wood panels in the west office. Fresh air intake is under the triangular entrance soffit.

FINISHES AND EQUIPMENT: STRUCTURE — terra cotta tile, Gladding, McBean & Co. Ceiling—acoustical plaster. WINDOWS: Sash—Fentron steel, Fentron Steel Works. Etched glass design and special fixtures by Harry C. Lynde. FLOOR COVERINGS: Linoleum in public areas, cork behind counter, Armstrong Cork Co. CABINETS — mahogany, Micarta tops, Westinghouse Electric & Mfg. Co. HARDWARE — Yale & Towne Mfg. Co. AIR CONDITIONING—Westinghouse Electric & Mfg. Co.





VIEW FROM SIDEWALK SHOWS CURVE OF TICKET COUNTER CONTINUED INTO SEATING FOR WAITING PASSENGERS
WORK SPACES ARE LIGHTED BY COLD-CATHODE TUBES RECESSED ABOVE COUNTER AND CONCEALED BELOW MURAL



3. NEW YORK

The entire end of a narrow 5th Ave. office is opened by architects Holabird and Root to let in daylight and display an attractive interior.

The New York terminus of the airline is the smallest of the three offices, designed to accommodate passengers for eleven planes a day. The site is one of the narrow store spaces typical of 5th Ave., and the architects have preserved a feeling of space by keeping their design extremely simple. Public and work areas are almost evenly divided; an air conditioning unit is housed at the rear.

The plate glass front of the office is made continuous by placing the door at right angles to the facade in a setback entry way. The interior is faced with structural glass, black on the public side, gray behind the counter and extending outside into the setback entry. The ceiling above the counter is painted a sky blue, and the trim is ebony stained gray. The map illuminating the northwest route is a striking and useful decorative feature.

Lighting is from a series of 25 mm. cold cathode tubes placed in narrow parallel coves so that the tops of the tubes are slightly above the plaster line. The length of the tubes increases toward the rear of the office, thereby adding artificial illumination as daylight decreases.

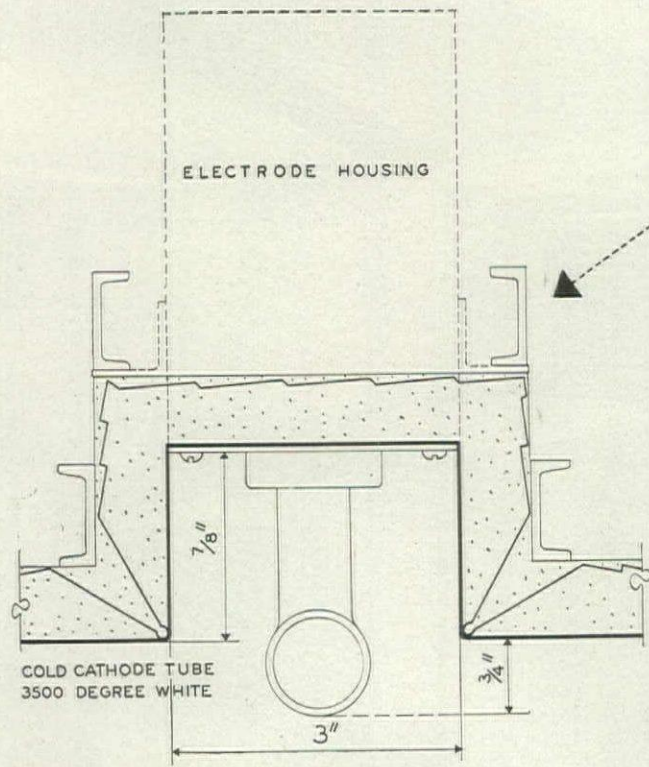
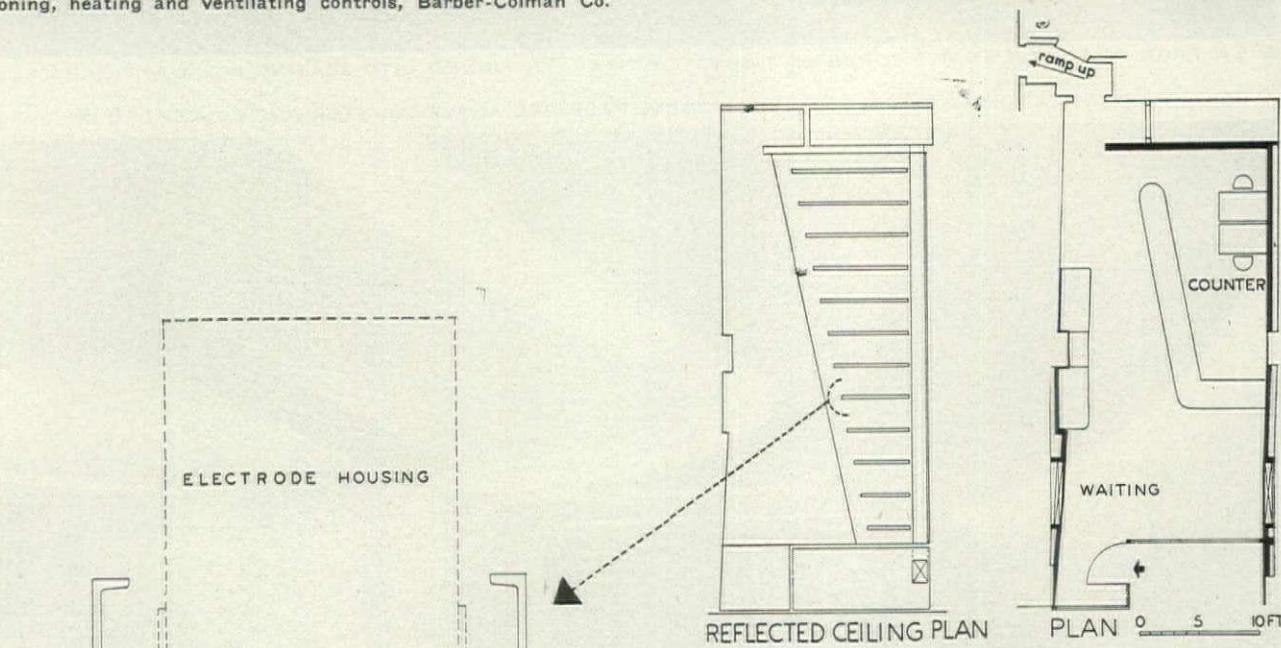
FINISHES AND EQUIPMENT

STRUCTURE: Store front—plate glass and painted metal, structural glass and Herculite door and side light, Pittsburgh Plate Glass Co. **INTERIOR**—Vitrolite, Libbey-Owens-Ford Glass Co. and Carrara glass, Pittsburgh Plate Glass Co. **Ceilings**—metal lath and plaster. **Floors**—terrazzo; some Corinco cork tile, Cork Insulation Co. **HEATING AND AIR CONDITIONING.** Recessed convectors for office, Trane Co. Weathermaker unit installed in room at rear used as plenum chamber, Carrier Corp. Air conditioning, heating and ventilating controls, Barber-Colman Co.

EDWARD H. KLEIN, General Contractor

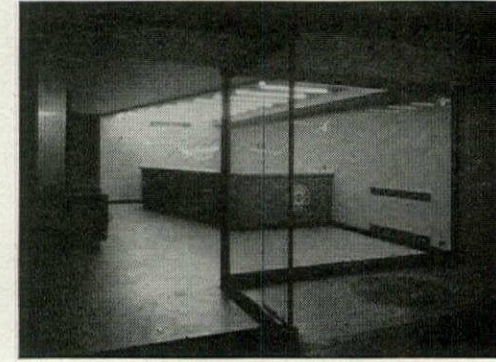


GLASS BLENDS INTERIOR AND EXTERIOR



DETAIL OF PLASTER LIGHT TROUGH

NIGHT EFFECT IS CLEAN AND DRAMATIC

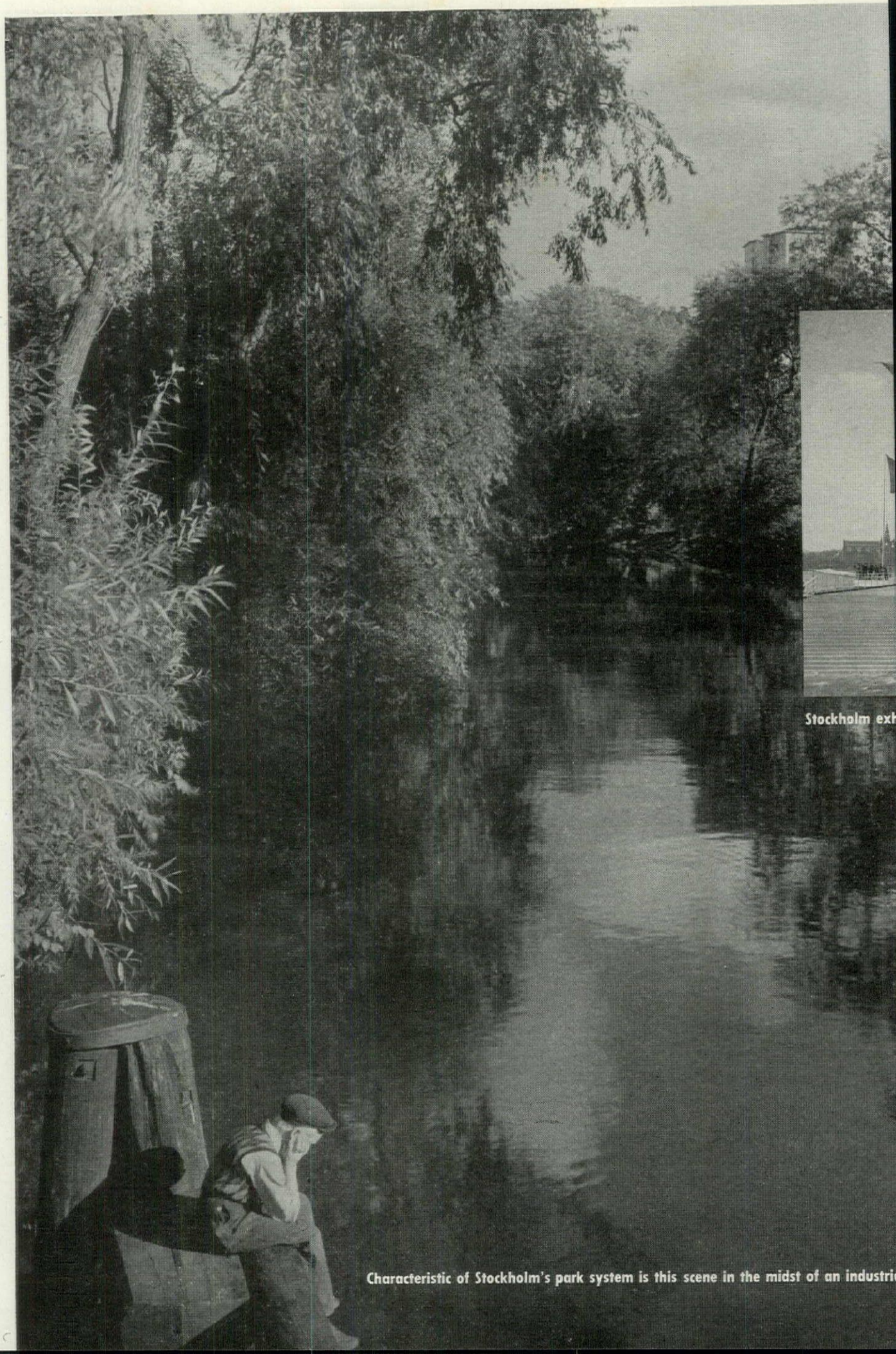




TERRAZZO INTERIOR FLOOR IS CONTINUED THROUGH TO SIDEWALK AND ORNAMENTED BY EMBLEM OF AIRLINE

BLACK STRUCTURAL GLASS BEHIND CHERRY RED BENCHES AND MAGAZINE RACK GIVES ACCENT TO CRISP INTERIOR





Stockholm exh

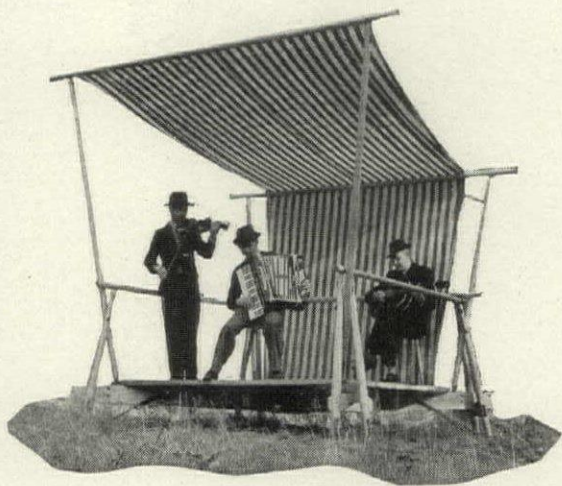
Characteristic of Stockholm's park system is this scene in the midst of an industrial

SWEDEN is modern

G. Howard Smith reviews the development of contemporary architecture in Sweden. A selection of recent residential, recreational and cultural buildings.



1930 inaugurated Sweden's swing toward modern architecture



To have lived in Sweden in the thirties is to have been awakened to the real possibilities of modern civilization. Not that all the problems of modern living have been solved in Sweden—the Swedes themselves are, fortunately, acutely aware of this. But in no other country had such advances been made along the road of establishing a truly democratic way of living. Naturally, subsequent progress was slowed down by the war and is likely to be restrained for years to come by the world situation and the part Sweden must play in reconstructing the war ravaged countries. In spite of all difficulties, however, development continued, even through the war years. No more tangible evidence of this is to be found than in the architecture which provides the physical framework of the new way of life.

Modern ideas in architecture, coinciding as they did with the awakened social consciousness, unleashed a flood of creative energy in Sweden paralleled only by the Renaissance. After a frustrating, though sometimes able, experimentation with national Romantic and Neo-classic styles, the new approach finally came into its own at the end of the twenties. The Stockholm Exhibition of 1930 marked the turning point. It was at this time that the ideas of Le Corbusier and other leaders invaded Swedish soil. Tempered by a characteristically Swedish feeling for materials they encountered little resistance. Gunnar Asplund, architect and planner of the 1930 exhibition, illustrates in his own work the tendencies which had been leading Swedish architecture towards the acceptance of modern principles. As Professor Gregor Paulsson, intellectual leader of the modern movement, points out, Asplund, while still working with traditional styles, consistently attempted to develop these forms to the full extent of their possibilities. By applying to period buildings the principles of light, air and openness he prepared the way for contemporary Swedish architecture. That is why functionalism later assumes such refined grace at Asplund's hands. In Professor Paulsson's words: "Never was he [Asplund] so much himself, never did he create with such ease, as when he was able to work with materials that permitted light, graceful structures . . . This appeared with especial clearness in his Bredenberg's department store, Stockholm, 1933, and in the addition to the Gothenburg law courts, where his striving went into every detail, from the plans of the court rooms to the construction of the chairs and tables." The simplicity of Asplund's solutions set the standard of modern Swedish architecture. After the smoke of battle over the Stockholm exhibition had cleared away, modern architecture was well set on its course. Since then and throughout the period of intense

building activity that preceded World War II it occupied the field in Sweden and still does. Stockholm, about a third of which represents recent construction, offers clear evidence of this.

Asplund's work illustrates why modern architecture took a quicker, firmer hold in Sweden than elsewhere. While denying that Asplund's conversion from classicism to modern ideas took place without any interest in the theoretical principles of modernism, Professor Paulsson admits that Asplund was not primarily interested in social theories, "but in humanity—for whose improved welfare these theories were after all formulated—his interest was so much more intense. Time after time he emphasized the necessity of creating an environment in which man takes his rightful place, and of never forgetting that it is for humanity one builds." This sense of the dignity of man seems always to have been a strong Swedish characteristic. Even in the most pretentious periods, Swedish architecture has had that self-effacing quality that is the essence of civilization. There is a vital connection between this trait in architecture and a basic attitude of mind which has persisted throughout Swedish history: serfdom was never known in Sweden. The farmer class, which until recently constituted the overwhelming majority of the population, always maintained a stubborn independence; and in all probability no other country has nurtured such a marked and consistent intermingling of classes. The adoption of modern architecture enabled Asplund and his colleagues to express the traditional attitude in the new forms.

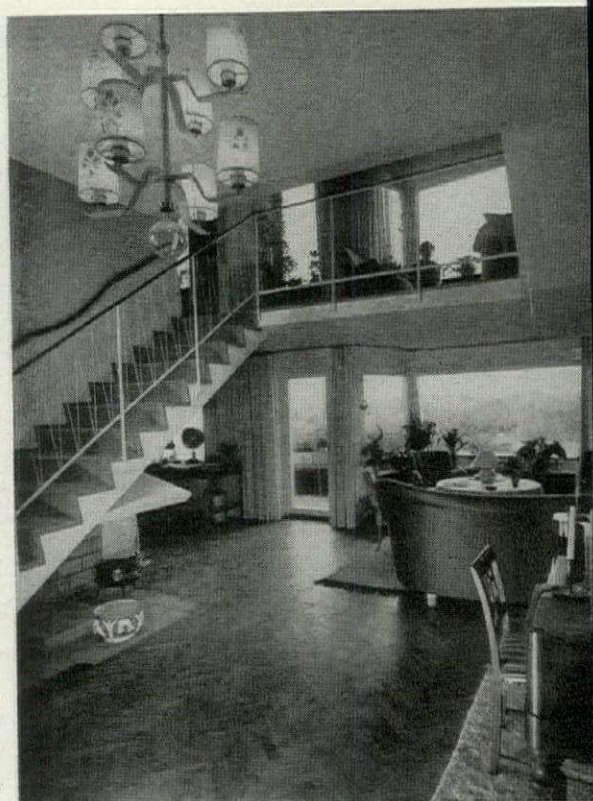
CONSTRUCTION AND ATMOSPHERE

Delicacy of construction and a general atmosphere of lightness keynotes modern Swedish architecture. Along with a minimum use of material—especially noticeable in Asplund's work—Swedish architects strive to bring an outdoor atmosphere into their buildings. The secret of their formula is light. The basic construction is unobstructive and succeeds in producing a sense of buoyancy, while large window spaces, plain light colored walls, light textiles, and light furniture consistently carry out this theme. Combined they create the calm restful atmosphere typical of modern Swedish interiors which has been so much admired abroad. It is well illustrated in the *Ribershus* apartments (above) in Malmö, capital of the southern province of Skane. The whole scheme is a sheer delight. The park-like site overlooking Oresund, the arrangement of buildings—giving the majority of apartments a view of the Sound—large balconies allowing open air living in the summer months, the variety and ingenuity of the unit plans, such tenant conveniences as elevators connecting underground garages and apartments, shops and professionally staffed day nursery, combine to create ideal apartment living. Individual buildings, oriented to the northwest and southwest, are separated by 200 ft. green belts. Footpaths connect them with the play areas and a single automobile road which traverses the project. Oresund Park, located between the site and the waterfront is planted in low-growing vegetation that softens, but does not impair, the view. Exteriors are of plaster-faced brick.

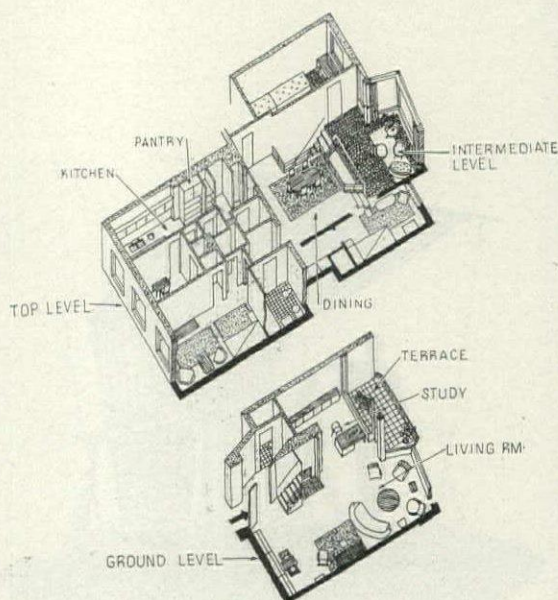
In planning *Ribershus*, the aims of the builder, Eric Sigfrid Persson, were to obtain a greater than average floor area in relation to the cubic space, and to give the apartments as intimate a connection with the outdoors as



SAWTOOTH PLAN EXPLOITS VIEW



FIREPLACE IS UNDER CANTILEVERED STAIRWAY

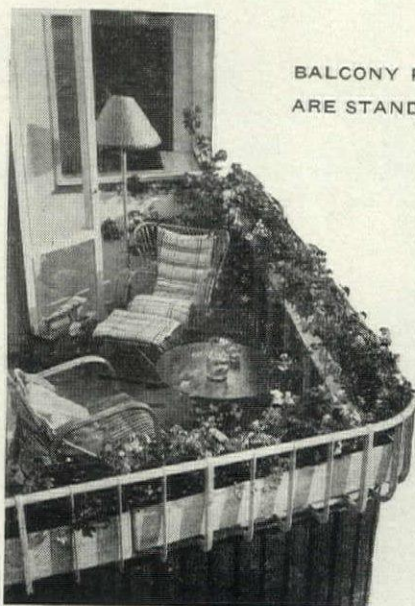




BALCONIED RIBERSHUS APARTMENTS LOOK OUT ACROSS THE SOUND TOWARD THE DISTANT DANISH COAST

ssible; an accepted practice in the design of private
uses previously neglected in apartment buildings. Bal-
nies contribute to the realization of both aims. In de-
veloping the unit plans, architect Rune Welin and David
Ildén introduced an intermediate level in a number of
duplex apartments. This consists of a wide gallery on
window side between the first and second floors,
and makes possible lower ceilings. Further, by merg-
ing the living and dining areas (as in American practice)
extra bedroom space is provided without increasing the
footprint. Owing to the depth of the building, much of the floor
space is, of course, rather far from the source of light; but
this disadvantage is offset by the height of the living room
and by splaying the end walls, so that they act as reflectors
minimizing dark corners. Most apartments have indirect
lighting fixtures above the windows which cast an even
reflected light from the ceiling. As compared to the Amer-
ican standard for apartment buildings, the unit plans are
different—with fewer but larger windows. In the duplex apart-
ments kitchens and dining rooms are usually located on
the upper floor. The plans shown at left are outstanding
in their organization of space but in some instances, baths
have not been located for maximum convenience. In spite
of Ribershus' modern planning, only about half of the
apartments are flush with the walls. *Perspektiv* windows, Pers-
son's own patent allowing unobstructed views, are used

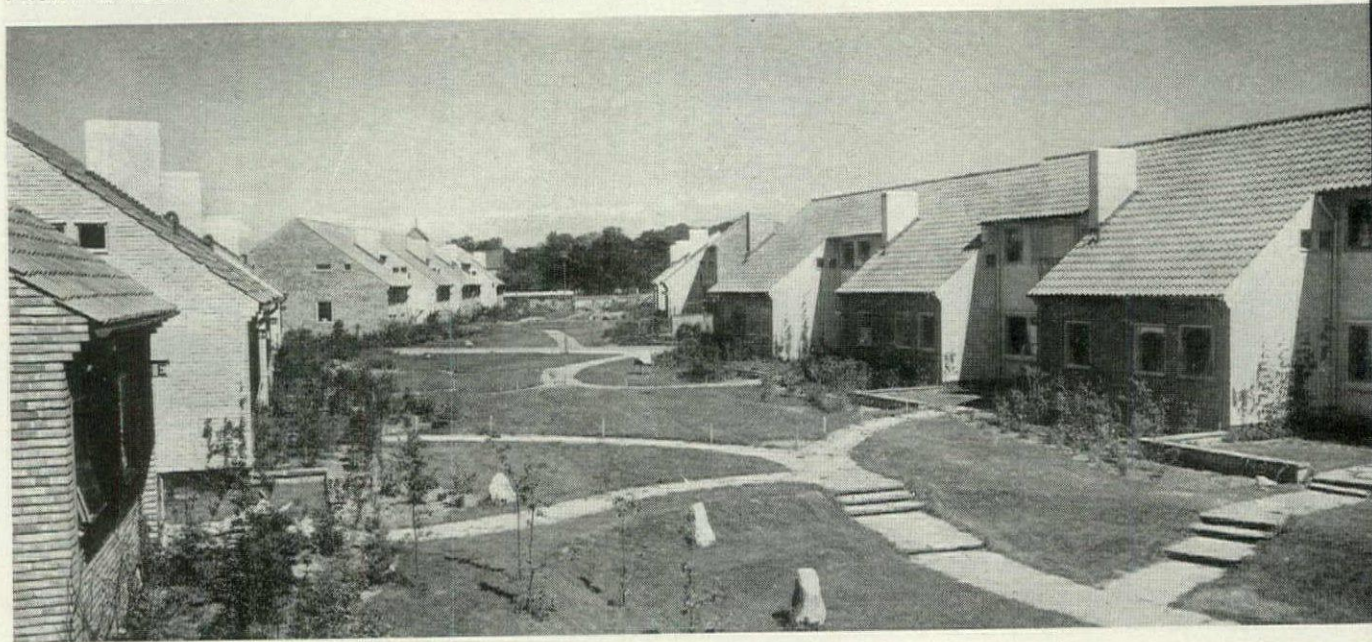
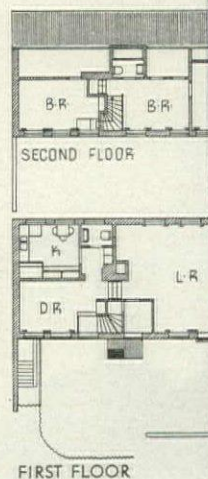
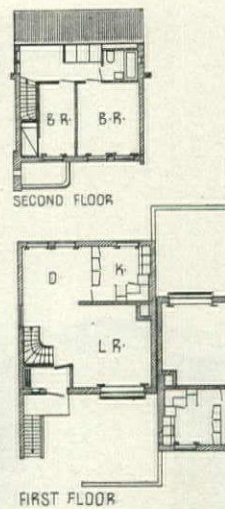
throughout. The outside wall of each living room is vir-
tually one big window, with corner supports and door posts
kept to minimum dimensions. Likewise, the delicate struc-
ture of the stairway and gallery balustrade offers little
hindrance to the free passage of light. Contact with the
out-of-doors is completed in a natural manner by the out-
side balcony, where the family can spend many leisure
hours in warm weather.



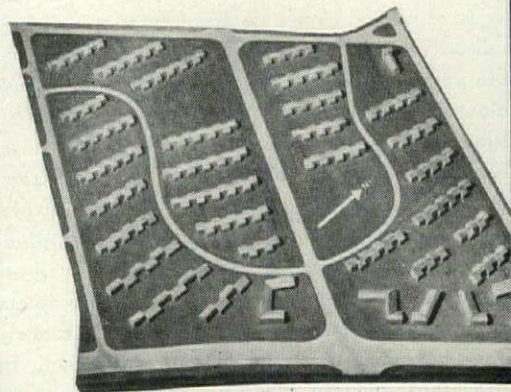
BALCONY PLANTING BOXES
ARE STANDARD EQUIPMENT



FRONT GARDEN IS PROTECTED ON THREE SIDES, OPEN TO COMMONS



PLACING ALTERNATE HOUSES BACK TO FRONT CREATES PRIVATE GARDENS, ELIMINATES DRAB ALLEYS BETWEEN





FRILUFTSTADEN'S SHOPS AND ADMINISTRATION BUILDING

Suburban Living

Friluftstaden (facing page), Eric Sigfr. Persson has carried indoor-outdoor living a step further by building the apartments on the ground. Outside each living room is a small garden, open to the sky but enclosed on three sides. The houses are one-and-a-half story, spaced and staggered to avoid uniformity, leaving pleasant, open vistas. The story-and-a-half plan has the advantage of better distribution of space between the living and sleeping areas. Sloped roof projections on alternate houses form individual terraces between. By eliminating back entrances, and reversing the orientation of alternate houses each family is ensured reasonable privacy.

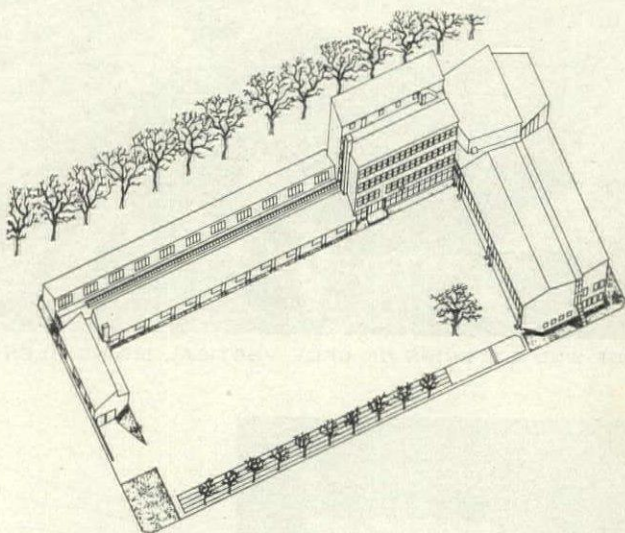
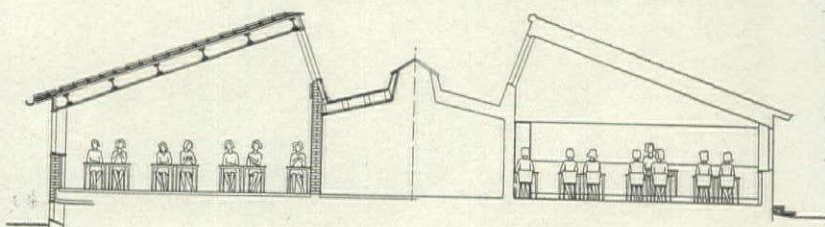
Space between the house rows is developed as a project-maintained commons, with pedestrian access to the houses. This results in important economies to city and tenants, and contributes to the bucolic atmosphere. Planned in a more conventional manner, roads and drainage for *Friluftstaden* would have cost the city almost four times as much. Garbage collection and disposal is also a project service; other savings for the city are effected. Heating is provided by a central plant. Tenant economy shows in the rent of the largest apartment (six rooms including the kitchen and a living room totaling 1,140 sq. ft.), which is only \$600 a year. It should be mentioned that in planning *Friluftstaden* and *Ribershus*, Persson had the benevolent support of Erik Bülow Hube, who, as head of the city planning department, has done so much to give the whole city of Malmö its pleasant parklike character.

But low rents and a garden atmosphere were not Eric Sigfr. Persson's only aims in creating *Friluftstaden*. He also wished to make suburban living as convenient from the housekeeping point of view as urban apartment dwelling. In addition to centralized heating, garbage collection and care of the commons, *Friluftstaden* is provided with many community conveniences as laundry, day nursery and additional domestic help. Included in the community center at one end of the estate are garages, meeting rooms and shops. Every detail, down to the easily cleaned limestone lining of the kitchen and entrance hall, is planned to simplify housekeeping. But these features, nice as they are, are less important than the light, airy interiors, with their large *Perspektiv* windows, that produce the impression of a garden atmosphere indoors. Living rooms at *Friluftstaden* have two exposures and in some ways there is a stronger impression of the open air here than at *Ribershus*, although the height is missing.

Schools

The design of schools in Sweden has settled into a comparatively fixed pattern, both for economic and practical

reasons. This pattern consists of a three-story wing containing classrooms and a shorter, broader wing with assembly hall, gymnasium, etc., set at right angles. It is naturally extremely difficult to provide lighting on opposite sides of the classrooms in this arrangement. The usual location of administrative offices on the ground floor with classrooms above is a logical one, especially on small sites, since a playground immediately adjacent to the school building can prove very distracting to students, particularly if staggered recreational periods are used. This interesting project for a girl's school (drawings below) consists of a one-story classroom wing similar in some ways to our California schools. Rooms are placed on either



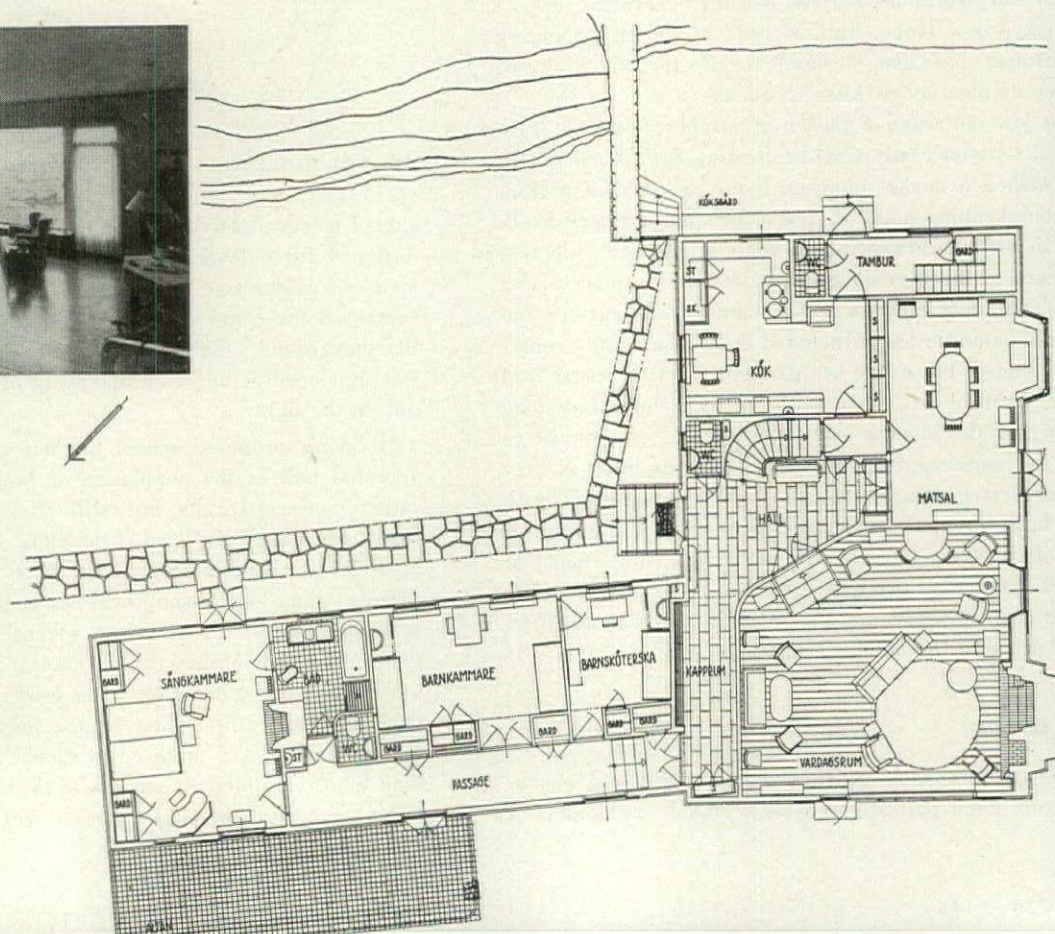
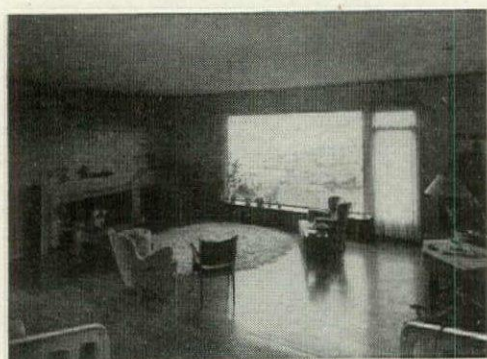
SCHOOL BUILDINGS SHELTER CENTRAL PLAYGROUND

side of a central corridor, with the windows on the outside designed for outlook, and a high window, or clerestory, on the corridor side as the main source of light. Classrooms on the court side have doors opening directly on the playground. Like the splayed walls at *Ribershus*, a steeply sloped ceiling is proposed in order to reflect and diffuse the light.

Helldén's proposed school has not yet been definitely accepted and as the population of Malmö is considered rather conservative its fate still hangs in the balance. Until they were completed, Eric Sigfr. Persson's projects at *Ribershus* and *Friluftstaden* were both carried out against strong local disapproval—later they were accepted with high praise. It also took several years before the plans of the new Malmö theater (ARCH FORUM, Feb. '45) were finally accepted. Even after Lewerentz' designs had twice been given first place by the judges, the people of Malmö preferred a more conventional solution. At that time, however, Helldén's was one of the best liked schemes, so he may now draw public opinion with him.



TILE ROOF AND EXTERIOR OF GREY VERTICAL SIDING BLEND WITH THE BARREN ROCKINESS OF SWEDEN'S WEST



WOOD AND PREFABRICATION

Wood is the natural construction material in forested Sweden. In the past, before transport facilities were developed, even the most pretentious residences were often built of timber. This applies to the whole country, the extreme southern province of Skåne excepted. Even on the exposed west coast, which is practically bare of trees, wood is generally used for smaller buildings.

Villa Lisviken (facing page) is a luxurious summer and weekend house built for a resident of Gothenburg on Inön, an island near Marstrand in the Bohuslän archipelago. The architect was Nils Einar Eriksson, creator of the brilliantly simple and effective orchestra pavilion of wood at Skansen and of the Gothenburg Concert Hall, with its balalaika-shaped interior. In Villa Lisviken he has achieved an enviable balance in the scale of the building and its relation to the site, the function and the material. The rugged landscape in this section calls for a powerful, uncompromising form. Conditions of site and weather pre-dicated the general layout: the exposed location with the most incessant wind from the west, necessitated a sheltered courtyard at the rear. There is also the dramatic outlook over the channels and islands of the archipelago from the sitting room, hence its placement in the west corner of the house with the large window facing northwest. Proper relationship, both to human beings and the landscape, is maintained in the interiors. The whole conception is an excellent example of what may be achieved in our modern civilization by an able architect when he has

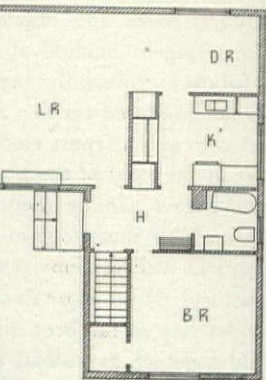
the freedom to design a dwelling without any consideration but that of function.

It is obviously more difficult to fit a prefabricated house into the landscape than a house like Villa Lisviken, where the individual components that go into the construction can be chosen to harmonize with the specific site, and where cost is a lesser consideration. It is therefore interesting to see how well Olof Thunström managed with the new company housing of the Gustavsberg Porcelain Factory (below). When the powerful Cooperative Wholesale Society took over their factory in 1937, it was faced with two major tasks: 1) complete rationalization of production, including a new factory for sanitary ware and 2) provision of improved working conditions. The latter undertaking included a small housing project. Extensive research and calculations showed that single-family, prefabricated wooden houses would rent for five per cent less than three-story brick apartment buildings. The houses were located to form a little community of their own in completely untouched woodland surroundings. Care was taken not to mar the impression of unity by overhead electric wires or separating fences. The naturalness of the setting was further maintained by keeping the foundation walls low and filling rather than cutting the uneven, rocky site.

Individual and group housing

The first houses were all of the minimum size, with two rooms and kitchen. The rooms are ample, however, espe-

COMPANY-BUILT PREFABRICATED HOUSES HAVE CHARM AND AIR OF SETTLED COMFORT



cially the living rooms, which include a dining area adjoining the kitchen. The kitchens, on the other hand, are of minimum size, intended for work only and devised to prevent placing a bed or other furniture in them. Later, larger three bedroom houses were built. In these, the kitchens are slightly larger, with room for a small breakfast table. All the houses have cellars—the most economical way of providing heating and storage space in the severe Swedish climate. In order to take full advantage of the warm months, outdoor space formed by the bedroom wing is oriented to the southwest. Several large open spaces are reserved as part of the development to enhance the general environment and to create play areas.

The manufacture of prefabricated timber dwellings is an extensive industry in Sweden, and has undoubtedly done much to improve the country's housing standards. Few small houses are custom built today. Among the prominent firms in this field is the cooperative housing society HSB. This, and some of the other big firms, is associated in an export organization which before the war shipped considerable quantities of ready-built houses to Great Britain and Brazil. Sweden's facilities for producing housing quickly were particularly useful in relieving the critical housing situation which arose in Finland and Norway as a result of war damage in 1940. The future of the industry in general postwar reconstruction is still uncharted, though

ing installed before the cold weather sets in, and can then finish off the inside at his leisure. All fittings are supplied with the house, and are to a certain extent standardized.

This system of construction, using prefabricated sections, is by no means restricted to small workers' dwellings. It is widely used throughout the whole field of residential construction and even for larger buildings. In adaptation to the site and the natural surroundings, prefabricated houses are at a certain disadvantage, since a conventional foundation is generally required and cannot always be sunk flush with the ground. In the precipitous woodland of the Stockholm suburbs, however, raised foundations are a distinct contribution to the design. The exteriors of Swedish factory-built houses are generally neat and unobtrusive. But prefabrication now has one serious drawback: production costs. Prices of both lumber and labor have greatly increased during the war, practically cancelling the original economies of mass production. There is no reason, however, to believe that prevailing conditions will hold indefinitely.

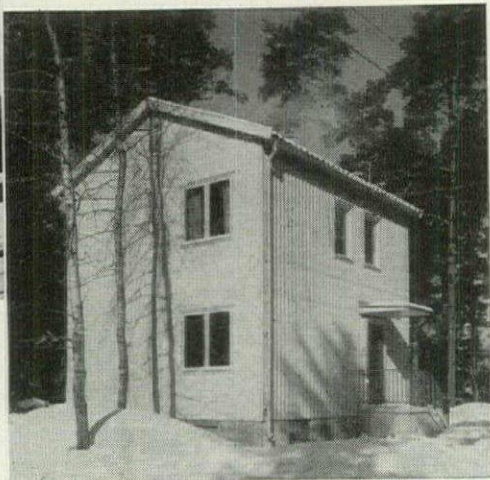
Suburban Villa

Apartment buildings constitute by far the largest portion of residential construction in Sweden. Generally speaking, they are the most convenient and economical. It is recognized, however, that it would be socially more advantageous to construct more single-family houses as part of the broad program. Various attempts are now being made to bring down construction costs by systems of standardized unit parts from which any kind or size of house may be assembled. Notable among these are the *Elementhus* system, devised by the Gothenburg architect, Erik Friberger, and the *Systemhus* method, worked out more recently by Sven Markelius, designer of the Swedish pavilion at the World's Fair, and chairman of the Swedish government commission on standardization.

Friberger's system has been on the market for several years. The handsomest buildings so far erected are the *Lange Villa* (facing page) and the *Vidkär* children's home in Gothenburg. Structurally speaking, it is the more rigid of the two systems, using a considerable amount of steel. The plan places two bedrooms, the living and service areas on the second floor; one guest room, a bathroom and lavatory, heating and storage rooms on the ground floor. While the inaccessibility of the bath to the upstairs bedrooms may seem incongruous to the American mind, according to European standards, this is considered neither unusual nor particularly inconvenient. The use of fractional panels for partitions frees the organization of interior space from the stringent module of the structure proper. Planned for future enclosure for expansion of the ground floor plan, the sheltered terrace also serves as an outdoor living area or as a carport since it connects with the entrance drive at the right of the house. A small sun deck on the second floor can be used for outdoor dining. The necessary one per cent slope of the roof combined with use of identical wall sections results in the canting of the entire structure. Of the more flexible Markelius design only one model has so far been built. In this house, sections are held together by special co-

WALL-SIZE PANELS ARE DELIVERED FOR SITE ASSEMBLY BY THE OWNER

American-Swedish News Agency



prefabrication is strongly supported by Swedish state and municipal authorities as a means of providing good domestic housing for families in the lower income levels. In Stockholm, for instance, a workman may obtain a lot on a lease-hold from the city, and also a mortgage on the actual house. An order for the house is placed with the factory, the worker starts excavating and laying the foundation; when he is ready the house is shipped in wall-high sections, of one to two stories (see illustrations). The buyer erects it with the help of a few friends. By starting in the spring he is able to get a roof on and the windows and heat-

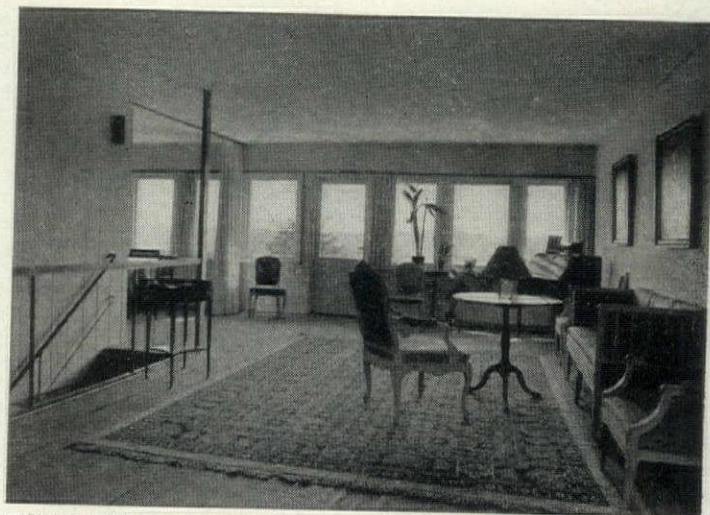
Besides offering complete standardization of parts, systems are easily demountable—being bolted instead of welded—together—thus providing for expansion and contraction of the finished house.

USBC cooperative building society also has a method of prefabricated construction for small apartment buildings. Hollow wall sections of insulating material are brought ready to the site, and after erection concrete is poured in to form a solid wall, following which the exterior is stuccoed. This is done story by story, houses of three stories being thus constructed.

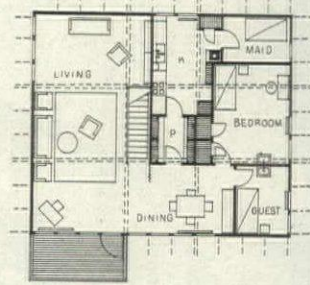
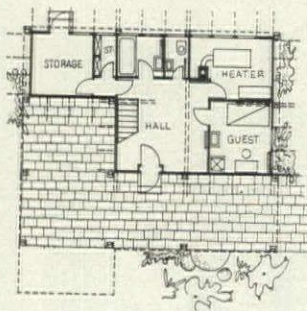


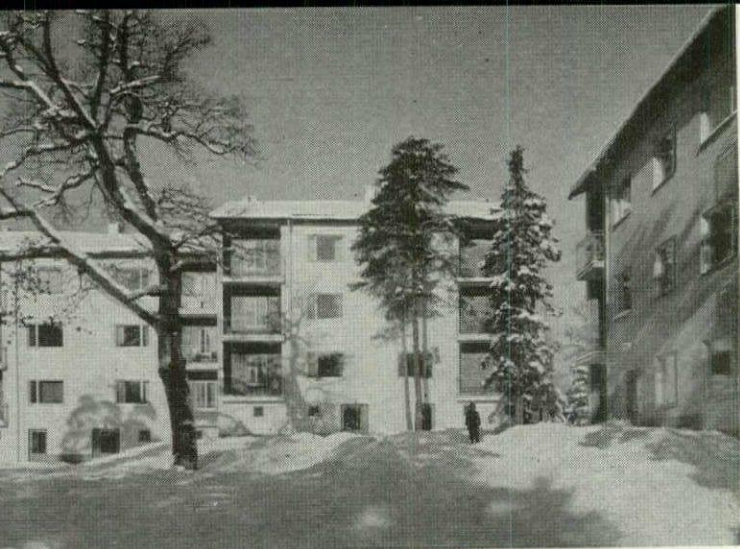
THIS CAN ALSO SERVE AS A CARPORT

THIS VILLA ILLUSTRATES THE POTENTIAL OF PREFABRICATION ADAPTED TO DISCRIMINATING INDIVIDUAL TASTE

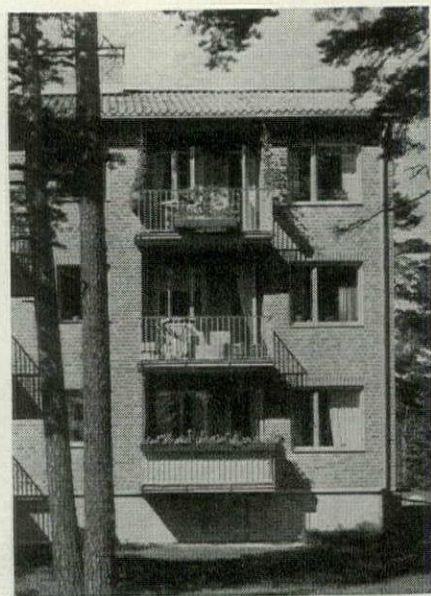
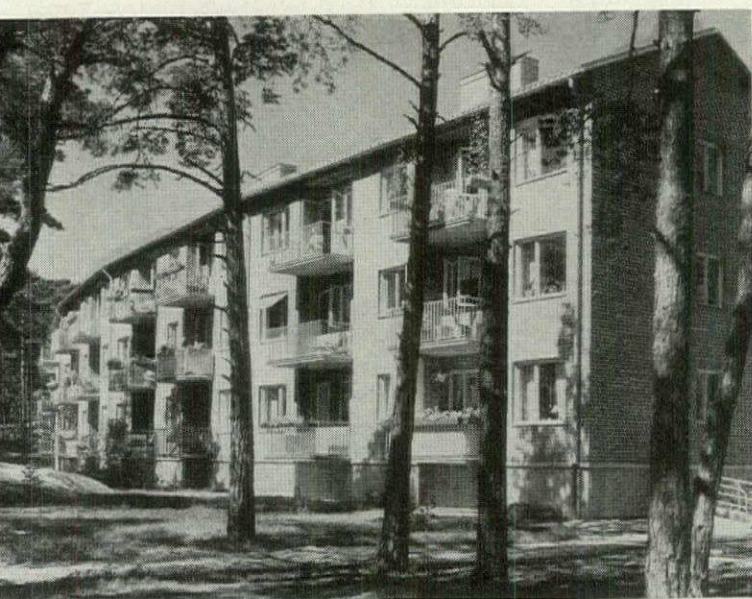
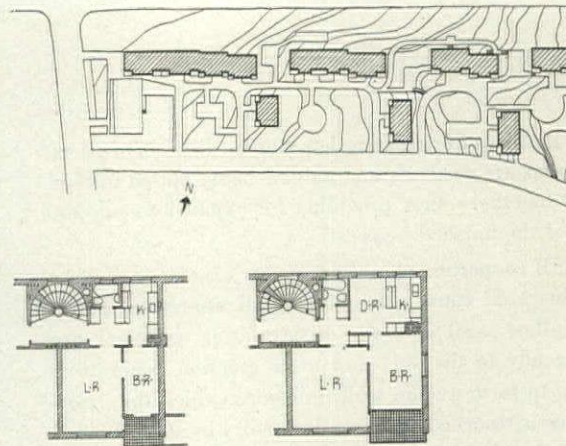


DINING AREA (LEFT) OPENS INTO SPACIOUS LIVING ROOM





WORKERS' COOPERATIVE BUILDINGS IN NACKA PROVIDE THREE - ROOM, BALCONIED APARTMENTS, SOME WITH DI

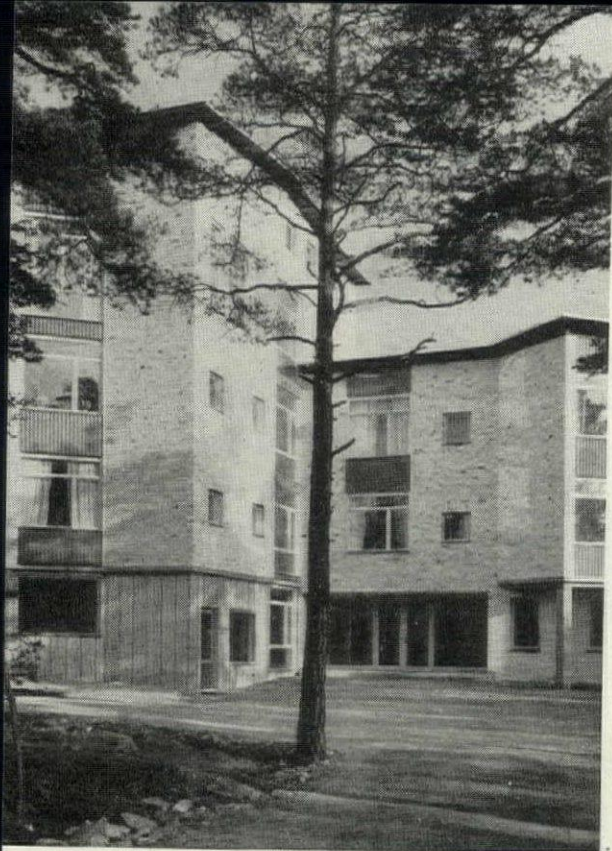


SLIGHTLY SPLAYED INTERIOR WALLS MAKE POSSIBLE THE BOWED PLAN OF VAXHOLM APARTMENTS

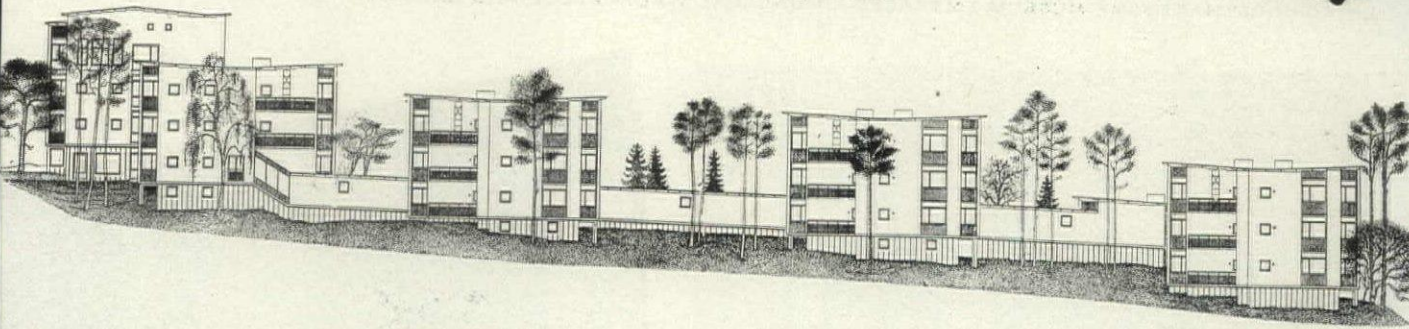
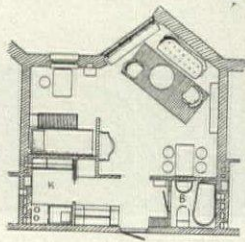
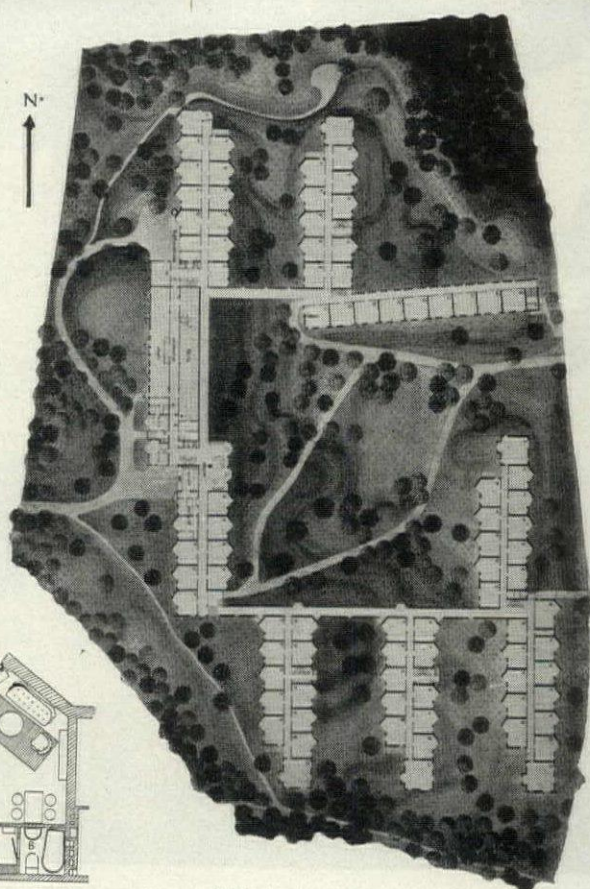
COOPERATIVE HOUSING

Cooperatively financed housing has been a tremendous factor in the improvement of Swedish living standards. Besides the HSB cooperative society, the country's biggest builder, there are numerous independent "dwelling right societies" formed for the financing of individual apartment buildings. These usually consist of societies formed of prospective tenants, who provide the initial capital by advance payments (generally 10 per cent) of the value of the apartment they wish to own. The rest of the financing is arranged through banks, insurance companies, or even the contractor; some part of it generally includes a mortgage taken by state or municipal building organizations. The apartment houses by Hakan Ahlberg, Backström and Reinius at Nacka, and Vaxholm (above), are typical developments of this kind. As compared to prefabricated dwellings however, they show certain deficiencies in meeting the needs of the same income class. They are, nevertheless, good utilitarian designs with a generally pleasant atmosphere created by good orientation in natural surroundings, the preservation of tall evergreen trees and the absence of fencing.

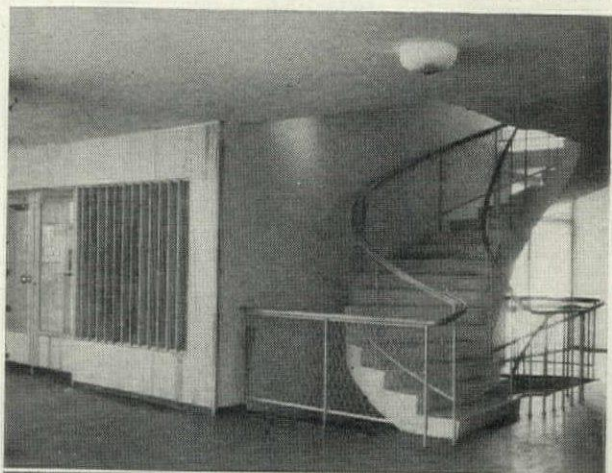
Sven Backström and Leif Reinius have used a plan similar to the one illustrated above in some recent housing in Sandviken. In Sweden one worker is in such housing—in rural areas, one in three. Rent is much lower than the national average as to amount of million crown annual housing subsidy financed by the state. Workers are encouraged however to own their own homes either by purchase financing or through cooperative schemes of the "dwelling right society" type like the cooperative housing at Sandviken Ironworks which consists of three two-story buildings each containing 20 apartments. Dwelling right societies were formed in the early 1930s except that there is also a representative of the tenants on the administrative committee elected by the tenants. The company invested 5,000 kroner (\$1,250), which is considered as written-off capital. The initial payment by the tenant was 500 kr., within a yearly purchase price of 1,000 kr., which includes amortization costs, but not interest (each apartment has a heat meter). There are also garages in the cellars of the houses—important in Sandviken as the community is very spread out—and a drying room where the tenants may do their laundry.



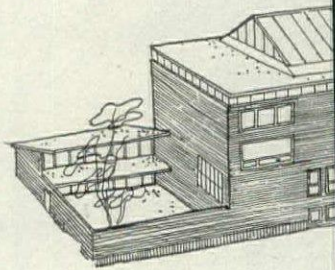
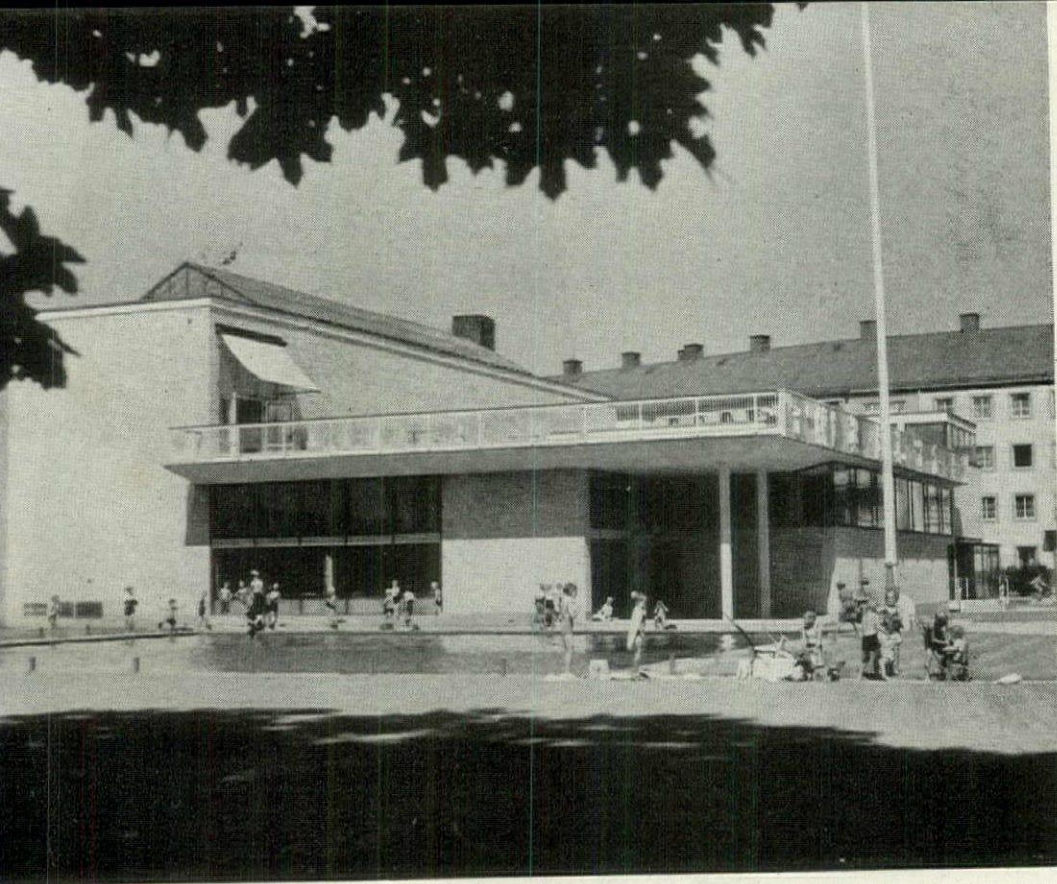
WOOD DETAILS, PAINTED RED, ENLIVEN FACADE



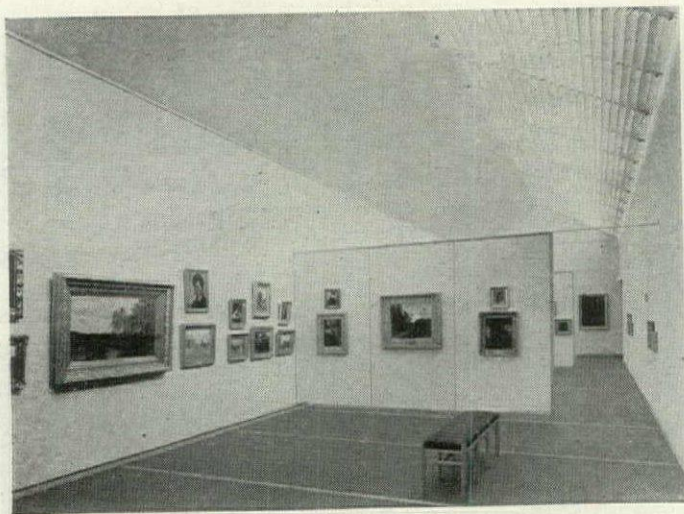
HALLWAY AND MAIN LOUNGE AT ELFVINGGARDEN



Elfvinggarden (above) represents a type of collective housing that has been considerably developed in recent years, especially in Stockholm. This kind of housing is intended to solve the housekeeping problems of single persons, particularly women, and also of families in which the wife has a regular job as well as the husband—this is increasingly the case in Sweden. All kinds of services are available within the building: cleaning, laundry, day nursery, a central kitchen and restaurant. Two apartment houses of this kind built before the war for single men showed that they filled a definite need in providing decent accommodations and rational housekeeping arrangements. These were intended according to the terms of the Elfving Foundation by which they were financed, for single, educated ladies, who have lived a considerable part of their lives in Stockholm.” Apart from the skillful layout, which gives almost all of the one room apartments a southern exposure so that each enjoys sunshine for at least a good part of the day, the building is remarkable for two particularly Swedish features: the delightful use of the natural landscaping and the combination of extreme elegance with a severe practicality in the architectural details.

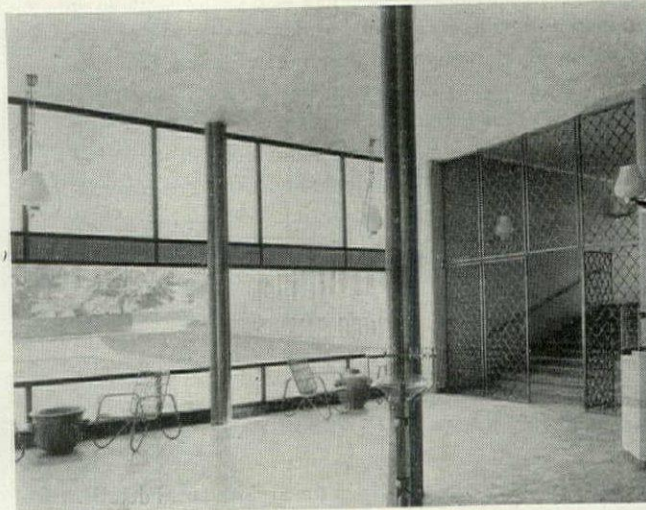
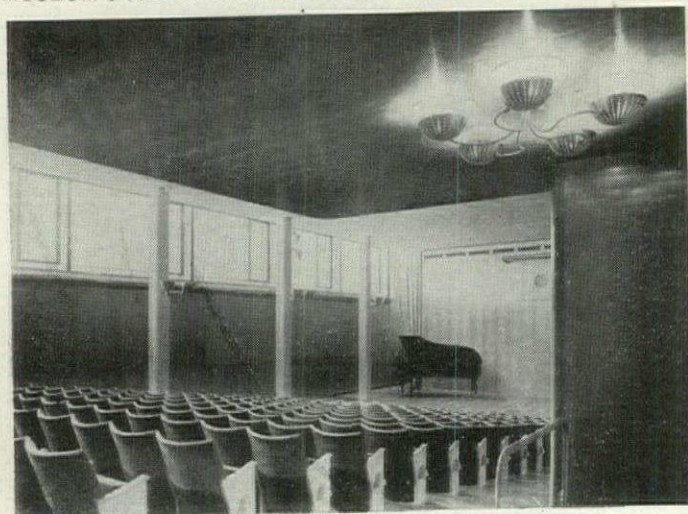


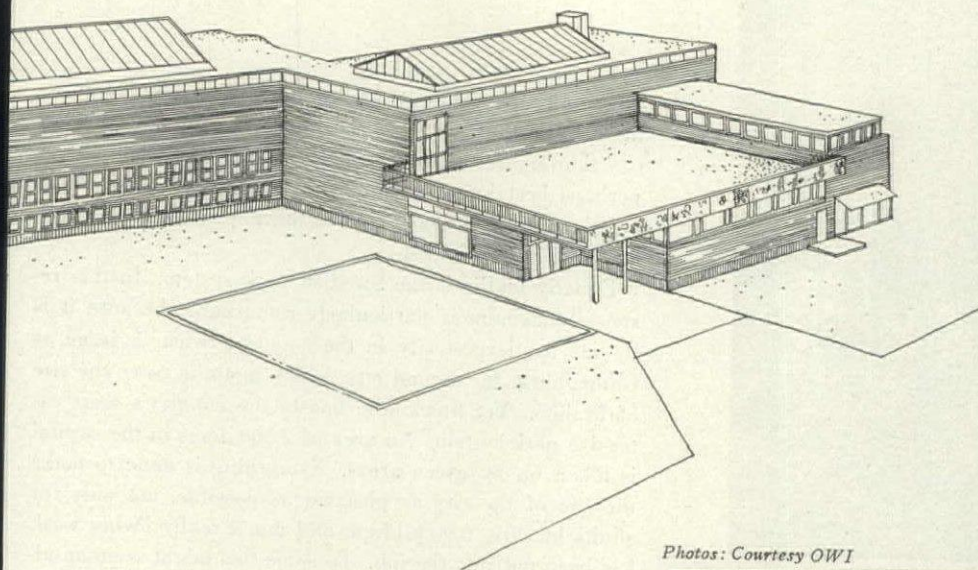
LINKÖPING'S HANDSOME MUSEUM EMBRACES A MUNICIPAL WADING POOL AND GARDEN



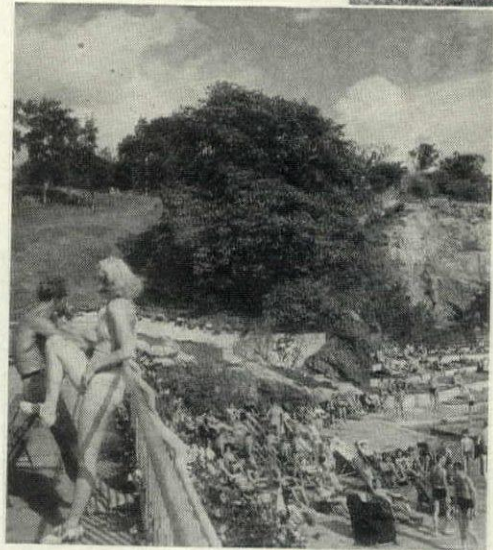
LOUVERED SKYLIGHTS ILLUMINATE CONVENTIONALLY PLANNED GALLERIES. BOLD MARQUIS SHELTERS MAIN ENTRANCE

MUSEUM'S AUDITORIUM IS USED FOR LECTURES AND PUBLIC MEETINGS. A GLASS-ENCLOSED LOUNGE OVERLOOKS POOL





Photos: Courtesy OWI



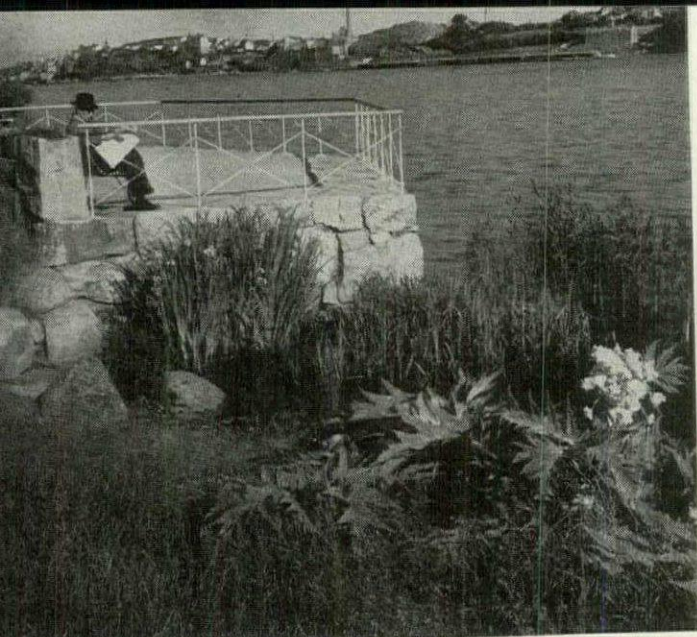
PARK-SURROUNDED POOL IS SET IN HEART OF STOCKHOLM



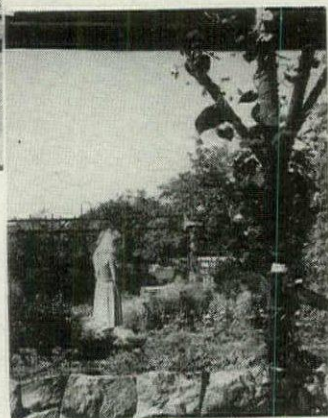
PARKS AND CULTURAL BUILDINGS

Strongly decentralized as Sweden is, the overwhelming majority of the people has grown up in close contact with nature—which leads them to bring the country atmosphere right into their cities, and is probably the main reason for the high general standard of popular taste and the sure touch of Swedish architects. The possibilities of modern materials are a continual spur to the inventive Swedish mind, with its love of experimentation and creative boldness. Out of these ingredients a new civilization seems to be emerging.

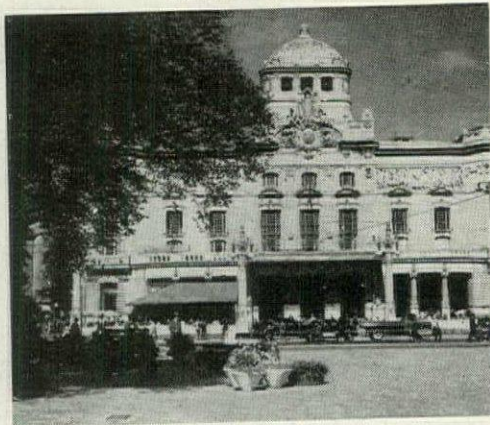
A synthesis of this whole trend and frame of mind may be found in the Linköping Town Museum (facing page) by Nils Ahrbom and Helge Zimdahl. Linköping, though small, is an old center of culture, capital of the wealthy province of Östergötland, and the Bishop's seat. One would expect a comparatively conservative atmosphere, so it is rather surprising to find a building of such free and modern spirit in these surroundings. And how far removed from the popular conception of a museum! Life is brought to it, and something of a living link is thus formed with the local past. The almost playful architecture, the light airy construction accommodating itself to the parklike surroundings, the spacious windows opening on the cathedral and the trees of the Bishop's garden, and the happy inclusion of a children's bathing pool as the very heart of the whole layout, all indicate that the architects have not forgotten that it is for humanity they are building, even though it is a museum. The attention they have given to the details emphasizes this: slender white columns supporting the roof of the entrance building along the north side increase the impression of openness. A restful green is used on the interior where the outlook is on the water, park and trees. Exhibition rooms are kept to a reasonable size so as not to tire the visitor and discourage him. The simplicity of such details as stairway balustrade, the delicate scale and color of the furniture and fittings, the restrained frieze along the parapet over the entrance (with the Swedish translation of the Greek admonition: KÄNN SJÄLV, *know thyself*), create a calm, inspiring whole. There is something Grecian too about Stockholm's open swimming pool Vanadisbadet (right). It is built into the slope of the hill, with ample sun-bathing space around. The



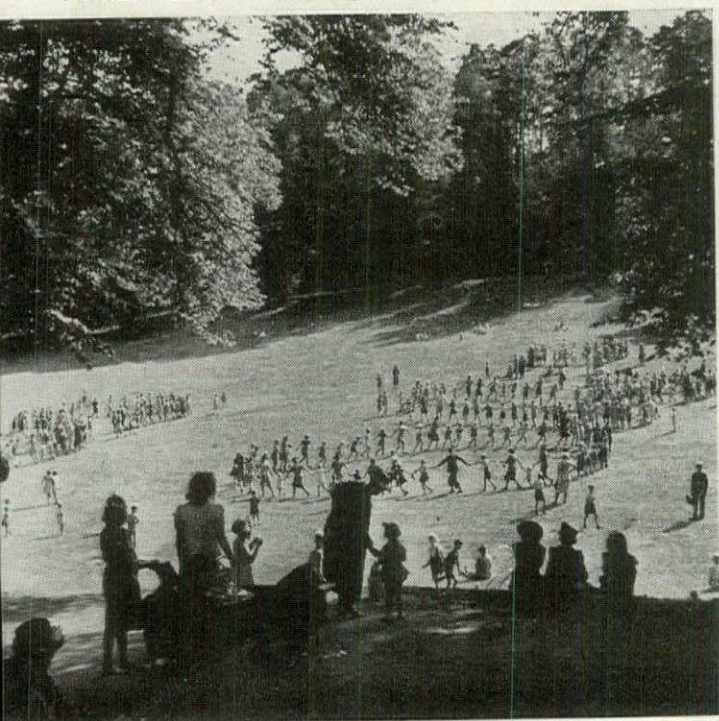
WINDING WATERWAYS ENHANCE STOCKHOLM'S OPENNESS



PARKS RETAIN THE AIR OF SUNLIT WOODLANDS. TYPICAL TRAFFIC ISLAND (ABOVE)



vedish Travel Information Bureau Inc.



Photos: Courtesy OWI

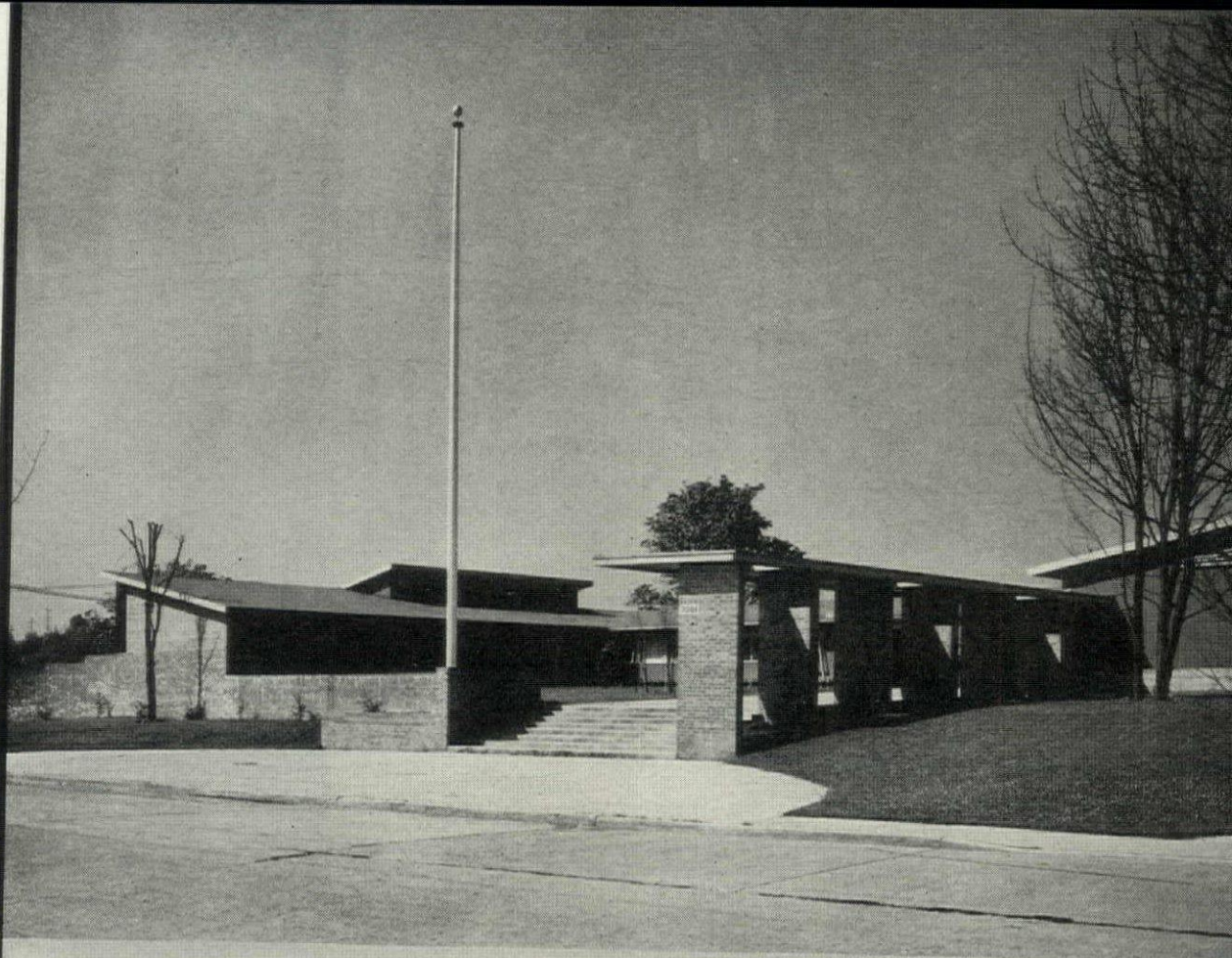
dressing rooms are located below the level of the pool, forming a baffle that shuts out the bustle of one of the busiest city thoroughfares below. The architect, Paul Hedqvist, is perhaps best known for his designs of several of Stockholm's modern schools, which have previously been illustrated in the FORUM.

Equally idyllic is the Swedish park system. In this respect Stockholm is particularly remarkable because it is by far the largest city in the country, twice as large as Gothenburg, the second city, which again is twice the size of Malmö. Yet Stockholm boasts the country's most extensive park system. An area of 2,500 acres in the capital is taken up by green areas. Everything is done to make the life of the city as pleasant as possible, not only for adults but also for children, and much really loving work has been put into the job. To some this might seem an almost unnecessary effort, because even in the capital half an hour's tram ride brings one out into the open country. But it is just this that makes the city so pleasant: one has only to take a few steps, and in practically any part one can find an oasis of green and shade and often running water. Even

traffic islands in the city are transformed into places of rest with benches and portable gardens in tubs. Particular attention is paid to the needs of children, with numerous wading pools and playgrounds, play being organized under properly trained supervision on summer afternoons. In winter wooden bobsleigh runs are put up in the parks. There are 35 wading pools in this city of something over one half million, and 4,500 benches have

been spread around by the thoughtful park department, headed by architect Holger Blom. The people are encouraged to use their parks; unobtrusive neatly designed refreshment kiosks are placed in strategic positions, some rustic, some modern, all pleasant and healthful. Plant nurseries are open to the public. Many of the parks are linked chainwise, making it possible to stroll for some distance in planted areas without leaving the city limits.

There is no doubt that Sweden's historic and economic background is largely responsible for the present beauty and livability of her cities. An essentially agricultural heritage and a highly democratic way of life have rendered the Swedish people unconsciously aware of the principles of city planning which we, in America, are currently striving to impress on the public mind. Likewise, her architecture — light, open and highly usable — reflects a political and social framework where the dignity of the individual has long been held in high esteem. Civic pride and community spirit flourish under such circumstances and it is because of a wholehearted desire on the part of the Swedish people for the best in living that modern architecture has been so widely accepted and has developed along sane, if not always orthodox, lines.



COMMUNITY BUILDING in Seattle's Holly Park housing project shows how group recreation and nursery facilities, already an important part of public housing, could be applied with equal success to private enterprise.

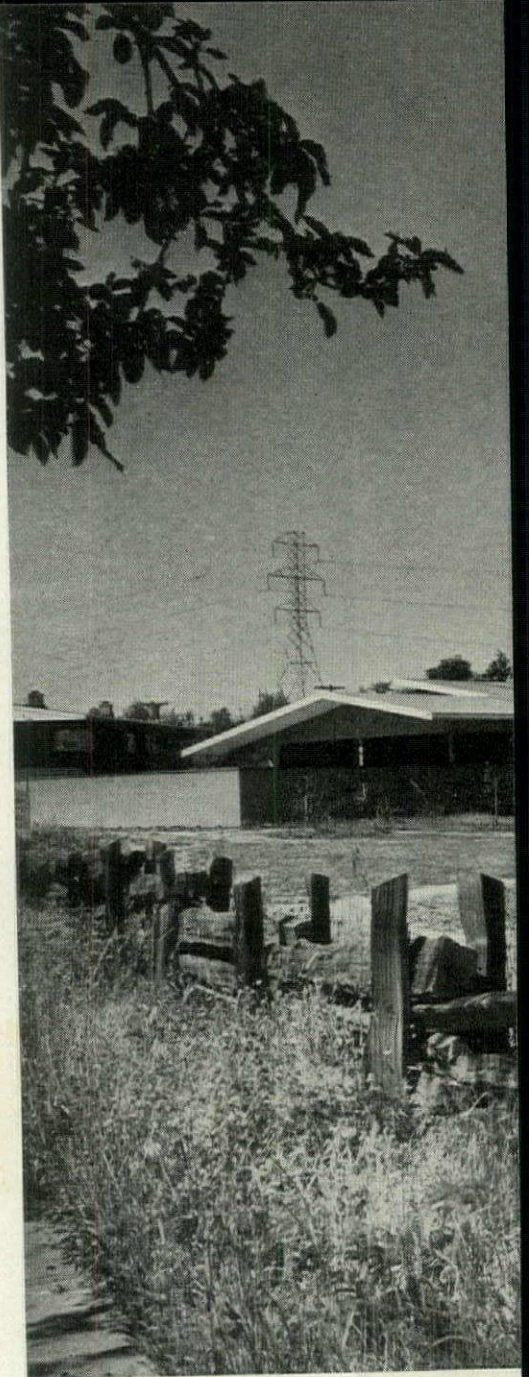
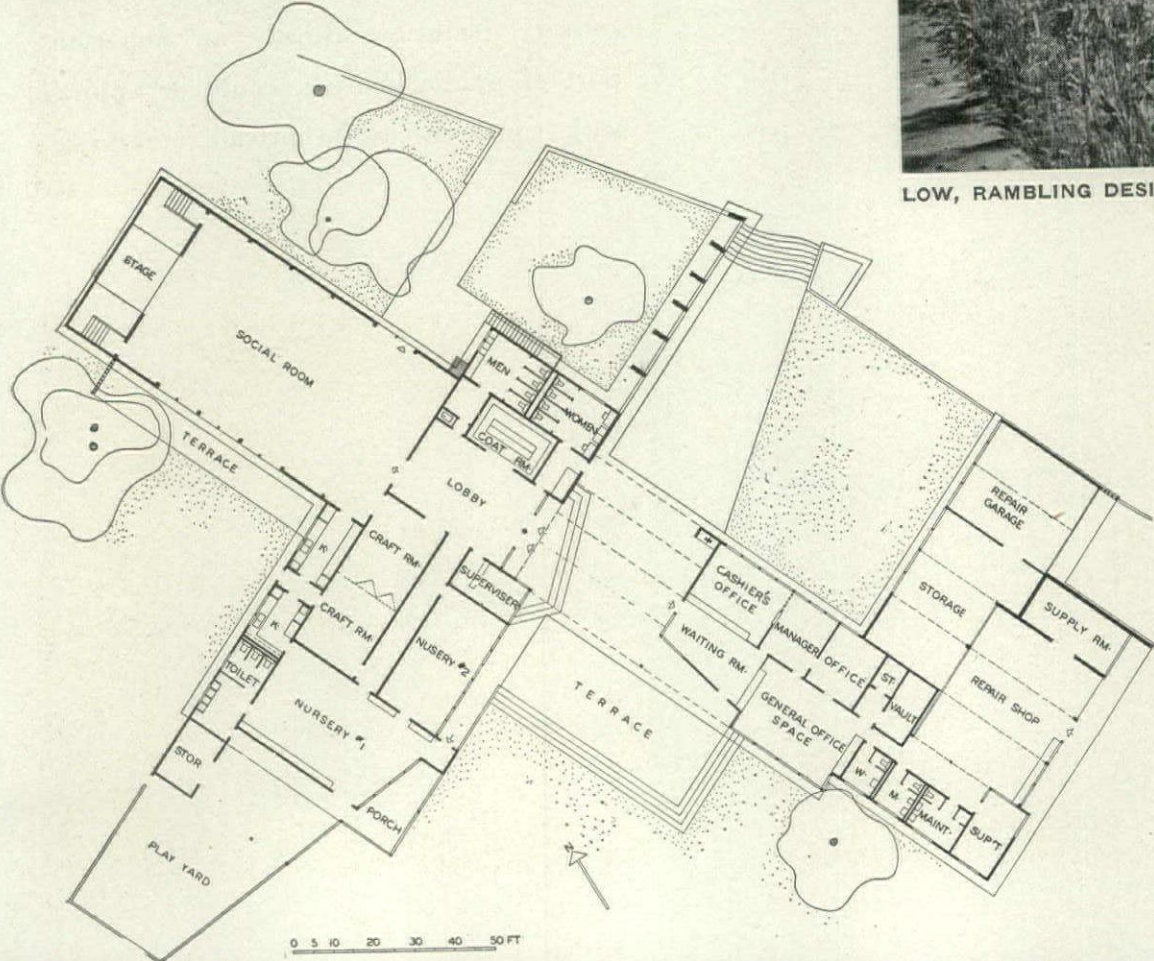


As cities grow larger one obvious result is that people become more and more isolated from their neighbors. At the same time, with more hours spent at work away from the home and with an increasing number of working wives, care of children becomes a problem. Even among women who are primarily housewives (and these remain by far the largest number) freedom of action is limited by the necessity of looking after their children. As a solution to both of these questions—isolation of the individual and personal freedom—the community center has evolved, filling a gap in present community patterns.

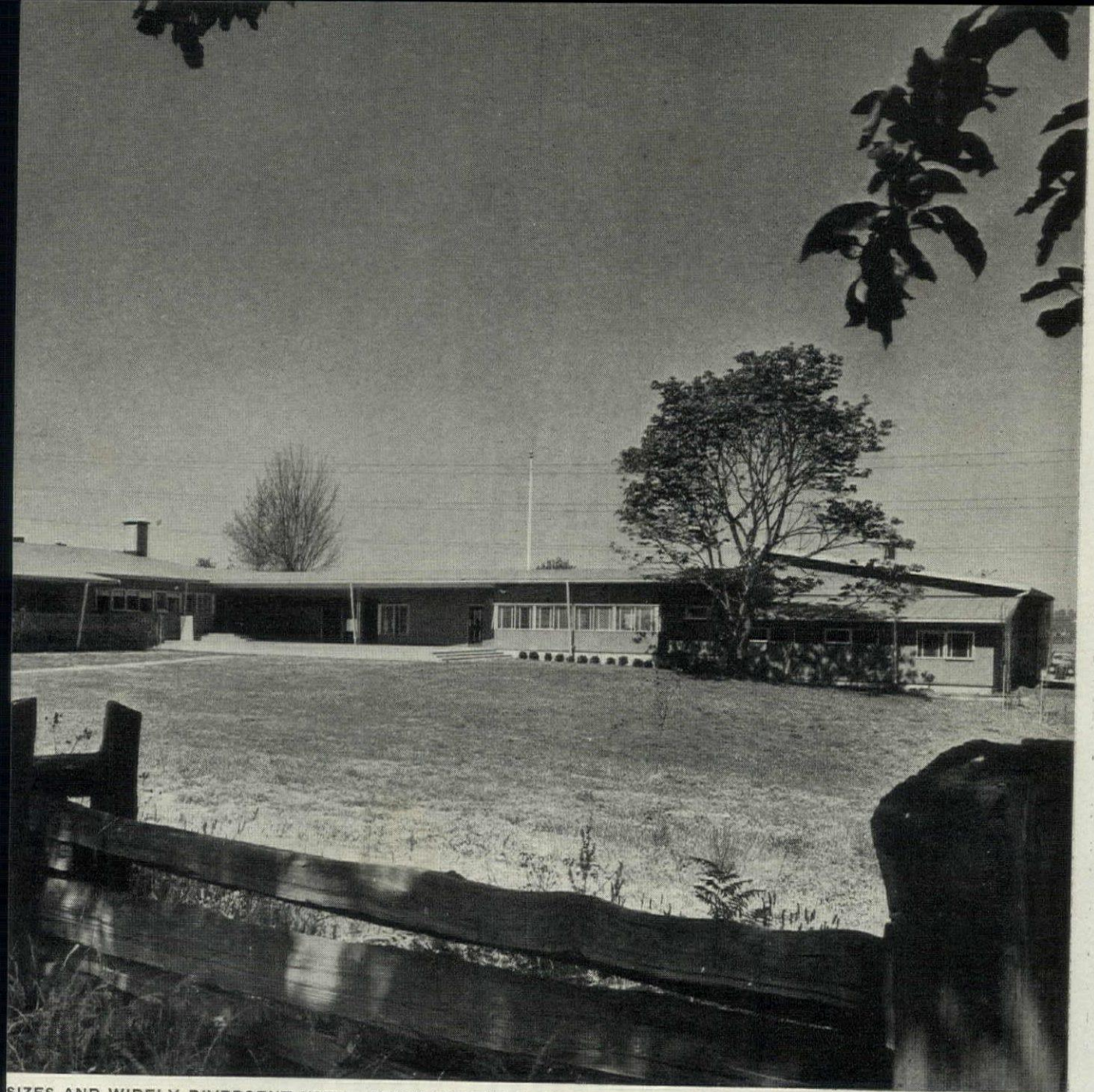
Such a building is used for neighborhood parties and dances, as headquarters for hobby and dramatic clubs and for group athletics, thus helping the individual to become once more a part of his own community. It also provides supervised nurseries where children can safely be left to play when parents cannot be with them. This idea, which first gained recognition in Sweden, has been used to a great extent in public housing projects in this country and it offers many possibilities for privately developed communities after the war. The large community house shown here is particularly suited to the 900 unit project which it serves. Designed as two buildings connected by a continuous roof over the dividing entrance terrace, it houses management and maintenance offices in one wing, recreation rooms, a library and nurseries in the other.

CONSTRUCTION OUTLINE: FOUNDATIONS—concrete. STRUCTURE: Exterior walls—frame, cedar siding, bevel and T. & G., vertical; inside—plaster on plaster board, U. S. Gypsum Co. FLOORS—fir. ROOF—mineral surface roofing. WINDOWS: Sash—fir. Glass—double and single strength, quality B, Libbey-Owens-Ford Glass Co. PLUMBING: Hot and cold water pipes—galvanized iron, Youngstown Sheet & Tube Co. Fixtures—Briggs Beautyware, Briggs Mfg. Co. HEATING—space heaters.

JONES, AHLSON, & THIRY, Associated Architects
LINCOLN BOUILLON, Electrical & Mechanical Engineers
MELVIN O. SYLLIAASEN, Civil & Structural Engineer
STURTEVANT & GROHS, Landscape Architects
WESTERN CONSTRUCTION CO., General Contractor

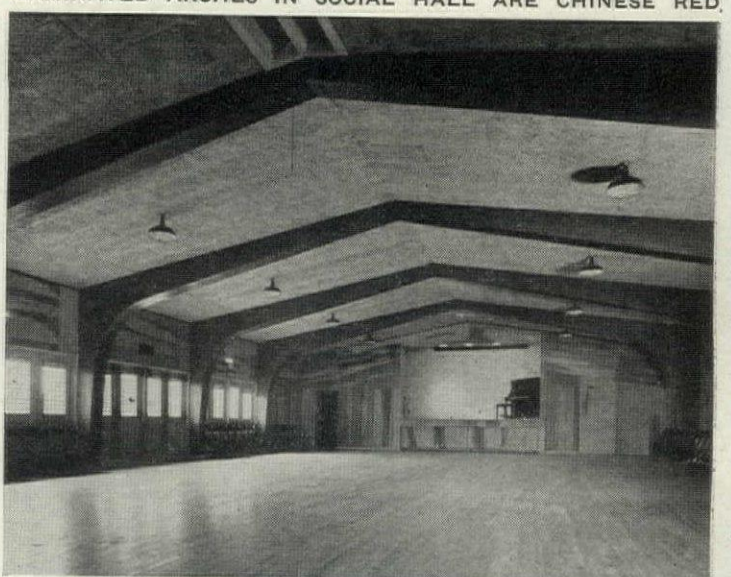
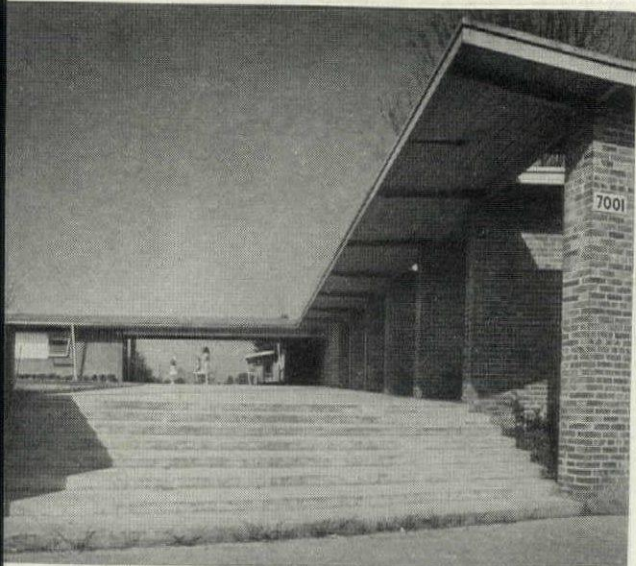


LOW, RAMBLING DESIGN INTEGRATES ROOMS



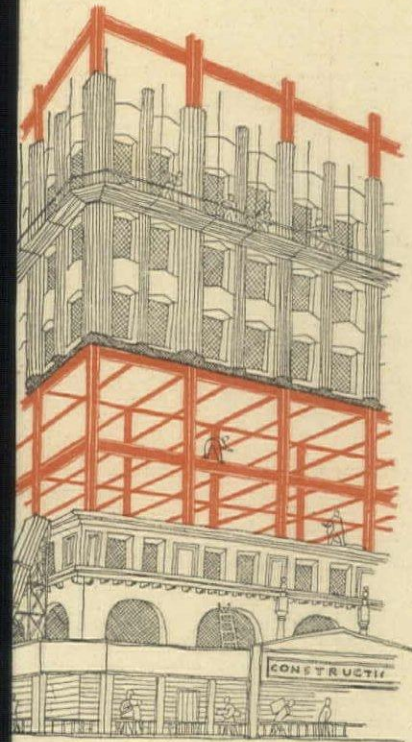
SIZES AND WIDELY DIVERGENT USES. COLOR SCHEME IS BRICK RED WITH CREAM TRIM AND BLUE-GREEN DOORS

AL STEPS PROVIDE SEPARATE ACCESS TO WINGS LAMINATED ARCHES IN SOCIAL HALL ARE CHINESE RED.

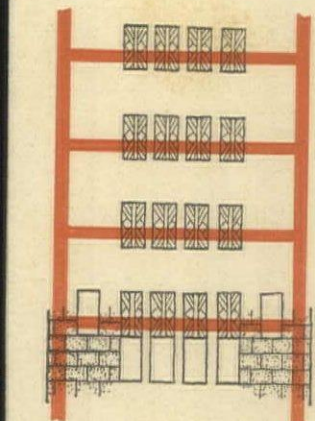




The Vertical Style . . . Born of business, conceived by the steel frame, the skyscraper is America's unique contribution to architecture . . . An analysis of its development.



Finished skyscraper clearly illustrates contradiction between delicate steel frame and applied facade.



Corrals attached to steel girders during steps of construction reveal an arbitrary spacing of false piers.

LY NEWS BUILDING, New York, represents the zenith of the vertical style. False piers, identical with those clothing structural columns, disguise the frame.

by Ezra Stoller

It is no accident that the skyscraper dominates the American landscape. A commercial structure, designed to house business, it is the characteristic architectural form of a business-minded nation. Few building types have appeared, developed and matured in so short a time. A scant 50 years covers the entire span from Jenney's first steel frame structure to the last great towers of the early thirties. A period of unprecedented economic expansion conceived them; a long period of comparative stability developed them; and a world-wide depression spectacularly brought this development to a full stop. Yet it is apparent that the skyscraper is today far from being a "dead" idea. Office vacancies are almost at zero: this in itself would guarantee continued interest in the skyscraper. But a review of its development is merited on other grounds as well, for it presents an extraordinarily compact illustration of America's architectural strength and weakness.

The central factor which fathered the skyscraper was urban congestion. In the middle of the last century, cities became the focal points of gigantic sales and distribution networks which were being flung across the country. The rapid growth of these centers resulted in huge concentrations of people in relatively small areas. This, in turn, greatly enhanced the value of urban land. And the obvious way to reconcile high land prices with high concentrations of office space was to build upward rather than sidewise.

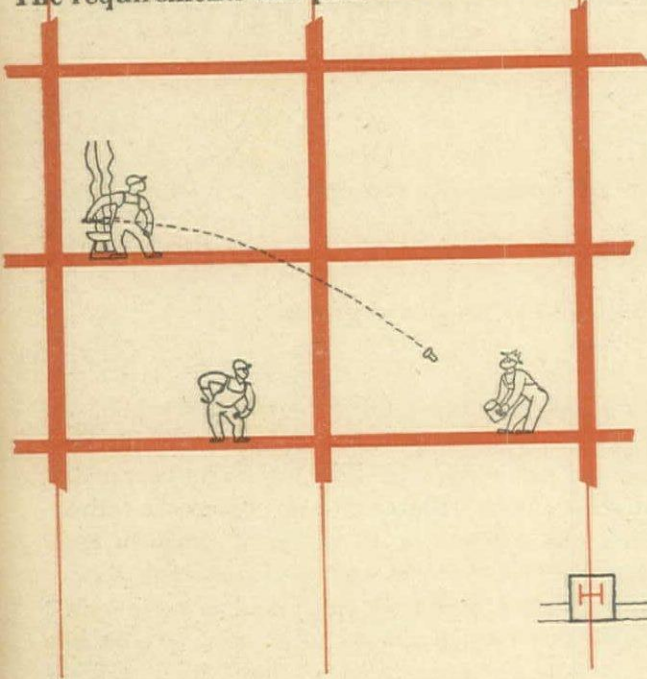
Two factors made possible the development of the tall building: the electric elevator and the steel frame. These appeared with uncanny speed, working like Siamese twins to remove all practical limitations on building height. The elevator, which appeared first, gave a short-lived impetus to the use of masonry for tall buildings. Thus Root's handsome Monadnock building (Chicago) was able to reach sixteen stories: but its piers were 15 ft. thick at street level.

Like all great inventions, credit for that of the steel-framed skyscraper has been a subject of controversy. It was an intelligent answer to a pressing problem and must have occurred to many designers in one form or another. It seems, however, safe to attribute the first modern prototype to the engineer William LeBaron Jenney. In his Home Insurance Building (also Chicago) we first find the multi-story metal frame, stable and autonomous, with walls reduced to the status of masonry curtains. Other architects quickly contributed refinements. And once perfected technically, the skyscraper became the very grammar of commercial construction. From the outset, the steel frame offered merits which guaranteed wide use—simplicity and reproducibility. Oddly enough, in its main elements, it reached maturity very early and has remained substantially unchanged to this day. As buildings went higher, the members became heavier, but only by inches. Wind bracing increased. But in general, story could be piled on story with no change in the basic frame. It is this constant factor throughout almost half a century of skyscraper construction which throws into harsh relief the vacillations of the facades.

For if any architect could master the technical aspects of the skyscraper, few proved equal to the task of clothing it. Surprisingly, the most penetrating solutions were among the earliest. In Chicago, Root, Holabird and Sullivan produced a series of skyscrapers which

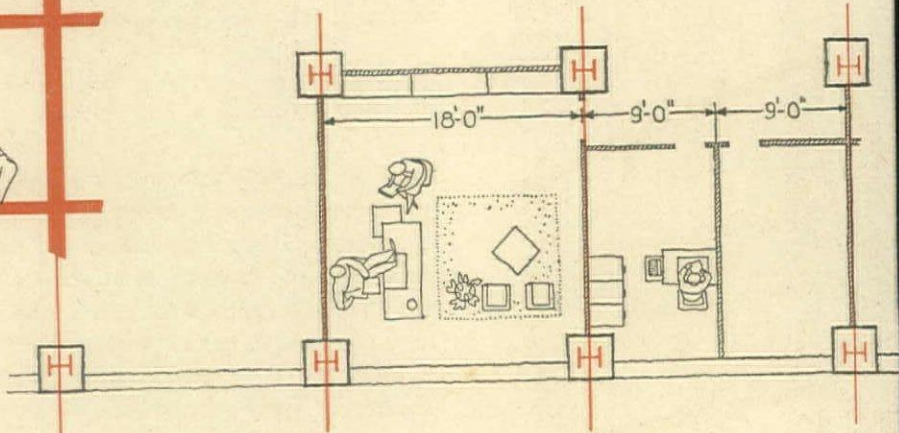
(Text continued on page 111)

The requirements and potentialities of steel construction . . .

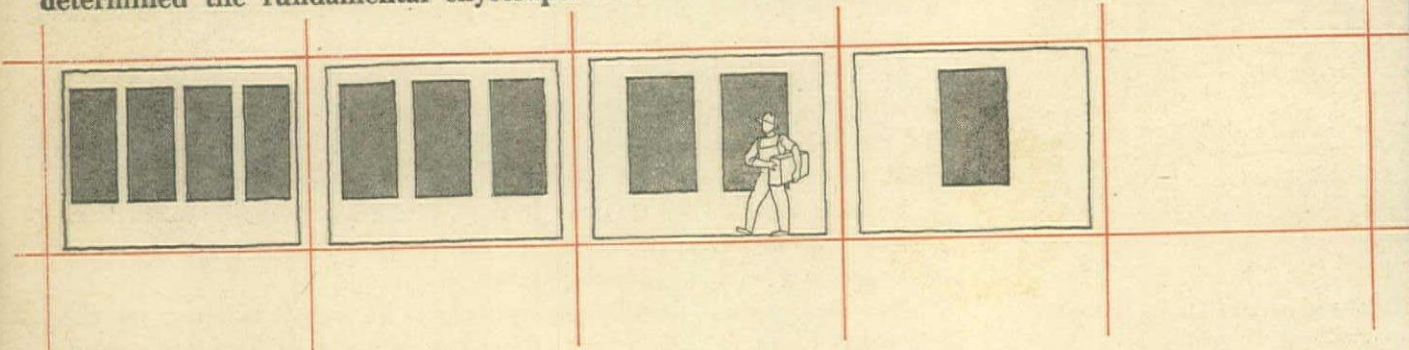


plus the real estate man's desire for a unit

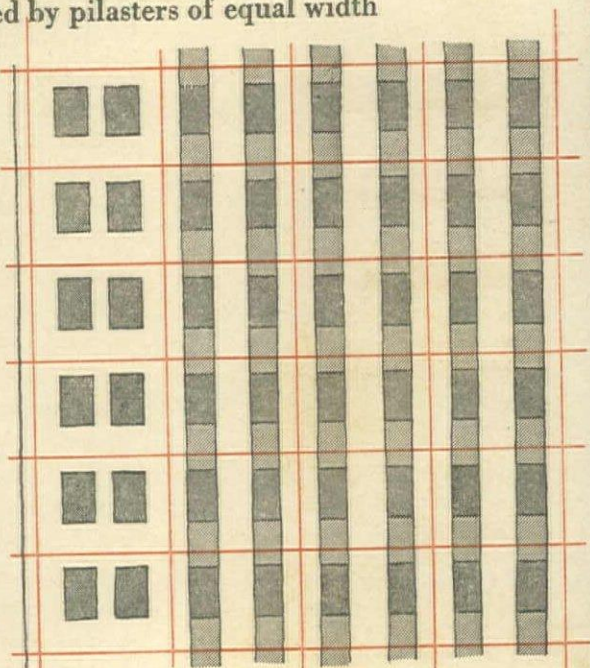
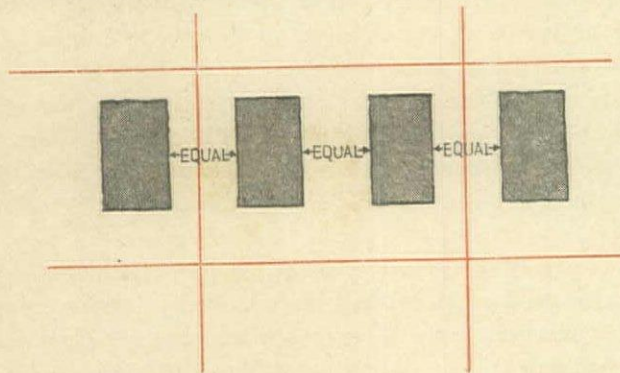
divisible into large and small offices . . .



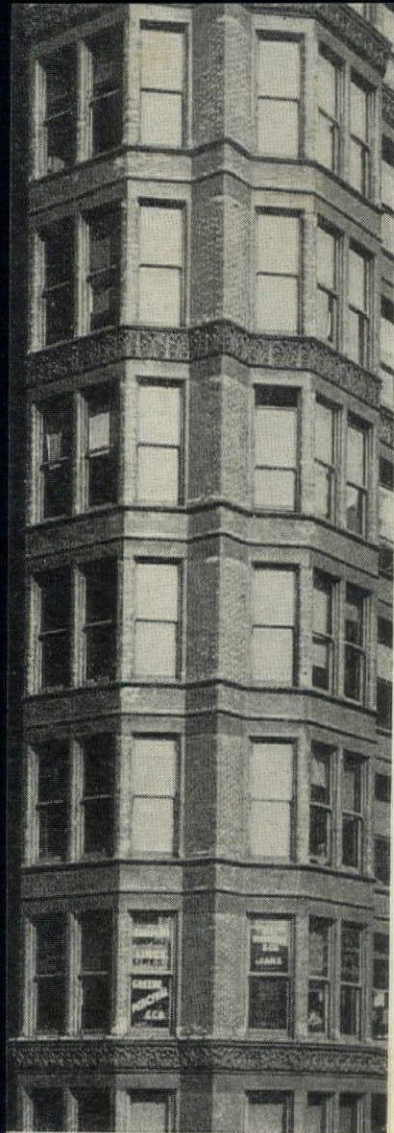
determined the fundamental skyscraper frame. Several fenestration schemes were possible . . .



but the tendency was toward a system of windows divided by pilasters of equal width regardless of the supporting members.



To give the appearance of solidity deemed necessary, recessed spandrels were omitted from corner bays. This was a constantly repeated device in vertical style buildings.

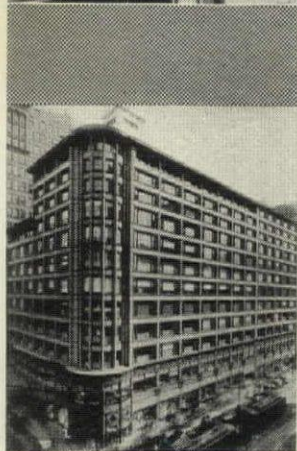
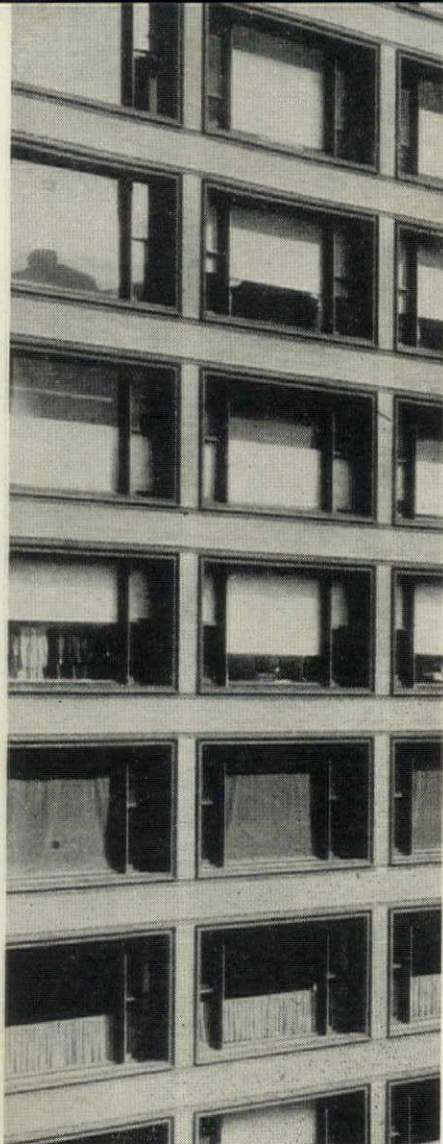


1889

A BUILDING, CHICAGO
MIRD & ROCHE

early example of the Chicago School, and skyscraper ever built, was the first in which outer walls carried no load, functioning solely as a protective screen against wind and weather. Here was seen the startling spectacle of bricklaying beginning to lay walls midway between ground and on a thin steel frame. The building's extreme delicacy, an appropriate expression of its supporting members, results in the large amounts of glass which extend from pier to pier. However, individual windows are small and the bay device, an attempt to let in more light, somewhat obscures the frame.

Chicago Architectural Photo

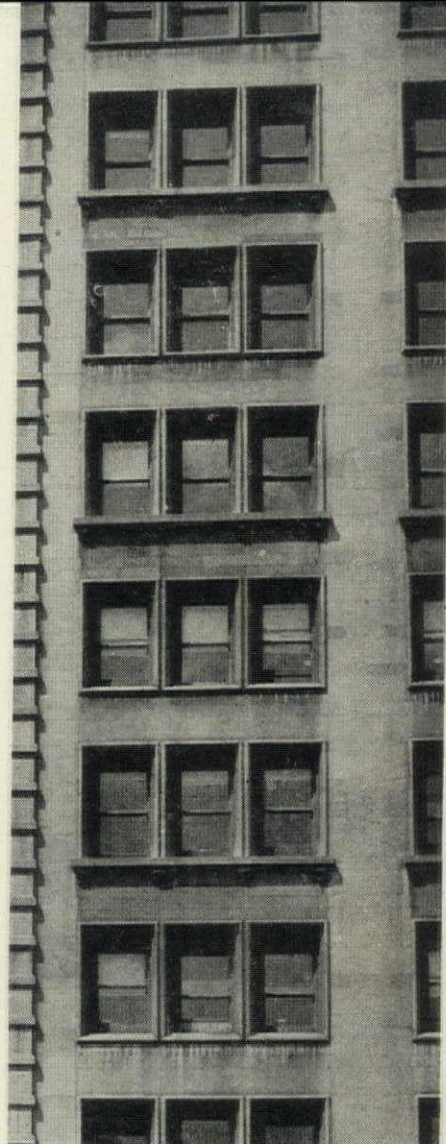


1899

CARSON PIRIE SCOTT, CHICAGO
LOUIS SULLIVAN

Designed 60 years ago by the pioneer modern architect, this handsome building is unexcelled as a direct expression of steel construction. Spandrels and piers are reduced to a minimum width and windows occupy almost the entire space between framing members. Such large unbroken glazed areas have only recently been recognized as a logical result of modern construction techniques. Sullivan also anticipated the present trend toward combining fixed glass with movable glass sections for ventilation and easy cleaning. His projecting window frames seen here are another device belatedly gaining popularity.

Photos: Museum of Modern Art

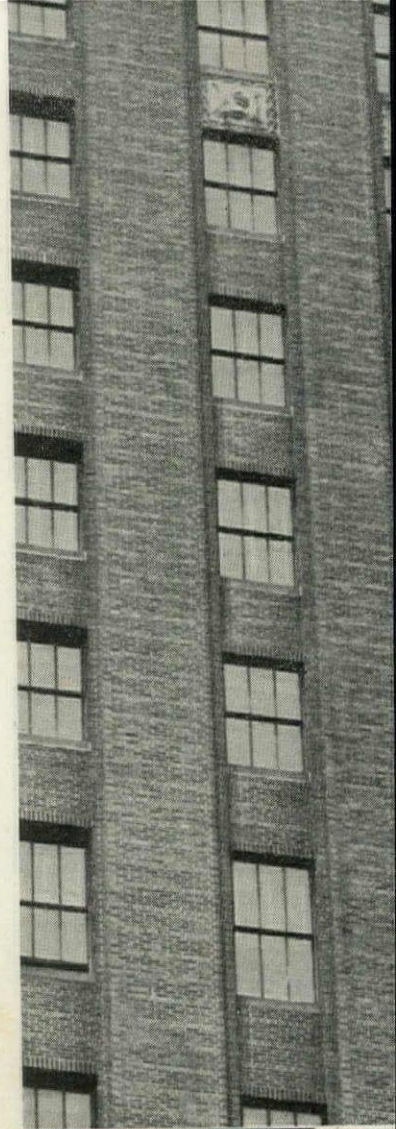
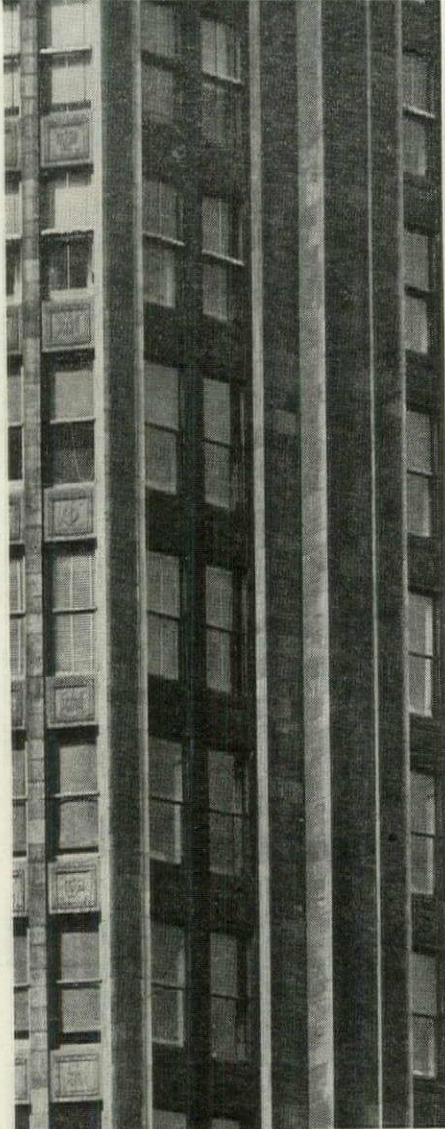
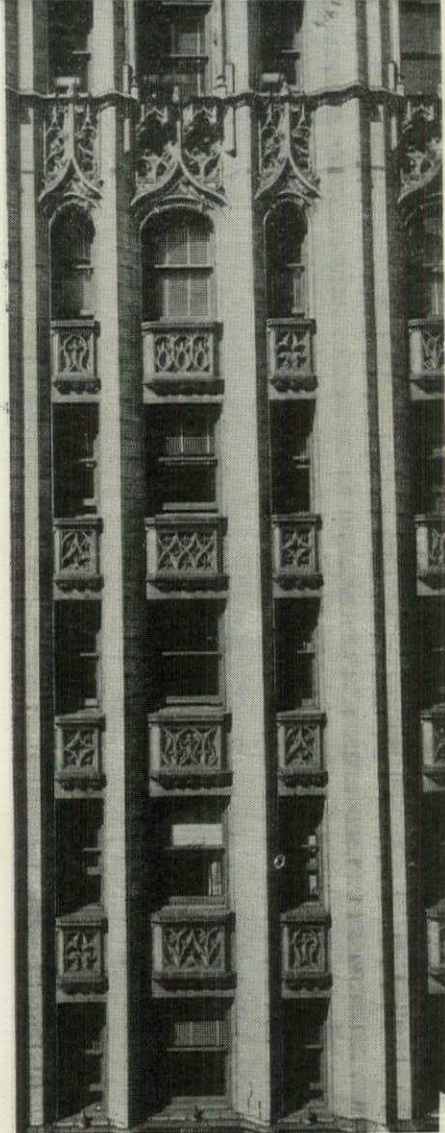


1909

METROPOLITAN LIFE INSURANCE TOWER, N. Y.
N. LEBRUN & SONS

When the air cleared from the classical explosion of the Chicago World's Fair, the initial fresh approach toward new construction had completely disappeared, leaving instead a series of strange bedfellows coupled for posterity. One of these is the combination campanile-modern-skyscraper shown above. If this anachronism can be overlooked, however, the major part of the facade is recognized as honest. The underlying framework is still evident and there is no obvious striving for verticality. Not so happy are the increased use of masonry, the smaller glass areas and the corner quoins.

Photos: Arnold Eagle, Wurts Bros.



1913

WOOLWORTH BUILDING, NEW YORK
CASS GILBERT

Still with their gaze steadfastly turned backward, architects sought a style more appropriate for tall buildings, than the Classic, hit upon Gothic with its soaring vertical lines. The "Cathedral of Commerce," as the Woolworth building was christened, is one result. In spite of its essentially awkward form and its borrowing from the past, it is an inspired piece of work whose ornament is so adroitly scaled that even the topmost fretwork can be clearly seen from street level. Emphasis on verticality has been achieved by wide projecting piers in contrast to the narrow ornamented spandrels and small window openings.

Photos: Arnold Eagle, Philip Gendreau



1925

TRIBUNE TOWER, CHICAGO
HOWELLS & HOOD

From the 189 contestants in the Tribune Tower Competition for the "most beautiful office building in the world," a design was chosen which thoroughly expressed the contradiction of the times. The insistence on traditional style when dealing with contemporary architecture was never more thoroughly demonstrated than in this building with its fanciful Gothic tower and intricate detail. However, despite its complicated vertical pattern of false piers and narrow windows, the structure has maintained the delicacy seen before in the original skyscrapers of the Chicago school.

Photos: Hedrich-Blessing

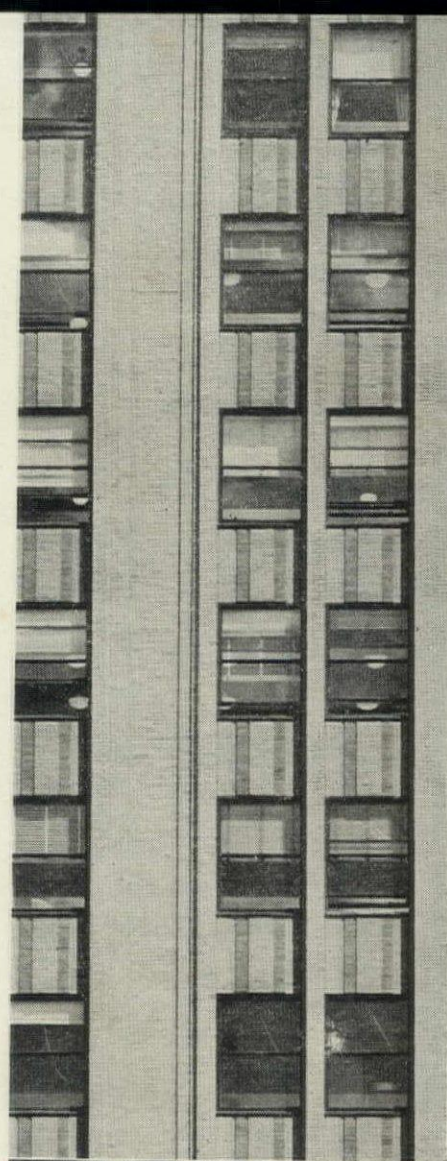
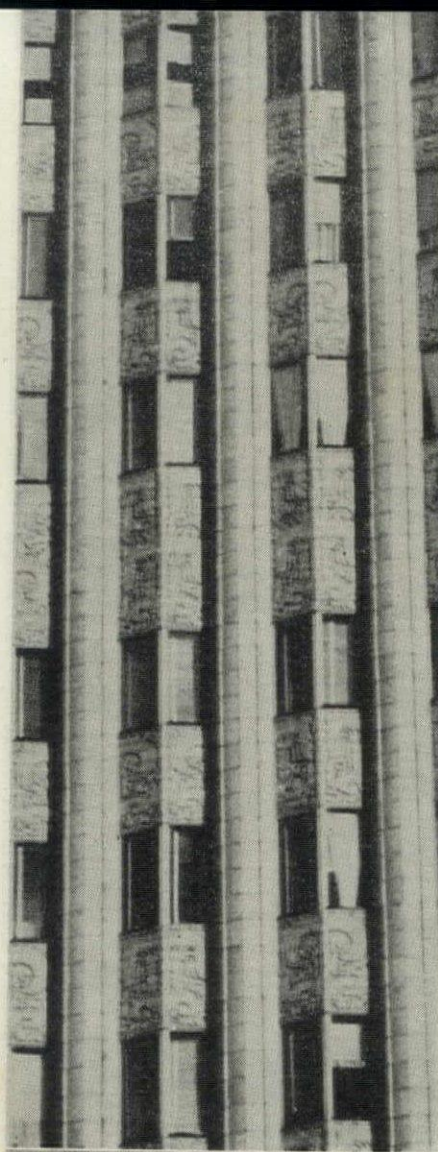


192

NEW YORK TELEPHONE BUILDING, NEW YORK
MCKENSIE, VOORHEES & CARMELIN

This building begins to exhibit the dominant characteristic of the vertical style: the pier nearly as wide as the real one. The devices became popular because of the taken belief that tall buildings should be massive and heavy. The immense size of the lower part of the building necessitates a number of inner offices without daylight. The windows themselves have been so increased in size by the enlargement of piers and spandrels that lighting is unsatisfactory in the outer offices. The relatively uncluttered facade gives a feeling of repose but lacks the essential lightness of the French style.

Photos: Arnold Eagle, Walter



1929

PALMOLIVE BUILDING, CHICAGO
MILLER & PFLUEGER

The intensity of the trend toward heavy and massive architecture is seen in this building erected at the height of the period. To give the impression of monumental piers, one-bay projections are used which cast strong shadows and sharpen the vertical lines of the design. This treatment of the facade disguised the fact that the building was a structural frame. Paralleling this tendency toward heaviness and imposing, however, is the disappearance of long last of traditional detail and ornament. Exterior treatment is plain-finished masonry above the second story.

Photos: Hedrich-Blessing



1929

450 SUTTER, SAN FRANCISCO
MILLER & PFLUEGER

The same year which produced the Palmolive building also produced this handsome example of the vertical style, housing offices for members of the medical profession. Although it, too, belies its framework with false piers, the facade shows a delicate, orderly rhythm anticipating the textured quality found later in the R.C.A. building. Large windows replace the usual heavy masonry treatment at the corners and the windows in the central portion of the facade are canted in bays. Decorative detail, following the trend away from Classic and Gothic influences, is of Mayan derivation.

Photos: H. Bowden

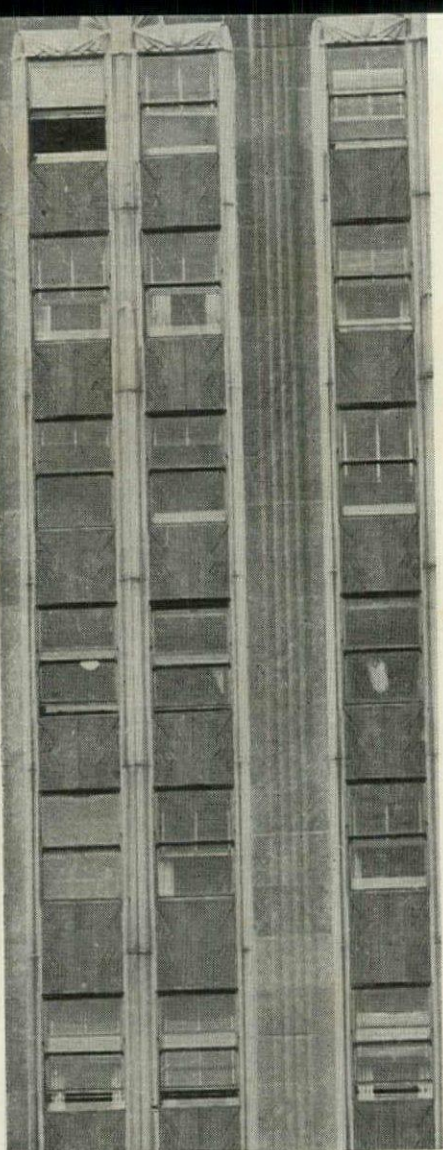


1930

CHRYSLER BUILDING, NEW YORK
WILLIAM VAN ALLEN

The mixture of verticals, horizontals and curves seen above is proof that such a combination results chiefly in restless complexity. The strongly defined center piers are an attempt at verticality which conflicts with the equally strong horizontal pattern at the corners. The result is a building that goes neither up nor across. Further complicated by different surface treatments which are indiscriminately applied at each setback and by the unrelated design of the tower, this structure is almost completely lacking in harmony. It is in reality five buildings placed one on top of the other.

Photos: Arnold Eagle, Ewing Galloway

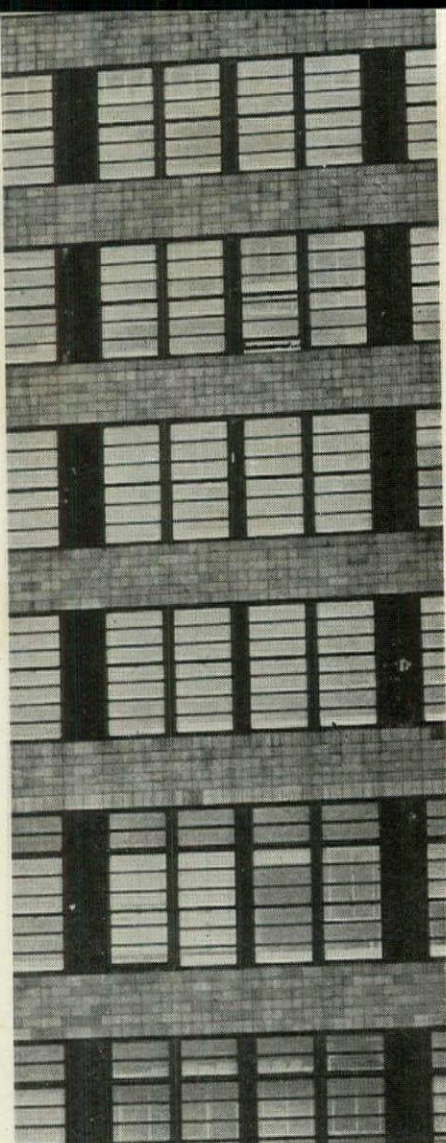


1931

EMPIRE STATE BUILDING, NEW YORK
SHREVE, LAMB & HARMON

One of the last examples of the vertical style, the tallest building in the world is reminiscent of earlier Gothic influences. Like its antecedents, it does not honestly express the steel frame, but its comparatively narrow piers are more compatible with light construction than the monumental surface treatment developed in the twenties. The metal edging of the piers was designed to receive spandrels and windows in a highly efficient assembly technique. Shortage of office space has recently filled most of the tower, left unfinished and vacant at the time of construction.

Photos: Arnold Eagle, Ewing Galloway

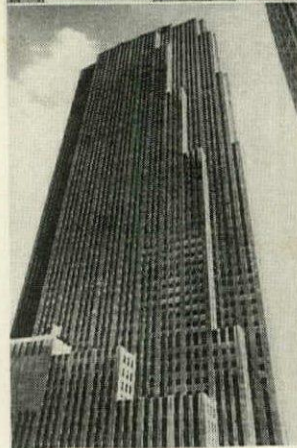
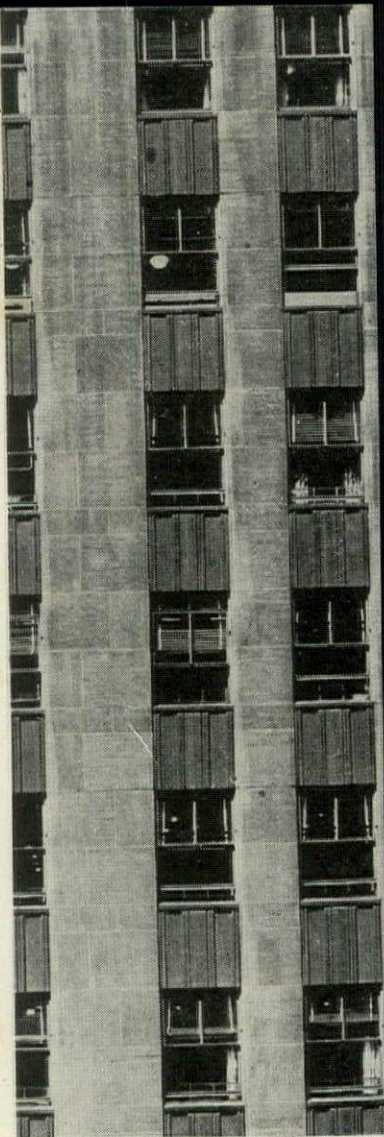


1931

MCGRAW-HILL BUILDING, NEW YORK
RAYMOND HODD

The completion of this boldly horizontal skyscraper exploded the myth that vertical lines are an inseparable part of tall building design. However, in his enthusiasm for the horizontal, the architect fell into the same trap which had caught proponents of the vertical style. Instead of allowing the actual structure of the building to become evident, he attempted to camouflage the vertical columns by making them black. Regardless of this trick, the building with its huge windows extending from pier to pier, came closer to honesty than any contemporary design.

Photos: Arnold Eagle, Museum of Modern Art



1931

R.C.A. BUILDING, NEW YORK
REINHARD & HOFMEISTER, CORBETT, HALL & MACMURRAY, HODD & FOUILLOUX

Neither vertical nor horizontal in appearance, the largest member of the Rockefeller group has a pleasantly textured facade. A significant innovation is the building's disposal of tower and ornamentation to a strong, uninterrupted planes. Detracting from this effect are the small setbacks, similar to those used in the Daily News building, which correspond to the terminals of the elevator banks. The building's main facade is a regrettable use of false piers with a consequent interruption of window area.

Photos: Arnold Eagle, Philip Galloway

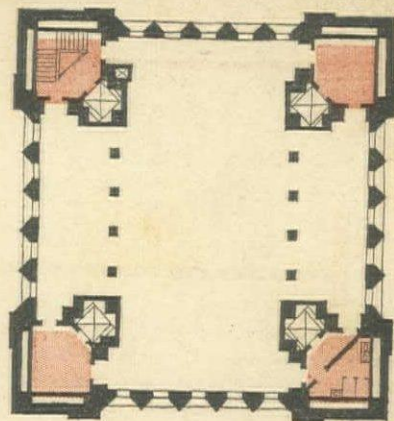
ave proved to be among the most sincere expressions of the steel frame. Among his group Sullivan was the most profound in his understanding and mastery of the problem. Indeed, the entire development of the skyscraper was telegraphed in Sullivan's intuition. It was he who, in the Wainwright and Guaranty buildings, first formulated the idiom of soaring verticality. Alarmed perhaps at the implications of unrestrained verticals, he then produced several buildings in which horizontality was emphasized. Finally he designed his Carson, Pirie & Scott store in which the simple rectilinear qualities of the steel cage were brilliantly exposed. His perception was by no means limited to surface treatments, however; in his writing especially he anticipated problems of daylighting, ventilation, zoning and setbacks. While Sullivan was not alone, he was the most brilliant of a brilliant group: the Chicago school. Had American architecture remained true to the course he charted most of the mistakes and vicissitudes of the early twentieth century could have been avoided.

But in 1893 the Chicago Fair struck with the force of a thunderbolt. Whatever the many factors which gave birth to this astonishing recrudescence of Classicism on the American scene, its immediate effect on the skyscraper was catastrophic. The vast fund of Chicago experience was junked. In its place a rash of commercial structures, ridiculously decorated with Classic colonnades below and Bramantesque detail above, broke out all over the land. In them even the most rudimentary concepts of unity disappeared. One order mounted another and a temple topped the whole; Sullivan's long-discarded concept of the "triple division" of the skyscraper, the base, shaft and capital of the column, rose to haunt him. His prophecy that the ill effects of the Fair would last half a century "if not longer" proved only too accurate.

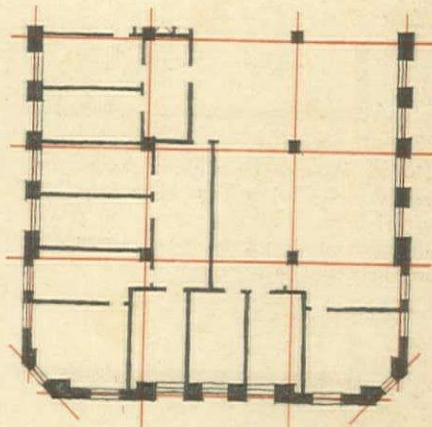
Before the first beginnings of the Chicago School and throughout the Classic period, the Gothic style was quietly gaining momentum in church and scholastic architecture. Suddenly, almost fortuitously, it caught on in skyscraper design. Architects, worried by the lack of unity inherent in an application of Classic columns to a structure 50 stories high, welcomed this new style as a happy solution to the problem of tall buildings. Since Sullivan's day there had remained a latent tendency toward verticality and the Gothic now provided a ready-made formula for its indefinite extension. Cass Gilbert, designer of the first Gothic triumph, the Woolworth building, grew lyrical: "To me a skyscraper, . . . its upper parts . . . lost in the clouds, is a monument whose masses must become more and more inspired the higher it rises. The Gothic style gave us the possibility of expressing the greatest degree of aspiration. . . ."

As the Gothic style progressed, and was replaced by modern. Neo-Gothic vertical style, it began to impose a real corruption on the underlying frame. Introduced were the false intermediate piers which Sullivan had discarded years before. All expression of his "steel cage" virtually disappeared. In its place appeared a formal and purely arbitrary pattern which sacrificed everything to verticality. Despite its gradual abandonment of traditional ornament, the vertical style became, paradoxically, increasingly monumental. Thus New York's Woolworth building was frankly Gothic, with much elaboration of the upper stories. Yet its fenestration corresponds quite closely to its actual frame. In the much later Chicago Tribune Tower, even this initial Gothic lightness has succumbed to chamfered corners and terminal piers which occupy an entire story. In New York's Daily News Building, supreme example of the vertical style, all traces of traditional inspiration have disappeared, along with any connection between facade and structure. While an extremely handsome structure, it represents an architectural dead end.

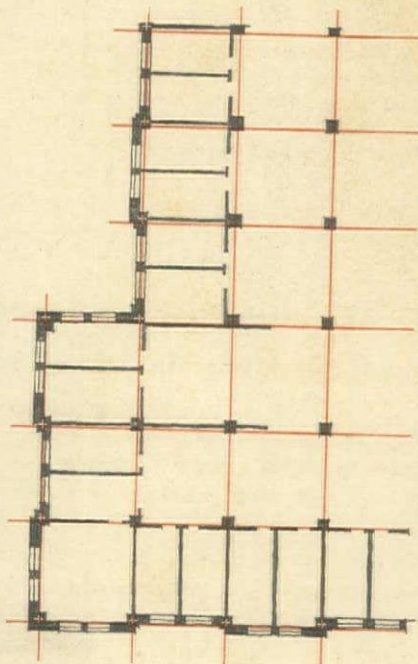
This cul-de-sac must have been apparent to Raymond Hood, who with John Hejduk designed the News building, for his next attempt—McGraw-Hill completely forsook verticality. It is not surprising that in such a radical change he carried with him some of the falsification of the vertical style. Like the Daily News building where spandrels were made of dark materials to match windows, the columns in McGraw-Hill were suppressed to emphasize an equally



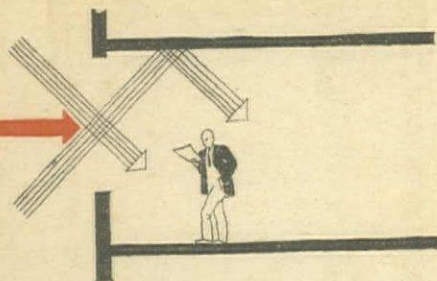
Nebraska State Capitol employed corner elevator lobbies in a striving for monumentality, wasting the best available space.



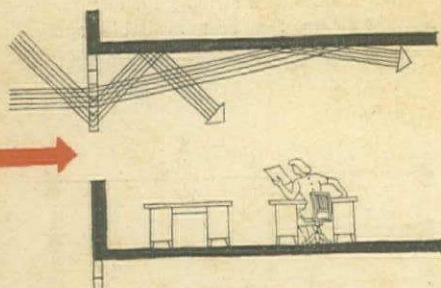
333 North Michigan Avenue Building, Chicago, uses beveled corner treatment to achieve same effect, a much more workable device.



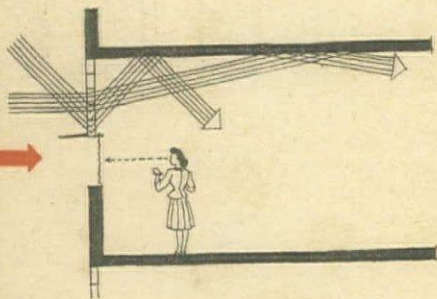
Palmolive Building strives for appearance of massive piers by superficial device of placing wall alternately inside and outside the structural frame.



Through ordinary windows, light entering from above is wasted except near outer wall. In high buildings light also enters horizontally, producing glare. Most useful light is that reflected up from other buildings to ceiling and down again at an angle.



Use of prismatic glass block above a narrow vision panel reduces glare from horizontal light, bending it upward to provide illumination deeper in room. Down-slanting light is also redirected.



With this scheme, a flexible curtain gives occupant choice of enjoying view or eliminating glare. Horizontal hood at top of panel shuts out direct rays of sun, is important on southern exposures.

stylized horizontality. Nevertheless, in breaking with the vertical style and using large areas of glass, this building came closer to expressing the actual structural frame than any skyscraper since the early Chicago examples.

As Sullivan had suggested 50 years before, the final solution to the perplexing problem of a steel frame lay in the fact that it is neither vertical nor horizontal but a series of static cages, resulting in an exterior grid pattern. The best buildings of the Chicago school recognized this while later periods attempted to twist its essentially undynamic form into extremes of movement.

The entire history of the skyscraper has been a battle with a new architectural problem. Throughout this development, architects were constantly embarrassed by the question of the treatment of the top of the building. Hood in the Daily News building, solved this problem in the only sensible way by ignoring it completely. Appropriate design of the ground floor, complicated by store fronts which prevented a continuation of piers, was impossible with the vertical idiom. But the most pressing problems centered around the large expanse of wall area between first floor and roof. Confronted by a framework that was mostly voids, architects searched for an appropriate method of filling them up. The freedom of the new frame left designers floundering. One of the most recent attitudes has been an argument for cantilevered construction because it would produce an honestly horizontal facade. But this theory can be justified only by a real need for such a system of framing.

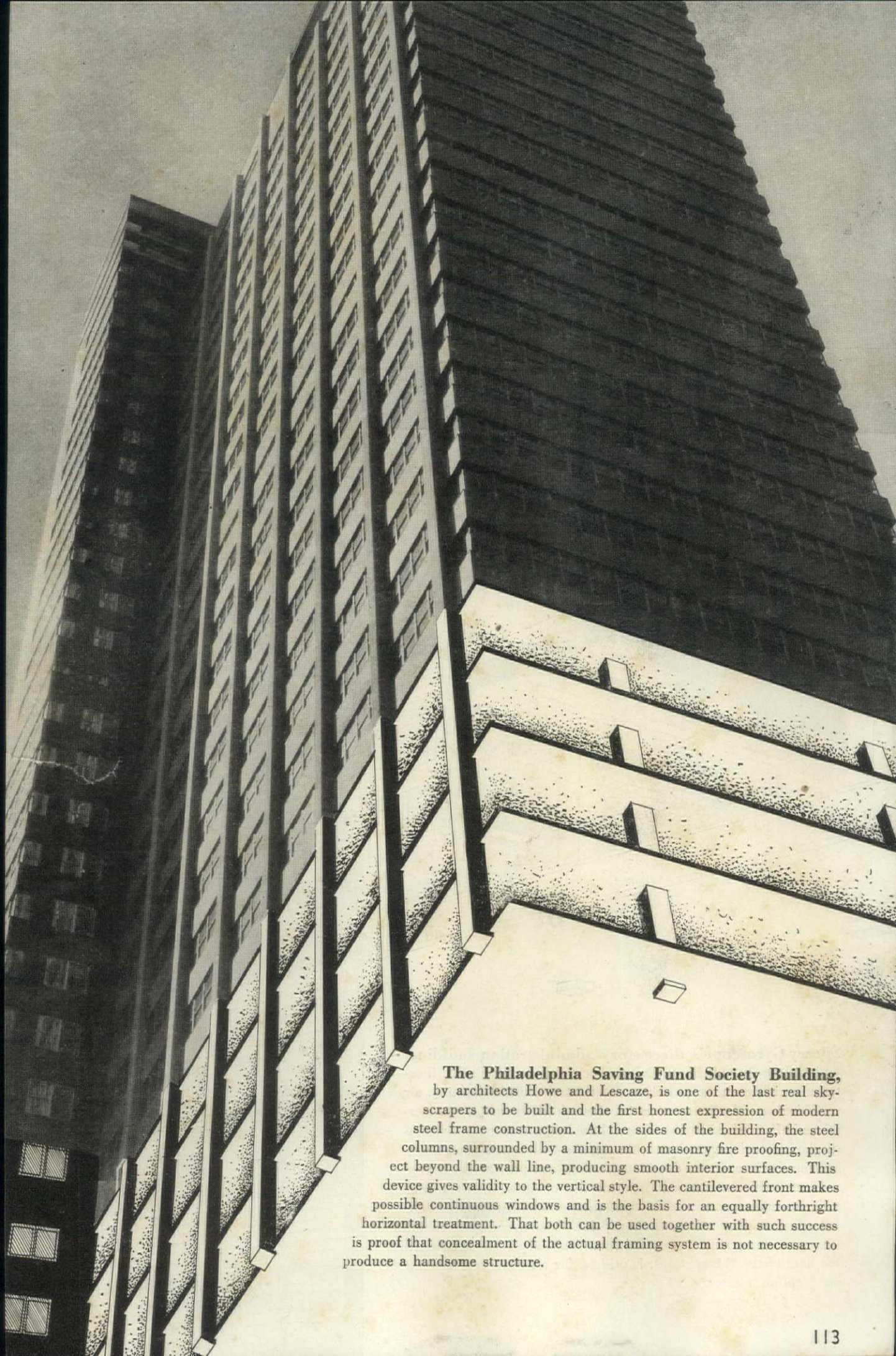
The crux of the problem lies in an inquiry into the real function of windows. Treatment of glass areas and facade is dependent not only on the structural frame but on the interior requirements of lighting and ventilation as well. In a tall building they are quite different from those in a lower structure. Light entering a window high above ground tends to produce glare because of the contrast between sky and interior walls. The use of windows as ventilators is also a complicating factor. Actually, mechanical ventilation is more efficient and will undoubtedly be used in the future. Many people question the need for additional glass area in tall buildings. But just because transparent glass extending from floor to ceiling and column to column is not desirable, it does not follow that masonry should be used instead.

What, then, should a skyscraper wall attempt to achieve? Certainly not perfect natural lighting to the full depth of usable office space, for this is impossible in a multi-storied structure. But people do want to see out of tall buildings. Clear glass is needed for at least a narrow vision panel extending from column to column, and from a reasonable sill-height to somewhat above eye level. Clear glass above this point is a source of glare. Instead prismatic glass might be used to redirect the light and substantially improve illumination. The problem of locating partitions, often cited in justification of false masonry piers, can be better solved by dividing the vision panel with frequent mullions, allowing the erection of partitions at almost any point.

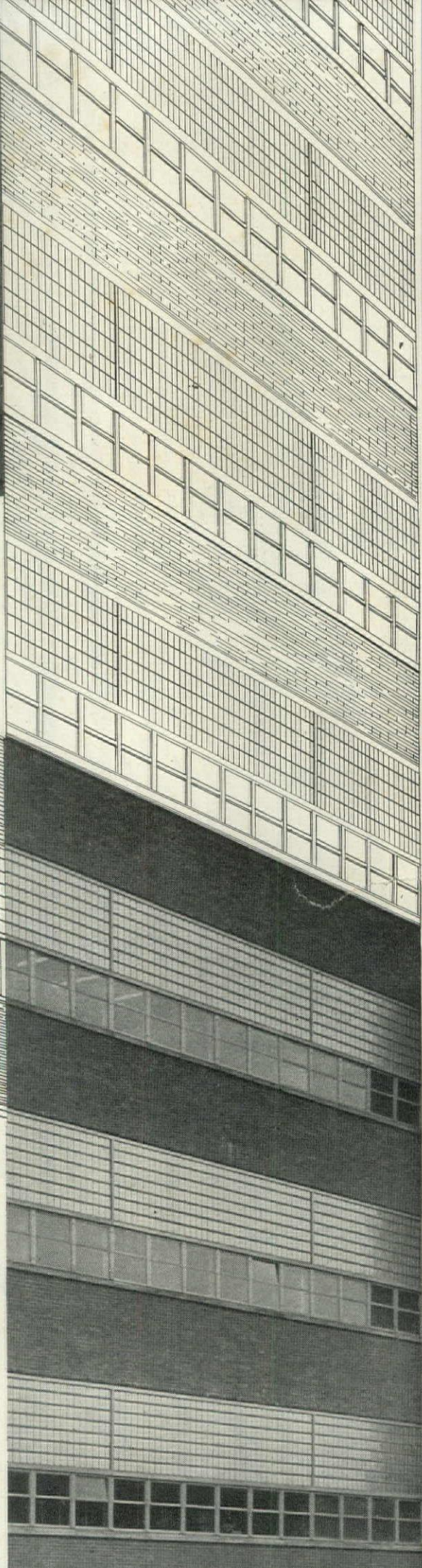
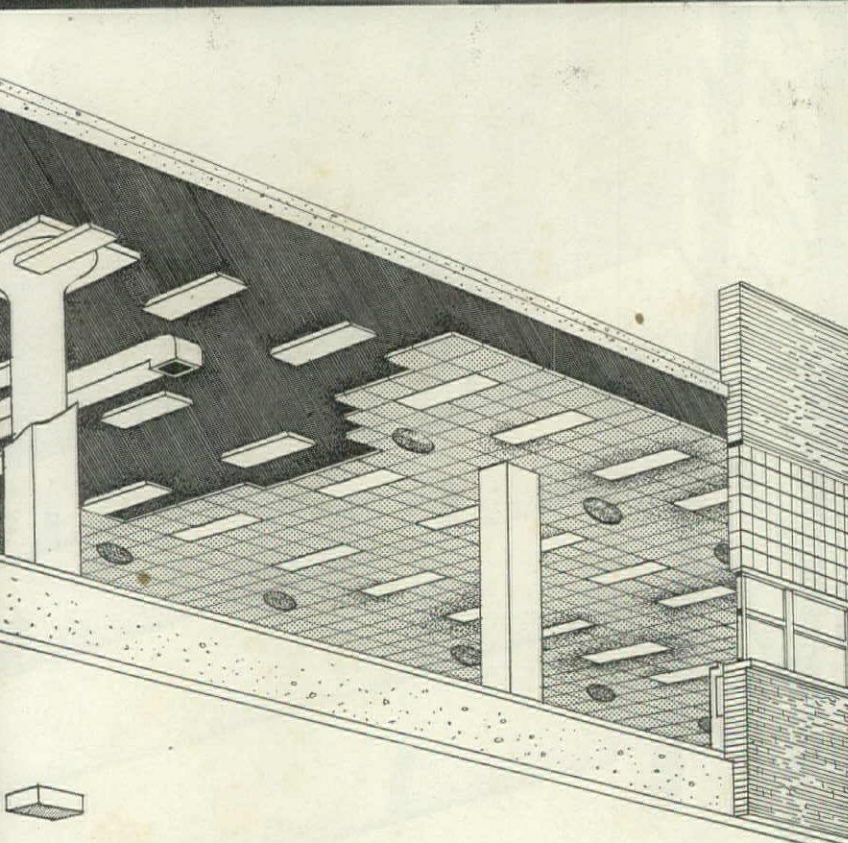
The vertical style reached its apogee and its end in the thirties. Future commercial design must take a new direction, already apparent in contemporary examples.

The false articulation of a building's basic structure becomes inevitably a road to nowhere. The vertical style sang its swan song at the moment of its highest development. A fresh approach was absolutely necessary. George Howe and William Lescaze showed the way in their famous Philadelphia Savings Fund Society building, first fully honest expression of the steel frame in some 40 years. Without striving for either verticality or horizontality it has achieved both on a completely valid basis. The building's real importance, therefore, lies in the flexibility of design it suggests for future construction. It shows no rigidity, no strain, but an effortless interpretation of structural requirements.

Even in this masterfully executed skyscraper, the problem of the window is but sketchily solved. The newer Spectro Gyroscope administration building attacks this question with peculiar insight. A frankly horizontal design, it uses prismatic glass block above a continuous vision panel and employs movable sections in this panel only to facilitate cleaning. Ventilation is provided by an air-conditioning system. Although based on a mushroom concrete construction unsuitable for most taller structures, its functional approach to window treatment is eminently suitable to higher buildings and points the way toward a less superficial solution of the fundamental architectural problem.



The Philadelphia Saving Fund Society Building, by architects Howe and Lescaze, is one of the last real skyscrapers to be built and the first honest expression of modern steel frame construction. At the sides of the building, the steel columns, surrounded by a minimum of masonry fire proofing, project beyond the wall line, producing smooth interior surfaces. This device gives validity to the vertical style. The cantilevered front makes possible continuous windows and is the basis for an equally forthright horizontal treatment. That both can be used together with such success is proof that concealment of the actual framing system is not necessary to produce a handsome structure.



Sperry-Gyroscope's three-story administration building, designed by Nembhard N. Culin (ARCH FORUM, Nov. '42), illustrates an integrated approach to natural and artificial lighting, air conditioning and office spacing, all of which will be major considerations in future business buildings. Based on concrete construction employing mushroom columns, the exterior treatment automatically becomes horizontal. To distribute daylight and prevent glare, prismatic glass blocks form the upper portion of the wall with a clear vision panel below. This is divided into sections 4 ft. wide, allowing office division at almost any point. The space between the structural slab and the suspended acoustical ceiling, which conceals the flare of the column caps, is utilized for air conditioning ducts and lighting fixtures.

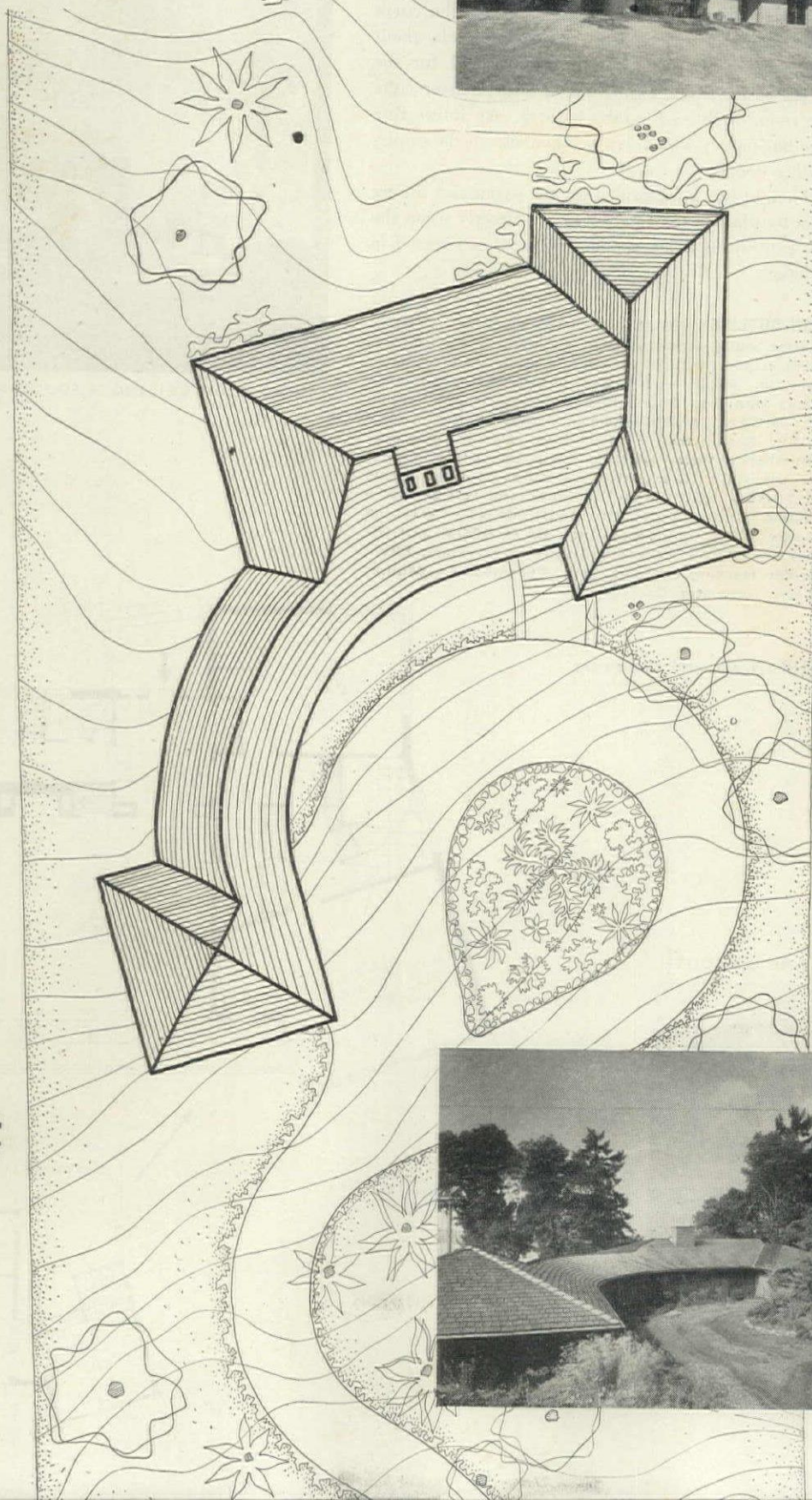
HOUSES

A lakeside house dominated by its site (p. 116)

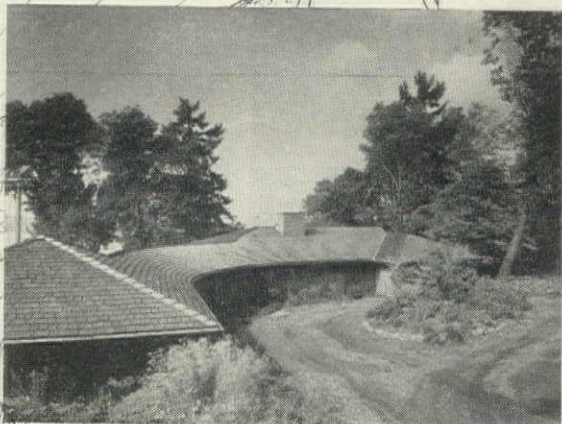
Home on a limited budget and narrow lot (p. 118)

Modern design for a conservative suburb (p. 120)

Privacy and sun in four apartment units (p. 122)



HOUSE IN SEATTLE, WASH.
BLISS MOORE, ARCHITECT



HOUSE IN SEATTLE, WASH. Contours, trees and views determined much of the design

Photos: P. A. D.

Designed in 1941 as the permanent home for a professional man, this successful house already has had one of its planned expansions and another awaits the end of the war. The lot, 109 ft. by 300 ft., is located in an exclusive residential park and slopes gracefully down to the lake shore. Orientation of the house is arranged to take advantage of the view to the south between handsome madrona and fir trees.

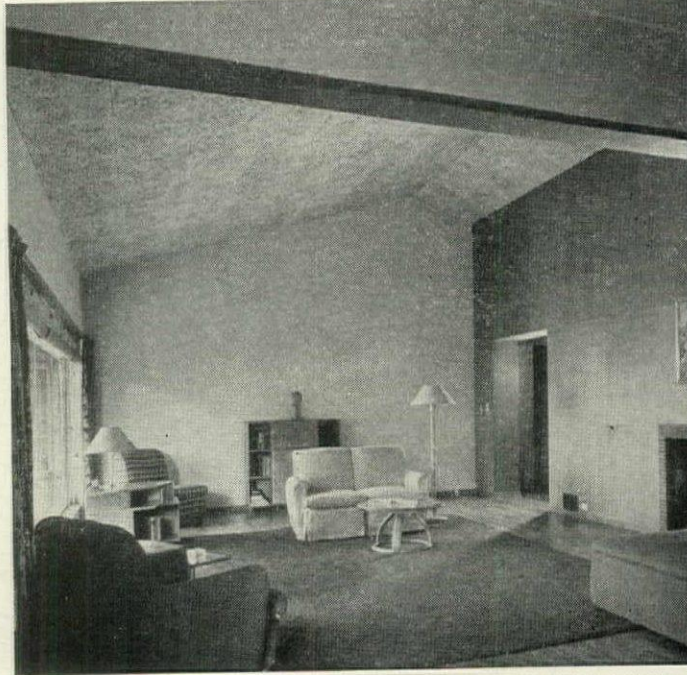
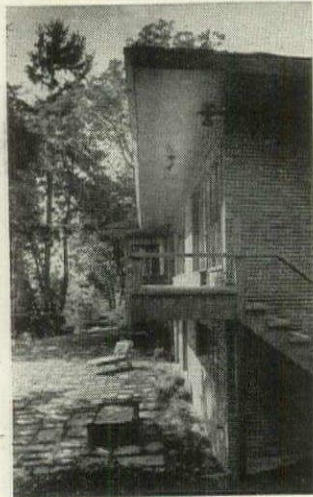
The angles and curves of the plan reflect the contours of the site. A service wing, recently added, continues the curve of the present northeast wall to form a quarter circle about the entrance court. Future additions are planned for the lakeside on the lower level, to include a large master suite and dressing room facilities for lake bathers. An interesting feature is the bar-pantry which can be opened into the dining room by folding doors.

Additional height has been gained for the living and dining room ceilings by placing the interior finish directly upon the rafters. The exterior is brick veneer; the roof is covered in hand split shakes.

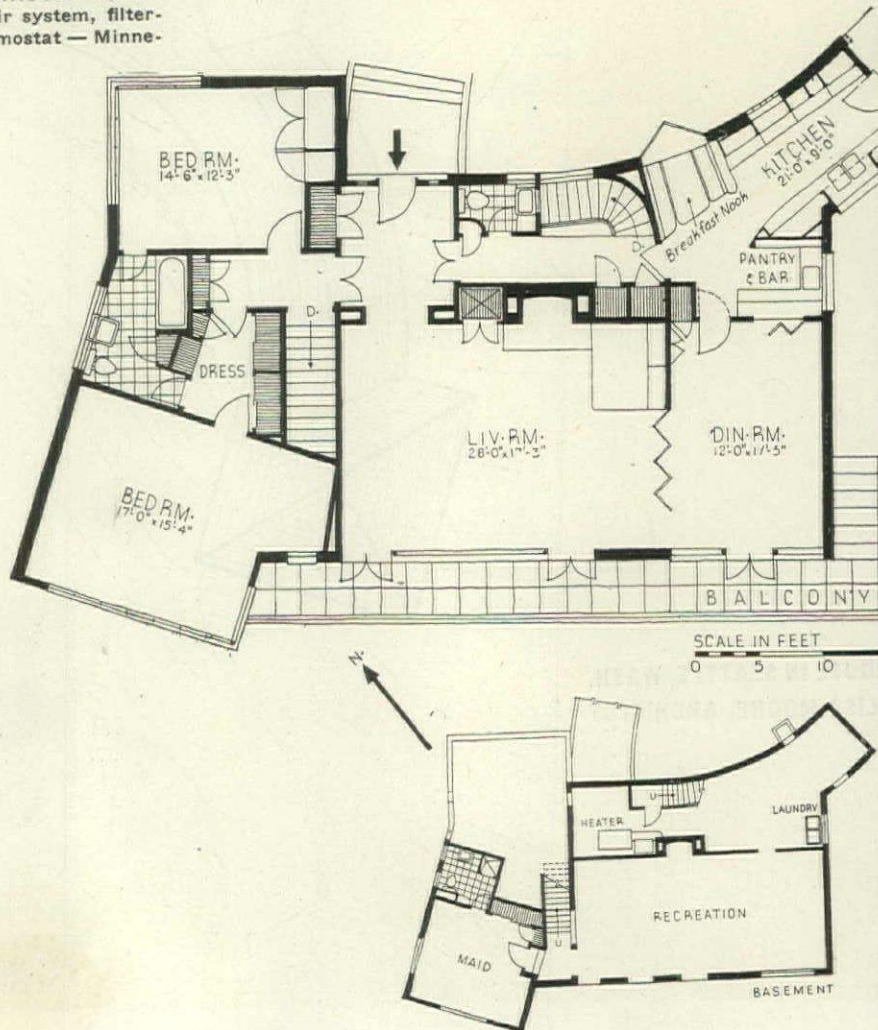
CONSTRUCTION OUTLINE: FOUNDATIONS—concrete. STRUCTURE: Exterior walls—brick veneer, Builders Brick Co., air space, building paper, shiplap sheathing, studs and rocklath, U. S. Gypsum Co. ROOF—shingles. INSULATION: Roof—rockwool, Johns-Manville. Sound insulation—Thermax, Celotex Corp. SHEET METAL WORK—Armco, American Rolling Mill Co. WINDOWS: Sash—steel, Fentron Steel Works. Weatherstripping—Chamberlin Metal Weather Strip Co. Glass—American Window Glass Co. Glass blocks—Insulux, Owens-Illinois Glass Co. KITCHEN EQUIPMENT: Range and refrigerator—General Electric Co. LAUNDRY EQUIPMENT—Washing machine—Bendix Home Appliances, Inc. BATHROOM EQUIPMENT—Crane Co. HEATING—forced warm air system, filtering, The Goehler Heating Systems, Inc. Thermostat—Minneapolis-Honeywell Regulator Co.

D. J. LOUGHRAN, General Contractor

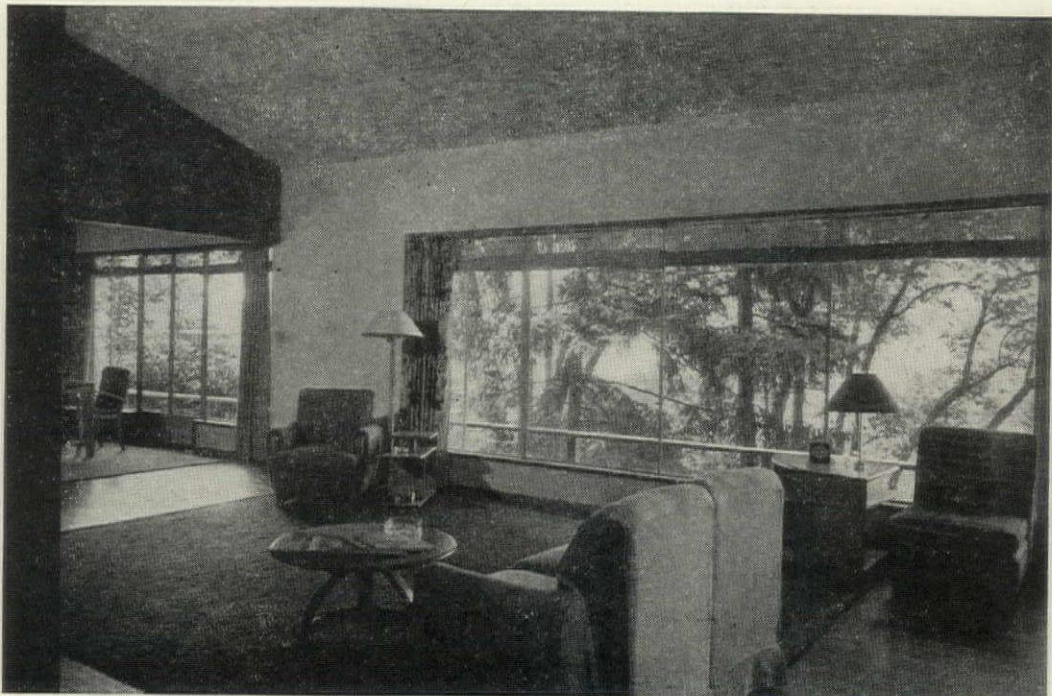
TERRACES ARE ON SOUTH



LIVING ROOM CEILING IS SOUND ABSORBENT INSULATING



rchitect Bliss Moore, Jr., for this home overlooking magnificent Lake Washington.



LIVING AND DINING SPACES ARE JOINED BY WIDE OPENING TO INCREASE VIEW OF LAKE
STORY FACADE FACES LAKE, WITH LARGE WINDOWS SHIELDED BY ROOF OVERHANG AND CANTILEVERED BALCONY



HOUSE IN CLEVELAND, OHIO

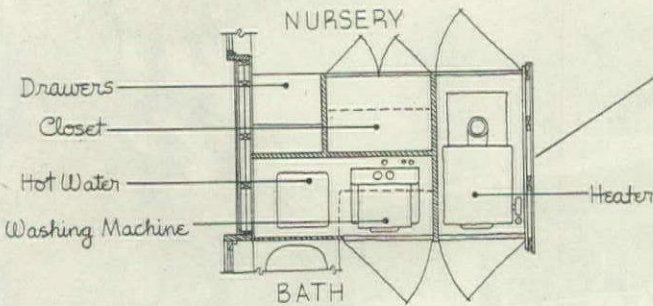
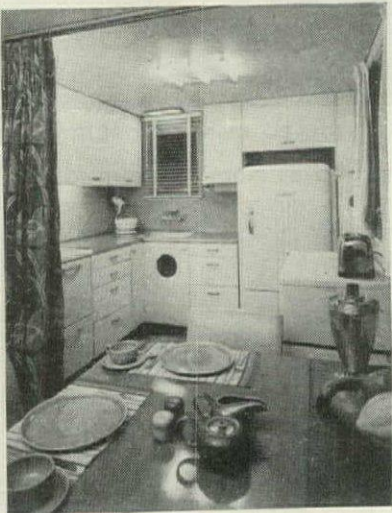
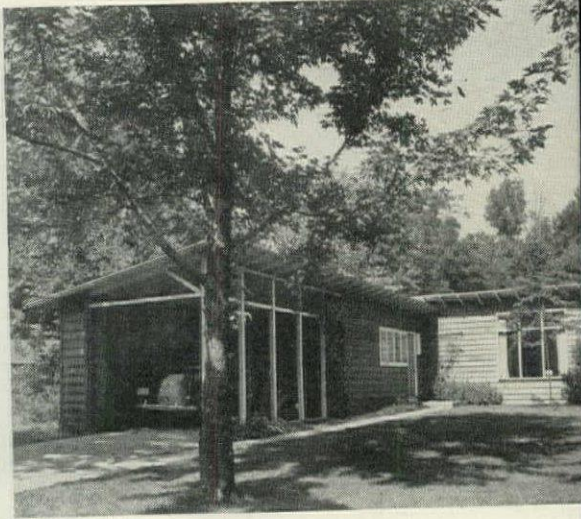
Architect W. D. Riddle designs his own ho

Photos: Tom Kn

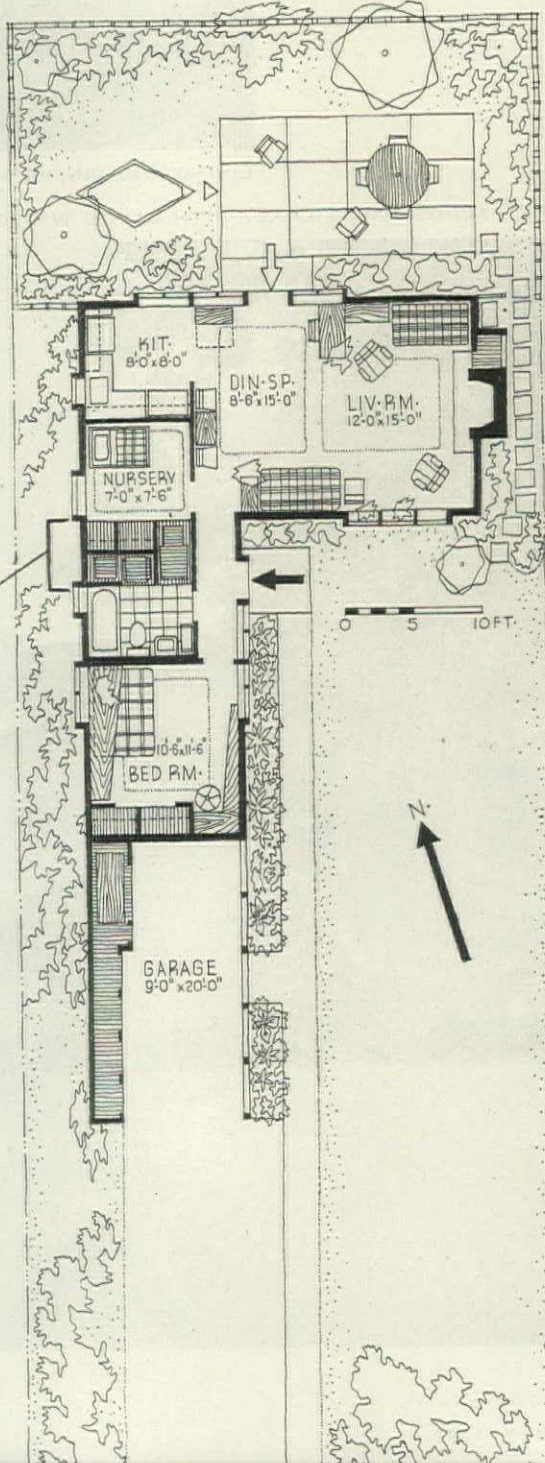
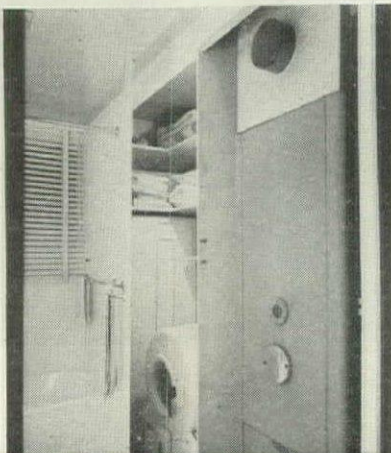
After careful analysis of their living requirements and the physical aspects of the lot and neighborhood, the designer and his wife decided that their building objectives were four: respect for a small budget, intimacy between indoors and outdoors, efficiency of work areas in minimum space, and maximum ease of maintenance.

The house is placed on the 40 ft. by 105 ft. lot so that the driveway takes up as little space as possible and the house itself forms a shield for the outdoor living area at the rear, upon which the living-dining room and kitchen open. The plan of the house gives the most space to the living room by using many built-in features in the bedrooms, and by opening the kitchen directly into the living room—a feature the owners have found most satisfactory. The hallway serves the dual purpose of interior circulation and outdoor entry, a device superior to the more common direct entrance into the living room. All interiors are finished in natural or painted plywood, and the exterior is covered with oiled cedar boards.

G. W. ELLIS, General Contractor



SERVICE UNIT between nursery and bath contains the water heater, home laundry, and hot air furnace concealed behind flush doors opened by towel bars. On the nursery side are a chest of drawers and closet.

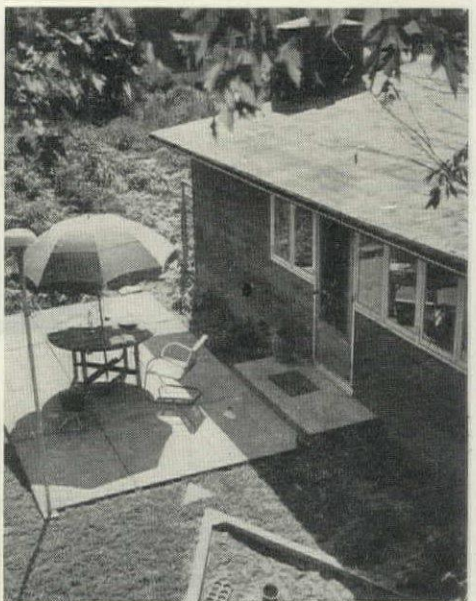
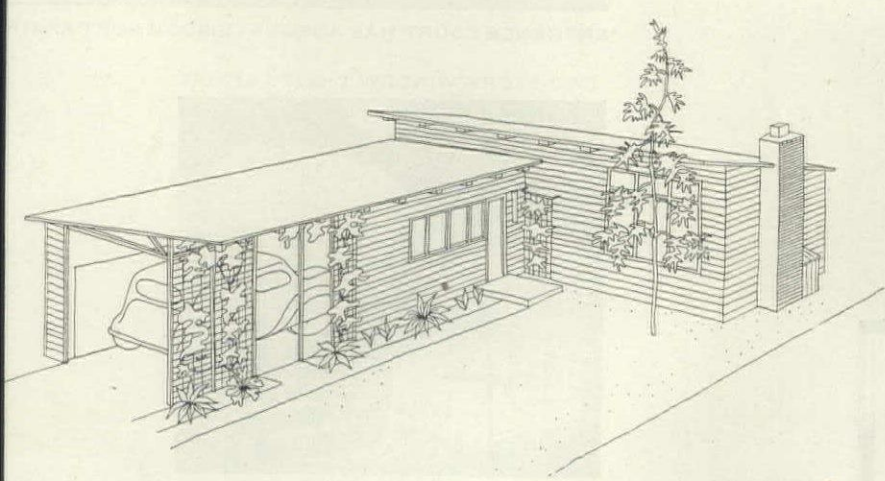


imple plan, freedom from tradition, and straightforward construction lower cost of a city lot house.



G ROOM HAS THE HIGH SIDE OF SHED ROOF ON SOUTH TO ADMIT MAXIMUM SUNSHINE. NOTE EXPOSED RAFTERS

OUTDOOR LIVING SPACE AT REAR OF LOT



HOUSE IN HIGHLAND PARK, ILL.

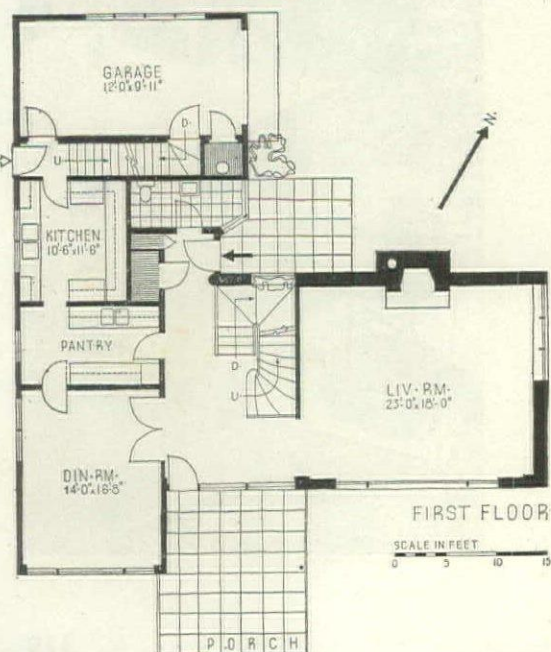
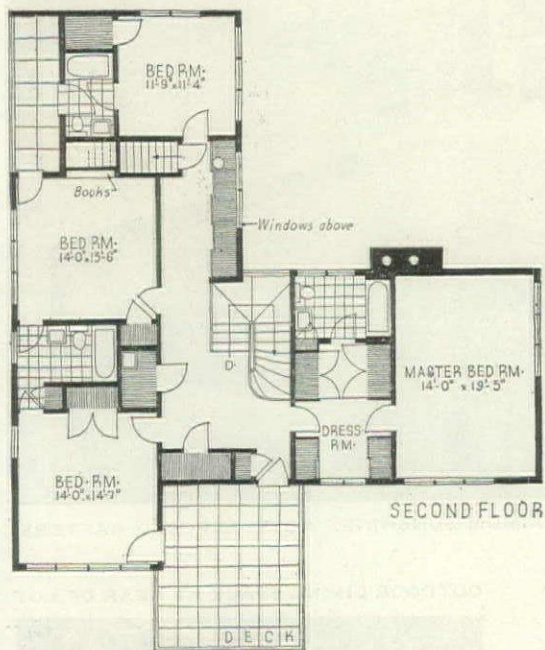
A suburban home by James F. Eppenstein.

In a conservative, built-up development of suburban homes this simple modern design has won the favor of the community—so much so that three families owning immediately adjacent lots have requested the architect to do homes for them in the same manner.

The house has been placed well back from the road on a typical lot 75 ft. by 100 ft. to give seclusion from street noises and plenty of space for cars in the entrance court. Fortunately, the southern exposure and the view of a picturesque wooded ravine are identical thus allowing the house to be oriented to take advantage of sun and view in all major rooms, the terrace, and the deck.

The compact, L-shaped plan is united by a circulation core at the inner corner, expressed strongly on the exterior in the two-story stair window. All living spaces are sheltered by windowless walls to the north and warmed by sunshine through large glass windows to the south. Service units are well organized, and the rear stair is an added convenience. The second floor sleeping apartments have excellent storage closets and two open decks. Access to the smaller deck through the north bedroom bath is a questionable solution of an awkward problem.

Interior furnishings, as well as structural engineering and landscaping, were done entirely by the architect.



CONSTRUCTION OUTLINE

FOUNDATION: Concrete. **Waterproofing—**R. I. W., Toch Bros. **STRUCTURE:** Exterior walls—cypress siding, sheathing, Celotex Co., studs, metal lath and plaster, U. S. Gypsum Co. **ROOF—**cedar shingles. **Deck—**asphalt tile, Philip Carey Co. **INSULATION:** Outside walls—1 in. Balsam-wool, Wood Conversion Co. Attic floor—mineral wool, U. S. Gypsum Co. U. S. Steel Corp. **WINDOWS:** Sash—pine. **GLASS—**plate and double strength, quality A, Libbey-Owens-Ford Glass Co. **FLOOR COVERINGS:** Kitchen—linoleum, Armstrong Cork Co. Bathrooms—tile, Cambridge Tile Co. **DOORS—**birch, Rezo, Paine Lumber Co. Garage doors—Yale & Towne Mfg. Co. **ELECTRICAL INSTALLATION:** Wiring and switches—General Electric Co. Fixtures—Solar Light Co. **KITCHEN EQUIPMENT:** Ventilating fan—Ilg Electric Ventilating Co. **BATHROOM EQUIPMENT—**Crane Co. **HEATING—**hot water system. Boiler and water heater—General Electric Co. Radiators—American Radiator Co.

BUILDING SERVICE CO., General Contractor

Photos: Hedrich-Bless



ENTRANCE COURT HAS ADEQUATE ROOM FOR PARKING

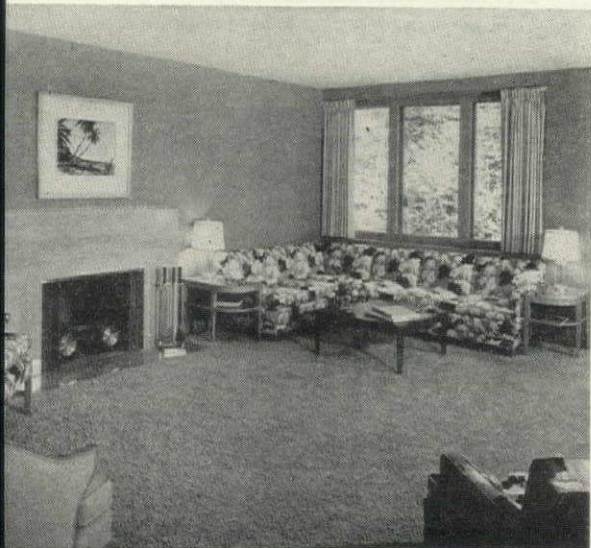
TWO-STORY WINDOW LIGHTS STAIRS



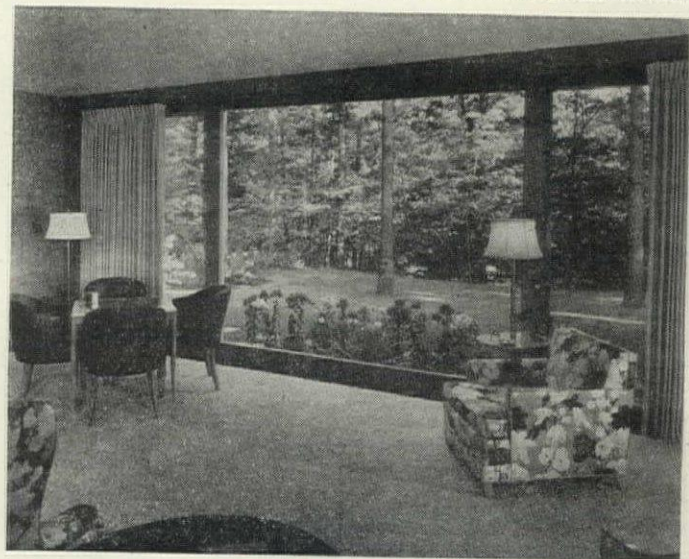


TH FACADE, OPEN TO SUNSHINE AND VIEW AT REAR OF LOT, CONTRASTS WITH FEW WINDOWS ON ENTRANCE COURT

PICTURE FITS WELL ABOUT LIVING ROOM FIREPLACE



HANDSOME GARDEN VIEW IS OPPOSITE FIREPLACE WALL



APARTMENTS, WEST LOS ANGELES, CALIF. Designed by J. R. Davidson.

This unusual apartment group fits pleasantly into a residential neighborhood composed chiefly of single-family houses. The apartments are greatly sought after, combining as they do good design, privacy and outdoor living facilities usually found only in private homes.

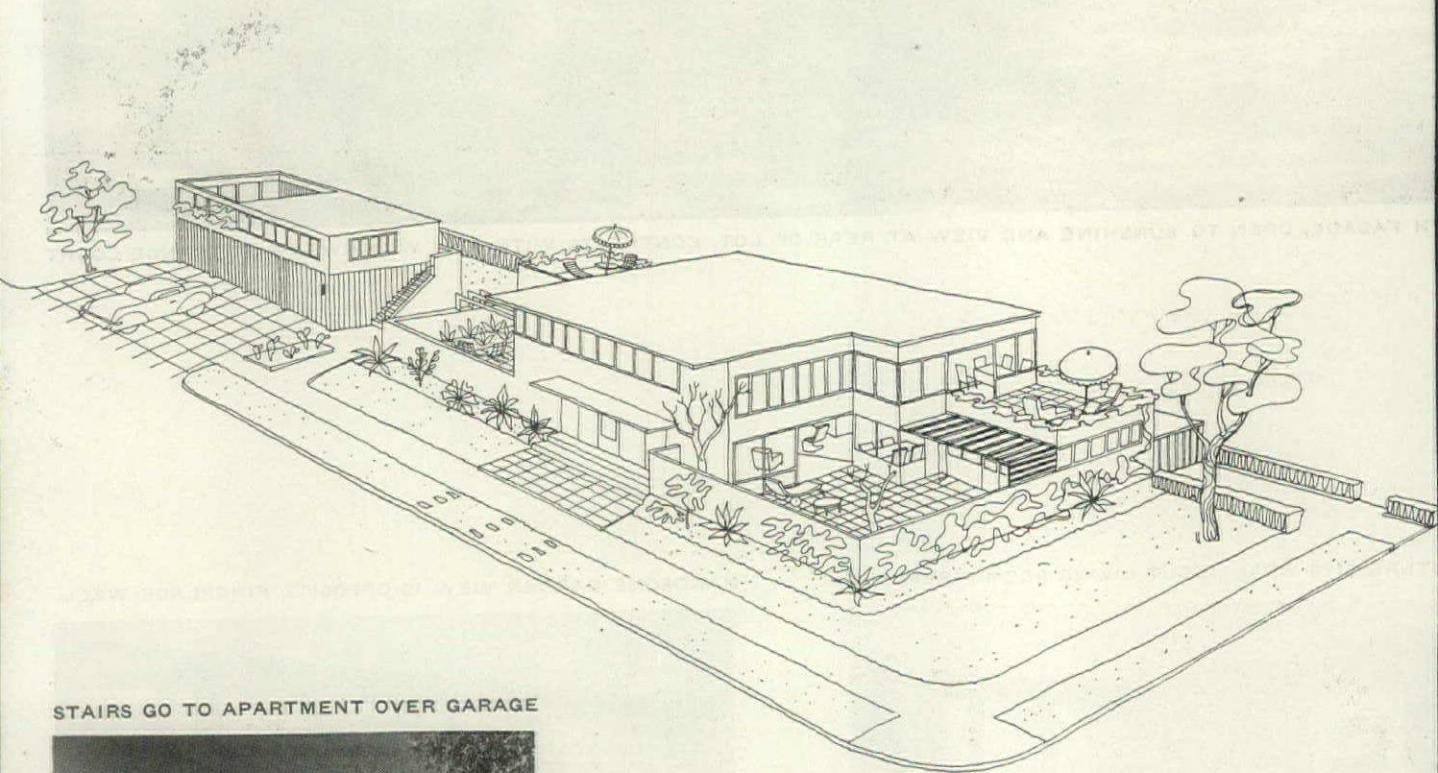
The two buildings, the main apartment dwelling and the garage, are placed on a corner lot 50 ft. by 150 ft., with direct access for apartment occupants and their cars along the main front and for service along the rear. The group has been handsomely landscaped, a fact that adds much to the livability of the patios and decks.

The main building contains two apartments on the ground floor, each similarly arranged in a stepped fashion so that living, dining and sleeping spaces open upon private patios. Only one apartment occupies the second floor, to gain room for two spacious decks and two bedrooms. The upper living room is oriented toward the corner of the lot away from the garage. The direct and simple solution of the entrances to the three units is expressed clearly on the main facade. Exterior walls are of stucco painted a pale terra cotta to contrast with the blue of the trim.

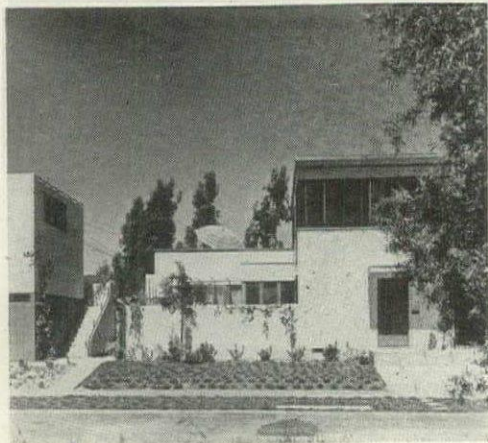
CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—stucco over galvanized wire mesh, 15 lb. felt paper, galvanized wire over studs; inside—plaster. Floors—oak. **ROOF**—55 lb. Alumi-shield, Paraffine Co.'s, Inc. **INSULATION**—mineral wool. **WINDOWS:** Sash—Wood. Glass—double and single strength, Libbey-Owens-Ford Glass Co. **FLOOR COVERINGS:** Bathrooms and Kitchens—linoleum, Armstrong Cork Co. **HARDWARE**—Hilgrin Mfg. Co. **ELECTRICAL WIRING**—flexible metal conduit. **PLUMBING:** Soil pipes—cast iron. Supply pipes—galvanized steel. **BATHROOM FIXTURES**—Crane Co. **HEATING**—wallheaters, Andrews Heater Co.

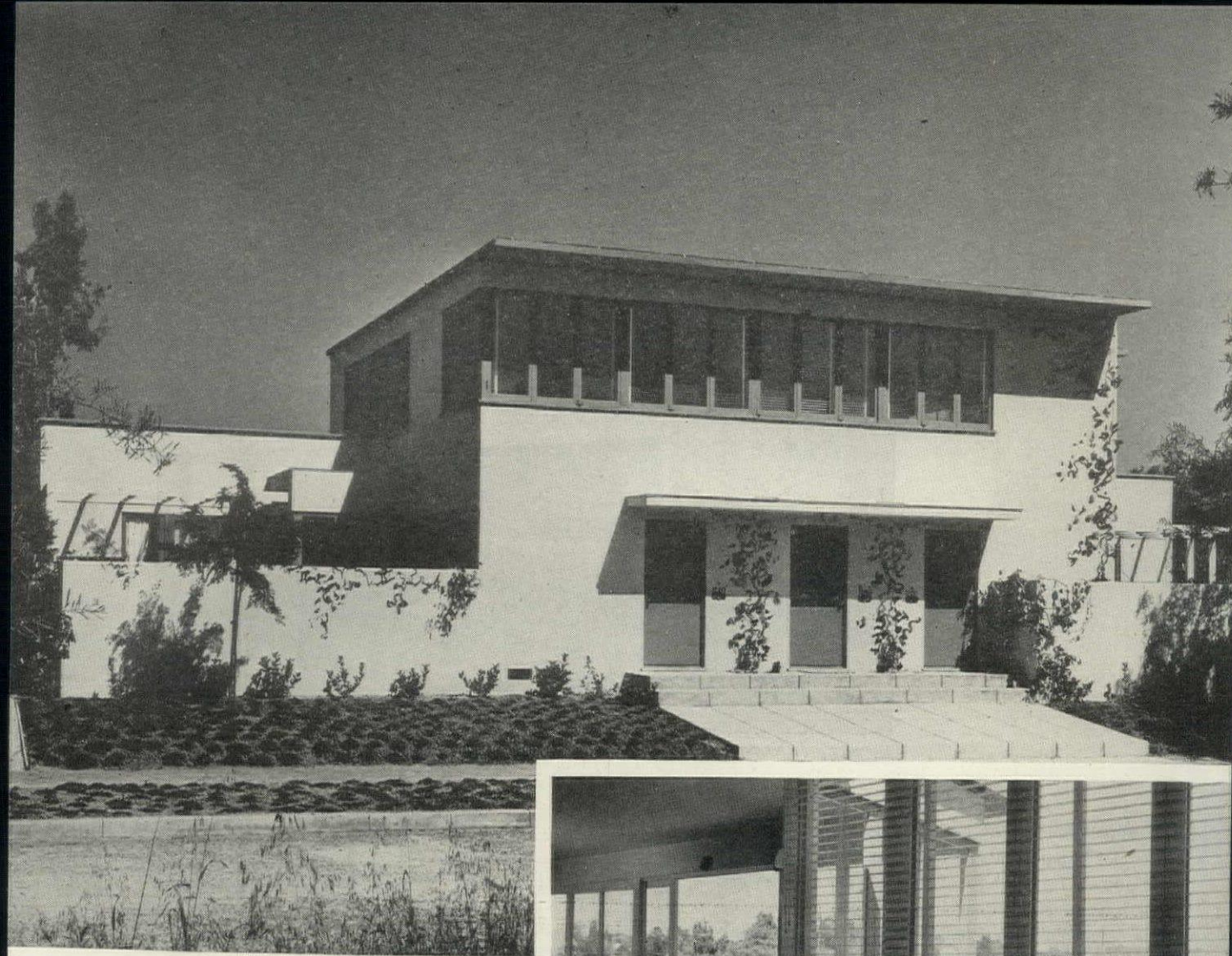
LA BREA CONSTRUCTION CO., General Contractor



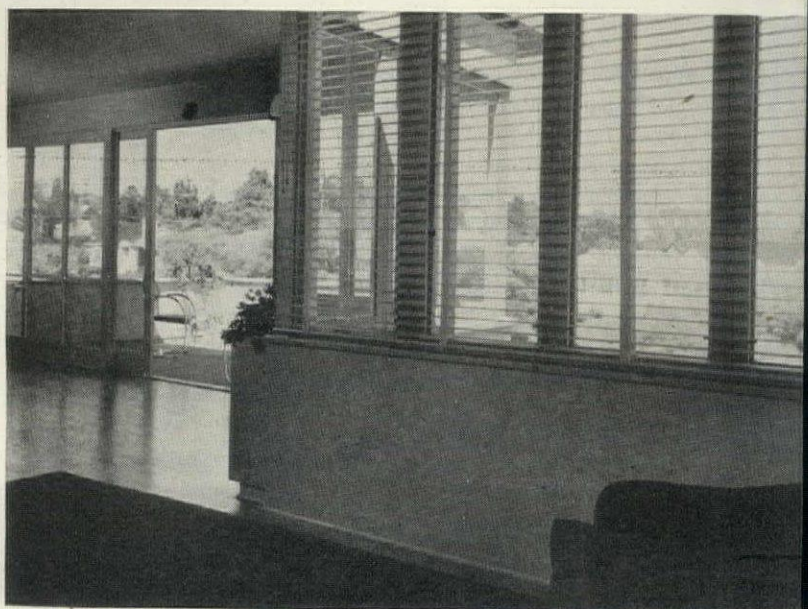
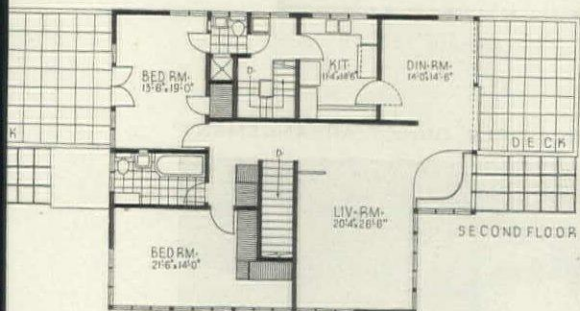
STAIRS GO TO APARTMENT OVER GARAGE



Photos: Julius Schulman

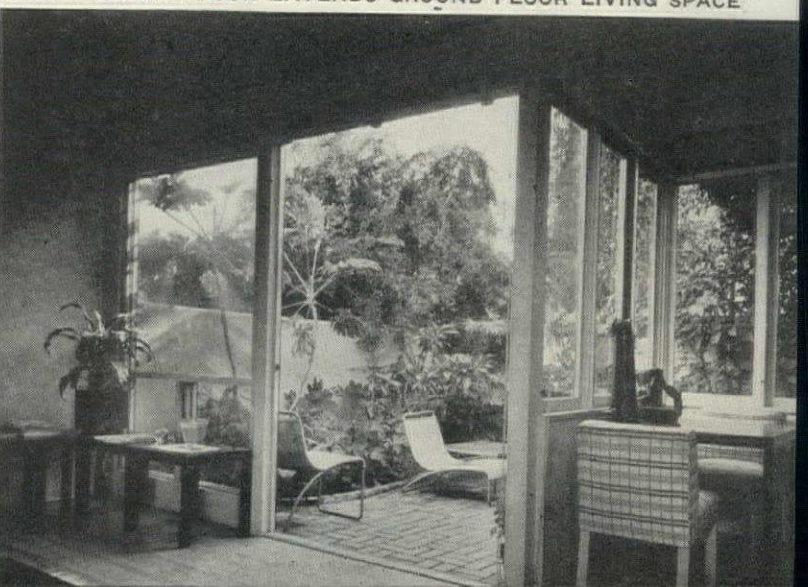
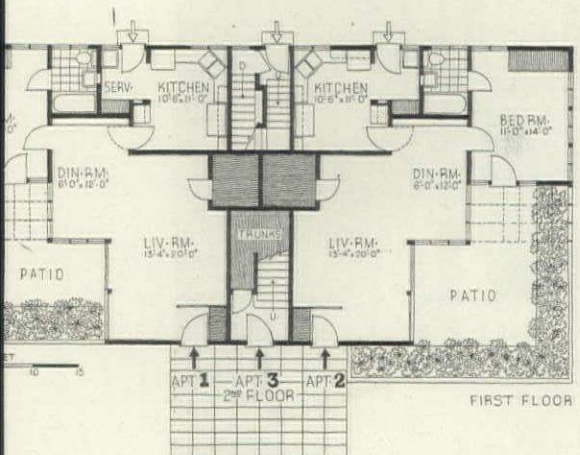


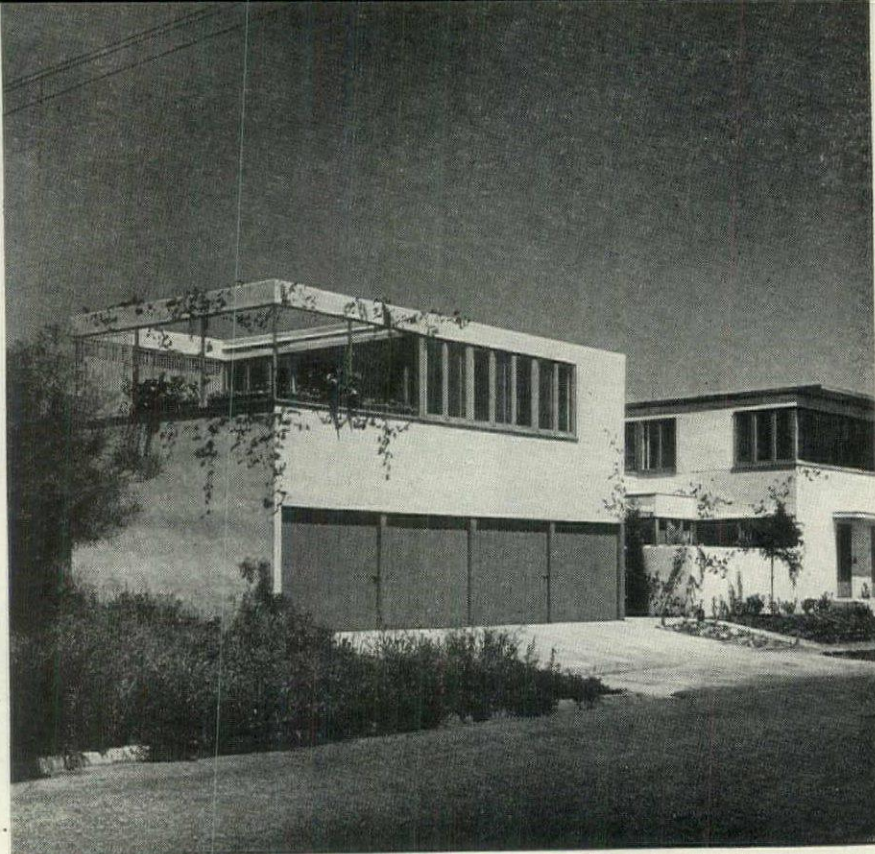
PRIVACY IS GIVEN BY PATIO WALLS, NO LOWER WINDOWS



SUN DECK PROVIDES OUTDOOR LIVING FOR UPPER APARTMENT

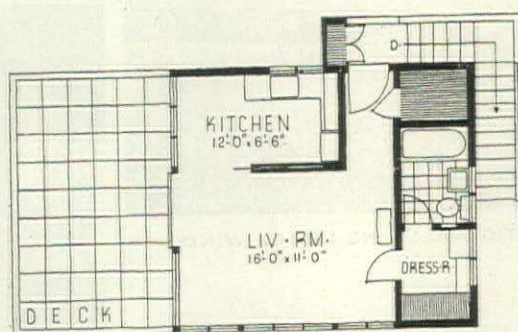
BROAD SLIDING DOOR EXTENDS GROUND FLOOR LIVING SPACE





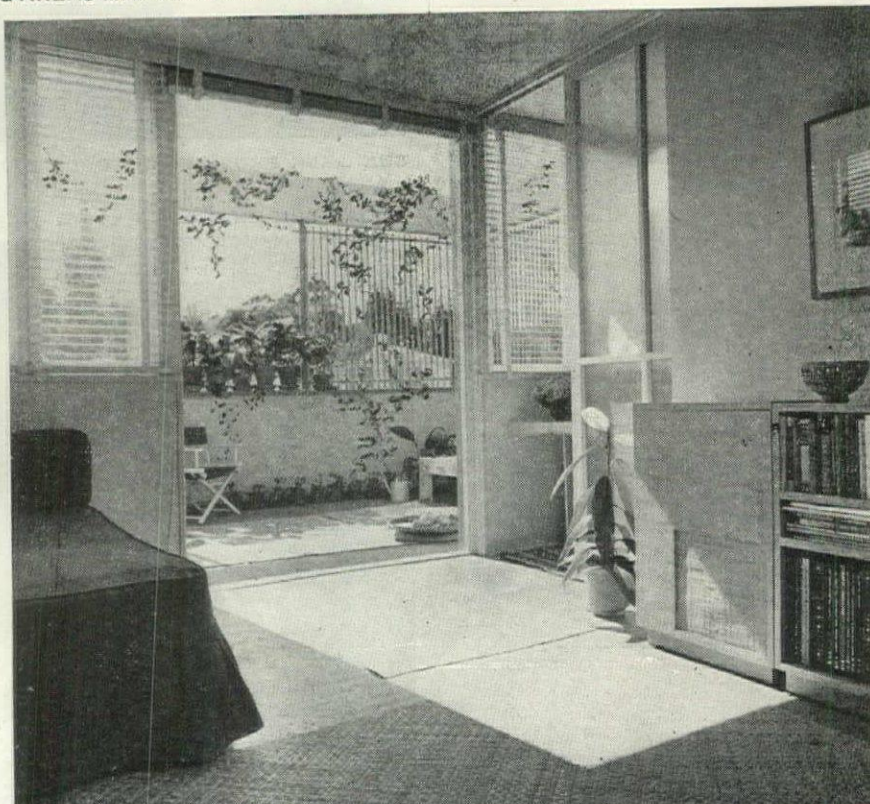
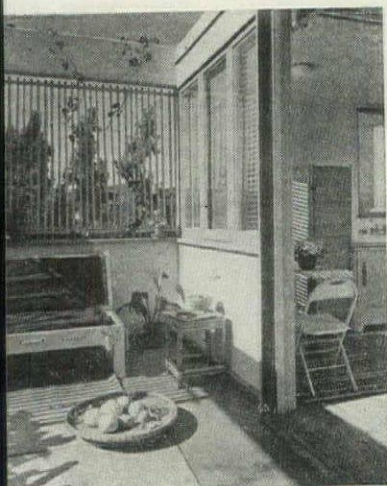
GARAGE APARTMENT EXPRESSES DESIGN FOR INDOOR-OUTDOOR LIVING

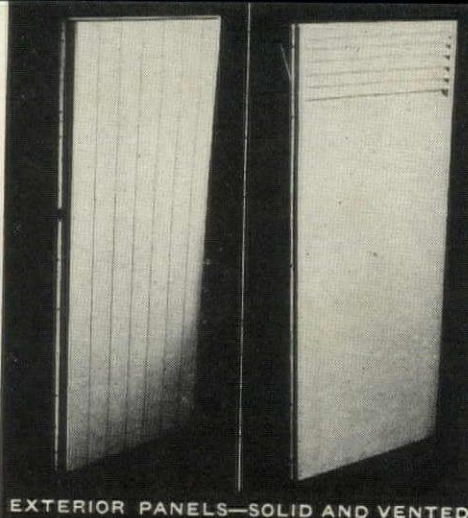
The upper floor of the garage is given over to a small "bachelor" apartment, perhaps the best planned of the four units. Over a third of the floor area is devoted to what is truly an outdoor living room, the room effect being enhanced by the continuation of a "cornice" about the whole space. Privacy is secured by facing the deck away from the main apartment building, and by slat screens on the service side. The dressing room with built-in cabinets and the sliding screen separating the kitchen and living room add flexibility to the use of the living room space.



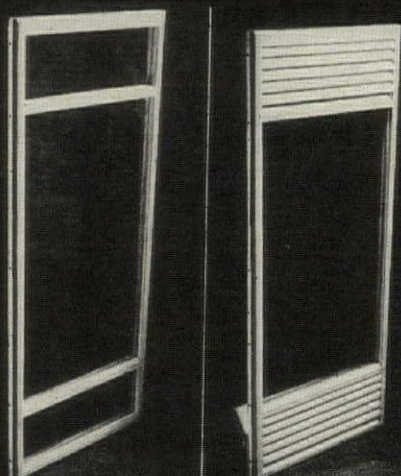
GARAGE-SECOND FLOOR

LIVING, DINING AND SLEEPING AREAS MAY ALL SHARE TERRACE IN THIS SIMPLE, DIRECT ARRANGEMENT

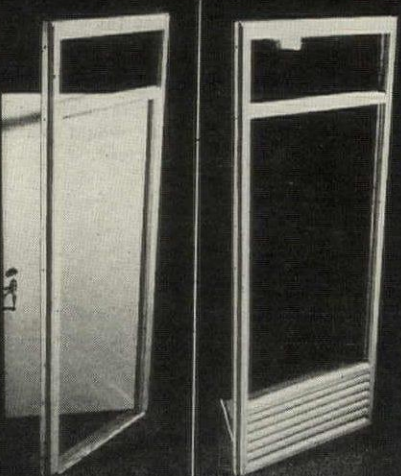




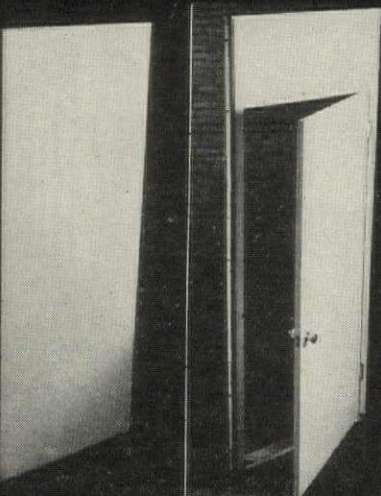
EXTERIOR PANELS—SOLID AND VENTED



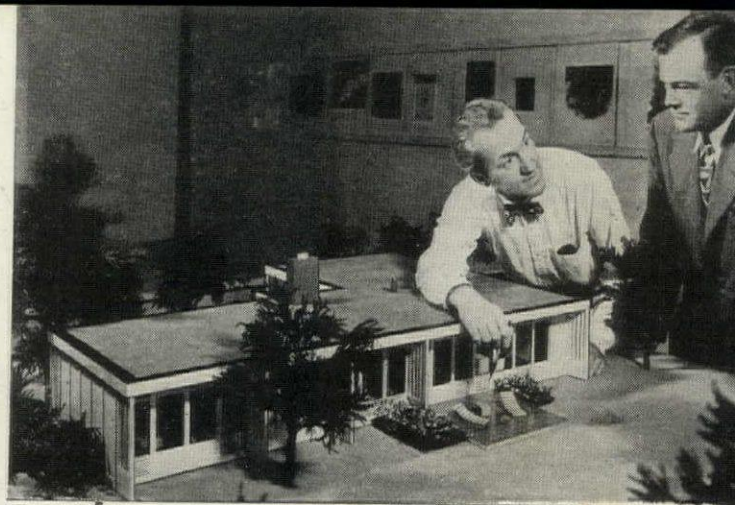
FIXED GLASS AND LOUVER VENTILATORS



EXTERIOR DOOR AND BOTTOM LOUVER



INTERIOR PARTITION AND DOOR PANELS



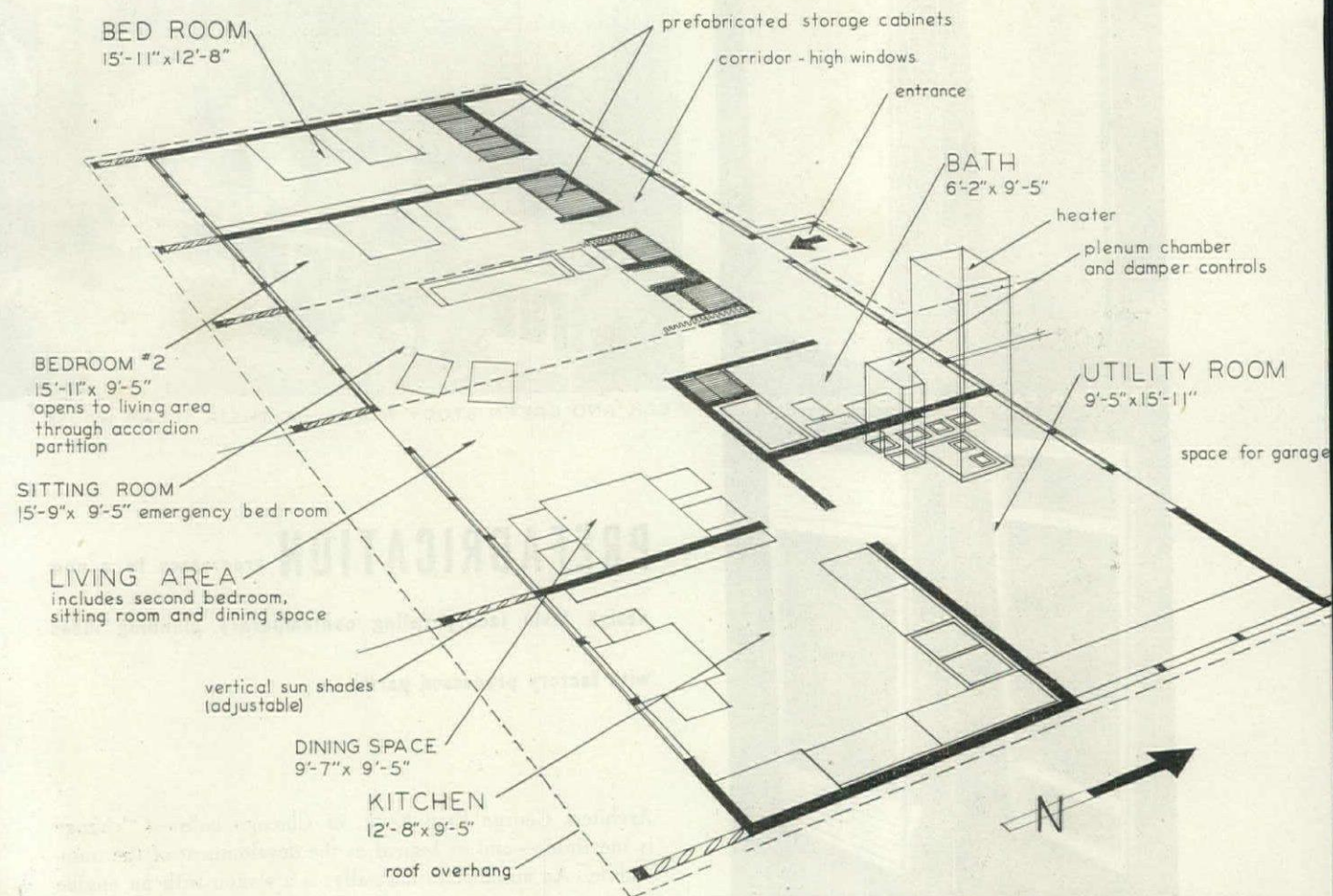
KECK AND GREEN STUDY MODEL OF THEIR SOLAR HOUSE

PREFABRICATION progresses to a new design level incorporating contemporary planning ideas with factory processed parts.

Architect George Fred Keck, of Chicago believes "change is inevitable—and as logical as the development of the automobile. An automobile basically, is a wagon with an engine in it—a wagon refined by invention after invention, to provide luxurious riding, to a point where it no longer has the appearance of a wagon. The house of Tomorrow—for the same reasons—will not look like the house of Yesterday." Such an idea is not unusual for an architect but it is unusual to find it accepted by a prefabricator. The Green Solar Home is news because prefabricator Edward W. Green shook himself loose from conventional thinking and dared to apply Keck's progressive ideas to a mass produced house.

Contrary to the low cost goal (\$2,000 to \$3,000) aimed at by most of the nation's prefabricators, Green is aiming at quality (\$6,000 to \$7,000). To accomplish this he retained innovator Keck to design the Solar Home. Keck believes, and Green agrees, that the home building industry faces an era of precision construction and manufactured parts. Instead of house exteriors based on historical styling, contemporary design will be dictated by the use of manufactured units. A good example of this is in the Solar Home itself where modular panels and storage units are designed to meet any special condition in an interior or exterior house wall. The term *manufactured building units* rather than *prefabrication* better fits this new type of quality factory-built home.

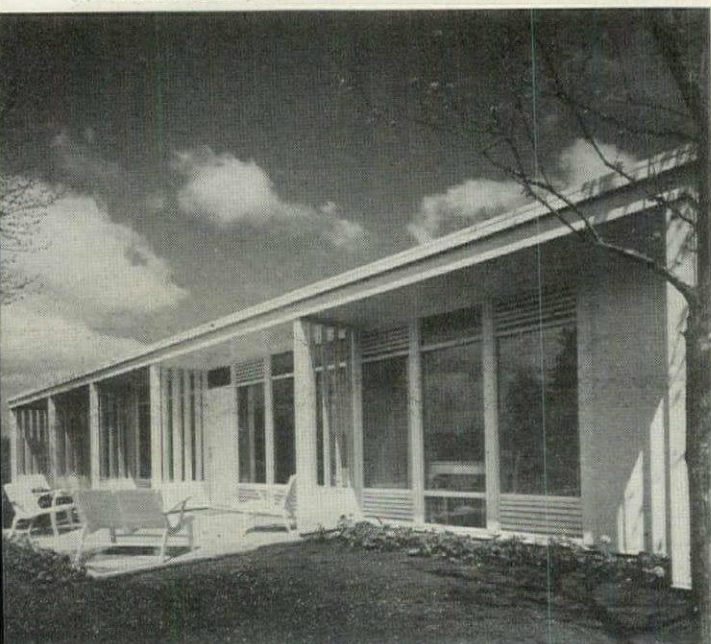
The design of the Solar Home and its method of assembly and erection are not the result of sudden inspiration but a combination, in Keck and Green, of years of designing and prefabrication experience. Houses with large glass areas are not new and were built before 1940 when Keck designed a house with an uptilted roof for realtor Howard Sloan (ARCH FORUM, March, '44). A newspaper account, at the time, tagged the unusual construction with the term "solar heating" and it has stuck ever since. Refinements have been introduced and solar orientation studied to the point where the result can now be called an engineered product. (Text continued on page 128)



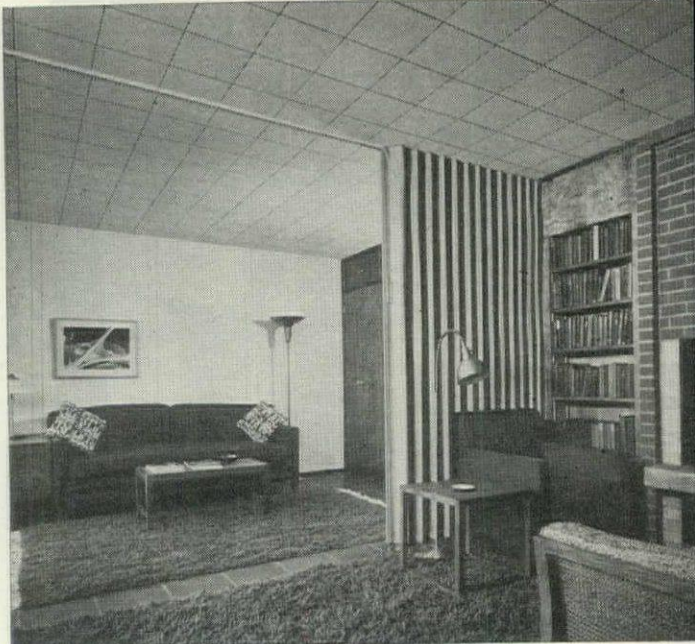
Solar orientation and panel floor heating are combined in a plan that promotes the maximum efficiency of both.

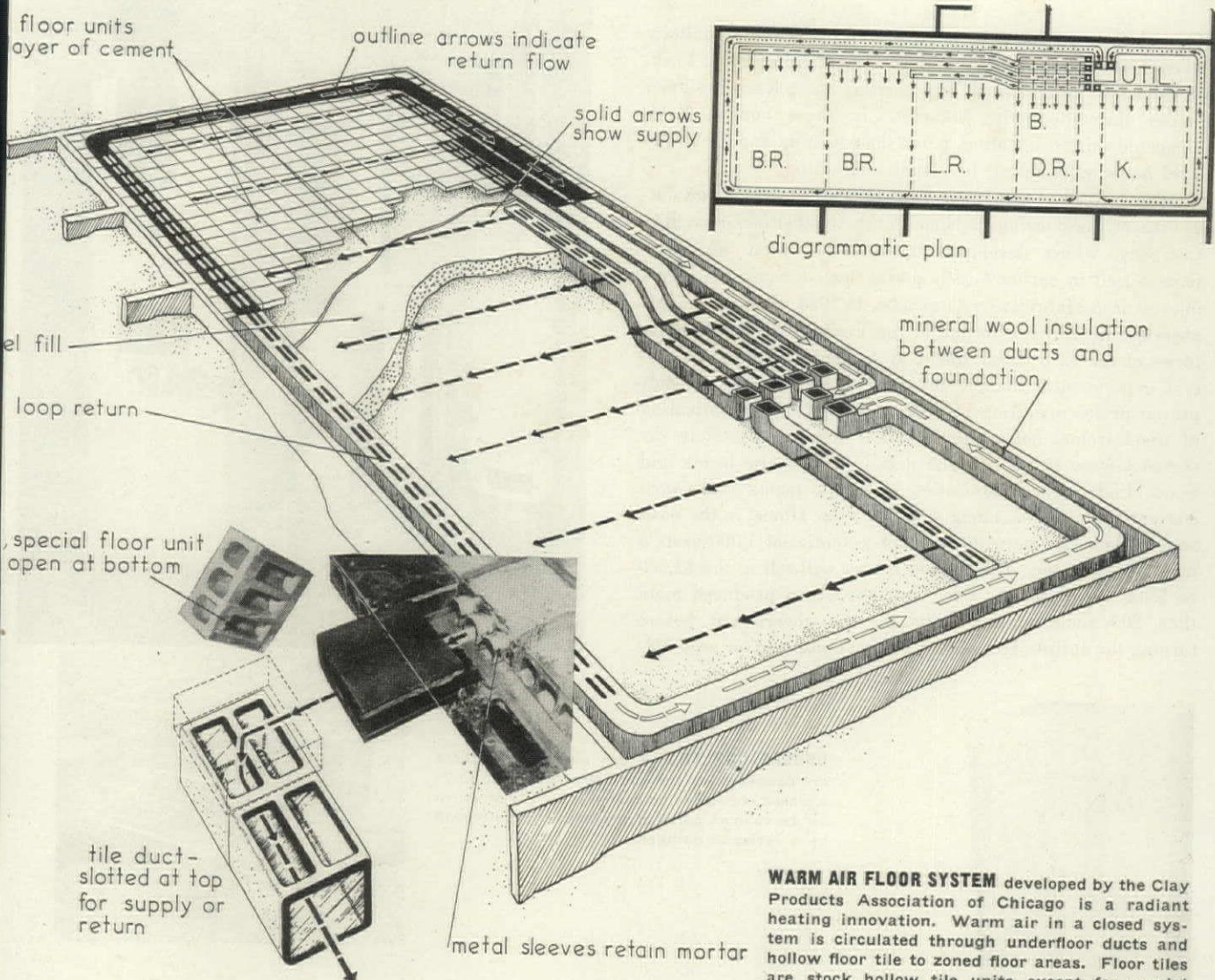
BAR-SHAPED PLAN is a logical result of the solar orientation principle of locating all important living spaces to the south, and justifies the north corridor as a circulation link and buffer to cold wind. The progressive treatment of the plan is marred by the bottleneck location of the bathroom. An in-line bathroom combination on the north corridor would make the plan considerably more efficient.

SPACIOUSNESS IS ACHIEVED BY LARGE GLASS AREAS AND DOUBLE - PURPOSE ROOMS DIVIDED WITH FOLDING PARTITIONS



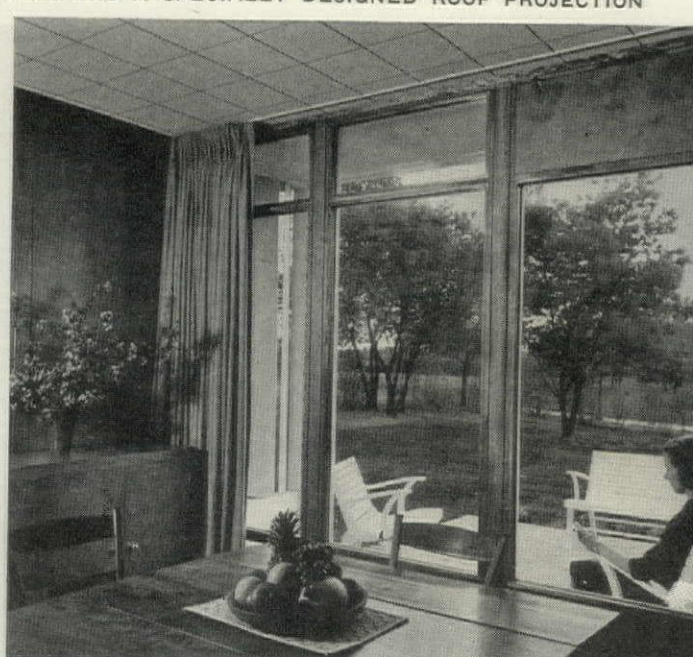
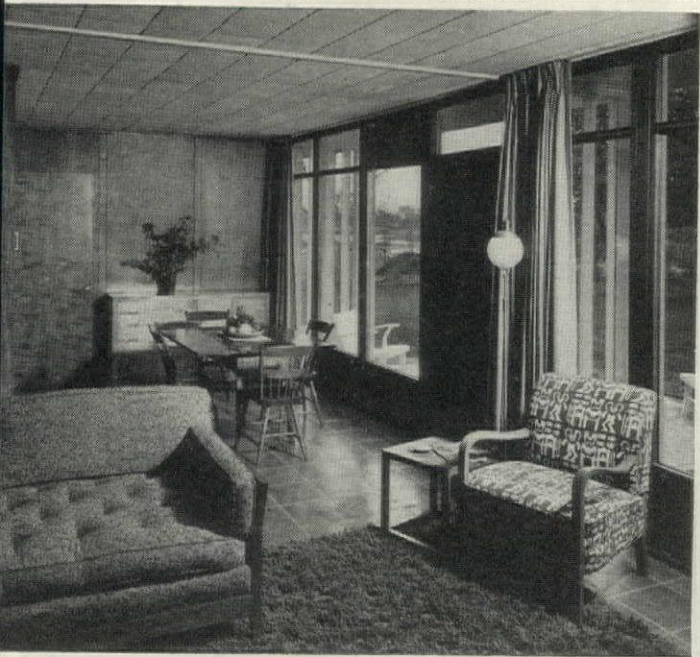
Photos: Hedrick Blessing





WARM AIR FLOOR SYSTEM developed by the Clay Products Association of Chicago is a radiant heating innovation. Warm air in a closed system is circulated through underfloor ducts and hollow floor tile to zoned floor areas. Floor tiles are stock hollow tile units except for special tiles designed for connections with supply and return mains.

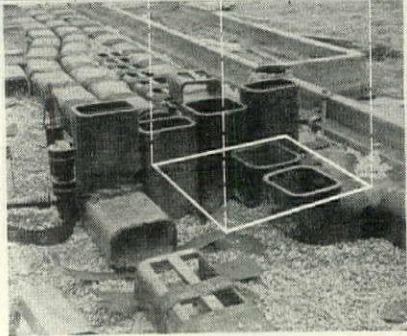
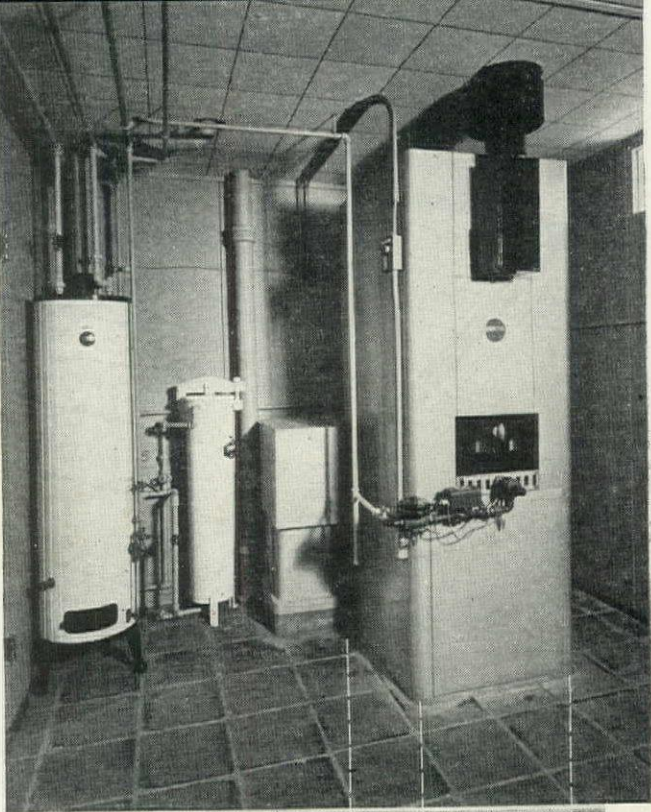
HT IS CONTROLLABLE BY USE OF CURTAINS, VERTICAL LOUVERS AND A SPECIALLY DESIGNED ROOF PROJECTION



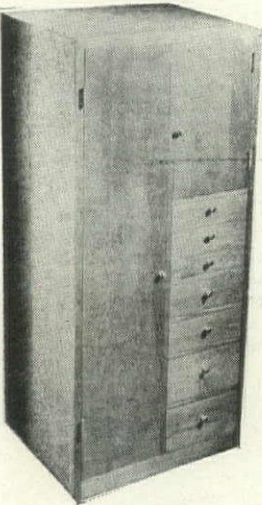
The solar orientation principle received nation-wide publicity when it was incorporated in a development called Solar Park, at Glenview, Illinois, and in numerous other Keck designed houses throughout the Midwest. In these houses, Keck pioneered solar orientation, panel floor heating and the single level house eliminating basement and stairs.

Green's Ready Built Homes was created in 1941 as an outgrowth of the housing division of the Goodwillie-Green Box Company, which developed the glued-plywood wall-sized panels used in earlier Green prefabricated houses. Green's interest in prefabrication dates back to 1933 when he became absorbed in the experiments of the Forest Products Laboratories of the U. S. Department of Agriculture and built several experimental houses for them. The basis of Green's prewar prefab operation was the assembly line prefabrication of wood frame, house-length panels for conservatively designed houses featuring such details as window boxes and wood blinds. The organization intends to manufacture such conventional designs, along with the Solar Home, in the post-war market, and estimates a plant potential of 1,000 units a month of this type. The smaller houses will sell in the \$2,500 to \$3,000 price range. Early in 1942 Green produced more than 200 such housing units for the government before turning the entire plant output

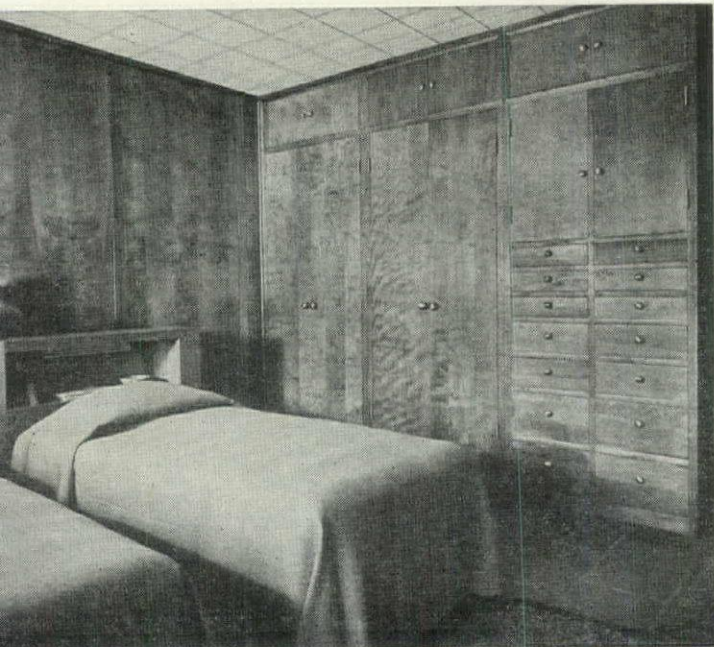
(Continued on page 132)



UNDERFLOOR TILE return and supply ducts are connected to the gas-fired furnace to form a closed recirculation system. Supply of warm air to various parts of the house is controlled by a series of dampers.

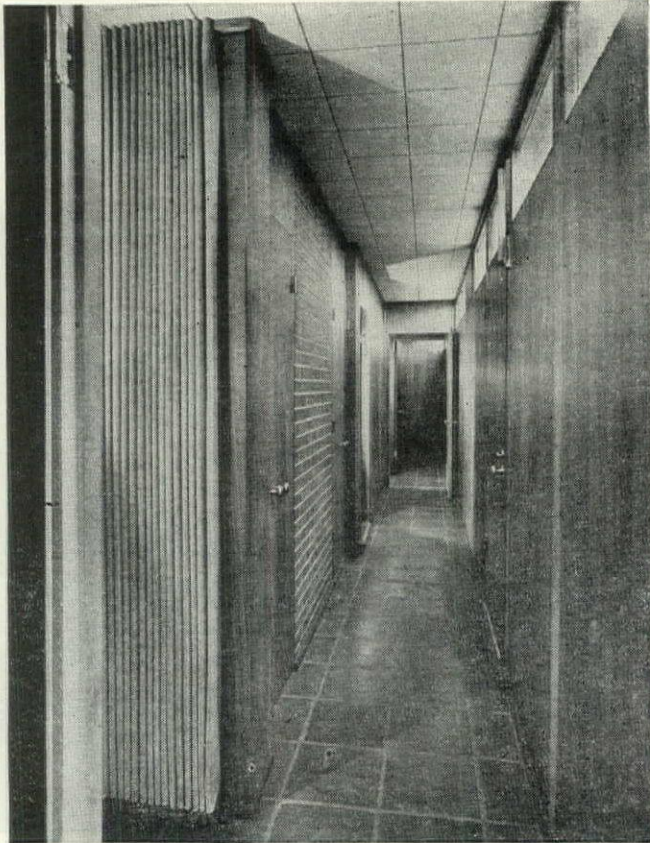


PREFABRICATED WARDROBES SOLVE STORAGE PROBLEM



Hedrich-Blessing

SERVICE AISLE IS LIT BY HIGH, RIBBON WINDOWS



NOT in
"MONTHS"
-but
 in a very few
"WEEKS"
 !



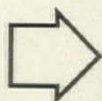
*Today Our Plant is Making
 a Record on DELIVERIES of*

Rō-Way

OVERHEAD TYPE DOORS

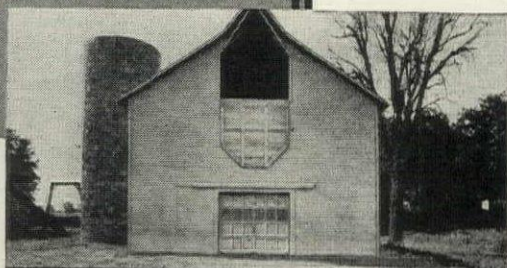
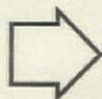
*—that matches their record of performance
 after they are installed*

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 ernment Buildings or essential commercial, indus-
 trial or agricultural buildings, you will be pleased
 with the promise we can make and KEEP on the
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**RO-WAY OVERHEAD
 TYPE DOORS**

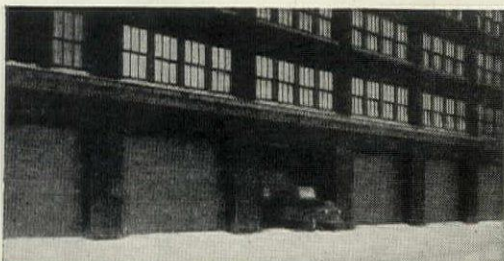
are available now for In-
 dustrial Buildings, Commer-
 cial Buildings, Government
 Buildings and Agricultural
 Buildings.



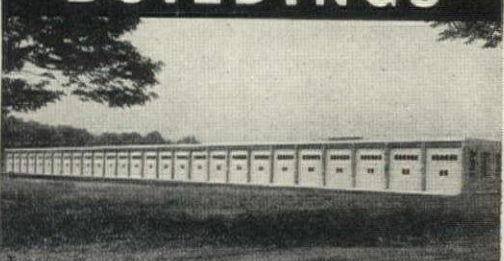
**AGRICULTURAL
 BUILDINGS**



**COMMERCIAL
 BUILDINGS**



**INDUSTRIAL
 BUILDINGS**

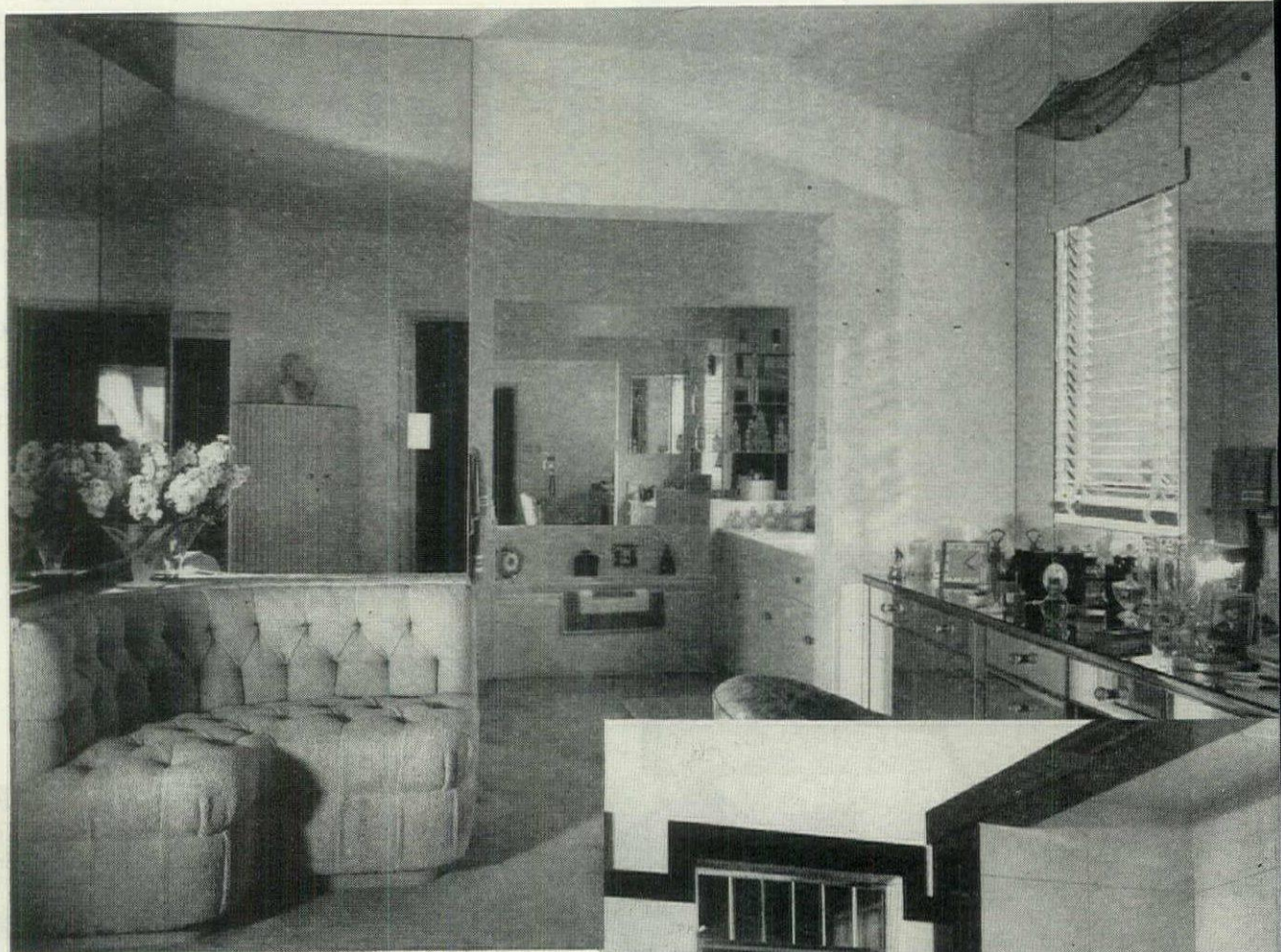


**GOVERNMENT
 BUILDINGS**

*Write for Ro-Way's 88-page "Time-Saving Specification Book" for Architects.
 Please attach professional card or letterhead. See our Catalog in Sweet's.*

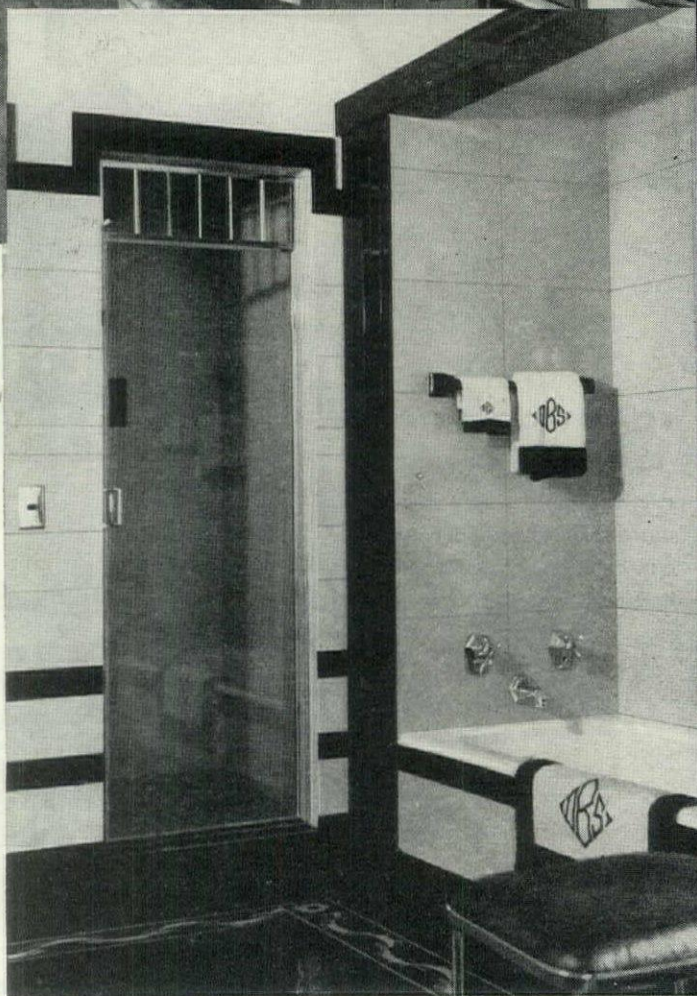
ROWE MANUFACTURING CO., 990 Holton St., Galesburg, Illinois

Distinctive uses of



MIRRORS MAY BE USED in many ways to obtain striking effects . . . as in this handsome dressing room paneled with flesh-tinted mirrors. Pittsburgh Mirrors are available made not only of flesh-tinted Plate Glass, but of blue, green, or regular Plate Glass as well, with gold, silver, or gun-metal backings. Architect: Rollin Pierson. Interior: Mabel Cooper Bigelow and E. Charles Werner.

NO OTHER MATERIAL can add so much beauty and utility to a bathroom as Carrara Glass. This modern structural material lends itself to many interesting and pleasing applications. It is available in ten colors, a wide range of thicknesses, and numerous possible surface decorations. An additional feature of the bathroom shown here is the shower door of Pittsburgh Polished Plate Glass.

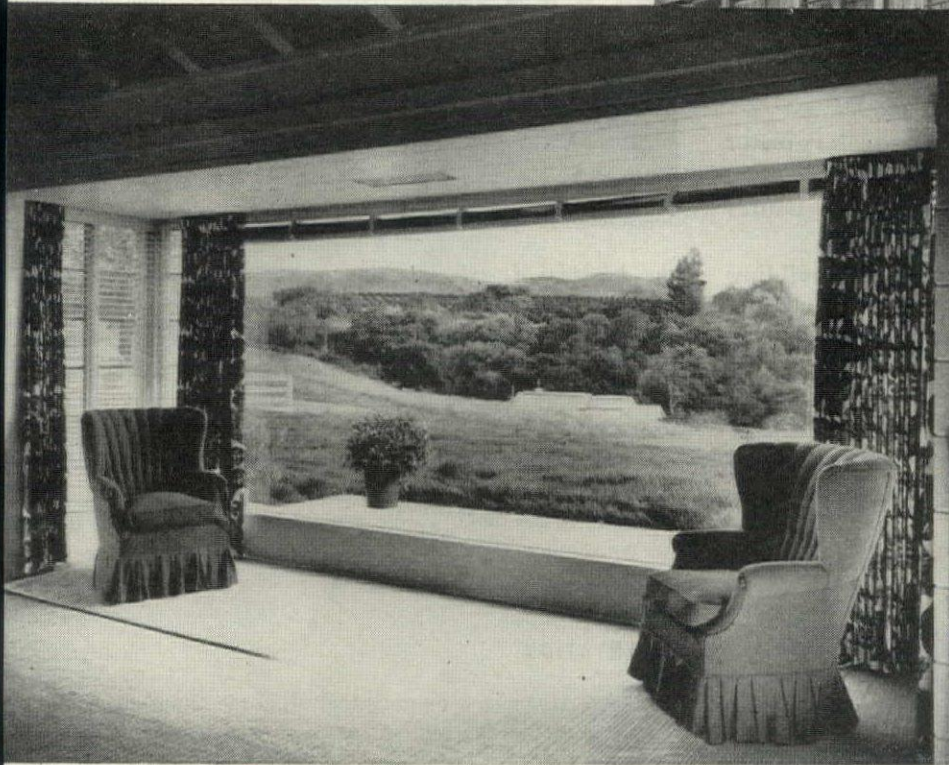
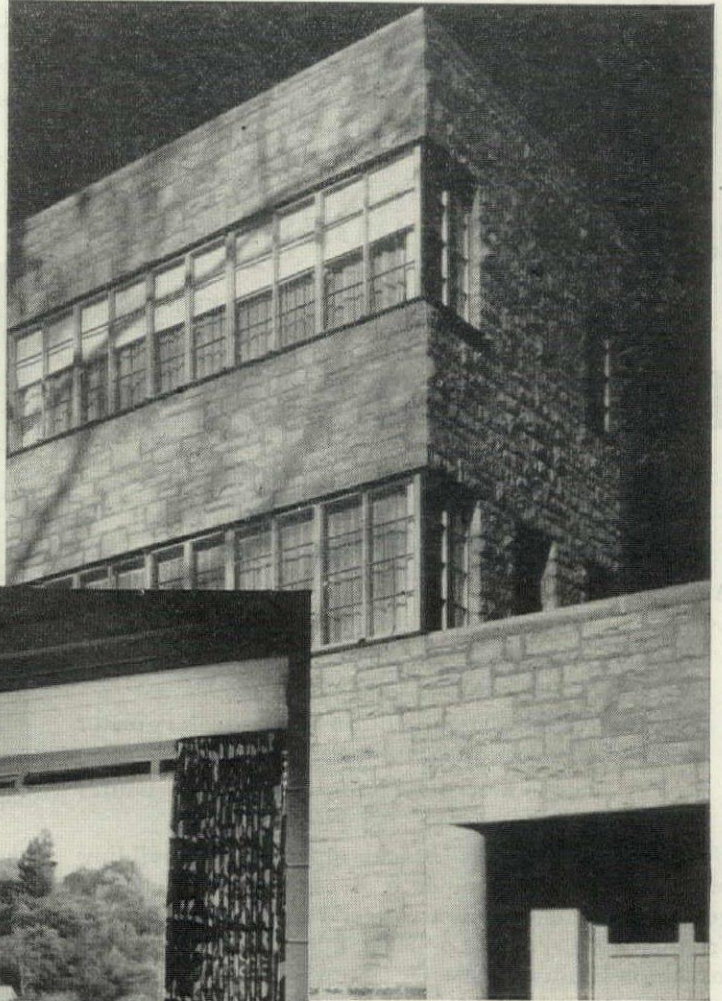


GLASS

in Residences

WINDOWS today are receiving more and more attention from the architect who is interested in better home design. Because of its high degree of clarity, good looks, and freedom from distortion, Pennvernon Window Glass is widely recognized as a quality glass for glazing such openings as these.

THE OUTDOORS is brought indoors by the use of picture windows—an application which is becoming increasingly popular with architects. Large panels of Pittsburgh Polished Plate Glass in such windows assure unobstructed vision, together with maximum beauty in the glass itself. Architect: Breo Freeman.



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

Design it better with products of

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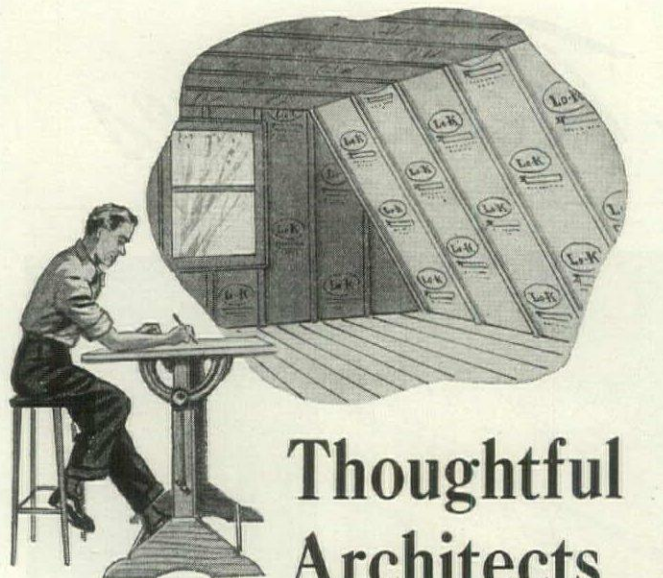
Pittsburgh Plate Glass Company
2234-5 Grant Building
Pittsburgh 19, Pennsylvania

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

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



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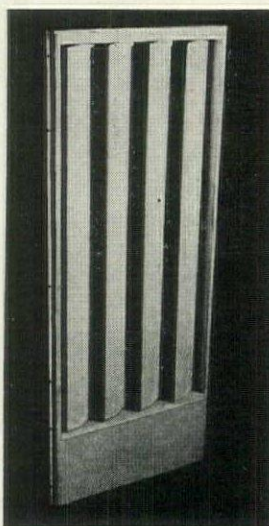
PREFABRICATION

(Continued from page 128)

to the manufacture of wooden ammunition boxes. A materials priority enabled the company to build a model Solar Home for experimental and show purposes.

PLAN

The demonstration house was built in Bradley Heights, a wooded suburb of Rockford, Ill., on a lot 144 ft. wide and 164 ft. deep, although a lot 100 ft. by 100 ft. is considered ample for this particular plan. The house is estimated to sell for \$6,500, excluding land. The foundation walls; the heating system, including the tile ducts which form the finished floor;



Adjustable sun louver

the fireplace chimney and the plumbing roughing were all in place when the wall and roof panels were delivered to the site.

In design the Solar Home will not be limited to a single stock plan. Advertising will stress Solar Home flexibility since it will be marketed on a custom built basis. The use of modular panels (3 ft. 3 in. wide) allows for a wide variation in plans to meet buyers' preferences. Additions, easily planned and attached, will be a feature for newlywed couples who will wish to buy only the basic unit. The basement was eliminated in the Solar Home to promote easier housekeeping and safety.

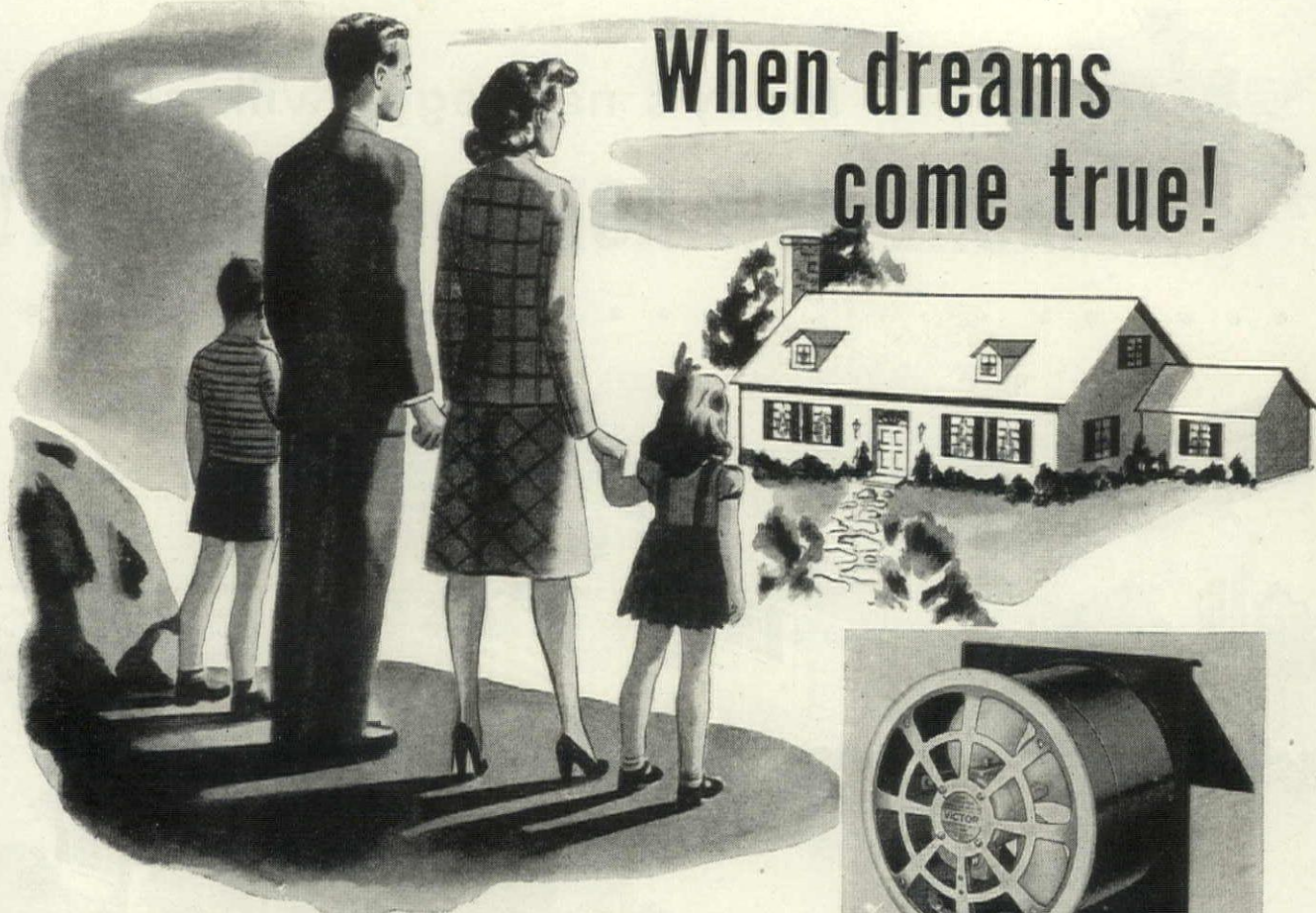
All-on-one-floor design eliminates the hazards of stair climbing. (National Safety Council statistics point out that one person out of every four involved in household accidents is injured by a fall on stairs or steps.) The laundry is conveniently located near the kitchen and eliminates the lugging of wet wash from a basement laundry to the ground level. A ground level house is often criticized because it provides ready access to prowlers. This objection is adequately met by the fact that the louver type ventilation provided in the Solar Home provides better protection than the conventional window. The louvers are fixed and screened and ventilation is controlled by means of a solid hinged panel.

ORIENTATION

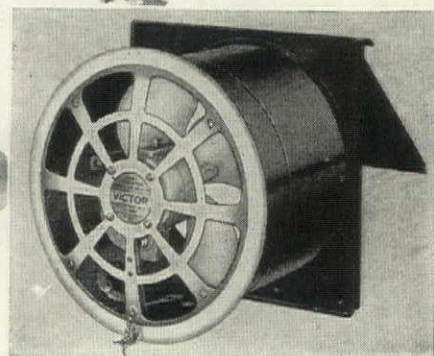
The Solar Home is so planned that all of the important living, dining, sleeping and recreation spaces face south. It is extremely important to the function of the house, not only to have the house located properly, but to figure the sun's angle of incidence in the different seasons as this determines the projection of the eaves overhang. The corridor on the north side, lighted by small clerestory type windows, protects the house from prevailing winter winds. The large expanse of glass area on the south side is doubly protected from the summer sun by the horizontal eaves overhang and the vertical adjustable louvers. The overhang is figured to allow a maximum of the winter sun's rays to penetrate the rooms with southern exposure.

A usual criticism of the large glass area is that too much sunlight creates unpleasant glare. (Continued on page 136)

When dreams come true!



Today millions of people are dreaming of new homes. At the same time they are buying bonds and more bonds, so that after the war they will be able to make these dreams come true. When that time comes, dreamy-eyed expressions will give way to a more practical outlook. People will want their dream homes to include all the essentials of comfortable, sensible and healthful living. One of the most important of these essentials will be intelligently planned, yet nominally priced ventilation. Looking ahead to this important time, Victor is ready with the right answers to ventilation problems.



Q. IS BATHROOM "DROOPINESS" A NECESSARY EVIL?

A. Certainly not. If the air is kept circulating and the steam is carried right out, the bathroom will never droop with dampness. A Victor Ventilator will keep the air fresh and the bathroom crisp and bright. Dad's shave will never be marred nor temper riled by a fogged-up mirror.

Q. WILL IT STILL BE NECESSARY TO FURNISH GUESTS WITH KNIVES?

A. No one actually uses a knife to cut through the smoke at a party, but many a guest has wished he could. Every recreation room needs a Victor Ventilator to clear out heavy air and add freshness to parties.

Q. WHAT CAN PROPER VENTILATION MEAN IN A KITCHEN?

A. It can mean a new lease on life to the busy housewife. By eliminating grease and grime, odors and excessive heat, a Victor Ventilator can make kitchen tasks clean and comfortable chores for the clever homemaker who makes this item a "must" in her plans.

*Write for full
Details!*

MANUFACTURERS OF VICTRON DESK AND PEDESTAL
FANS—VICTRON VENTILATORS—VICTRON

VICTOR PRODUCTS



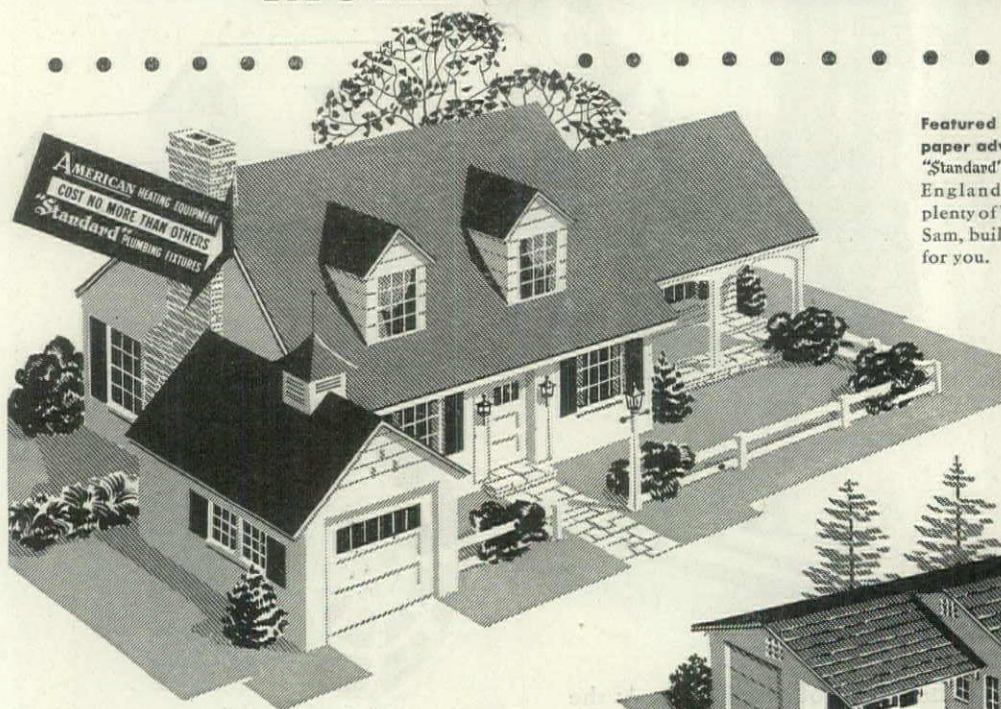
FANS—VICTRON AIR CIRCULATORS—VICTRON EXHAUST
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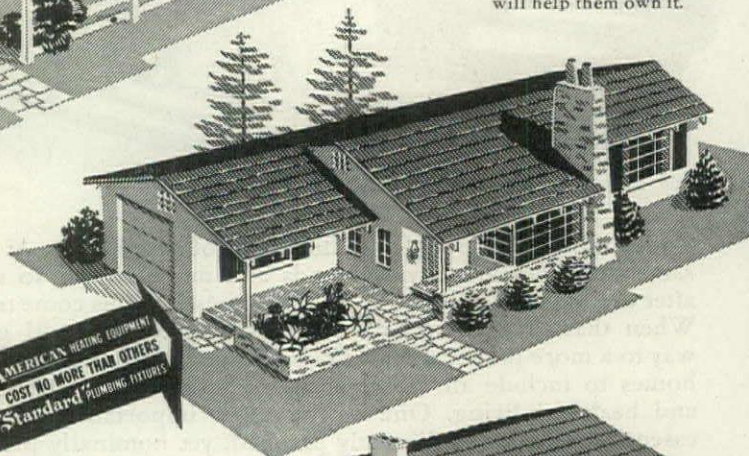


Today's nest eggs will mean MORE NEW HOMES TOMORROW!



Featured in national newspaper advertising by AMERICAN - "Standard", this charming New England home is selling plenty of War Bonds for Uncle Sam, building future business for you.

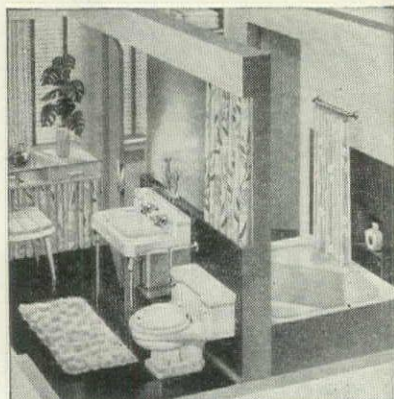
"Want this ranch house?" asks the AMERICAN - "Standard" newspaper advertisement of millions of Americans. And they are told that War Bonds will help them own it.



IN A NATIONWIDE newspaper campaign, AMERICAN-"Standard" is urging millions of American families to buy War Bonds today—so they can own the home of their dreams tomorrow! And these prospective homeowners are also being urged to consult their Architects and Contractors for the help they need in planning homes that will fit both their needs and their pocketbooks.

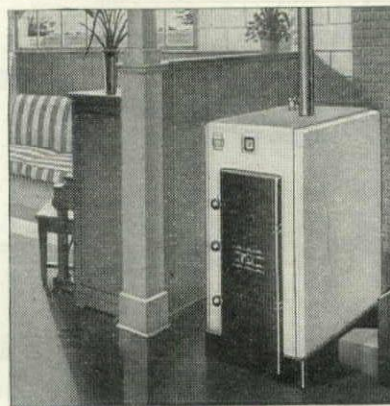
They'll depend on your experience and ability to provide the finest homes their money can buy. They'll also be guided by your advice in the selection of heating and plumbing equipment. And when you suggest AMERICAN-"Standard", you'll be recommending a name they know and trust. For this name has for many years identified the best in heating and plumbing that research and practical engineering can provide.

"Feather your nest with War Bonds," urges our large newspaper advertisement. And when the Bonds can be turned into homes, you'll be called on to help build them.



(Left) Ideas like the new Duo-Use Bathroom have been featured by "Standard" to keep up interest in homes. This double-duty bathroom is adaptable to almost any floor plan—requires no extra fixtures or piping.

(Right) Economical, automatic heat as supplied by the Severn Boiler makes for top comfort, top convenience. And the attractive, streamlined appearance makes it ideal for planning recreation rooms.



AMERICAN & Standard
RADIATOR & Sanitary
New York CORPORATION Pittsburgh

More Anemostats

Provide

Draftless Air Distribution in War Production Plants than All Other Types of Ceiling Air Diffusers Combined . . .

The satisfaction of the users and specifying engineers is attested by a multitude of repeat orders.

Huge Anemostats handle the desired volume of air for heating in winter and cooling in summer, at duct speeds of over 30 miles per hour — yet there is no draft condition in the breathing zone. Then Anemostats serve Instrument Rooms where a temperature variation of not more than plus-minus $\frac{1}{2}^{\circ}$ is permissible. Any conditions can be met with the Anemostat! Consult us on special applications.

Partial List of Installations

Agfa AnSCO Corporation	Cramp Shipbuilding Co.	Minneapolis-Honeywell Co.
Allis Chalmers Mfg. Co.	Crosley Corporation	Nash Kelvinator Co.
Allison Engineering Corporation	Curtiss Wright Co.	National Cash Register Co.
Aluminum Co. of America	Cutler Hammer Inc.	New York Shipbuilding Corp.
American Blower Co.	Defense Plant Corp.	North American Aviation Inc.
American Bosch Corp.	Delco Appliance Div.	Northern Pump Co.
American Cyanamid Co.	Douglas Aircraft Co.	Norton Company
Bausch & Lomb	E. I. duPont de Nemours	Packard Motor Co.
Bell Aircraft Corp.	Eastern Aircraft Corp.	Pullman Standard Co.
Bendix Aviation Corp.	Eastman Kodak Co.	Republic Aviation Corp.
Bethlehem Steel Co.	Fairchild Aircraft Co.	Ross Industries Corp.
Blaw Knox Co.	Ford Motor Co.	Ryan-Aeronautical Co.
Boeing Aircraft Co.	General Electric Co.	Sharp and Dahme Co.
Briggs Manufacturing Co.	Goodyear Aircraft Corp.	Sperry Gyroscope Co.
Buick Motor Corp.	Grumman Aircraft Eng. Corp.	Standard Oil Co.
Carter Carburetor Co.	International Business Machines Corp.	Stewart Warner Corp.
Cessna Aircraft Co.	Johnson and Johnson	U. S. Rubber Co.
Chain Belt Co.	Janes & Laughlin Steel Corp.	Vega Airplane Co.
Champion Spark Plug Co.	Kaiser Shipbuilding Corp.	Warner and Swasey Co.
Chevrolet Aircraft Corp.	Kollsman Instrument Corp.	Westinghouse Elect. Mfg. Co.
Chrysler Corp.	Glenn L. Martin Co.	Worthington Pump Co.
Columbia Steel Co.		

And more than thirteen thousand other installations

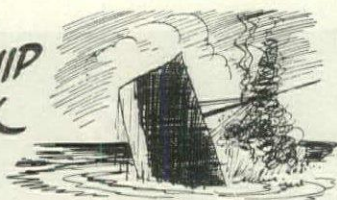
ANEMOSTAT CORPORATION of AMERICA

10 EAST 39th STREET, NEW YORK, N. Y.

"NO AIR-CONDITIONING SYSTEM IS BETTER THAN ITS AIR DISTRIBUTION"

A
N
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M
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**NOT WHEN
THE LAST JAP SHIP
HAS BEEN SUNK**



**NOT WHEN
STEAKS ARE
POINT FREE**



**NOT WHEN
THE LAST SHELL
HAS BEEN FIRED**



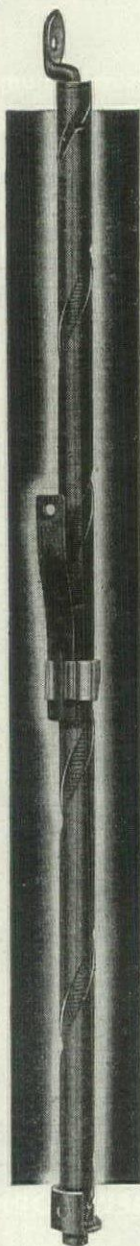
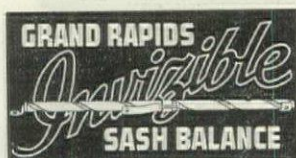
but...

Window Planning *begins now*

Yes, window planning begins now. When building materials are released, time will be doubly valuable to contractors. Good sense will force them to employ every dependable item that will speed work without sacrifice of performance.

The Grand Rapids Invisible Sash Balance, now serving in thousands of war housing projects, has demonstrated its practical service. Its place in postwar building is now assured, and should be included in any planning concerning window assemblies. Send for catalog containing all information and details concerning delivery.

*Sash pulleys will be available
on termination of present war
contracts.*



PREFABRICATION

(Continued from page 132)

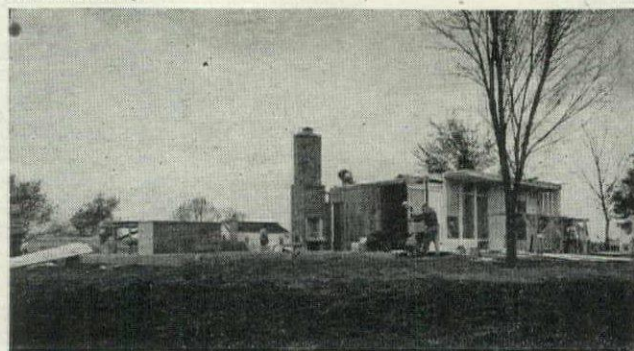
Actually glare is created by high contrasts between light and darkness and is a condition more likely to exist in an ordinary room penetrated by a strong beam of sunlight through a conventional window. Broad windows, besides being easier on the eyes, have the added psychological effect of openness. There are other advantages in this type of fixed glass panel. The fixed double glazing makes the biannual job of storm sash replacement unnecessary. Screened louvers at the ceiling and floor line permit controlled ventilation. The louvers can be left open in rain storms without fear of damage to interior finishes.

The glazed panels have two panes of glass with a sealed, 1/2 in. air space to insulate the house against heat loss and trap the radiant heat rays from the sun. On sunny winter days the outside temperature can get as low as -10° and no furnace heat will be required. Solar house owners claim savings up to 30 per cent in their fuel bills and house comfort with lower room temperatures.

HEATING

The house is mechanically heated by an ingenious method of panel heating using tile ducts to circulate warm air under the floor. The main drawback to a house on one level, without a basement, has been cold floors. Radiant panel heating of the floor eliminates this objection and offers other advantages. The underfloor system eliminates all wall and ceiling duct work and makes room for the engineered sandwich partition. In conventional house heating systems the shell of the house is built and then partially cut away, weakening the structure, to provide space for risers and returns of either pipes or ducts. It is claimed that radiant floor heating is cleaner be-

Hedrich-Blessing



FOUNDATION WALLS, tile duct system, finished floor, fireplace and chimney were in place before wall and roof units arrived. Weight of chimney is carried on the tile heat ducts.

cause the heated air circulates only beneath the floor and not in the rooms. There are no heat outlets and consequently is no circulating air to carry dust from one room to another.

In our temperate climate, with the latitude of Chicago as an example, prevailing cold winds are from the north, northeast and northwest. Prevailing summer breezes are from the southwest. The heating system, like the house itself, is oriented to these climate conditions. The supply lines leave the heating unit and extend along the north side of the floor, furnishing the maximum amount of heat to the north side. The warm air passes from the supply ducts directly into the floor tiles and flows across the

(Continued on page 140)

GRAND RAPIDS HARDWARE COMPANY
GRAND RAPIDS • MICHIGAN



**"And if you'll take the job, er... MR. JONES,
you'll have this nice office with Columbia blinds!"**

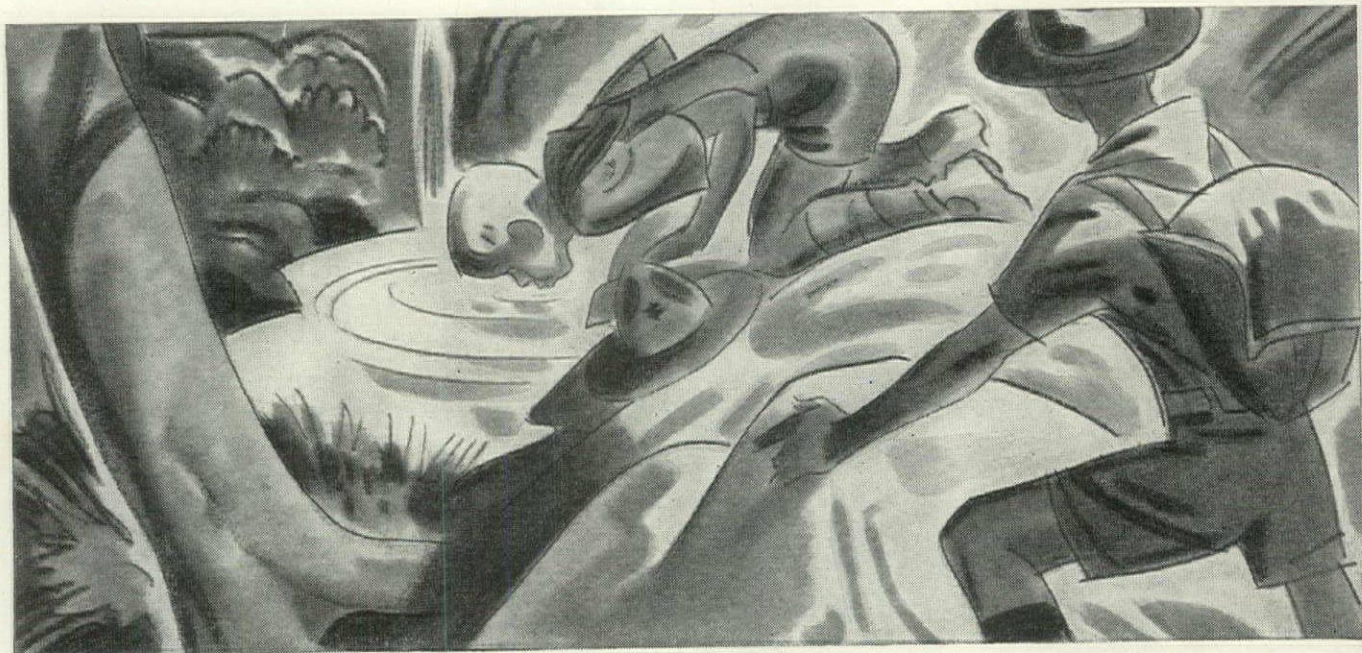
Even in these tough times, bribery is no way to recruit personnel. But the fact remains that a handsome office, complete with Columbia Venetian blinds is a mighty powerful inducement. However, employees and Venetian blinds are about equally hard to get right now.

Shortages of all kinds still make it very hard for us to fill your orders. But when we are no longer needed for war work, you may be sure that Columbia service will be back to par — plus. Until then... thanks for your patience.

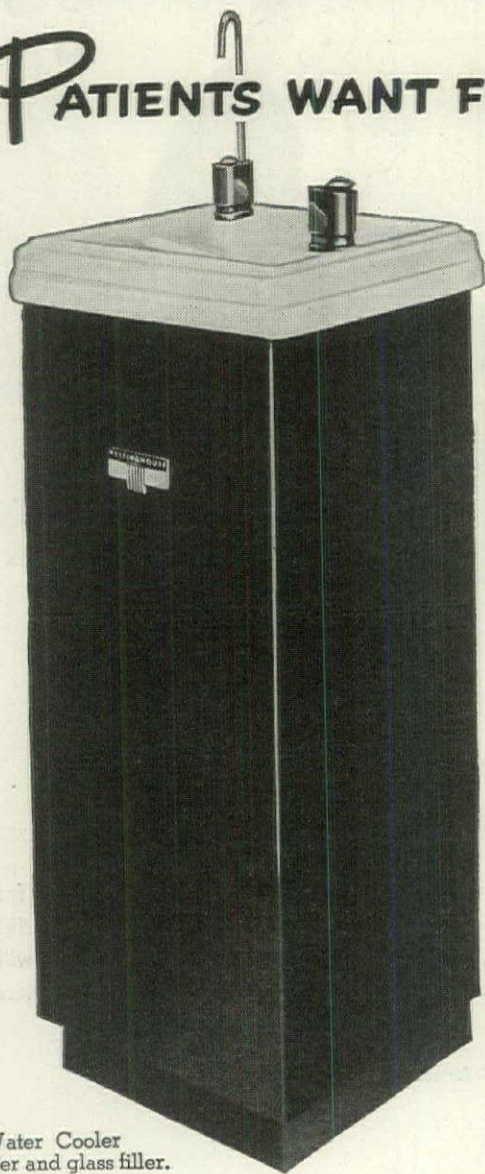
See Sweet's Architectural Catalogue for more complete information on Columbia products.

Columbia WINDOW SHADES AND VENETIAN BLINDS

THE COLUMBIA MILLS, INC. • 225 FIFTH AVENUE, NEW YORK 10, N. Y.



PATIENTS WANT FRESH, COOL WATER, TOO



US-10B Water Cooler
with bubbler and glass filler.

Remember how refreshing and invigorating the water from a cool spring can be?

Patients want fresh, cool drinking water, too. Westinghouse Water Coolers on every floor, in every bay, will not only give your patients the water they call for . . . fresh and cool as spring water . . . but will save time for busy nurses and orderlies, too.

Westinghouse Water Coolers are sanitary and easy to keep clean, and are surprisingly economical, too. Secret of their long life is the hermetically-sealed cooling system. It requires no oiling, eliminates refrigerant loss, and can be quickly and easily replaced as a unit.

Call your Westinghouse supplier today . . . ask him about models available now.

Westinghouse Electric Corporation, Springfield 2, Mass. Plants in 25 cities. Offices everywhere.

Westinghouse WATER COOLERS

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

*Dipped in
Molten Zinc*

**FOR THE UTMOST
IN RUST PREVENTION**

More and more, users of open steel flooring and grating are writing—"Hot-Dip Galvanized" into their specifications. They have learned from experience and proven facts that the positive fusion of molten zinc with the base metal by the Hot-Dip Galvanizing method provides the *utmost in rust prevention*.

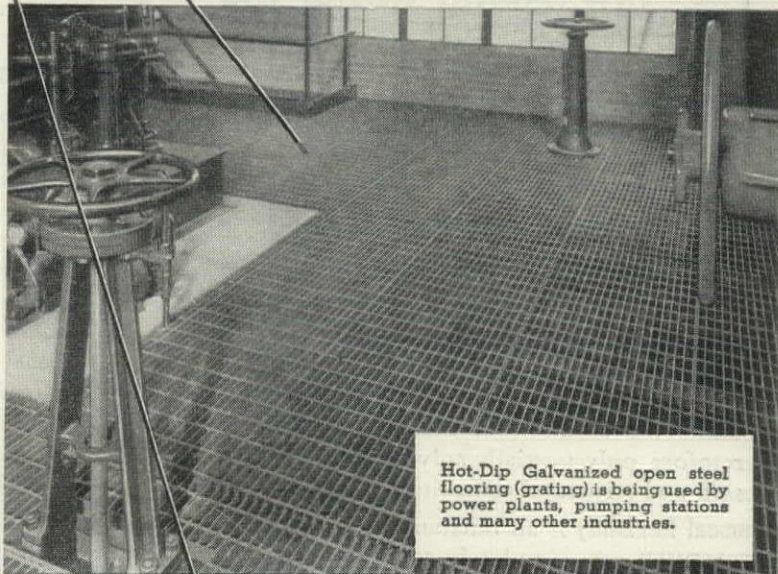
The life and service of any iron or steel product or installation which is exposed to the hazards of rust and corrosion are increased years and years beyond normal expectancy when protected by Hot-Dip Galvanizing.

Millions of dollars have been saved by this time-proven process, saved in replacement and upkeep costs. The time to effect savings is when you buy.

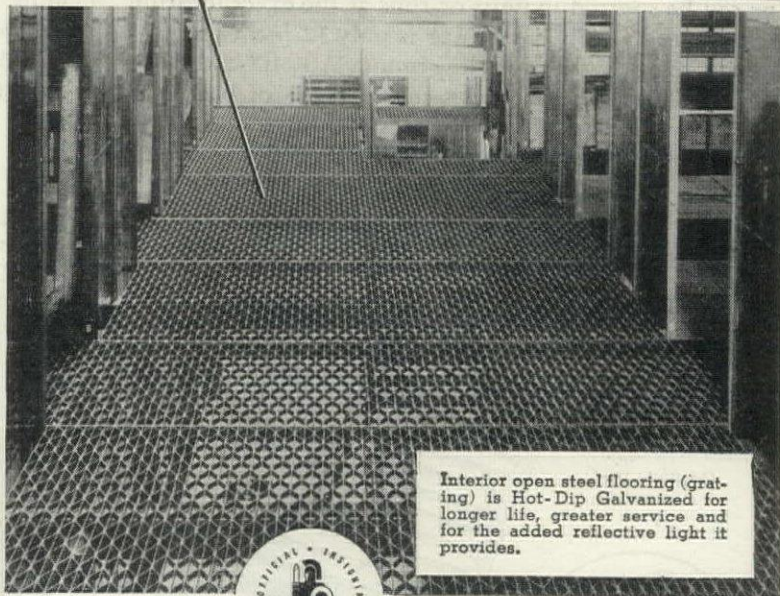
Specify—Hot-Dip Galvanizing by a member of this Association. There is one near you who will gladly discuss rust and corrosion prevention. Write—today, the American Hot Dip Galvanizers Association, Inc., First National Bank Building, Pittsburgh 22, Pennsylvania.



Hot-Dip Galvanized, lightweight slip-proof catwalks are being used by many leading Railroads.



Hot-Dip Galvanized open steel flooring (grating) is being used by power plants, pumping stations and many other industries.



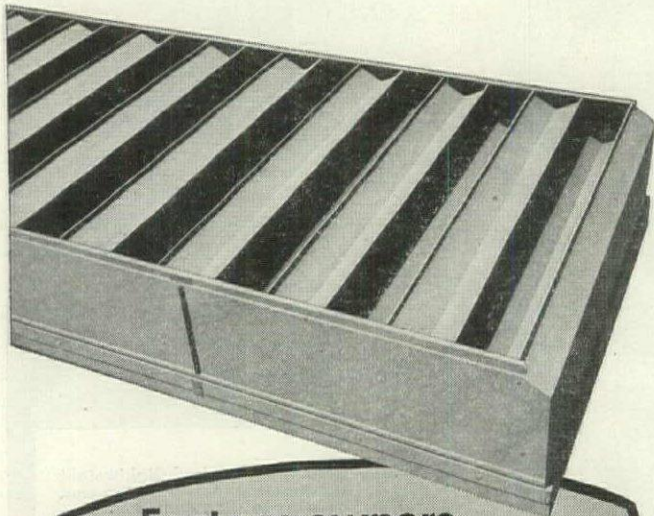
Interior open steel flooring (grating) is Hot-Dip Galvanized for longer life, greater service and for the added reflective light it provides.



For the best Zinc Coating
use

hot-dip GALVANIZING

(Continued from page 136)



Factory owners
are asking about the
**"Open Roof" Method of
Industrial Ventilation**
Made possible by the Swartwout
AIRMOVER

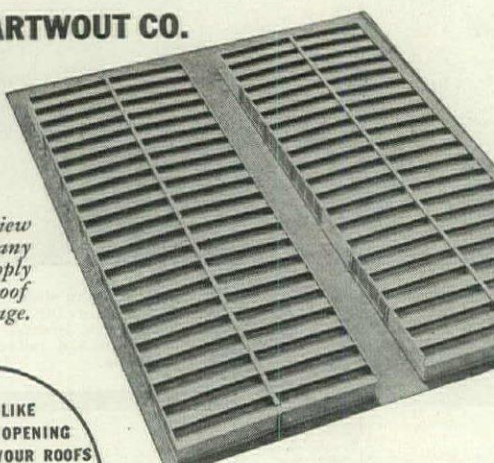
Architects and ventilating engineers: you'll find it an advantage to know about "open roof" ventilation—the modern method of large scale air movement. It makes possible the solution of many ventilation problems heretofore only partially solved because of ventilator design and structural difficulties.

Unusual flexibility is an outstanding feature. Swartwout AIRMOVER can completely cover the roof if required, or can be spotted in units or runs at the exact location where needed. The ventilator is only 32 inches high—usually out of sight from the ground. AIRMOVER installations all over the country, on all types of buildings have proved in an outstanding manner the soundness of this Swartwout development. Write for full particulars.

THE SWARTWOUT CO.

18511 Euclid,
Cleve. 12, O.

Imagine this view
multiplied many
times—to supply
complete roof
coverage.



Specialists in Air Movement
by *Natural* Methods

floor to the south side of the house. Here the air enters the return ducts and is carried back to the heating unit where it is reheated and recirculated. One of the great advantages of floor panel heating is that it enables children to play on the floor with as much comfort and safety as on a summer day. The temperature of the floor never rises above 85° and this temperature is needed only in extremely cold weather. In this first house a gas fired heating unit is used but oil or coal fired furnaces will work as well.

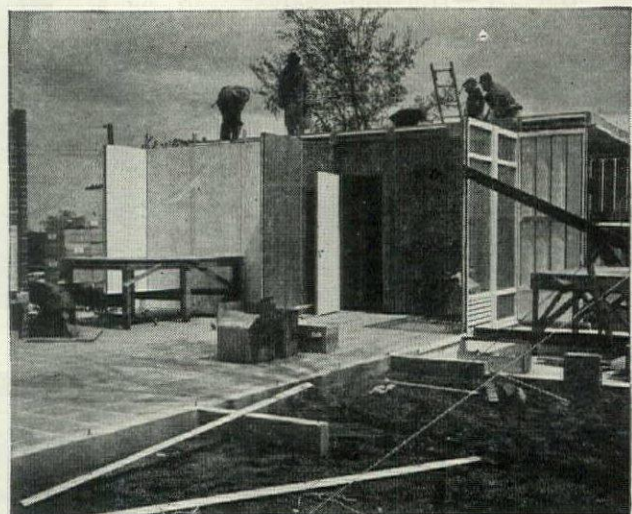
The greatest heat loss from the floor panel is at the foundation at the outer edge of the floor. This is overcome by mineral wool insulation inserted between the tile supply and return ducts and the concrete foundation wall. Not only does the floor act as a heating panel in the winter, but the masonry units in contact with the ground conduct the earth's temperature and act as a cooling agent in summer.

INTERIOR

Flexibility is achieved in the living-dining area by two folding partitions that operate on ceiling tracks. These partitions, one on each side of the fireplace, open to create one or two "emergency" bedrooms as desired. There is no track or groove on the floor to collect dust or interfere with rugs or floor covering. The lack of basement storage facilities is made up by the use of built-in units that serve as interior walls. Floor tiles which form the duct system for the hot air panel heating system are used as the floor finish. Buffed and waxed, the pattern of squares creates an attractive floor in natural tile color. The ceiling is finished with acoustical tile which furnish insulation, sound correction and a finish in one installation. The living room fireplace rests on the tile floor ducts, and has a raised hearth with space below for logs.

In one respect the house fails to measure up to the standard of the best contemporary design; it does not provide built-in lighting equipment. All indirect lighting is supplied by portable floor fixtures. The wardrobe unit, in the living area, is lighted by a floor lamp connected to a receptacle in the base of the unit. An improvement would (Continued on page 144)

EXTERIOR WALL PANELS are bolted to the foundation and form a weathertight joint by overlapping a metal lip. Joint between panels is filled with insulation before mullion is installed.



Hedrich-Blessing

MEETING THE CHALLENGE OF LIGHT-CONDITIONING

Real *light-conditioning* means much more than merely measuring "lumens" and "foot candles."

Like air-conditioning, light-conditioning is an exacting science which concerns itself with *qualitative standards*, as well as quantitative elements.

Like air-conditioning, too, it depends upon engineering principles to achieve true efficiency in any given installation. Light-conditioning is, in fact, *engineered lighting*.

Since 1857, as light sources progressed from oil, gas and incandescent to today's phenomenal fluorescent lamps, Frink has steadfastly specialized in *engineered lighting*. Throughout each lighting era Frink has met the challenge of the existing source with fixtures engineered to "condition" light for maximum benefit to its users.

Light-conditioning, therefore, is not new. But it will reach a dramatic climax in the post-war fluorescent era. Never before has there been a light source which lends itself so perfectly to scientific diffusion and distribution by Frink L-I-N-O-L-I-T-E fluorescent fixtures... *engineered for vision* to give you light-conditioning at its best.

FRINK

LIGHTING SINCE 1857

L-I-N-O-L-I-T-E

THE ULTIMATE IN FLUORESCENT LIGHTING

THE FRINK CORPORATION, Bridge Plaza North, Long Island City 1, New York

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

From SURGERY to BOILER ROOM

Engineered Lighting by GUTH

BILITES
For Rooms & Wards

SURGERY-LITE
"L-O-D Minor"

SURGERY PORTABLES
with or without
Emergency
Standby

SURGERY-LITE
"L-O-D Major"

SUN-ROOM
FIXTURES

CLOSE-CEILING
GLASS-LITE

WALL-LITES

GERM-KILLING LIGHTS

X-RAY LITE
BRACKETS

UTILITY
AGLITES

GUTHFAN
"Cools You
All Over"

LOBBY & RECEPTION
ROOM
Special
Fixtures

FLUORESCENT
LIGHTING

EXIT SIGNS

PSYCHIATRIC
Wards & Rooms
Lighting

BOILER-ROOM LIGHTING

RECESSED LIGHTS

INDIRECT-LITE

EXAMINATION LIGHTS

DIRECTIONAL SIGNS

NITE-LITES

ENTRANCE BRACKET

**Efficient
HOSPITAL
LIGHTING
Service**

GUTH Hospital Lighting is Backed by *Over 40 Years of Experience*

ILLUMINATION is a major factor that contributes to the efficiency, comfort, safety, sanitation and aesthetics of the modern hospital.

Many hospitals have found it wise to depend on GUTH for their lighting recommendations. GUTH Engineers, with over 40 years of experience in

every branch of illumination, have devoted an infinite amount of research to the specific needs of the Hospital. This research now bears fruit for you—whether you are planning new lighting for the present or the future. GUTH Hospital Lighting is efficient, modern lighting.

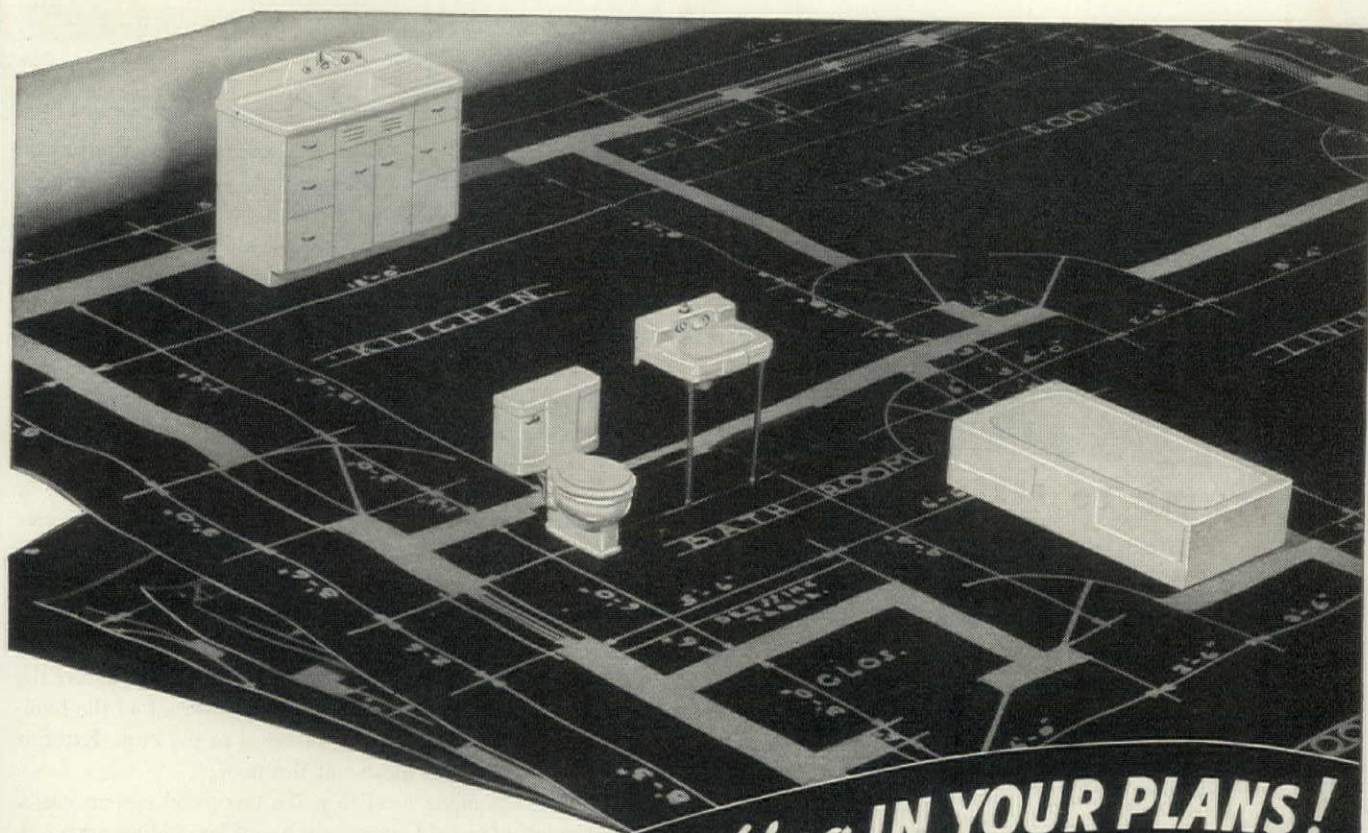
LIGHTING MANUAL Now Available

Architects, Engineers, Hospital Superintendents—anyone interested in Hospital Lighting will find this Data Book indispensable.

WRITE
FOR YOUR
FREE COPY
TODAY.



THE EDWIN F. GUTH COMPANY • 2615 WASHINGTON AVE. • ST. LOUIS 3, MO.



INCLUDE *Crane Plumbing* IN YOUR PLANS!

MILLIONS of Americans are dreaming today of the homes they will build or buy tomorrow. And high on their list of requirements are bathrooms and kitchens—rooms designed and equipped to provide the utmost in beauty, comfort and convenience.

You can contribute greatly to such looked-for quality by including Crane plumbing in the plans you are developing to satisfy this vast market. Whether your plans are for cozy cottages or stately residences, Crane equipped

bathrooms and kitchens will enhance the value and increase acceptance for the homes you build. In the Crane line of tomorrow you'll find fixtures for every building budget . . . up-to-the-minute styling . . . plus the same high quality and sturdy reliability that have always meant long years of satisfactory service.

When conditions permit its manufacture, your plumbing contractor or nearest Crane Branch will be able to give you complete information on the Crane line of tomorrow.

TYPICAL CRANE EQUIPMENT AVAILABLE NOW

Oxford Bathtub

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Typical Crane plumbing equipment available for today's construction. See your plumbing contractor.

Hanover Closet

Cottage Sink



CRANE

CRANE CO., GENERAL OFFICES:
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PLUMBING • HEATING • PUMPS
VALVES • FITTINGS • PIPE

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

(Continued from page 140)



Architect: Willis Mills, New York City

STAINED TO PERFECTION!

Homes that are outstanding examples of modern architecture are even more beautiful when they're stained with Cabot's *quality* Shingle Stains! This is because Cabot's Stains bring out all wood's natural beauty—penetrate deep—protect for years! And there's no waste of raw material—no peeling or blistering even when they're used on green lumber.

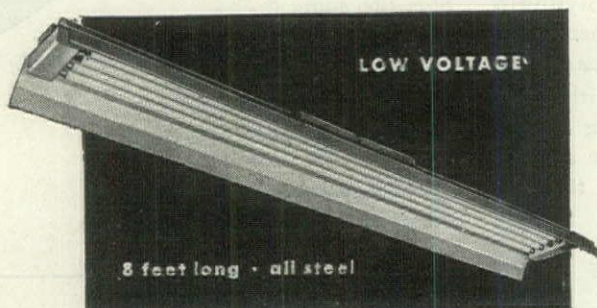
FREE BOOKLET "Stained Houses"—contains complete details on Cabot's Creosote and Heavy-Bodied Stains. Write for your copy and color cards today! Samuel Cabot, Inc., 1271 Oliver Bldg., Boston 9, Mass.

Cabot's Shingle Stains

Creosote

Heavy-Bodied

*COLOVOLT COLD CATHODE INDUSTRIAL FIXTURES



LOW VOLTAGE

8 feet long • all steel

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

422 S. FEDERAL STREET

CHICAGO 5, ILLINOIS

be the incorporation of a lighting fixture built in the top of the storage unit which would serve two purposes: to furnish a better general background light to the room and furnish good illumination where it is needed most, at the wardrobe cabinet.

The kitchen is a "packaged" unit that includes a new model range, refrigerator, automatic washing machine, garbage disposal unit, ventilating system, built-in ironing board and specially designed cabinets. It is a pleasant work space because of the large glass area and southern exposure. The utility room adjoining the kitchen contains a compact gas-fired heating unit specially designed for the purpose, a clothes dryer, water softener, water heater, and storage compartments. The garage adjoins the utility room.

EXTERIOR

Exterior wall panels are easily handled and when erected the space between the panels is filled with mineral wool before the mullion is installed. A U-shaped clip is inserted on the foundation bolt and the panels are fastened to the clip. Exterior wall panels are set in mastic at the floor.

The roof was made level to make the panel system easier to fabricate and to hold water on the roof for cooling purposes. It is constructed of panels running the width of the house. The deck made up of these panels is covered with a built-up roofing of tar and felt covered with slag. A metal flange runs around the perimeter of the roof to hold the water on the deck.

The vertical sun louvers add interest and break the length of an otherwise monotonous elevation. They also serve as protection shields for the sun and give privacy to the rooms behind them.

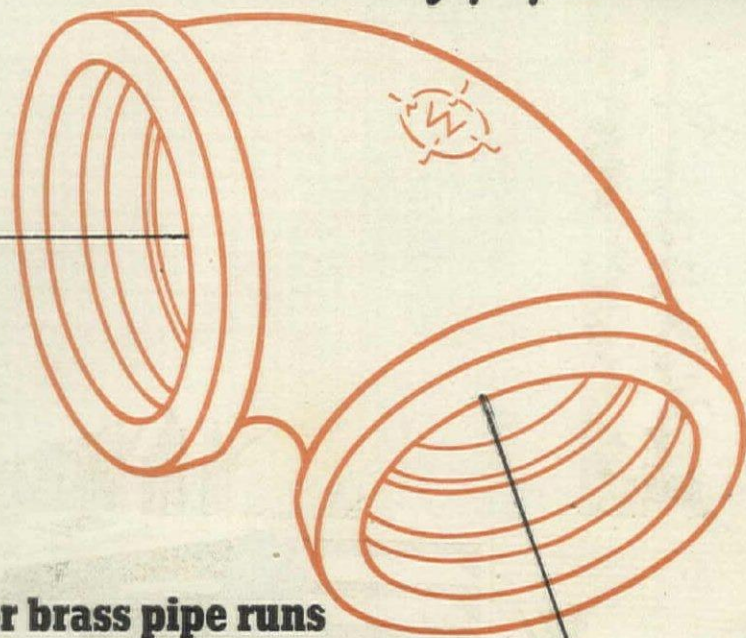
The Green Solar Home is a commendable departure in prefabrication practice in that the architect and builder have attempted to exploit all of the advantages of machine fabrication and modern design. Whether or not it outsells Green's standard Cape Cod model it is a step in the right direction: towards a more logical use of prefabrication methods and a house that more nearly realizes the potentialities of modern building technique.

ROOF is constructed of built-up roofing and slag. In the summer months a thin sheet of water is held on the dead-level surface to help cool the house by the evaporation principle.



Hedrich-Blessing

The sure way to cut the cost of pipe maintenance



on all copper tube or brass pipe runs

...SPECIFY **THREADLESS**

Whenever your plans call for copper tube (iron pipe size) or brass pipe — especially in public, industrial or commercial buildings — specify patented threadless Silbraz joints made with Walseal valves, fittings and flanges. Silbraz joints effectively produce strong, lasting pipe runs.

These modern joints provide positive protection against leaks by actually becoming a part of the pipe itself. They make a "one-piece" pipe line that will not creep or pull apart under any pressure, shock or vibration that the pipe itself can withstand.

Easily installed by oxyacetylene torch brazing, Silbraz joints are the sure answer to low-cost assemblies that will require neither maintenance nor repair in the years to come. Ask your nearest Walworth distributor, or write for copy of Circular 84 giving complete data on Walseal Silbraz joints.

*Patented — Reg. U.S. Patent Office

SILBRAZ*
JOINTS



WALSEAL*

(patented)
VALVES
FITTINGS
FLANGES

Make it a "one-piece pipe line" with WALSEAL



13 AWARDS
TO 4 PLANTS

WALWORTH
valves and fittings

60 EAST 42nd STREET, NEW YORK 17, N. Y.

DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD



As it appeared in Better Homes & Gardens Magazine

Pen-Chrome - CREATED FOR MODERN WOOD TREATMENT

Pen-chrome is the modern BLONDE wood finish for modern treatment of wood. It was developed for today's styling—for light tones—for minimum maintenance. It is ideal for plywood panelling or conventional trim. And it makes possible such rooms as this, where functional cabinets and furniture are used to provide the greatest livability.

Pen-chrome combines the waterproofing and sealing qualities of the best synthetic resins with the soft texture of wax. And its system of application offers such great savings that it is practical for low-cost housing as well as fine homes... There is nothing else like it. Write us for full details.

O'BRIEN VARNISH COMPANY, 106 N. JOHNSON ST., SOUTH BEND 21, INDIANA

See Sweet's for complete information on all O'Brien paints.

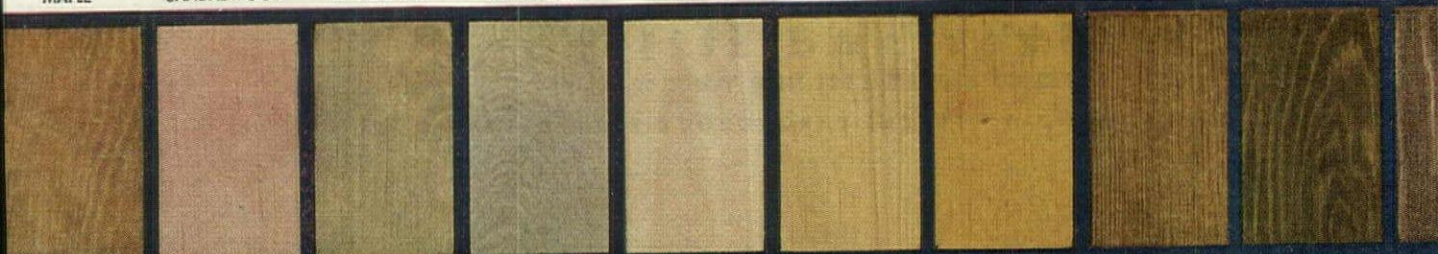


Free Offer!

One-half pint of Pen-chrome Stain (specify color listed below) and one-half pint of Clear Finish will be sent free to architects and builders requesting it on their business stationery.

O'BRIEN
FINE FINISHES SINCE 1875

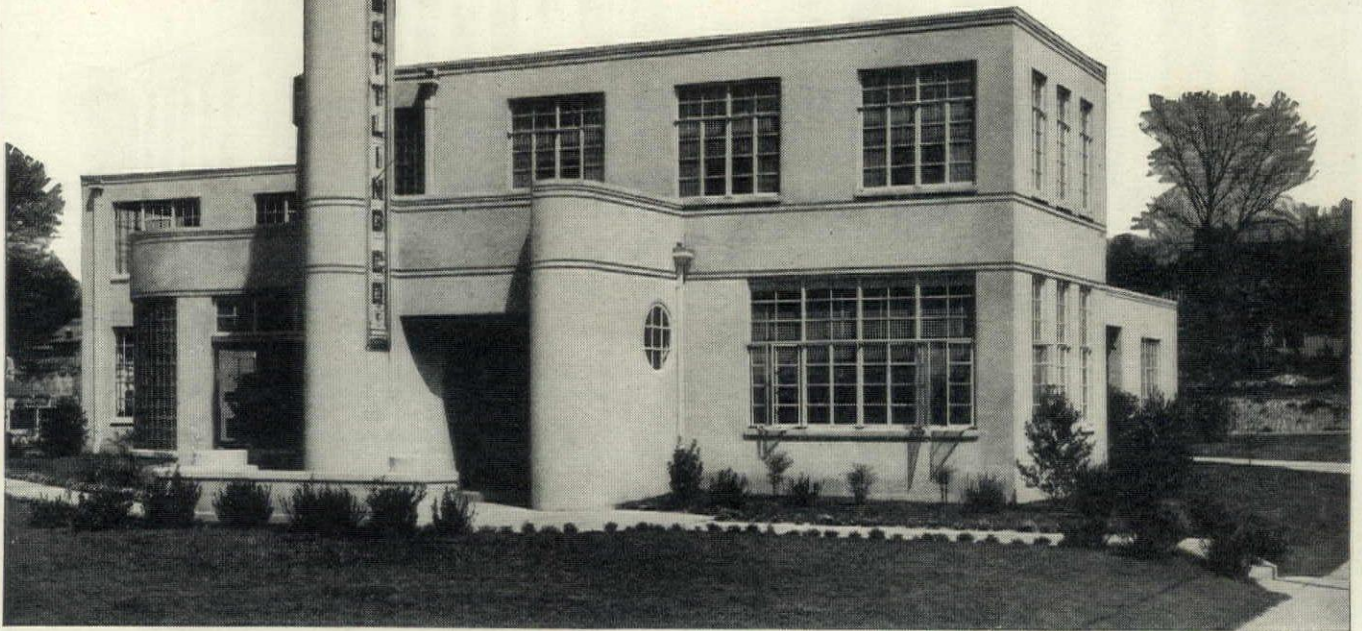
MAPLE SANDALWOOD BLEACHED MAHOGANY DRIFTWOOD PLATINUM BLONDE LIGHT OAK DARK OAK AM. WALNUT MA



Refreshing Cleanliness

WITH

ARCHITECTURAL CONCRETE



For buildings open to public inspection—which must look invitingly clean inside and out and be easily kept as clean as they look—architectural concrete is the ideal material.

Many bottling and food companies utilize the spic and span appearance of their concrete buildings as an advertising asset.

But beyond attractive appearance, concrete provides these intrinsic structural advantages:

A high degree of fire resistance.

Long life with low maintenance cost because concrete has the strength and durability to resist hard usage and severe weather exposure.

Economical first cost because architectural concrete combines both architectural and structural functions in one material.

Concrete construction gives owners all these essential advantages at *low annual cost*—the true measure of economy in buildings.

Write for technical literature on current design and construction practice with architectural concrete. Free in United States and Canada. See Sweet's Catalog 4F/3.

★ ★ ★

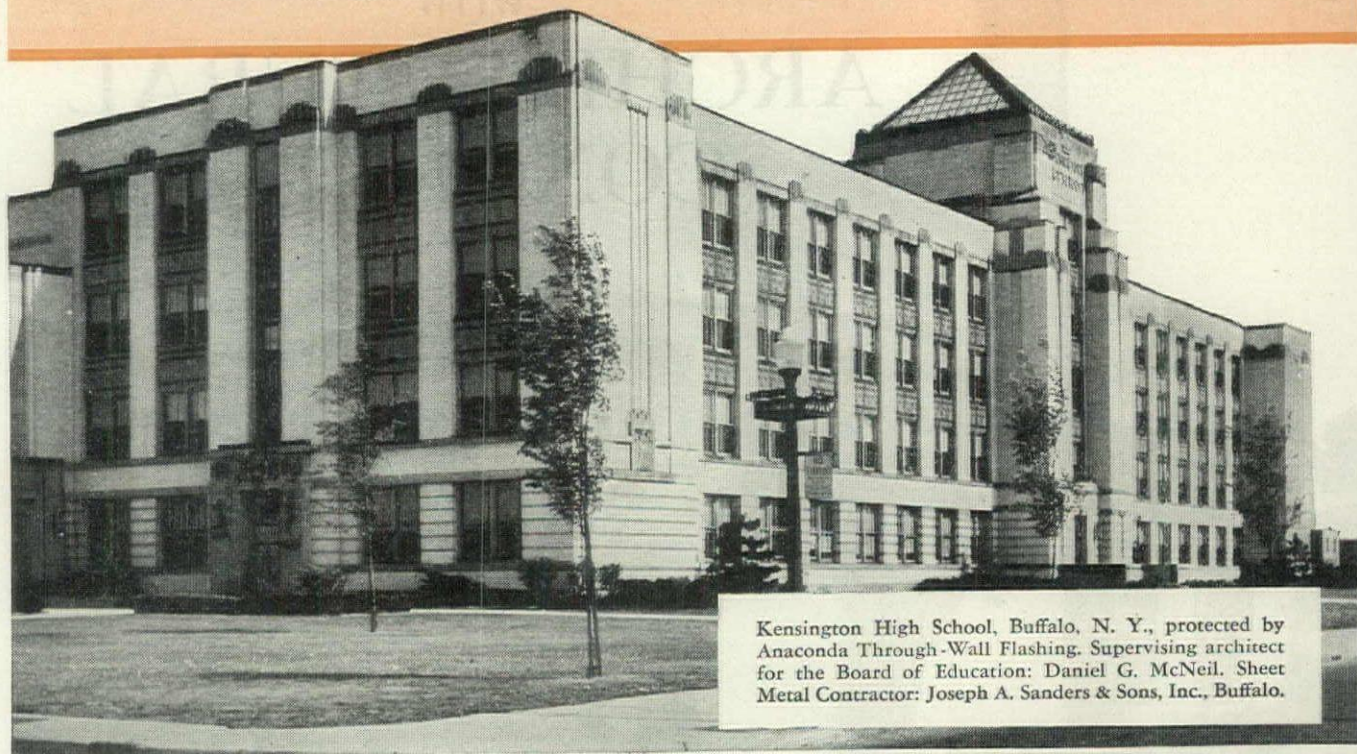
● Visitors may see bottling process through large window at left of entrance in this architectural concrete building of Coca-Cola Bottling Co., Covington, Tenn. Both plane and curved wall surfaces were formed against plywood. Structure designed by Everett D. Woods, Memphis architect and Robert Brown, associate. Harry Hunter, engineer and B. E. Buffalo, contractor, both of Memphis.

PORTLAND CEMENT ASSOCIATION Dept. A7-7, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of concrete... through scientific research and engineering field work

BUY AND KEEP MORE WAR BONDS

Equipped with Flashing that *DRAINS ITSELF DRY...*



Kensington High School, Buffalo, N. Y., protected by Anaconda Through-Wall Flashing. Supervising architect for the Board of Education: Daniel G. McNeil. Sheet Metal Contractor: Joseph A. Sanders & Sons, Inc., Buffalo.

Recent check of installation proves value of ANACONDA THROUGH-WALL FLASHING

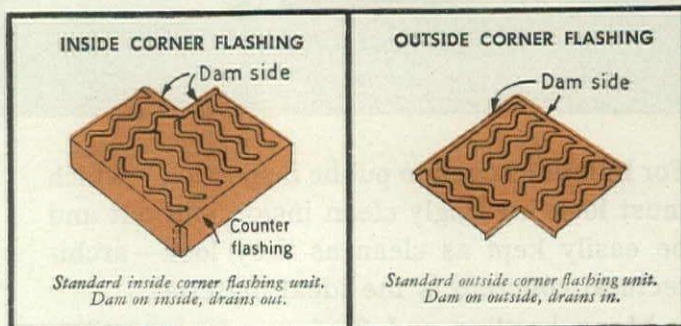
Protection against wind-driven rain and moisture penetrating through the masonry was built into the walls of this beautiful high school in Buffalo, N. Y., in 1941. It was provided by 3500 pounds of Anaconda Through-Wall Flashing.

This flashing, made of 16-ounce copper, is designed to drain itself dry on a level bed. Positive protection is thereby provided and heaving by frost is reduced to a minimum.

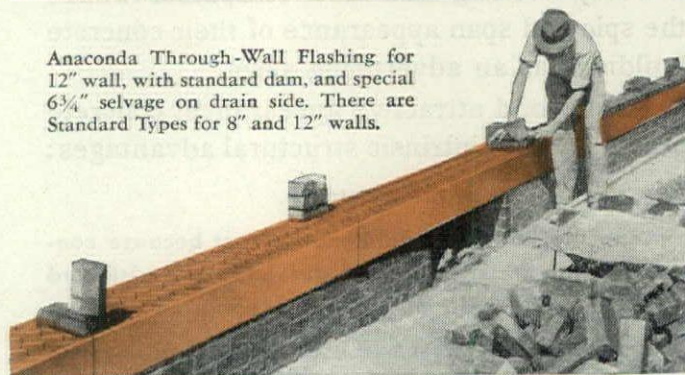
A recent inspection of this installation disclosed no signs of seepage into the building. Both the Architectural Bureau of the Buffalo Board of Education and Joseph A. Sanders & Sons, Inc., the sheet metal contractors, expressed complete satisfaction.

Investigate the advantages of Anaconda Through-Wall Flashing for postwar construction. For detailed information send for Publication C-28 or refer to "Sweets's File."

4531



Anaconda Through-Wall Flashing for 12" wall, with standard dam, and special 6 3/4" selvage on drain side. There are Standard Types for 8" and 12" walls.



Keep Faith With Your Fighters and Yourself! Buy War Bonds for Keeps.



Anaconda Copper

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

The sample of **INDERON** illustrated at the right, shows how the plastic facing gives a smooth, hard surface — how the plywood core gives "depth", strength and body to the plastic laminate.

Just what is this **NEW**
STRUCTURAL PRODUCT?

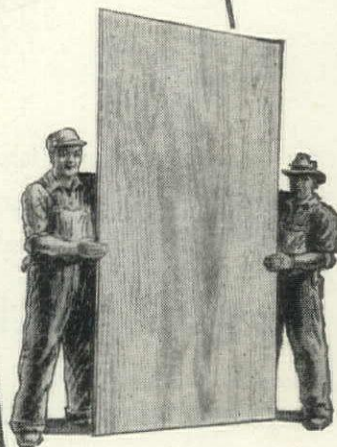
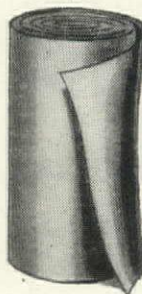
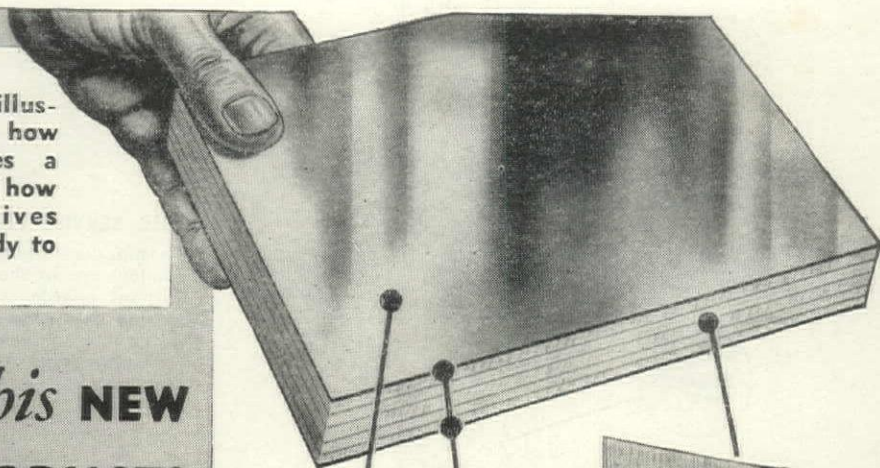
INDERON

It is *plastic-faced plywood*. The hard, smooth, grainless plastic is *permanently fused* to a laminated resin-bonded plywood core.

NOW plastic and plywood have been combined — "alloyed" — to produce a structural product which offers the smooth, hard, permanently finished qualities of plastic plus the strength, durability and rigidity of exterior type plywood.

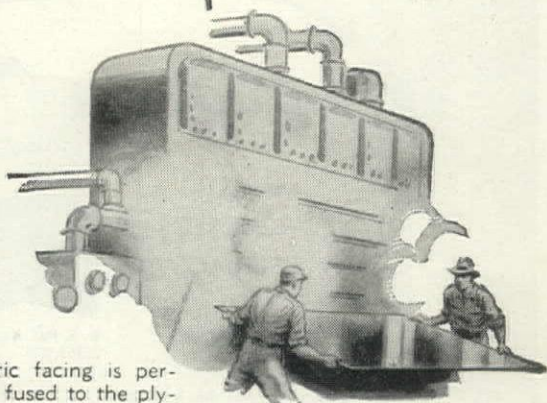
INDERON is waterproof — resistant to moisture and vapor — resistant to chemicals, decay, fungi and temperature changes. It is stable — strong, durable. It needs no surface protection — no additional decorative treatment.

In your postwar planning, consider the use of this smooth, hard-surfaced plastic-plywood laminate for concrete forms, exterior walls, roofs, floors, cabinets, built-in tables, sink tops—for any structural use where low cost, workability, smoothness and strength are desirable. Three grades will be available—Standard, Decorative and Industrial. Write for complete data—today.



INDERON panels are permanently faced with three or more layers of a resin-impregnated plastic. This gives Inderon its hard, smooth, durable surface.

The core of each Inderon panel is resin-bonded exterior type fir plywood. This gives rigidity, strength and "balance"—makes possible a **LOW COST** plastic laminate with depth and body.



The plastic facing is permanently fused to the plywood core by heat and pressure. It can't come loose! Plastic and plywood become, in effect, a single heat-bonded unit. Panels,

available in standard 4 x 8 foot sizes, are smooth, hard, strong, durable, yet easy to work, form and fasten.

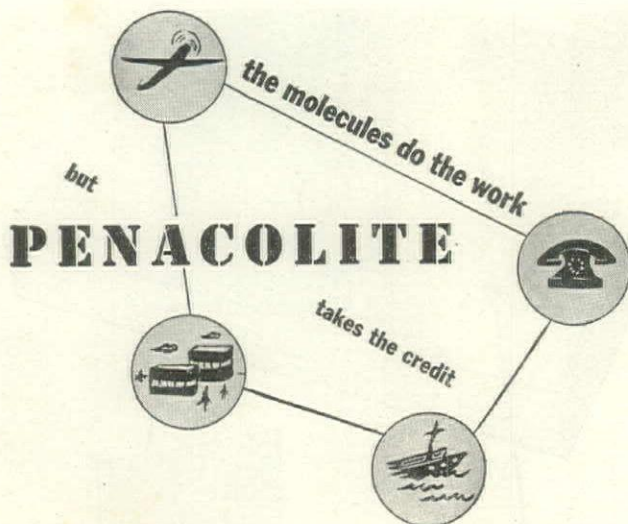
Manufacturers

Buffelen Lumber & Mfg. Co. Washington Veneer Co.
Tacoma 2, Wash. Olympia, Wash.

For Information Write

CHICAGO SALES OFFICE

9 South Clinton St., Chicago 8, Illinois



... for permanent gluing of laminated construction
forever heatproof, waterproof, weatherproof
truly durable in every climate

Specify: PENACOLITE G - 1131

For complete information:

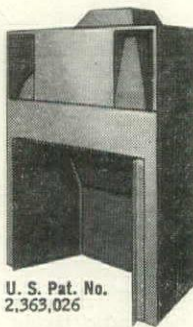
**PENNSYLVANIA COAL PRODUCTS
COMPANY**

PETROLIA, PENNSYLVANIA
55 West 42nd Street, New York, N. Y.

Majestic

Building Necessities

The
Adjustable Frame
of the
**MAJESTIC
CIRCULATOR
FIREPLACE**
Fits Any Mantle
Design



U. S. Pat. No.
2,363,026

You need not be hampered by "materiel" limitations when you specify the MAJESTIC Circulator Fireplace Unit in your plans. The MAJESTIC adjustable frame adapts itself easily to any mantle design, and the engineered proportions of the unit assure a fireplace that draws properly and does not smoke. The MAJESTIC Circulator Fireplace also heats with furnace-like efficiency. Cool air drawn in at floor level is heated as it flows past patented Radiant Blades, and distributed through warm air grilles at mantle level, heating the entire room. For fireplace satisfaction, include the MAJESTIC Circulator Fireplace Unit in your plans. Write for specifications.

Nationally Known and Advertised for 40 Years

THE MAJESTIC COMPANY
1007 Erie St., Huntington, Indiana

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FREE SERVICE FOR DISCHARGED VETERANS

To aid discharged veterans secure professional and executive employment in the building industry, The FORUM will publish without charge classified ads giving applicants' qualifications, stating preference in occupation and location. All ads will be given a box number.

Employers seeking personnel are urged to make known their requirements. Address: G. I. Jobs

THE ARCHITECTURAL FORUM
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POSITIONS WANTED

SALES EXEC., 29, 12 years' successful sales and business experience, looking for representation of manufacturer in building field. Box E-100.

ADV. SPECIALIST, 40, practical knowledge all media desires position in bldg. field. 18 years' as space salesman in outdoor, radio, newspaper. Creator hundreds campaigns, go anywhere. Box E-101.

ARCHITECT, 32, Carnegie Tech. grad. 10 years experience in designing, detail work, can do air brush rendering for commercial work. Seeks West Coast position. Box E-102.

SALES MANAGER: Discharged Naval officer, 8 years FHA experience, seeks to represent air-conditioning, refrigeration, kitchen, bathroom and heating equipment lines in Los Angeles and San Diego areas. Will consider either manufacturer's agent or direct employment basis. Box E-103.

MEN WANTED

Arch., Draft, Design.

ARCH. DESIGNER & DRAFTSMEN: St. Louis permanent. Principal practice churches, schools, hospitals. Give full details. Box R-100.

ARCH. DESIGNER, RENDERER & DRAFTSMAN: Midwestern office, prospect of future partnership. Should be graduate of ranking institution with top flight experience, modern designer, know history of architecture, enter the business, social life of community. Give complete information, references. Box R-101.

2 DESIGNERS: Industrial and commercial work with Midwestern firm. Box R-102.

DRAFTSMAN: Good engineering and architectural experience. New York City. Box R-103.

DRAFTSMEN: Two all-round draftsmen, moderate-sized office, 60 miles from N. Y. Opportunity for all phases of work, congenial. Salary dependent on ability. Box R-104.

ARCH. DRAFTSMEN: Upper N. Y. State. Several thoroughly experienced draftsmen, to prepare preliminaries, working drawings, etc., able to think and draw along modern trend on postwar theaters, hospitals, etc. Give details. Box R-105.

DESIGNER: N. Y. City. Man or woman with arch. training in decorative glass design. Require excellent draftsman. Commercial design, experience unnecessary. Liberal salary, chance to learn handmade glass production. Box R-110.

INDUSTRIAL DESIGNER: Pennsylvania display company wants idea man; knowledge of drafting, flair for merchandising, able sketch. Box R-109.

ARCHITECT: Opening in California real estate firm constructing homes and planning to open subdivision. Box R-106.

DRAFTSMAN: West Coast food store equip. co. Layout store interior fixtures, detailing fixtures for millwork shop, layout of packing house and slaughter house interiors, some machine detailing. Box R-111.

DRAFTSMEN—Arch., Struct. or Mech. Engineering—Structural Engineers: Immediate employment, Michigan. Institutional, office, factory buildings, hospitals, schools, etc. Lack of experience no handicap. Box R-116.

ARCH. & MECH. ENG. DRAFTSMEN: Texas office desires experienced draftsmen for continuous work; war—postwar. Box R-117.

DRAFTSMEN: Midwestern manufacturer; permanent, for men with arch. experience in store exterior, interior design. Excellent future. Box R-118.

DESIGNER-DRAFTSMAN: N. Y. industrial design office wants modern detailer; product, furniture design experience, plus knowledge arch. interior and furniture detailing. Box R-119.

DRAFTSMAN: Western store designer office wants man to 35, with arch. experience, skilled in presentation drawings, perspective, etc. Limited traveling. Box R-120.

Engineers

ARCH. OR ENGINEER: Large organization wants two men 30-40 to travel, handle clients. Starting salary \$3,000 to \$4,500. Box R-107.

ENGINEER: Ohio mfg. assoc. wants man to reestablish technical division, know building code revision, act as consultant, develop technical data for members and publicity literature. Box R-108.

Miscellaneous

ENGINEERS, ESTIMATORS, OFFICE EMPLOYEES: Occasional openings for men familiar with construction work through Washington headquarters of national contractors' organization. Box R-112.

DRAFTSMAN, ESTIMATOR: Mich. construction co. wants man to handle bldg. projects. Box R-113.

RENDERER: Washington office of national assoc. Produce drawings, illustrations for booklets, know house construction. Box R-114.

BUSINESS NEGOTIATOR: N. Y. construction firm, 40 years in the building wants man to contact owners, architects, real estate firms, etc. Estimating experience helpful but not essential. Reply in detail. Box R-121.

WRITER: Assisting executive vice pres. of national building organization in Washington, D. C. writing releases, articles, speeches, newsletter; some administrative duties. Box R-115.

And Now...

The "HY-POWER" MODEL

of the new

BURNHAM BASE-RAY HEAT PANEL

BASE-RAY Heat Panels are cast iron and will be available in 12" and 24" panels. Shipped assembled to required length.

Here's further news on that sensational development in RADIANT Heating, the Burnham BASE-RAY Heat Panel. Besides the "Standard" BASE-RAY previously announced and shown below, at right, Burnham offers the "Hy-Power" BASE-RAY, above, for installations where greater heat output is required, as in uninsulated houses or rooms where baseboard space is at a minimum.

The output of this model is approximately 60% greater than the "Standard" BASE-RAY, yet it is the same height and only $\frac{1}{4}$ " deeper. This greater efficiency is achieved by means of vertical fins on the back of the unit—with air inlet opening at the bottom and air outlets near the top.

Illustration above shows two 24" Hy-Power sections assembled—with top wood molding in place—to give you a clearer idea of how attractive these streamlined units appear when assembled along one end or side of a room.

Burnham BASE-RAY Heat Panels are installed where heat loss is greatest on the outside walls. They deliver radiant warmth at ankle-height—providing a "blanket of heat" which makes floors delightfully cozy and comfortable.

Tests show that this new and improved method of heating provides the most even floor-to-ceiling temperatures ever achieved. Even in sub-zero weather, the floor-to-ceiling differential is less than 3° .

Your customers are going to be asking you questions about NATIONALLY ADVERTISED Burnham BASE-RAY Heat Panels. Be prepared to answer their questions, NOW. This will mean many future orders for modernization work and new installations. Write us at once for further facts on BASE-RAY.



Burnham Boiler Corporation

IRVINGTON, N. Y., Dept. J75

Export Department 50 CHURCH ST., NEW YORK 7, N. Y.



Above: Rear view of "Hy-Power" BASE-RAY showing placement of fins which step up heat output. Sections are 7" high and 2" deep.



Above: "Standard" BASE-RAY sections are 7" high, $1\frac{3}{4}$ " deep. Shown with standard wood moldings in place at top and bottom.

Right: Neat metal box, attached at ends of BASE-RAY assembly, effectively conceals all valve controls.



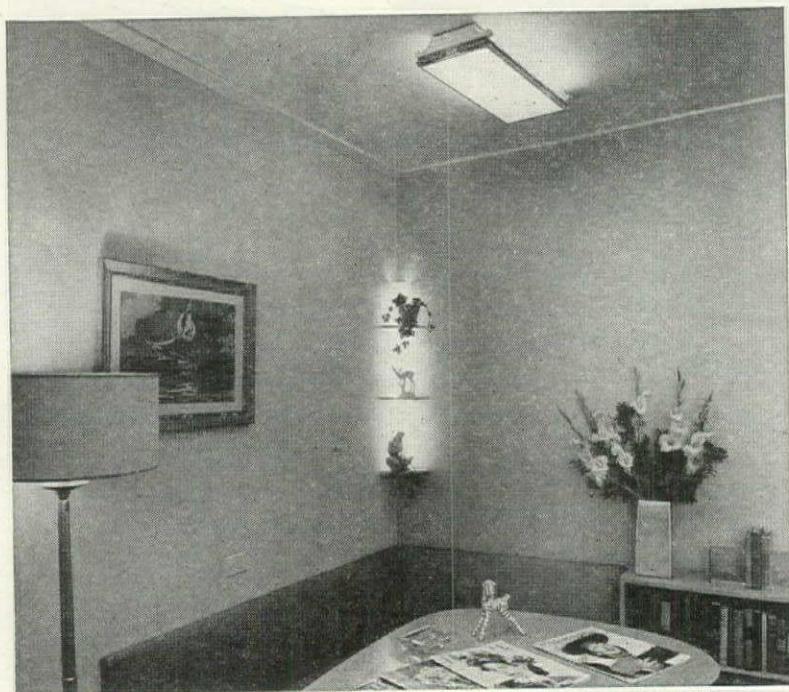
SYLVANIA NEWS

ARCHITECTURAL EDITION

JULY

Published by SYLVANIA ELECTRIC PRODUCTS INC., Emporium, Pa.

1945



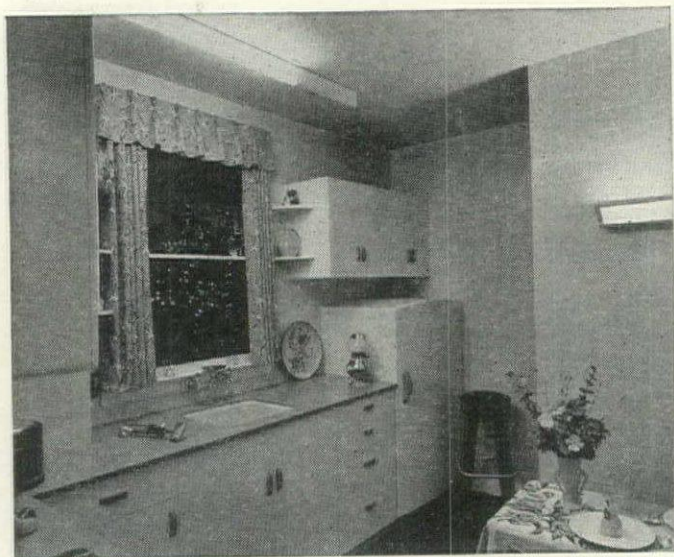
The all-purpose living room, with corner seat and table designed for dining or games. Illumination is provided by fluorescent ceiling fixture, throwing light downward and out into the room. Corner fixture is decorative and useful.

VISIT THE NEW SYLVANIA LIGHTING CENTER FOR LATEST FLUORESCENT IDEAS

Architects will find the Sylvania Lighting Center packed full of lighting ideas. This display of model rooms at 500 Fifth Avenue (2nd Floor), offers the architect a world of postwar lighting applications that will be of immeasurable help to him in formulating plans for the home of the future.

Accept Sylvania Electric's cordial invitation to visit their Lighting Center. Sylvania engineers will be glad to describe and answer questions concerning the modern lighting applications on display.

Notice the accompanying photographs—a few of the highlights to be found at the Sylvania Lighting Center, 2nd Floor, 500 Fifth Avenue, New York, N. Y.



In the kitchen continuous strips of fluorescent light are over the work surfaces. This type of illumination can be extended around the entire kitchen.



Study-type office or small conference room has lowered central fixture that provides both indirect general lighting and good working light on the desk itself.

SYLVANIA ELECTRIC

MAKERS OF FLUORESCENT LAMPS, FIXTURES, ACCESSORIES; ELECTRIC LIGHT BULBS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

She'll want a
MODERN Kitchen
of course



But—

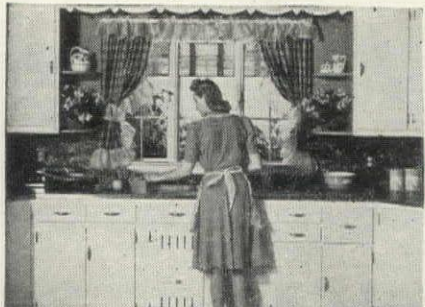
During the war years, millions of housewives have formed some pretty definite ideas about their kitchens-to-come. They want them truly modern—certainly. **BUT** they'll want cabinet arrangements to fit their own individual tastes and needs. They'll want kitchen color schemes that meet *their* conceptions of kitchen beauty—and that may be changed as desired. They'll want *solid* value—not mere surface charm.

And that's exactly why so many architects and builders will specify Curtis wood kitchen units in the homes of tomorrow. Curtis stock cabinets make it possible to have the most desirable arrangement plus the most desirable color scheme. Curtis cabinets fit every kitchen arrangement. They are easily installed—fit perfectly with all standard kitchen appliances—and are priced for budget-minded home builders.



Curtis stock cabinets provide maximum convenience and storage space for any size or shape of kitchen.

Wall and base units are designed to fit easily and quickly together in various combinations to fit different needs.



Curtis cabinets are scientifically designed for greater efficiency in use. Expert in workmanship, they are recommended by "Good Housekeeping" Institute.



The Curtis line includes a unit for every purpose—sizes for every need. You have the widest possible scope in planning the right kitchen for any home.



Keep Up To Date on Post-War Kitchens!—Many years of research and experience have made Curtis an authority on kitchens. Mass production methods have placed these beautiful kitchen units within the reach of all. Keep up to date on Curtis kitchen cabinets and woodwork—mail the coupon for complete information.

Curtis Companies Service Bureau
Dept. AF-78 Curtis Building
Clinton, Iowa

Gentlemen:
Send me your Curtis Kitchen Planning Book and other literature on Curtis Stock Architectural Woodwork.

Name.....

Address.....

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

Another Example of Douglas Fir Plywood's Versatility In Wall Design Treatment!

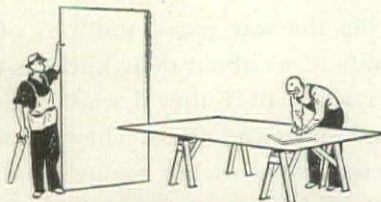
No. 4 of a Series

In a long list of offices, stores and other commercial buildings—as well as in homes of almost every type—Douglas fir plywood can add beauty and utility to wall design. The restaurant illustrated below is one typical example worked out by an architect.

Several basic principles will serve as a guide in planning wall design treatments with Douglas fir plywood. Start at the openings with vertical joints and divide the plain wall spaces in an orderly pattern for the most pleasing effect. Vertical joints should be used

at top of doors and at top and bottom of windows, as in the diagram at the right. In cases where the width of the door or window is over four feet, do not hesitate to place the panels horizontally (as in Figures B and E) for combinations of vertical and horizontal arrangements may be used in the same room with pleasing effect.

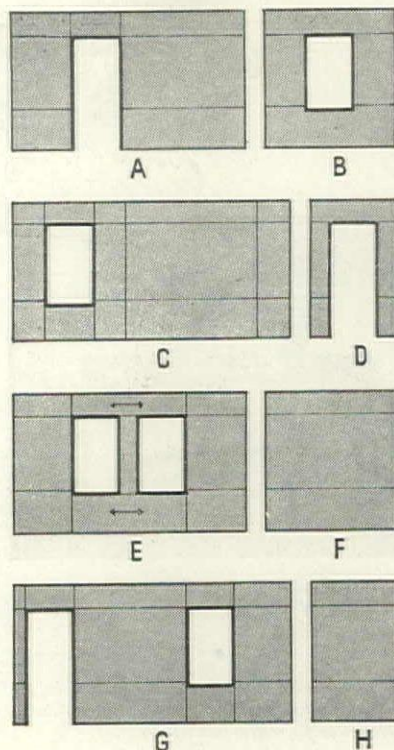
There are three grades of Douglas fir plywood panels made especially for various phases of wall construction. **PLYWALL** is made especially for standard wallboard use; **PLYPANEL** is a premium panel used for quality interior work; **PLYSCORD** is a utility panel made for wall and roof sheathing.



In the illustrated application above, notice that a curved treatment is used on the ceiling. Douglas fir plywood is ideal for such use, for it can be bent to simple curves without steaming and without danger of splitting.

For additional helpful data, write the Douglas Fir Plywood Association.

Simple Suggestions For An Attractive Wall Design With Plywood



CAN PLYWOOD BE SPECIFIED NOW FOR POSTWAR USES?

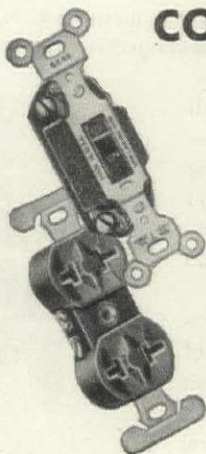
The increased capacity of the industry will make **MORE** Douglas fir plywood available for civilian consumption **THAN EVER BEFORE**, as soon as the needs of the armed services lessen or war restrictions are lifted. There will be no reconversion delays; the same types and grades of Douglas fir plywood that are now being made can flow immediately into peace-time building and construction.



DOUGLAS FIR PLYWOOD ASSOCIATION
Tacoma 2, Washington

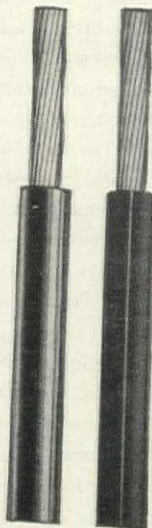
G-E Wiring Material News

SPECIFY G-E SWITCHES AND CONVENIENCE OUTLETS



G-E high quality switches and convenience outlets will benefit any building. They are good looking and will give long, dependable service. Your clients will like them. Include G-E switches and convenience outlets in specifications for war purpose buildings now and for all types of buildings after the war.

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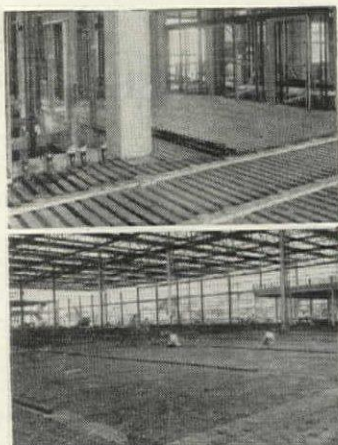


Specify this high quality, small diameter, thermoplastic insulated building wire for entire wiring systems. It is available in size 14 to 2,000,000 CM. There are two types: Type SN for general purpose wiring and Type SNW for wiring in wet locations. This wire's insulation has long life, is flame retarding and resistant to oils, acids, etc. Type SNW insulation also has a low moisture absorption rate.

*Reg. U.S. Pat. Off

FOR UNDERFLOOR ELECTRICAL DISTRIBUTION

General Electric offers two types of underfloor wiring. Both give great electrical flexibility to factories, stores, offices, etc. Electrical outlets can be preset or added later as needed.



SPECIFY G-E Q-FLOOR WIRING

with Robertson
cellular steel
Q-Floors

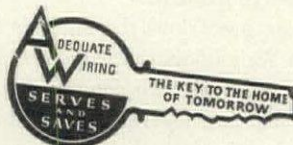
SPECIFY G-E FIBERDUCT

for Masonry
and Wood Type
Construction



FOR COMFORTABLE LIVING

Walter R. Hagedohm, A.I.A. architect, Los Angeles, Calif, says, "In this button-pushing age, adequate wiring is essential for the full realization of comfortable living through electrical conveniences."



BUY WAR BONDS AND HOLD THEM

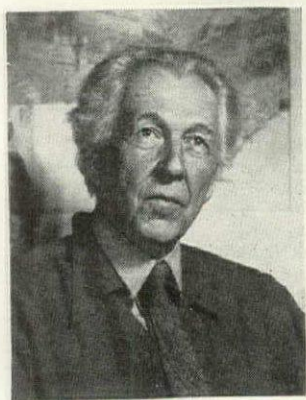
GENERAL ELECTRIC

An architect and a philosopher offer their visions of what we must do to win the future.

WHEN DEMOCRACY BUILDS. By Frank Lloyd Wright. University of Chicago Press. 131 pp. 7½ in. by 10½ in. \$4.00.

"This work was not written to please anyone." This is the text of Frank Lloyd Wright's newest book. It is also the text of every other book he has written and of everything he has built. It is, in short, the text of his life—an heroic and often desperate struggle for survival as an individual. Few of his contemporaries, bowing submissively to the powerful deper-

Valentino Sarra



sonalizing forces of modern society, have understood the nature of Wright's private war with the pattern which most of us are straining anxiously to fit into. To progressives, he is a political anarchist. To conformists, he is a frightening and unintelligible bravura. To readers of the popular press and to most of those who meet him casually, he is a monument of personal arrogance. To architects, he is a master who, rather mysteriously and in

spite of his personal eccentricities, has managed to recapture some elemental rhythm, some basic unity and integrity of purpose and translate it with consummate technical skill into an enclosure for human living.

None of these distortions comprehends either the man or his work—for in Wright's case the nature of the man and the nature of his work are peculiarly inseparable. Like all distortions, each holds part of a misunderstood whole. Wright is an anarchist because his whole life has been a struggle against acceptance of authoritarian solutions. He is frightening because he insists that man must discard exterior authority and look within himself for motive force. He is arrogant because he fears the paralysis of submission and of tolerance. And, finally, he is a great architect because he has solved, actually at great expense to his creative energies, the problem posed by our society: how to be a human being, or, as he would put it, how to be an "Organic Individual."

But how bitter and how precarious the struggle has been we can sense easily from Wright's basic text. Here is the old master, no longer a stranger in his own country, the victor of a thousand battles, still looking fearfully within for even a hint of submission, still shouting rebelliously, "I do not wish to please you!" Not to realize that this rebellious affirmation is meant much more for Wright himself than for us—the robot members of the society he despises—is to miss the real significance of his struggle.

It is perhaps only within some comprehension of what Wright stands for as an individual that his conception of "Usonia"—the physical framework of democracy—can be understood and evaluated. In the first place, there is his cauterizing hatred—a hatred born of fear—of the present city, an instrument of "mass murder." With the radical's characteristic inability to toy with paltry remedies, Wright would sweep away the city as we (Continued on page 160)

CITY DEVELOPMENT. Studies in Disintegration and Renewal. By Lewis Mumford. Harcourt, Brace & Co., New York. 240 pp., index. 5½ in. by 8½ in. \$2.00.

Lewis Mumford's newest published work, a collection of essays spanning the period between 1922 and 1945, is a slender volume. Its size may well serve as an advertisement to those who have lacked the time or the inclination to attempt the substantial volumes which develop his major themes. His sentences have a new and appetizing slenderness, too, that will recommend the book to those who find that the synthesizing and integrating quality of Mumford's thought usually results in a syntax too rich for an average mental digestion.

These essays owe their simplicity to the obvious limits of the job which most of them undertake. Except for the initial *The City* (an early outline of concepts Mumford later expanded and enriched), they are chiefly the application of ideas the author has elsewhere painstakingly formulated to specific contemporary problems—replanning Honolulu, the merit of the London County Council plan, postwar rebuilding, the potentialities of the mass-produced house.

Published in 1922, *The City* reflected the protest, fashionable among intellectuals of the period, against the evils of industrialism and the ineffectual attempts of U. S. society to escape them—"There is nothing short of the Alkali Desert that compares with the desolation of the common American industrial town." But Mumford was already more interested in diagnosis than despair. He had, for instance, detected the seeds of dispersal now obviously hastening the death of the city. "The principal effect of the gridiron plan is that every street becomes a thoroughfare, and that every thoroughfare is potentially a commercial street. The tendency toward movement in such a city vastly outweighs the tendency toward settlement."

As a prophet, Mumford was always more the galvanic Gabriel than the lugubrious Isaiah. Here is the first limited statement of what was to become the major theme of his creative work: "We have shirked the problem of trying to live well in a regime that is devoted to the production of T-beams and toothbrushes and T.N.T." How immensely amplified it has become by the time the mature Mumford takes a look at the London County Council plan! "The sterility of the big city is a purposeful sterility: it is due to the essential failure of this civilization to arrange the goods of life in a rational order, and to put biological and social purposes above those mechanical and financial achievements—with their complementary 'diversions'—which have become emblems of megalopolitan success... Any plan that accepts the current scale of values can only give a durable form to a widespread, though perhaps (Continued on page 168)

Eric Schall, Pittsburgh



Investigate **PAYNEHEAT**



LYNN THEATRE—Laguna Beach, Calif.
Architects: Conway & Wilson, Builders:
Smith Construction Co., Heating: Payne
gas-fired warm air system.

for your commercial and industrial jobs, too . . .

Architects and builders naturally associate PAYNE Furnaces primarily with residential heating . . . because PAYNE installations are giving satisfaction to so many thousands of home-owners, coast to coast. ★ But PAYNE engineers can draw upon a vast fund of experience in commercial heating as well . . . as an aid to you in planning and specifying. ★ Circulated warm air heating and summer ventilation . . . as combined in a PAYNE forced air installation . . . may offer advantages over any other method for a commercial job of yours! ★ Investigate . . . for today's "essential" construction . . . for tomorrow's theatre, school, store, apartments, motor court or small office building. ★ PAYNE makes time-tested factory and industrial units, too.

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. . . successor to old-fashioned central heating. A progressive development of the time-tried PAYNE "Unit" system. Circulated winter warmth, cooling summer ventilation, controlled by zones or individual apartments or rooms. WRITE FOR NEW, FREE BOOKLET

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There Goes Your Reputation!...

More than shingles go on every roof you build.

Up the ladder, too, goes the customer's confidence in you.

Your promises, your guarantees, your integrity, your very reputation...nailed into place with every shingle.

And just so long as that roof lives up to expectations...that long is your reputation secure.

You know this. We, at Flintkote, know it, too!

That's why...through painstaking years of laboratory research, thousands of tests and decades of matchless service in all climates...we have made resistance to weather and temperature extremes a built-in feature of every Flintkote shingle.

Flintkote's service is too broad to be defined by specifications...too vital to be written in terms of price.

It lies in the creation of products that safeguard the purchaser's investment. In products...and policies...that protect *your* reputation.

FLINTKOTE BUILDING MATERIALS

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THE EXTRA YEARS OF SERVICE COST NO MORE!



THIS ATTRACTIVE, PRACTICAL
AUTO-TYPE LOCK IS EXCLUSIVE
EQUIPMENT ON THE NEW 1945

Craw-Fir-Dor

SELF-ENERGIZING - ONE PIECE - OVERHEAD TYPE

GARAGE DOOR

PRE-FIT TO SIZE

One size only, pre-fit to standard 3 x 7 foot opening.

ATTRACTIVE

Designed to blend with any type of architecture.

STRONG

Made of durable Douglas fir—structurally strong!

WEATHERPROOF

Panels are of Exterior plywood—the type used in PT boats!

EASY TO INSTALL

Hardware 85% pre-assembled. Installed in less than 45 minutes!

FEW TOOLS NEEDED

A hammer, screwdriver, level, saw, brace and bit do the whole job!

To all other features offered by Craw-Fir-Dor—America's leading overhead-type garage door—add this attractive new auto-type lock. It's as dependable and easy-acting as the sturdy door itself. It's chrome-plated for beauty and long life. And it's exclusive equipment on every Craw-Fir-Dor now being planned for immediate production the moment war restrictions are lifted. Specify Craw-Fir-Dor in your postwar jobs—and keep in touch with your dealer, who will have Craw-Fir-Dor very soon.

The new Craw-Fir-Dor requires only 2" of headroom above the opening. Saves from 12½" to 16½" of sidewall construction all around.

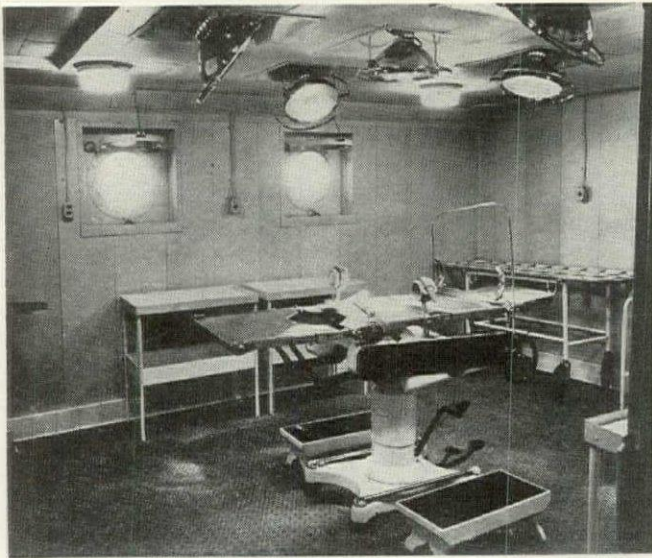
FIR DOOR INSTITUTE

Tacoma 2, Washington

The National Association of Fir Door Manufacturers

For special residential or industrial installations, write: Crawford Door Company, Detroit, Michigan—maker of a complete line of sectional overhead-type doors.

(Continued from page 156)



Signal Corps Photo

SEA-TESTED DURABILITY

for Tomorrow's Buildings —

The same durable, easily cleaned Seaporcel® Porcelain Enamel that was developed to withstand corrosion on the bulkheads of shipboard operating rooms will be available to you for use in the building of the future. Available in an infinite variety of shades, colors, shapes and finishes, Seaporcel affords the architect or designer unlimited latitude in creating building facades, sign faces, quantity signs, etc. Its durable properties enable it to hold its color and finish under weather conditions that would destroy ordinary finishes.

Seaporcel is a ceramic coating fused into its metal base at 1500° F. It is NOT a baked enamel (Paint dried at 250°—350° F).

Write for additional information or see Sweets Architectural File, 1943 Section 13/9; 1944 section 6/11; 1945 Section 6d/3.

There are a few areas in which Seaporcel Porcelain Metals, Inc. is not represented. Inquiries are invited from interested agents.

Seaporcel Porcelain Metals, Inc.

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SP-4

Seaporcel

know it. Away with the vertical skyscraper and its "shadow of greed" denying light and air to all beneath it! Away with "Universal Rent" in its three forms: rent of land, rent of money, rent of ideas! Away with the miserable maggots who survive by adapting themselves to this dying social pattern! In their place, let us have individuals who know democratic freedom by their ability to express "the fundamental integrity of man . . . the most valuable asset of the human race."

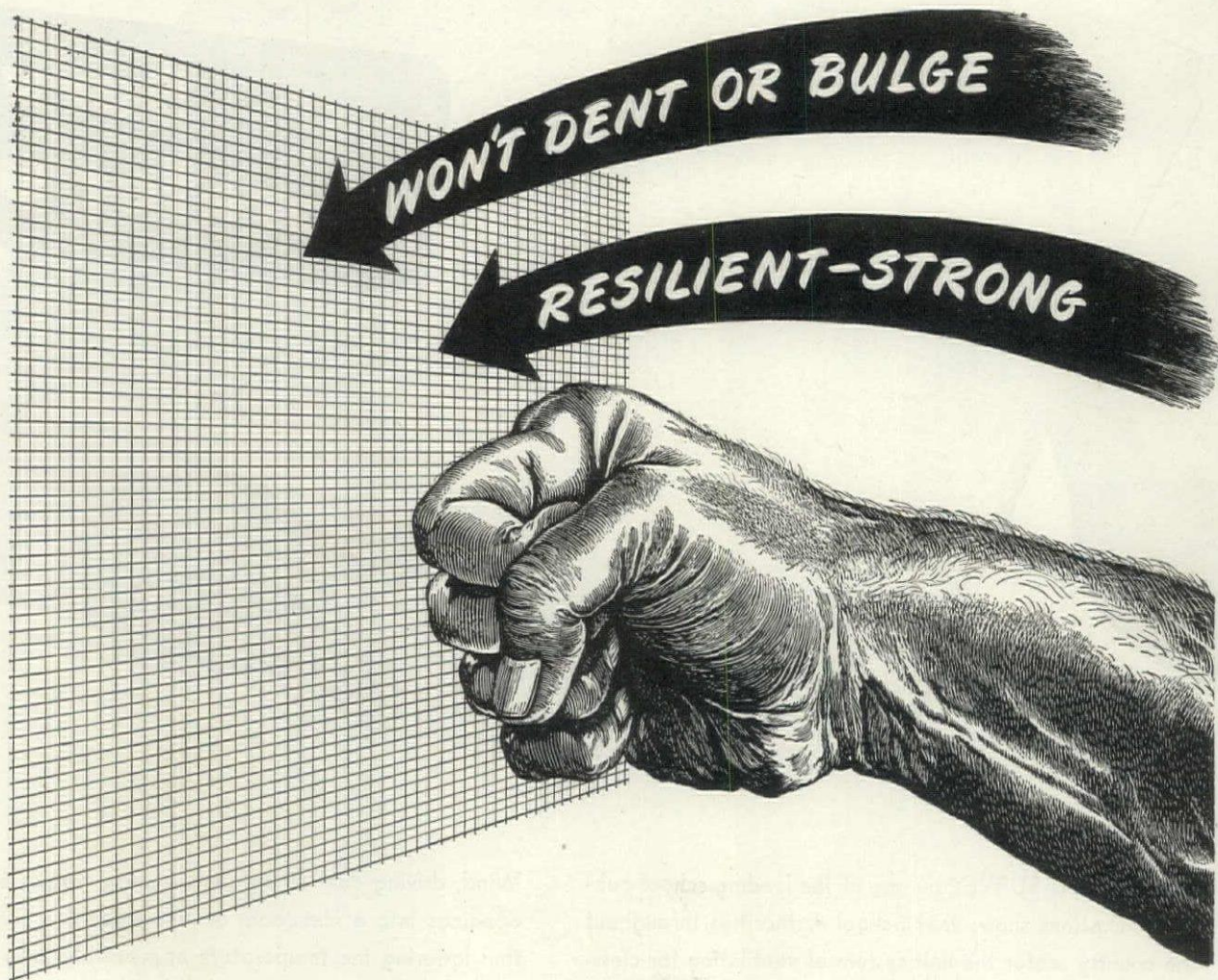
The great voice from the prairies would shout down the relentless walls which men, in their insecurity, have built to lean upon. Let free men build anew the universal city where the pattern of family living is everywhere integrated with the pattern of production and distribution of goods. In "Broad-acres" there will be no city and no country. The small farmer can bring his own produce to the market beside the four-lane highway or to the community center. The factory worker can have his own share of the land to cultivate. Production of goods will be decentralized, and goods distributed through a retailing unit related to the neighborhood and to rapid personal transportation—a unit for which the roadside gasoline station and the supermarkets have already set an imperfect prototype. The doctor or other professional worker will have his clinic or his workroom adjoining his own home.

The bank would "no longer need put on the airs of a temple." The decentralized factory would be a design center, where students and master craftsmen would work together in producing a "supply of useful and beautiful things for the roadside market." And in all of Broadacres, there would be no room for the salesman, that pushing parasite of production whom, of all parasites in our society, Wright most despises.

But what can bring about this broad reversal of what Wright calls "capitalistic Centralization?" Wright is not a Utopian who indulges in a mystic escape from the machine. On the contrary, it is the machine itself, mastered by man, that is generating the forces of "reintegrated decentralization . . . many free units developing strength as they grow and function together in spacious, mutual freedom." Electricity means that power can be easily brought to widely distributed industry. The internal combustion engine means an enormous amount of mobility only beginning to be exploited in personal transport and in distribution of goods. These, Wright says, are the agencies of the new freedom. Already new inventions of mechanical refrigeration, heating, and lighting tend to take advantage of them by reducing the household's dependence on a centralized urban mechanical system. But the machine itself is not enough: its force must be directed by what Wright calls the "Organic Architect."

Here it is important to understand as well as we can precisely what this "organic" concept means to Wright. Unlike Lewis Mumford, Wright has no tendency to interpret the development of society from a biological point of reference. "Organic" then is "not only a biological term indicating the fact that form follows function . . . As we use the term 'organic' in architecture, it applies to a concept of natural living and of natural building both together seen as structure." Or, in other words, form and function are an indivisible entity.

Neither Mumford's "organic renewal" or Wright's Usonia will, we can reasonably conclude, just happen. But while Mumford leaves his readers with the feeling that he expects change to take place for reasons (Continued on page 164)



LUMITE-the screen that lasts!

A screen that can't rust—ever?

Yes, that's LUMITE*, the modern plastic insect screen cloth. Nothing can corrode it! A swish or two with a damp cloth restores its spotless freshness. And because it is *non-staining*, repainting of sills and sidewalls is a thing of the past.

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LUMITE can *never* wear out through natural causes. Its "life expectancy" is far greater than

ordinary screens. Tested daily on today's battlegrounds, LUMITE is a *proved* product . . . a "must" in any postwar building plans.

FREE SAMPLES ON REQUEST

Although the Pacific war must come to an end before we'll be able to release LUMITE for general civilian use, prepare yourself *now* for tomorrow's building boom! Write to us today for further information about this revolutionary new plasticscreen. We'll be glad to send you complete descriptive literature, together with free samples of LUMITE.

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Tested in War — Ready for Peace

Many millions of feet of LUMITE screening are now being used successfully to protect the Armed Forces against disease-bearing insects. Today's fighting men are your tomorrow's customers . . . and they're sold on LUMITE already!

- ★ 100% Rustproof under any conditions.
- ★ Cannot stain sills or sidewalls.
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- ★ Never needs painting . . . non-inflammable.
- ★ Not affected by humidity or salt air.
- ★ Will be competitively priced with better grades of wire screen cloth.

Chicopee Manufacturing Corp., Lumite Division

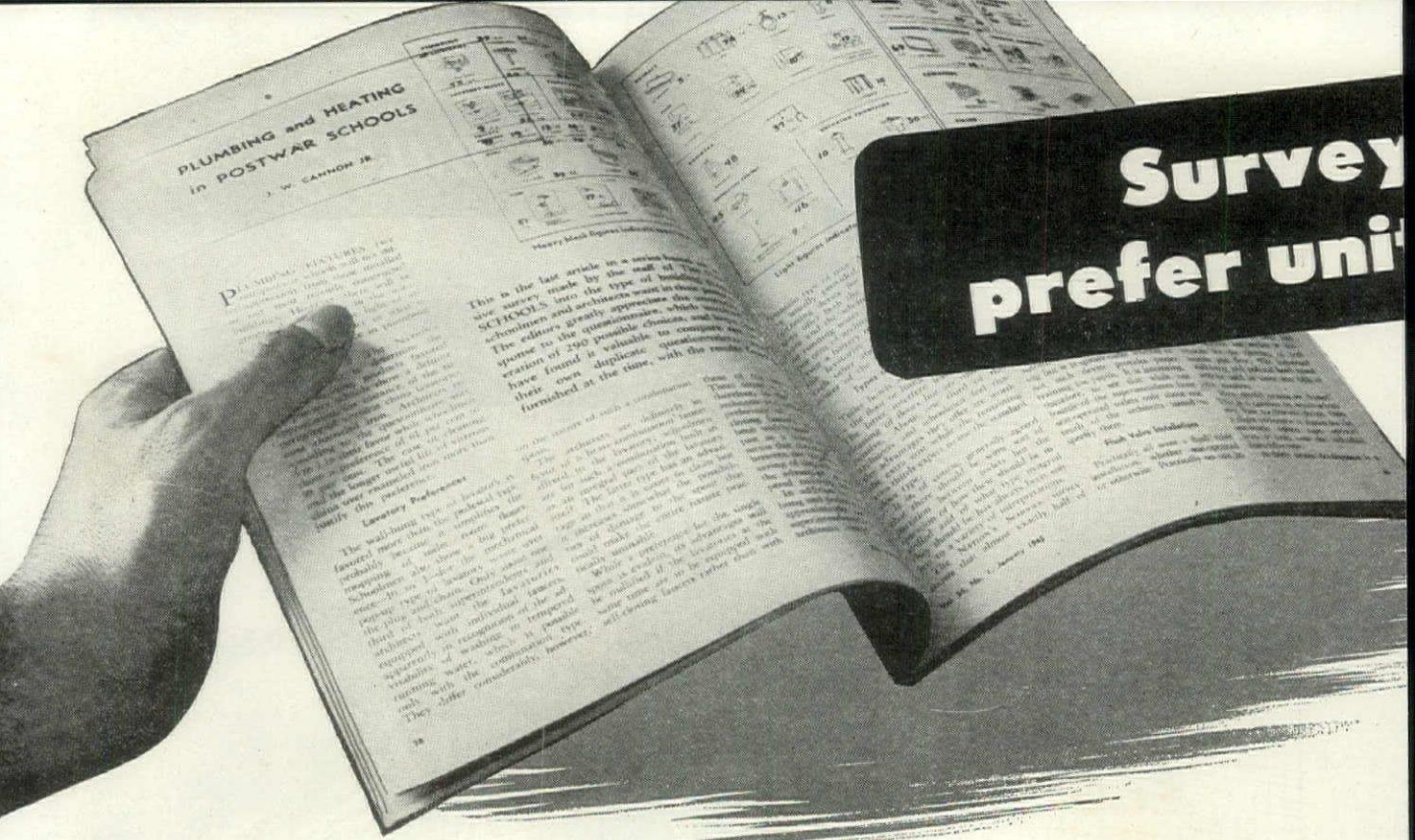
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*World's largest makers
of Plastic Screen Cloth*

LUMITE



A RECENT SURVEY by one of the leading school publications shows that School Authorities throughout the country prefer the unit system of ventilation for classrooms in postwar buildings. This is easily understood when one considers the fundamentals of schoolroom ventilation and the required functions of ventilating equipment.

Stated simply, the primary purpose of schoolroom ventilation is the maintenance of a desirable temperature for pupils and teachers. Ventilating equipment must be able to introduce either warmer or cooler air into the classroom as required to maintain the desired air temperature.

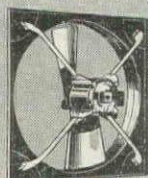
We must remember, however, that each classroom has a ventilation problem all its own, requiring individual treatment or control. The temperature of a schoolroom on the west side of a school will often be raised considerably by solar heat during the afternoon, while the sun's rays will affect the temperature of a classroom on the east side only during the morning.

Wind, driving cold air through window frames and other openings into a classroom on one side of a school, and thus lowering the temperature appreciably, may have no effect on a schoolroom on the other side. Later in the same day, the situation may be exactly reversed.

Then, too, a classroom which is fully occupied during the entire day has an entirely different ventilation problem from one used only for certain periods.

The increase in temperature from body heat given off by pupils themselves will differ depending upon the number, age and activity of the occupants. A classroom used only for several periods on one day may have a complete schedule the next.

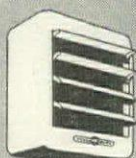
Thousands of School Authorities, Architects and Engineers in all parts of the country have learned through actual experience that only the unit system of ventilation



Herman Nelson
Direct Drive
Propeller Fans



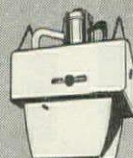
Herman Nelson
Belt Drive
Propeller Fans



Herman Nelson Horizontal
Shaft Propeller-Fan Type Unit
Heaters



Herman Nelson
Type H
Centrifugal Fans

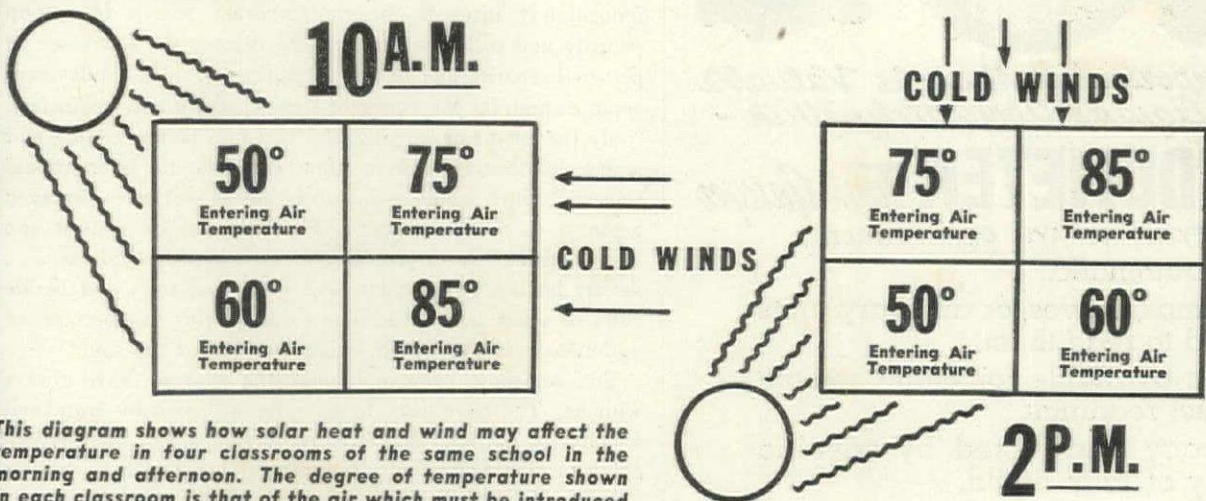


Herman Nelson
Vertical Shaft Propeller-Fan
Type Unit Heaters



Herman Nelson
Type H
Centrifugal Fans

shows school authorities system of ventilation . . .



For classrooms provides the **INDIVIDUAL CONTROL** required to meet these changing conditions in each room of a school without adversely affecting the air conditions in other rooms.

We invite you to contact the nearest Herman Nelson Branch Office or Product Application Engineer for assistance in solving any of your heating and ventilating problems most satisfactorily.

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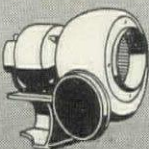
THE HERMAN NELSON CORPORATION

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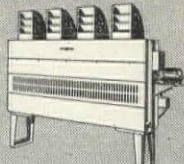
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Herman Nelson
Direct Drive
Unit Blowers

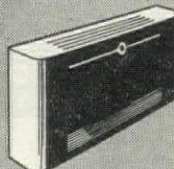
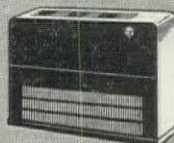


Herman Nelson
Belt Drive
Unit Blowers



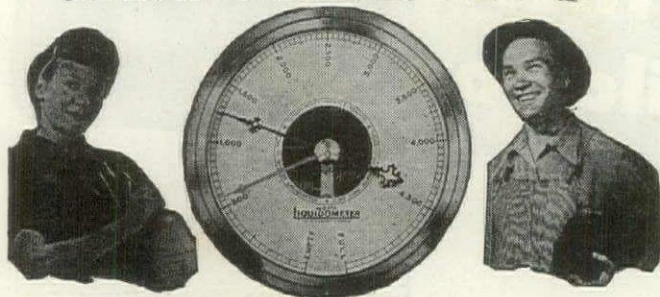
Herman Nelson
Blower-Fan Type
Unit Heaters

Herman Nelson
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Herman Nelson
Unit Ventilators

TODAY OR POST-WAR!



*It Is Important to Measure Valuable
Stored Liquids Accurately With -*

LIQUIDOMETER Tank Gauges

"THEY'RE ALWAYS DEPENDABLE"

100% automatic.

No pumps, valves, or auxiliary units
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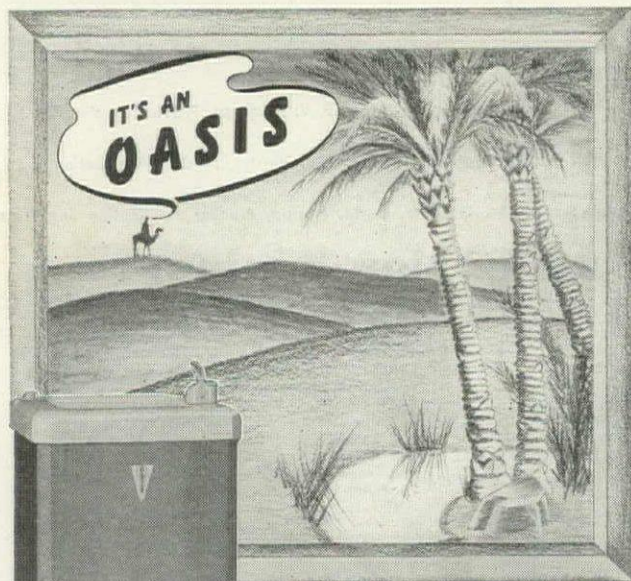
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always "out in front" when it comes
to low-cost delivery of cool, refresh-
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design . . . pleasantly splash-free
bubbler action . . . carefree, quiet
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cooler field. Wherever thirst is a
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THE EBCO MANUFACTURING COMPANY
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BOOKS

(Continued from page 160)

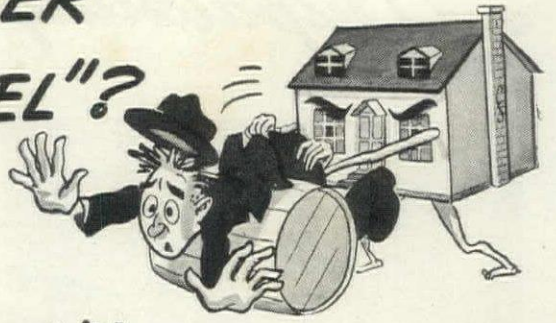
never clearly explained or maybe without any reason at all. Wright says that achievement of Usonia is principally the job of the Organic Architect. Everybody else, it seems, has pretty much sold out. Neither government power nor any of the "isms" which endorse it in various ways is the answer. Wright immediately discards the contemporary search for group security and collective authority to replace the lost sense of personal security and individual authority. Full employment is not enough for the citizen of Democracy; it may be, in fact, "only the means of keeping him tied to a money-getting and money-distributing system that amounts to international slavery." Such small social invention as we have displayed amounts to not much more. For example, the "latest and best 'housing' developments . . . are improved slums . . . deadly boxing, rows under rows or behind rows and beside rows of other boxes . . . The slum quarter has become an authorized state of mind, standardization of the soul."

But, somehow, even in Usonia, the poor we have always with us. The poor man, to be sure, will own his own land and have a garden. The Organic Architect will use the machine to provide him with a quality house, which he will be able to own "with some aid in the way of tax exemptions—part of his new freedom." It is something of a jolt to walk into Usonia and bump into tax exemptions. But, Wright promises, the poor man will "no longer be enslaved by wages." His release, like everything else, seems to be up to the architect.

One of the reasons why Wright nominates the architect as the man to get us all Usonia may be that the impassioned individualist does not yet see that individuality can only be full expressed in union with the group. Another reason is his confidence that the architect understands organic and radical thinking better than almost anybody else you could name. This is because any good architect must have some grasp of the unity of function and form and some ability to discard the authority of tradition in seeking new structural solutions. But Wright believes that the principles which have so far been chiefly expressed in structure must be broadly applied. Thus: "We must patiently investigate the present economic basis of our life, such as it is, and learn why it is unsafe: why it has had no organic foundation all down the line and must lead to war."

Wright can express his "organic" concept better in his buildings than he or anyone else can in the abstraction of words. When we try to understand what he means by an "inorganic economic system," it is important to remember that the phrase comes from an architect who knows how to build a house where "extended light, spacious openness, a firm significant cleanliness of line and a oneness of the whole" will add to the occupant's "stature as a man among men." Wright is most convincing when he is sketching, with precision and clarity, the "broad, angry outlines of the Free City." He is least convincing when he attempts such abstractions as: "Practice of life as organic architecture and architecture as organic life is sure to react upon every practical homeowner's sense of himself in practicing everything he is or does." One conclusion we can easily draw from this is that words are not Wright's best tool. Another, perhaps, is that neither words nor designs will get us the Free City; we shall inherit it when there is in each of us a sense of individual freedom as deep and honest as Wright's.

WILL YOUR NEW HOME EVER
GET YOU "OVER A BARREL"?



...here's one way to prevent it!



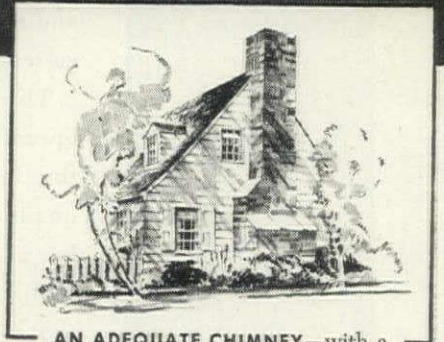
● If the post-war home you plan to build or buy should ever cost too much to heat—you may find yourself "over a barrel" when you try to sell or rent.

And one of the best ways to protect yourself against that possibility is to be sure you get an *adequate chimney*. This means a chimney with a flue big enough to handle not *only* the expensive fuels—but *also* Bituminous Coal, which is the most economical of all home-heating fuels.

Then, at any time in the future, you'll be free to switch to Bituminous Coal even if you *now* plan heating with some other fuel. The extra cost of providing such a chimney flue is only about \$16 for the average 7-room house.

Better than four out of every seven homes in the United States use coal! You'll find Bituminous Coal gives the steadiest, most uniform and dependable heat. And, when used in a modern stoker, Bituminous Coal is also an "automatic" fuel—as well as clean and odorless.

Discuss this important subject with your architect or builder. It will pay you to do so!

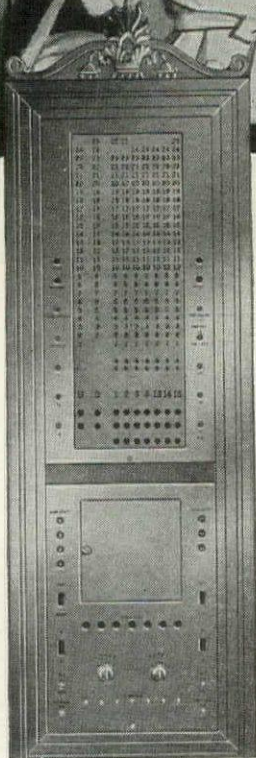


AN ADEQUATE CHIMNEY—with a flue efficient for burning Bituminous Coal—is also efficient for any other fuel. And, when you consider that today's costly fuels may be even more so in the future—you see why it's so sensible to provide for being able to burn Bituminous Coal, which will always be plentiful and economical because America has a 3,000-year supply!

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

OTIS *Dispatching* FOR IMPROVED ELEVATOR SERVICE



Dispatching Panel: Indicates position and direction of travel of the car and the location of waiting passengers.

Otis Elevator dispatching methods and equipment can help correct congested elevator traffic conditions.

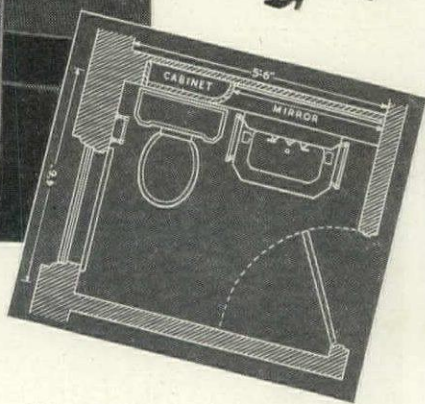
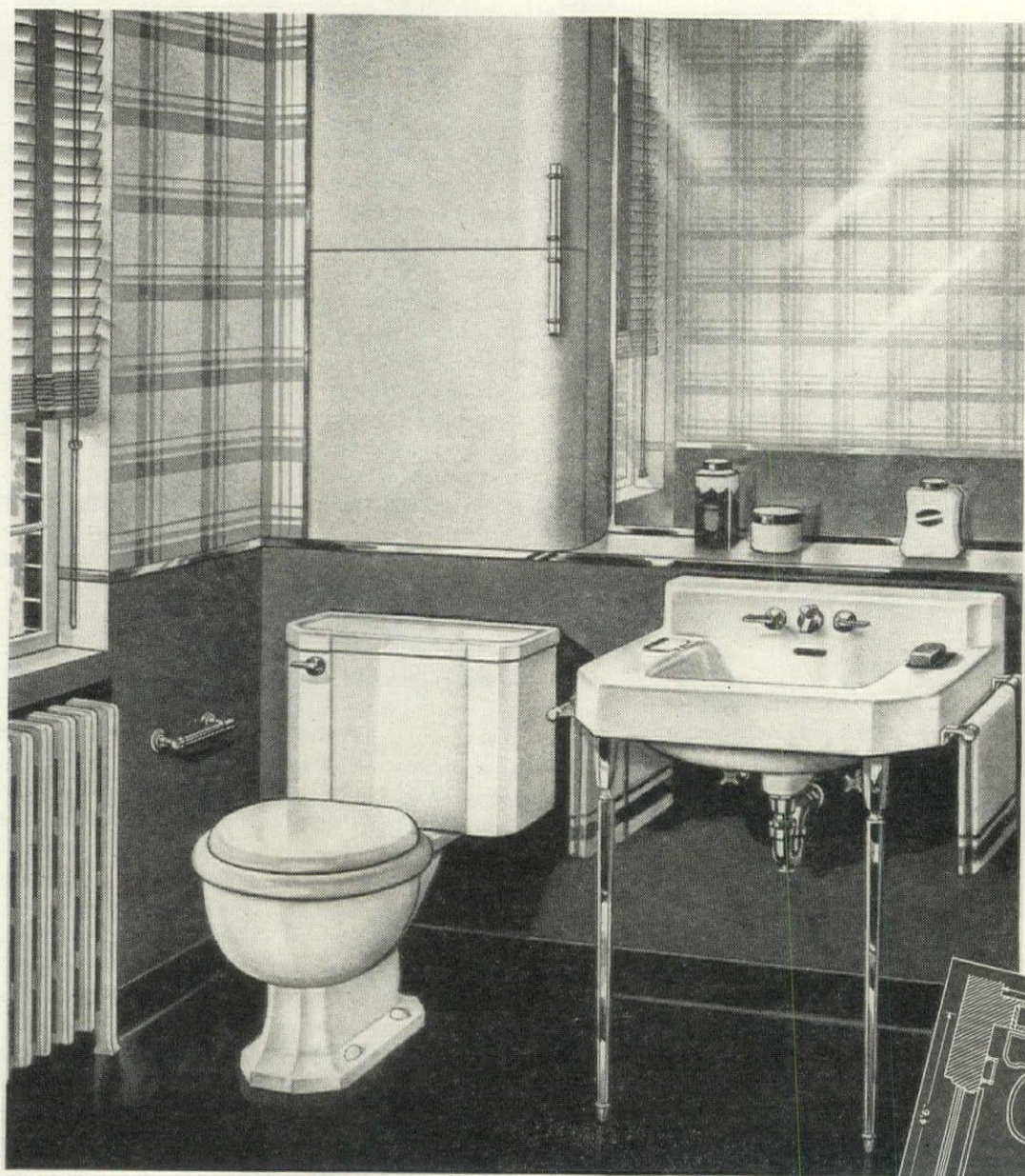
This scientific system of elevator operation and dispatching provides the highest quality and maximum quantity of service for a given number of elevators.

Otis dispatching is your assurance that every car is doing an equal share—that the flow of traffic is evenly distributed over the entire plant.

So, when it comes to new elevator installations or getting more work from your present equipment, investigate the possibilities offered by Otis dispatching equipment.

Your Otis representative is ready now to help you and your Architect plan the correct type of dispatching system best suited to your needs. For the finest in vertical transportation tomorrow, call your Otis representative TODAY.





This 4½ x 5½' KOHLER washroom adds comfort and value

A KOHLER-equipped washroom provides an opportunity for the Architect to improve both the comfort and value of a home in a way home owners are quick to appreciate. It makes a new home easier to sell. The small space required is adaptable to many convenient locations. There is no better way of providing the extra sanitary facilities the average home needs.

The washroom above is practical, inviting and economical in arrangement. The Strand vitreous china lavatory with built-in fittings is 26 x 15½" with a roomy shelf

4¼" wide. The free-standing, close-coupled Wellworth closet is quietly, smoothly efficient.

The recognized first quality of Kohler fixtures and fittings carries assurance of highest serviceability in every detail, together with distinctive harmony of design. Kohler quality is backed by 72 years of manufacturing experience, and protected by the fact that Kohler products are made in one plant, under one supervision. For a copy of catalog K-41 write Kohler Co., Dept. AF-7, Kohler, Wisconsin. Established 1873.



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U. S.
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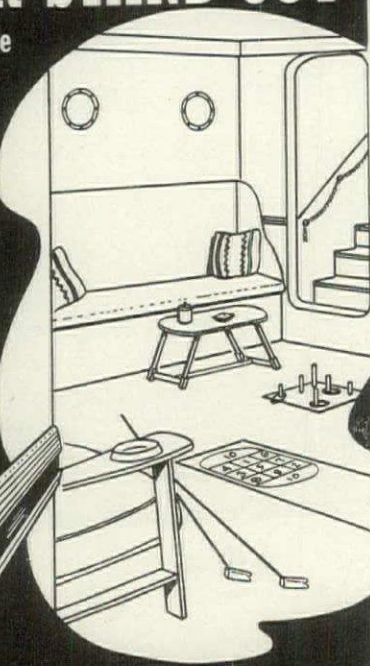
PLUMBING FIXTURES AND FITTINGS • HEATING EQUIPMENT • ELECTRIC PLANTS

(Continued from page 156)

Trims that STAND OUT

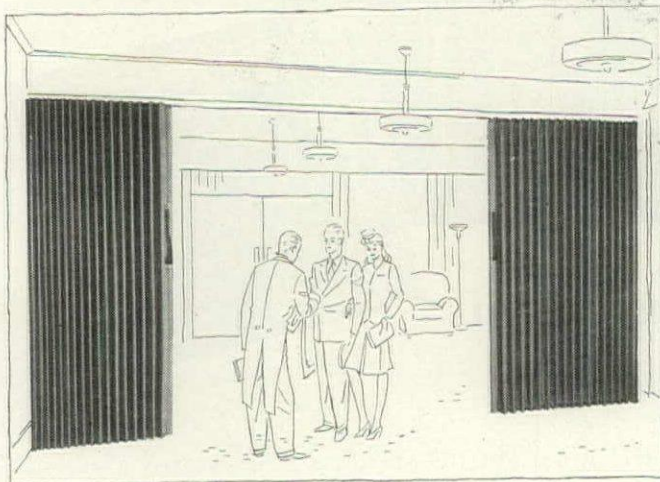
in beauty permanence
and utility

The charm of any room is enhanced by the sparkling brilliance of CHROMEDGE Metal Trims. They are long lasting too, and will not chip, crack, craze, fade or peel, and are not subject to troublesome shrinking or expanding. CHROMEDGE Metal Trims are designed by practical wall and floor covering men—easy to apply and make coverings easy to install. Write today.



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THE B&T METALS CO., COLUMBUS 16, OHIO



FOR UTILITY MADE BEAUTIFUL ... Specify MODERNFOLD DOORS

For commercial installations or residences... include Modernfold Doors in the specifications. Your clients will appreciate the rich, colorful beauty of the fabric coverings. They'll glow with satisfaction at the practicality of these durable, metal-framed, accordion-like doors.

Modernfold Doors eliminate swing area, save space and provide easy and economical room division. A proved product, Modernfold has been specified by architects since 1936—used in all types of openings, small or large. Send for your copy of the new catalog—with all the facts. There is no obligation.



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Distributors in All Principal Cities

In Canada—Richards, Wilcox Canadian Co., Ltd.
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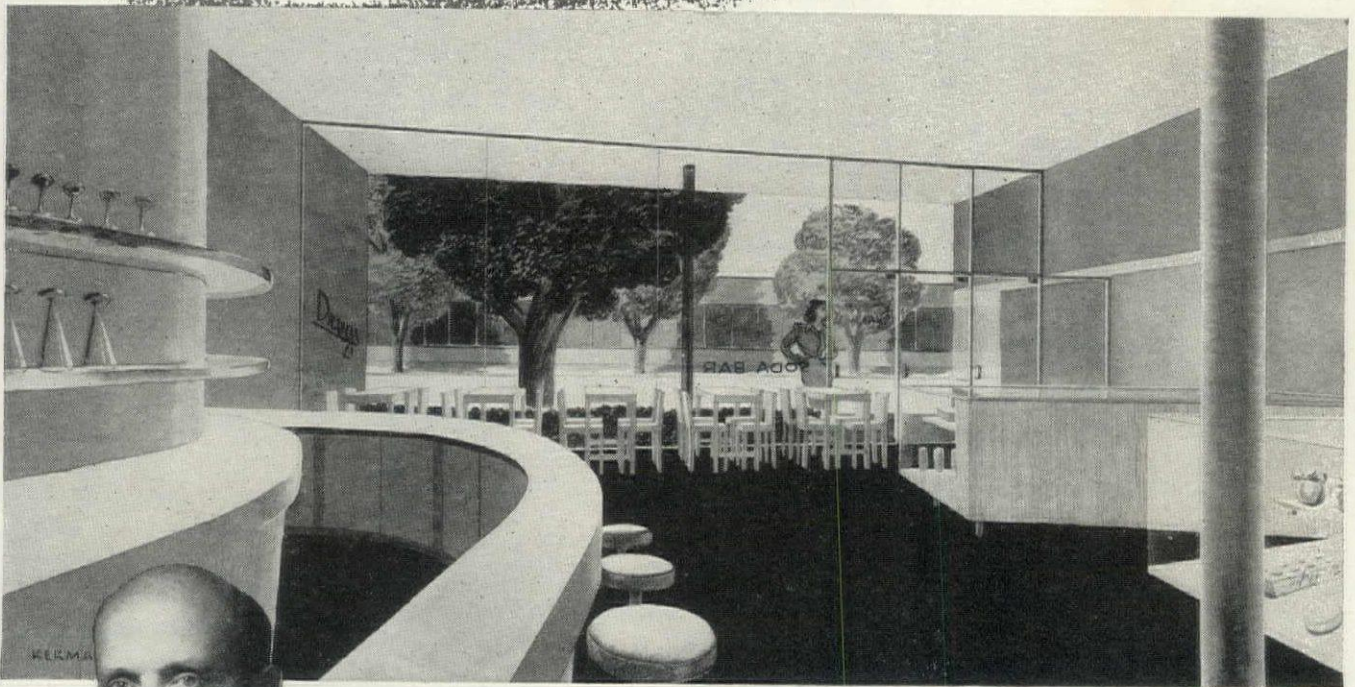
unacknowledged, death-wish. The forgetfulness of these essential biological facts has been partly responsible for the death of most past civilizations."

The London County Council plan, therefore, goes into the ideological wastebasket because it adopts the moderate proposal of moving only a half-million people out of London—actually less, as Mumford points out, than the number who moved out to the city's periphery during the 1930's. Now, few will challenge Mumford's central conviction that London must be replanned as an environment suitable for family living. But he seems to believe that the physical pattern of urban life is solely responsible for the falling birth-rate in both the U. S. and Britain. He makes a more specific assumption, even more open to debate: high density is a principal cause of the falling birth-rate. Thus he regrets that the London County Council planners have paid comparatively little attention to Britishers' often-expressed preference for a single house. No sensible planner would argue for perpetuation of present high urban congestion, but there is considerable doubt that enormous reduction of urban density by planning for the single house will make it very much easier for families to have children. Sweden has demonstrated how the cooperative apartment house actually capitalizes on a fairly high density to make child-care easy and to greatly reduce the burdens of family living. To Mumford, who wants the wife to withdraw from her new role as an earning agent and devote herself to her biological functions, this collective domesticity is a pretty horrible picture. But let us mildly hope that Mumford's ideal environment, designed to respect the needs of the human organism, may have room for respecting the needs of any part of the female population which does not share his conception of its exclusively biological destiny.

These essays, like all of Mumford's work, leave us with a clear notion of exactly all of the things the author thinks is the matter with our present cities and a very unclear notion of what he proposes to take their place. Mumford's vision of the future lacks both the clarity and the conviction of Frank Lloyd Wright's. This is not only because Mumford's method of biological analysis seems to exclude every other force—political, economic, mechanical—that is now shaping our society. It is also because Mumford himself, busy compiling, sorting and synthesizing the facts of yesterday, never seems quite to make up his own mind about today and tomorrow. Somehow, the prophet needs to court our approval with a display of erudition and to win his freedom to have an opinion with an oversized amount of historical documentation.

But to carp at Mumford, as many do, because he fails to provide an operational blueprint is to misunderstand his role in the social scheme. It is not reasonable to expect Gabriel to sit down and wrestle with the tax assessments and, certainly, society will always have plenty of room for Gabriels. In a period when almost every social force conspires to undermine man's own confidence in his importance as a human being, Mumford's affirmation of the individual is desperately needed. "We must re-assert the primacy of the person," says the prophet of urban renewal, and we can respect the challenge, even as we recognize that subsidies for families (suggested in the London plan essay) are not an adequate answer. Let us, by all means, affirm with Mumford the dignity of man, but let us also remember that it has always been difficult for hungry men to comprehend their essential worth and dignity.

THERE IS A NEW TREND IN STORE DESIGN



SMITH, HINCHMAN & GRYLLS' conception of a Drug Store

"The modern drug store, designed for dual entrance both from the street and the parking lot at the rear, has a wall surfacing of suede finish Carrara, framing a maximum show window space of Polished Plate Glass. Greater vision is further enhanced by the Herculite Tempered Plate Glass entrance doors. A colorful and decorative note of the interior is a suede finish Carrara soda fountain and back bar with clear glass accessories."

Amedeo Leone

Pittsburgh Plate Glass Company places at the disposal of architects interested in store front and interior work, a complete line of glass products, as well as two distinguished lines of Pittco Store Front Metal. These products have the versatility, adaptability and excellent quality demanded by the new trend in store design. And they are available through a nationwide system of branches and dealers that assures prompt and helpful service.

Pittsburgh Plate Glass Company is urging merchants to plan now for postwar modernization, by advertising in 21 leading retail magazines. This advertising recommends strongly the retention of an architect on all store planning.

"PITTSBURGH"

stands for Quality Glass and Paint



PITTSBURGH PLATE GLASS COMPANY

PRODUCTS FOR STORE FRONTS AND INTERIORS



A 44-page book of ideas, styles, techniques, and materials for building or modernizing retail stores—for the exclusive use of architects and designers. Mail the coupon for your free copy of "There is a New Trend in Store Design." It will be sent to you without obligation.

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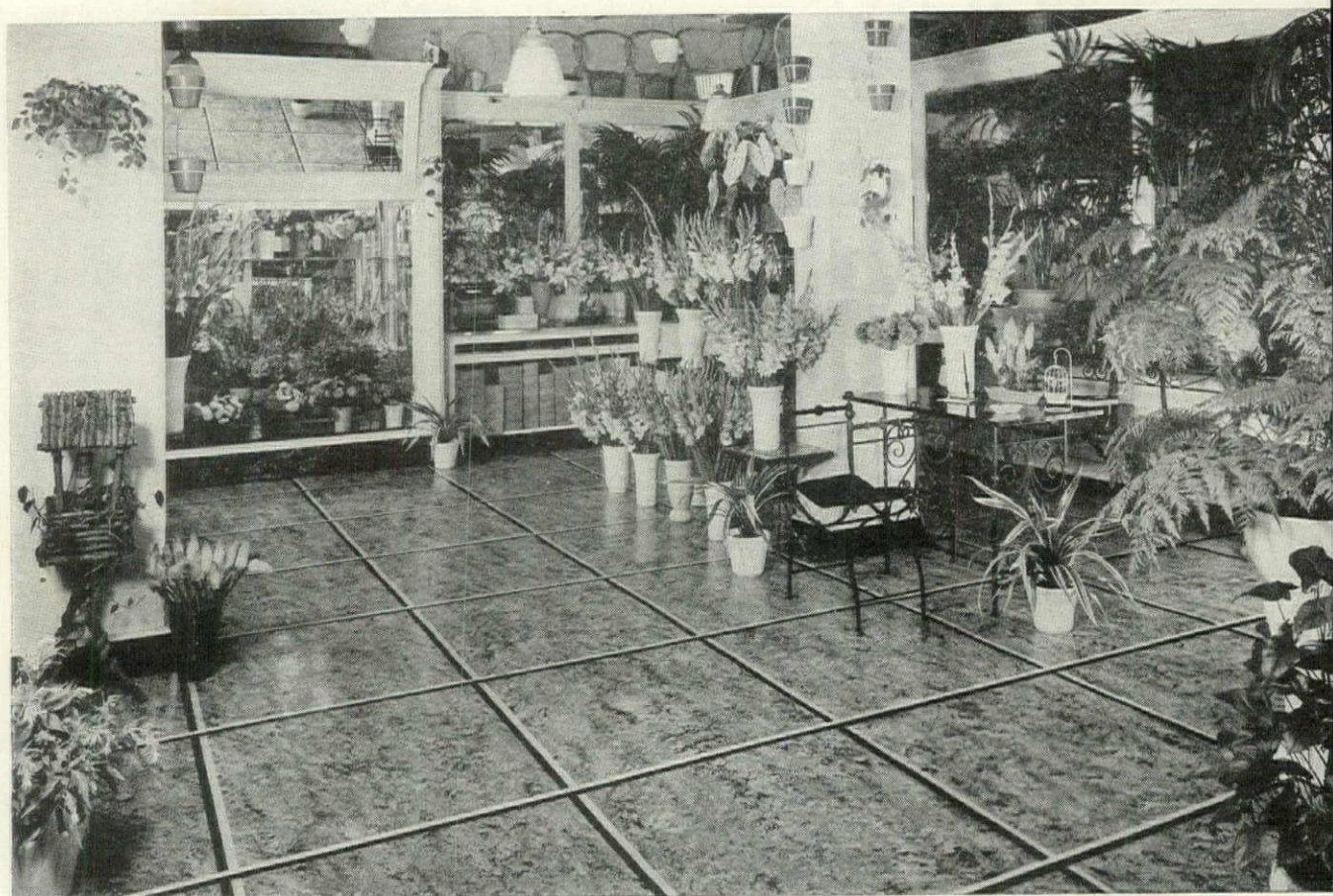
Please send me, without obligation, a free copy of the book, "There is a New Trend in Store Design."

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Floors of Nairn Linoleum create an atmosphere of smartness and efficiency... provide an effective background in this flower shop.



for small retail shops...

or great department stores...

When the "musts" for a floor are appearance, resilience, durability, ease-of-maintenance—Nairn Linoleum—the quality linoleum—rates AAA-1. Nairn's colorful patterns afford the store architect or designer unique opportunities for decorative effects. The well-proved wearing qualities of Nairn Linoleum insure long, trouble-free service, with a minimum of maintenance. In great department stores, small shops—retail establishments of every type—

Nairn Linoleum is daily proving itself the outstanding floor of tomorrow's new construction and remodeling. A handbook on linoleum specifications has been prepared for your use. May we send you a copy?

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the "No. 1" floor is...

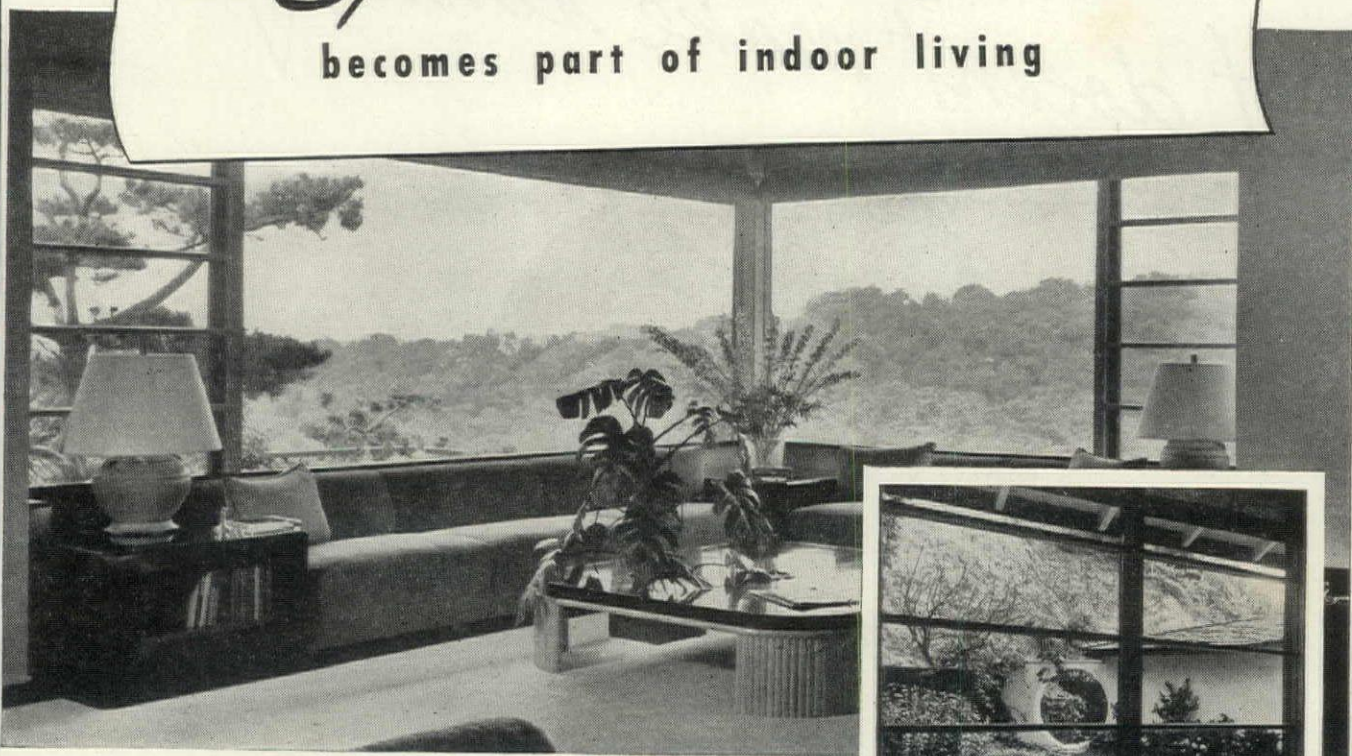
NAIRN LINOLEUM



easy to maintain,

colorful, permanent, resilient

THE *Spaciousness* OF THE *Outdoors* becomes part of indoor living



California house by Architect Burton Schutt, A.I.A. of Bel Air, Calif. Polished Plate Glass and Thermopane, the new double-glass insulating unit, were used in this attractive home.

A feeling of spaciousness depends, perhaps, more on what the eye sees than on the actual size of the room.

A wall of glass lets the eyes roam. The room takes on the light, broad feel of the outdoors, is opened up to the beauty of gardens, flowers and views.

Designers of all types of houses are counting on *Daylight Engineering* to make rooms brighter, more livable...rooms flooded with healthful, cheerful, eye-saving daylight. And they're counting on *Daylight Engineering* to win a quicker "yes" from prospects, and greater satisfaction from home owners.

When you open up the walls with glass, you can provide extra comfort and heat saving by using Thermopane—the L·O·F windowpane that insulates. It's a worth-while feature to include in the houses you design or build.

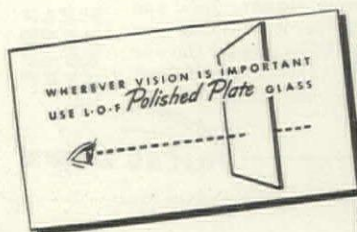
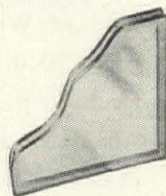
The benefits of Thermopane are described briefly at right. For full information, write for our illustrated Thermopane Book and for Data Sheets by Don Graf. Libbey-Owens-Ford Glass Company, 1575 Nicholas Building, Toledo 3, Ohio.

Thermopane...

the windowpane that insulates, makes big windows practical in any climate

Thermopane provides effective insulation because a layer of dehydrated air is hermetically sealed between its two panes of glass. Thanks to the patented Bondermetic Seal, used to prevent dirt and moisture infiltration, there are only two glass surfaces to clean.

This double-glass windowpane fits into a modified sash, just like a single pane of regular glass... stays in all year. It's the modern, practical way to provide the benefits of bigger windows, with assurance of winter comfort and heating economy. Available in Canada.



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

It doesn't make sense, folks



A man's a fool to go around with his pants pocket burning with extra folding money when he ought to buy an extra Bond, because that loose lettuce is the stuff inflation is made of. When that extra dough goes hunting for civilian goods (that are as hard to find as Crosby in a tuxedo!), it tends to push up prices. Besides, it doesn't make sense when twelve million kids are fighting our battle for any of us to hike up the cost of living by buying anything we can live without.

Bob Hope

ONE PERSON CAN START IT!

You give inflation a boost . . .

- when you buy anything you can do without
- when you buy above ceiling or without giving up stamps (Black Market!)
- when you ask more money for your services or the goods you sell.

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.

**HELP
US
KEEP**

PRICES DOWN

A United States War message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.

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for low-cost Homes



FITZGIBBONS WARM AIR FURNACE 80 FWA

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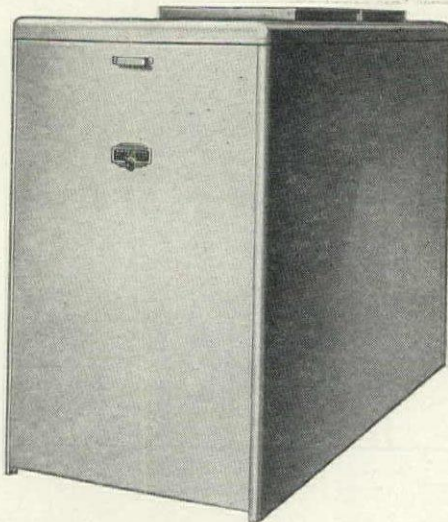
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FITZGIBBONS 65-80-100-DA CONDITIONER

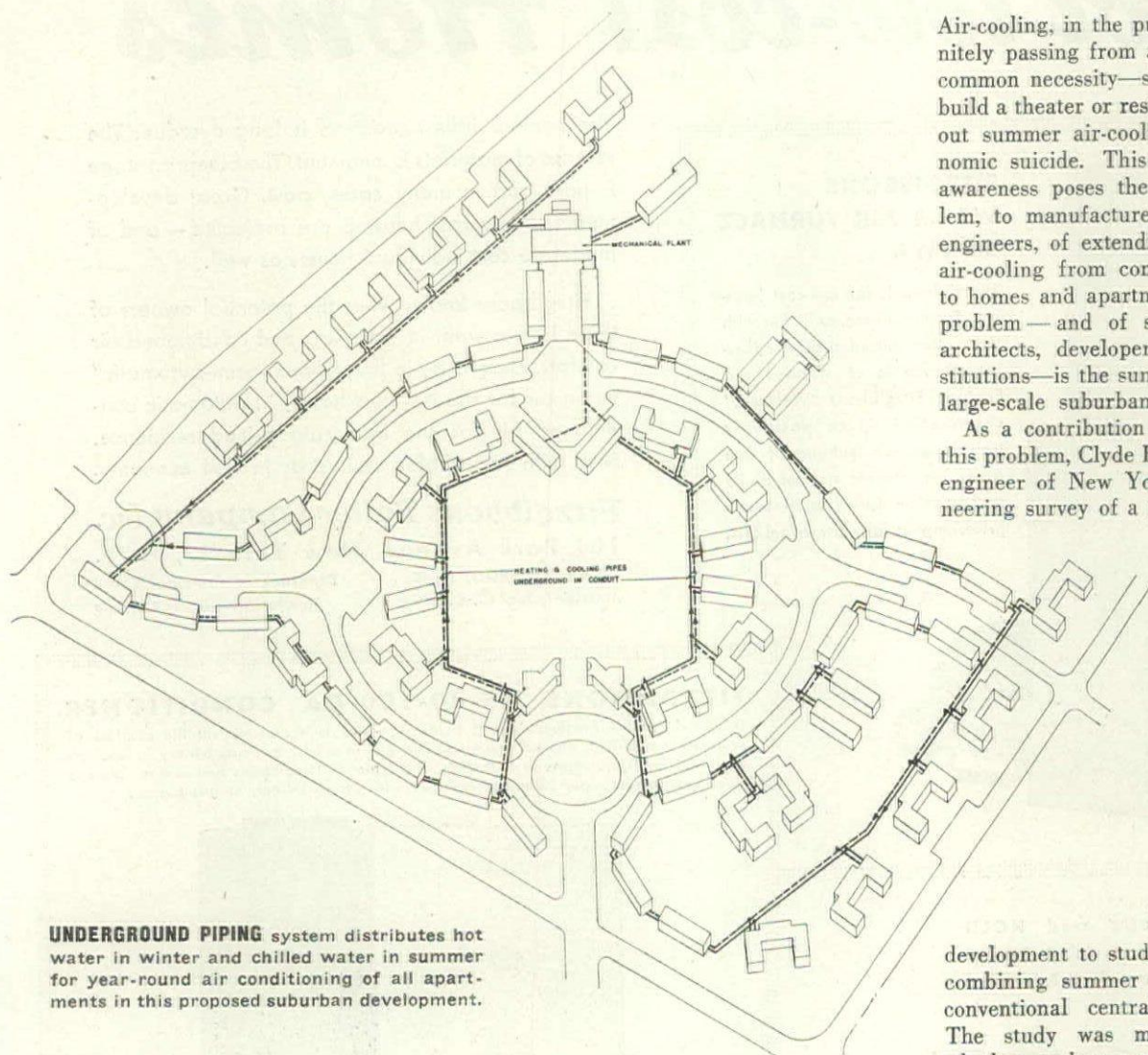
Designed for the moderate-priced home in which is demanded all the comfort of warmed, humidified, filtered and circulated air, in a unit that has beauty in appearance and finish, quietness in operation, and typically Fitzgibbons fuel saving. Welded steel construction, easy cleaning, operates with an oil burner, or gas burner.



YOU CAN'T GO WRONG WITH A
FITZGIBBONS

PRODUCTS AND PRACTICE

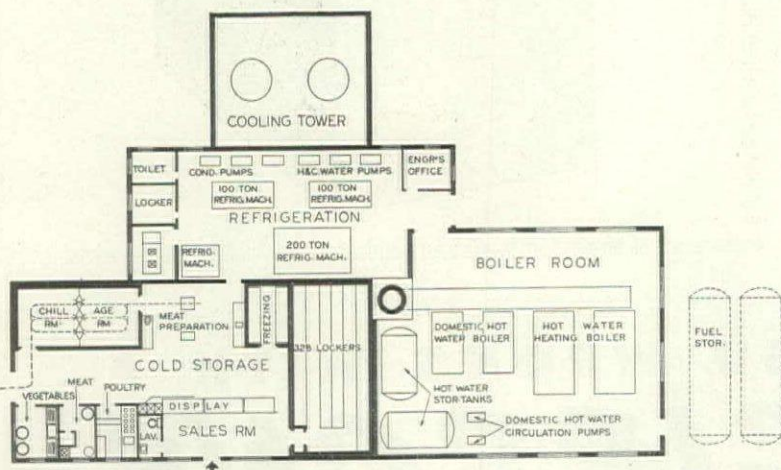
COMBINED HEATING AND COOLING may make summer air conditioning practicable in large projects.



UNDERGROUND PIPING system distributes hot water in winter and chilled water in summer for year-round air conditioning of all apartments in this proposed suburban development.

Air-cooling, in the public mind, is definitely passing from a luxury item to a common necessity—so much so that to build a theater or restaurant today without summer air-cooling would be economic suicide. This increasing public awareness poses the mechanical problem, to manufacturers and ventilating engineers, of extending the benefits of air-cooling from commercial buildings to homes and apartments. Part of this problem—and of special interest to architects, developers and lending institutions—is the summer air-cooling of large-scale suburban housing projects.

As a contribution to the solution of this problem, Clyde R. Place, consulting engineer of New York, made an engineering survey of a proposed suburban



CENTRAL PLANT provides equipment for hot water heating, domestic hot water supply and water cooling. Also included is a rent producing area for tenants' cold storage lockers and facilities for meat and vegetable preparation.

development to study the possibility of combining summer air-cooling with a conventional central heating system. The study was made to determine whether such a combined system was practical and low enough in cost to be attractive to investors and developers. Basis of the idea is an attempt to utilize the dormant heating system in summer months. Hot water is circulated in the winter and chilled water in the summer through the same distribution system.

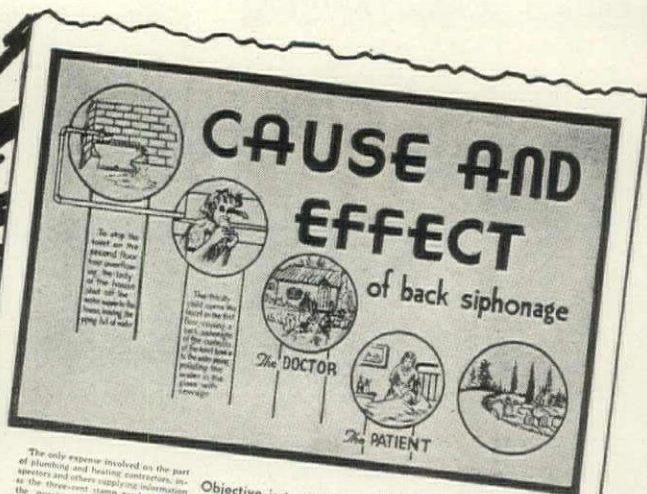
The guinea pig selected for the study was a suburban development designed for the FORUM (April, '44) by Leonard Schultze and Associates of New York City. Each apartment in the development has an automatically controlled forced air circulating system, for both heating and cooling. The boiler and refrigeration plant are housed in a separate building. Included in the mechanical plant is an income producing area for individual freezing lockers.

Estimated yearly cost pro-rated to air-
(Continued on page 176)

STRIKE AT

INFANTILE PARALYSIS

**TRACED TO
"HANDYMAN"
PLUMBING**



The only expense involved on the part of plumbing and heating contractors, as the three-cent stamp needed to mail the questionnaire form is committed tabulating the questionnaires and all work of correspondence has been purchased by industry members without

Objective is to obtain one thousand filled-in questionnaires this year

the public committee, is to accumulate the greatest possible amount of information (Continued on Page 5)

In evaluating future benefits, it is important to realize that only one year's the questionnaire received in 1942 in the cases that have occurred. Nevertheless, the questionnaire already received have been sufficient to build a strong preliminary framework of evidence to be filled in by later results.

Finally plumbing sanitation has been discovered in connection with a great

proportion of the cases. Sewage backed up into basements has been noted in a large number of cases. Rural sewage disposal and improperly protected swimming pools in cities. Entire epidemics have been traced to poor sanitary conditions at picnics, summer camps, circuses, and other domestic gatherings. Previous articles in these points, and more will be analyzed here and in succeeding editions.

The important thing now, according to

Health protection—from the standpoint of plumbing sanitation—is obtained when human wastes and polluted water are kept separate from water that is to be drunk or used for cooking or bathing. This appears to be a simple enough objective, but it is not. Point 1 is that potable water and polluted water both are present in every plumbing system which will draw water from the polluted water itself from drain lines in pure water lines, unless proper protection is provided. Photo above, illustrating how polluted water from a water closet can be drawn into the drinking water supply, is a display by Lehigh Valley Supply Co., Allentown, Pa.

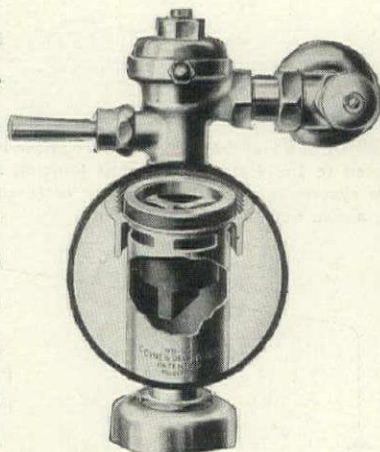
Above reprinted from DOMESTIC ENGINEERING whose campaign against POLIO is a recognized important public service.

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WATERBORNE EPIDEMICS WITH DELANY No. 50 VACUUM BREAKER

If health protection is the only yardstick in determining the Vacuum Breakers you plan to specify, sell or install, then the Delany No. 50 is a MUST. It is self-policing—will function for years. Will prevent back-siphonage, even though the unit is mischievously or maliciously sabotaged. The No. 50 is unobtrusive—almost invisible. Fits any make flush valve, or other jet type unit such as washing machines, etc. FULLY APPROVED by U. S. Bureau of Standards, States and Municipalities.



Send for complete information, and interesting comments, reports and tests made by recognized sanitation authorities.



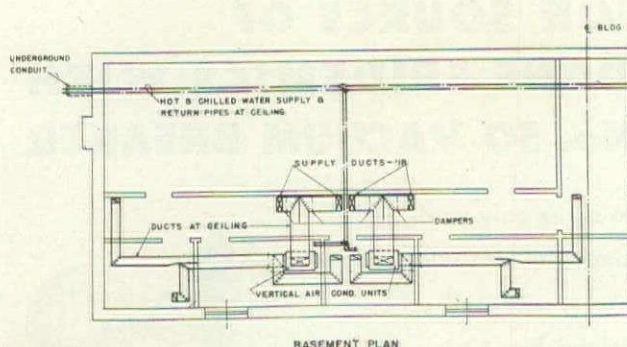
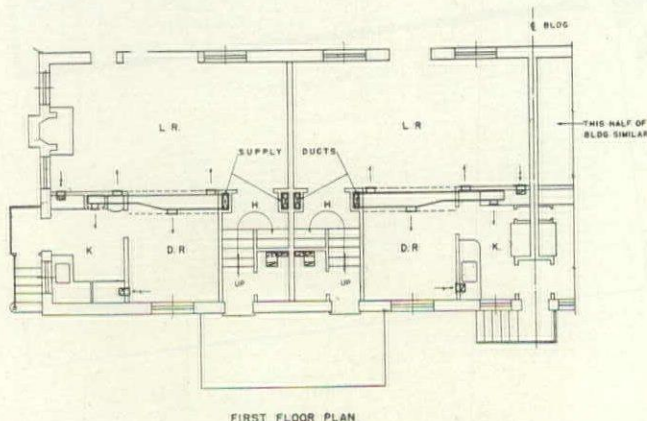
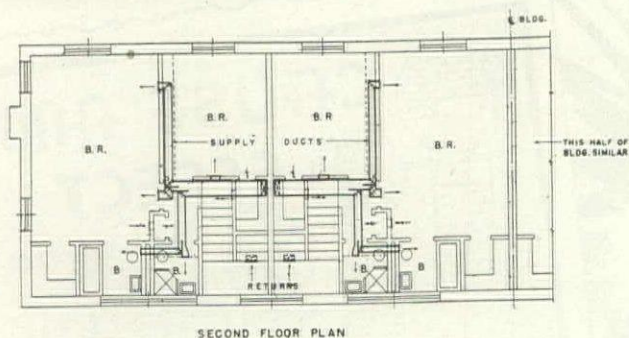
Stop all back-siphonage into the water lines through the use of the No. 50! All submerged inlets, flush valves in particular, that have jets must be equipped with an approved vacuum breaker in a large number of the country's municipalities.

The universal adoption of the vacuum breaker will do more to stop the spread of waterborne germs and epidemics such as typhus, polio, etc., than any other method of protection.

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Coyne & Delany Co.

BROOKLYN N.Y.



FLOOR PLANS of bar shaped unit show pipe mains in basement connected to individual apartment heating and cooling units. Distribution system is recirculating type with supply and return ducts carrying air to both floors of dwelling.

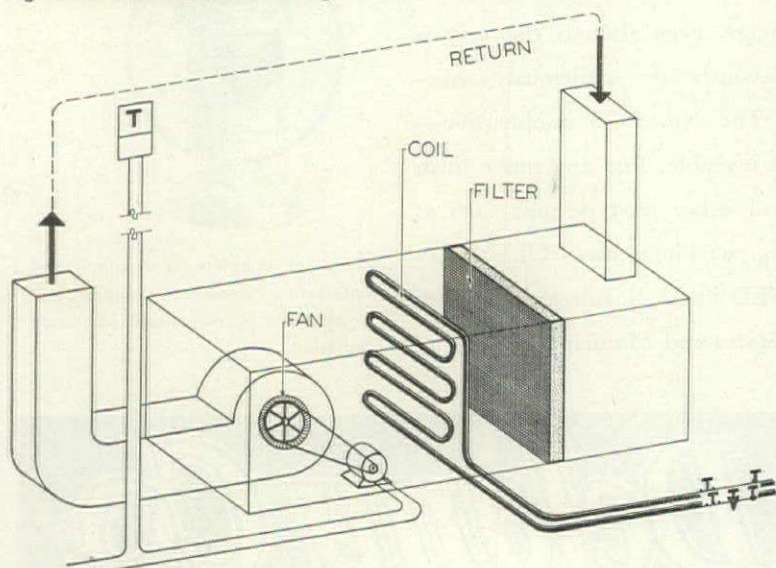


DIAGRAM of apartment heating and cooling unit. Pipes from coil connect to underground supply and return mains. Warmed or cooled air is circulated through apartment duct system by fan operated by thermostatic control.

cooling for the 328 separate apartments is \$22,600. Summer air-cooling per room per season amounts to \$15.30. For a four room apartment it would add up to \$61.20 for the cooling season or spread over a period of twelve months an addition of \$5.10 to each month's rent.

The low operating cost per room for the cooling service indicated by these figures does not include power for the circulating fan which would be included in the tenant's monthly electric service charges. The calculated cost is further reduced by furnishing cool air to the first floor only of a duplex apartment in the daytime and to the second floor at night. This operation would be left to the tenant's control as no provision is made to operate the dampers from a central point. However, no tenant can use more than his allotted share of the fixed amount of chilled water delivered to each apartment. Another debatable limitation is the fact that no automatic fresh air intake is provided in the apartment system. Air change is left to the assumed infiltration at doors and windows of five cubic feet per person per minute. A tenant may, however, increase the fresh air supply by opening a window. Discounting minor limitations the scheme furnishes cool air at a low price and should be given serious consideration as insurance against the predicted improvements in future buildings and also as an attraction in a competitive rental market.

THE PROJECT

The development consists of 36 bar shaped and 23 U shaped apartment buildings. The bar shaped buildings are two stories high with full basement. Each contains four apartments with a living room, dining room and kitchen on the first floor and two bedrooms and a bath on the second floor.

The U shaped buildings are three stories high, without basement, but with 12 built-in garages. Each contains eight apartments; two having living room, dining room and kitchen on the first floor with three bedrooms and two baths on the second floor; and six apartments consisting of living room, dining alcove, kitchen, bedroom and bath on the same floor.

There is a total of 59 residential building units, comprising 328 separate apartments or 1,479 rooms. The dining alcoves are considered as one-half a room in the summation.

DESIGN BASIS

The design calculations and cost figures are confined to air-cooling, and figures for hot water heating and domestic hot water supply have been omitted.

The design temperatures were taken as those for New York and vicinity

(Continued on page 180)

Whether it's air conditioning or
refrigeration for a business
establishment or for a new home

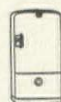
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Refrigeration Cooling
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YOUR dreams of a new home must wait on the future. But if you could see all the thrilling advantages that are being planned by American industry for your postwar home, you'd agree that it's well worth waiting for!

- ● And now that V-E Day belongs to history and part of the battle has been won, you'll feel all the more like buying additional War Bonds, both to speed final Victory and to help finance your new home when you're ready to build it.
- ● The modern techniques of functional de-

sign and compact construction which enabled Defoe to build seven different types of fighting ships for the Navy will be converted to producing quality-built homes in the postwar period.

- ● Defoe will produce homes with advantages of beauty, comfort and livability heretofore unknown in their price range. There will be nothing stereotyped, extreme or fantastic in Defoe homes. They will combine functional convenience with a wide range of individual designs, yet give you all the economies of volume production.

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HOUSING DIVISION - DEFOE SHIPBUILDING COMPANY, BAY CITY, MICH.

BACK THE ATTACK
—BUY WAR BONDS

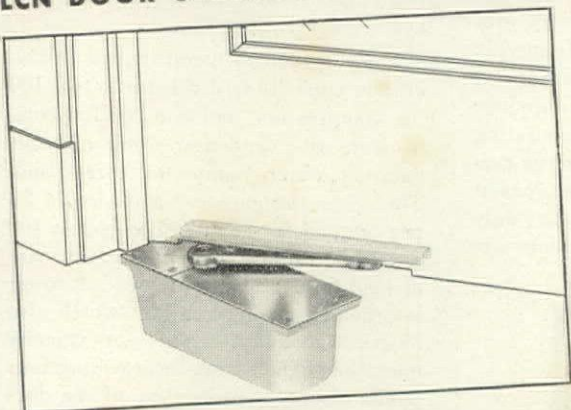


☆☆☆☆☆ Five White Star Renewal Citations now decorate the Navy "E" Award won by Defoe workers.

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SERVANTS FOR PEACE

Library Doors

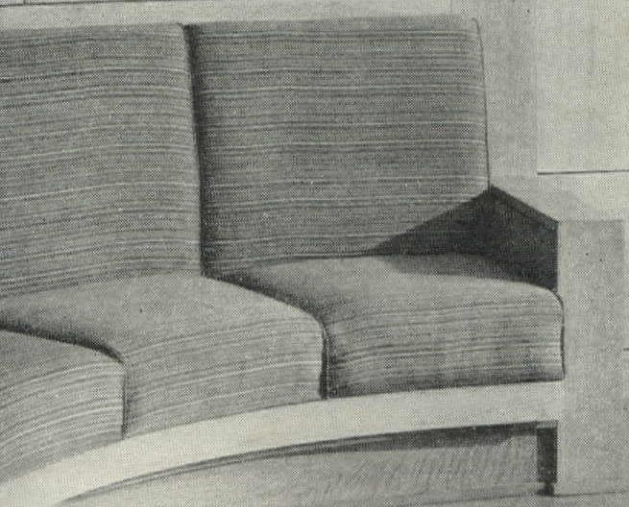
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LCN DOOR CLOSER NO. 4 SPECIFIED



LCN concealed method of door control is usually associated with overhead installation, but floor type LCN closers, as applied to the beautiful Saarinen doors shown, are also noted for finished workmanship, accessibility, long service life.

NORTON LASIER COMPANY • CHICAGO

DOOR  CLOSERS



(Continued from page 176)

as given in the A.S.H. & V.E. Guide, namely, to maintain inside conditions of 80° (dry bulb) and 50 per cent relative humidity when the outside conditions do not exceed 95° (dry bulb), and 75° (wet bulb) in the summer, and to maintain 70° inside with an outside temperature of 0° in winter. As mentioned above, to save refrigeration equipment it was assumed that the apartments having two stories would be cooled on the first story only during the day, and

on the second story only during the night.

In the absence of controlled data on the length of time the refrigeration equipment would be required to operate, an arbitrary figure of 1,500 hours per season at 50 per cent capacity was assumed. The actual figure will vary with the geographical location and from year to year, but this is a good average. A 25 per cent variation would produce little difference in the yearly operating cost since the total electrical energy consumed by the refrigeration equipment (plant operation) amounts to only \$6,000 per year or \$0.34 per room per month.

CENTRAL PLANT

The central mechanical plant contains the boilers, refrigeration machinery and pumps. To supply the 328 apartments in the development an approximate total of 600 boiler hp. and 400 tons of refrigeration would be required for the heating and cooling loads.

For economical operation, the refrigeration capacity is divided into two 100 ton compressors, and one 200 ton compressor, with condenser water and circulating water pumps to correspond. This gives the engineer a choice of 25 per cent, 50 per cent, 75 per cent or 100 per cent cooling capacity to take care of load fluctuations. One cooling tower is provided having two fans which give 50 per cent and 100 per cent capacity operation. The saving in providing four points of operation in place of one does not warrant the purchase of the additional equipment involved.

To provide for winter heating, two 300 horsepower steel boilers are needed, fired by burners using heavy fuel oil with storage tanks adjacent to the plant. This arrangement will give a capacity of 50 per cent by the operation of one boiler at a time. Domestic hot water is supplied to the buildings from separate boilers, tanks and underground piping.

Central boiler plants have been considered objectionable due to the high stack, smoke and dirt. The modern boiler plant need not be objectionable since the installation of induced draft fans eliminates the need of high stacks and the proper automatic control of the boilers and accessories should prevent the discharge of smoke and unburned fuel into the air.

UNDERGROUND PIPING

From the central plant a series of supply and return mains services all units. The mains are installed in underground conduit protected against corrosion and insulated so that the temperature of water in the pipes will not be affected materially by weather conditions.

In designing underground piping systems serious consideration must be given to the type of conduit in which the piping is to be enclosed. Soil conditions, water table, rock and other factors determine the selection. Care must be exercised in the design and location of anchors and expansion fittings for the long runs of piping.

A reversed return system is used for the flow of water in the two main circuits. That is, the building in each circuit nearest the mechanical plant on the supply side of the main has the shortest supply main but the longest return main. The return main parallels the supply main with the water flowing in the same

(Continued on page 184)

WHY WE SAY

"Spot" Ventilation means Blo-Fan

Installed in the ceiling — *directly over the source* of unwanted air — the Blo-Fan is twice as effective as an ordinary side-wall fan of similar size across the room.

The Blo-Fan is a patented combination of breeze fan and blower. It has the volume of the fan plus the power of the blower. It draws up the foul air instantly before it can spread. Greasy cooking vapors, bath and laundry steam, gameroom smoke and liquor fumes are carried out of the room and out of the house at the touch of a switch.

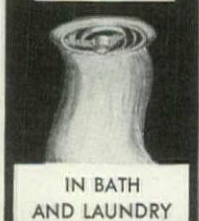
Walls and furnishings are kept clean longer. There are no tattle-tale odors caught in cross drafts and carried into other rooms.

Blo-Fan specifications mean savings in cleaning and decorating bills — greater client satisfaction.

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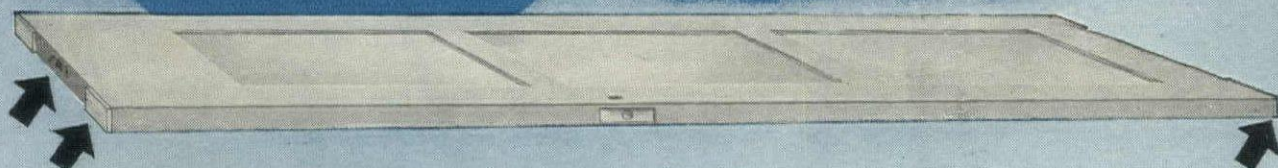


Standard Suggestions for Douglas Fir

FACTRI-FIT DOORS

Easy to Specify . . . Made to Fit Standard Hardware . . . They Mean a Better Installation Job!

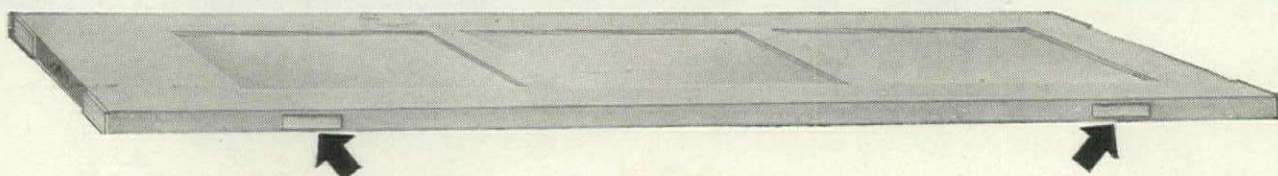
- ★ Precision-made to standard specifications.
- ★ Less danger of marring and "butcher-ing".
- ★ Prefit . . . scuff-stripped . . . grade-marked.
- ★ Basic 3-panel designs adaptable to every job.
- ★ Available for essential jobs today . . . for ALL building when war restrictions are lifted.



FACTRI-FIT sizes: Doors prefit to exact net book standard stock sizes listed in the U. S. Commercial Standard 73-43. This means,

for instance that a 2'8" x 6'8" 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 equi-distance 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 other 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.

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Tacoma 2, Washington

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NATURE MAKES
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Durable!

Durable Douglas Fir Doors are made from all-heart-wood, vertical-grain, soft, old-growth Douglas Fir.

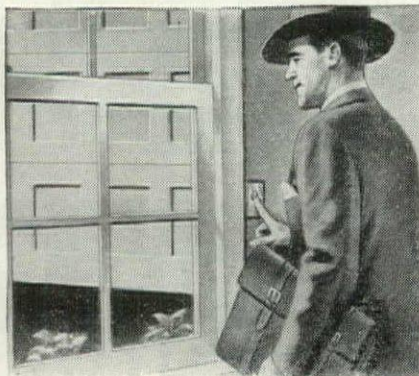
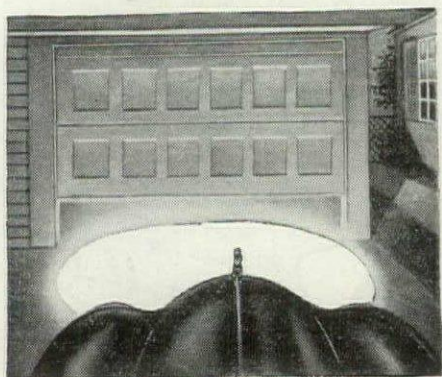
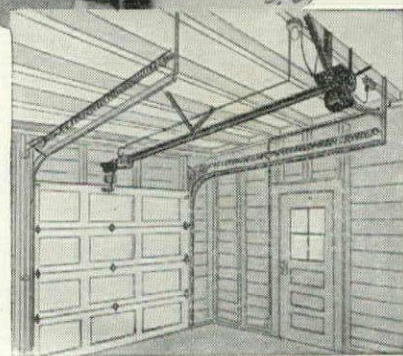
THE NATIONAL ASSOCIATION OF FIR DOOR MANUFACTURERS

"Why not start by getting one for YOURSELF?..."



"ONCE you ... and your Missus! ... get to know the comfort, convenience, and even safety of an AVCO Automatic Door Operator on your own garage you'll very quickly see how much *extra* appeal it can give to homes you plan or build for sale! ..."

ARCHITECTS AND BUILDERS have been quick to see the advantages of this new device. It costs relatively little and adds an instant *extra* appeal for house-buying prospects. We will gladly send you full details upon request.



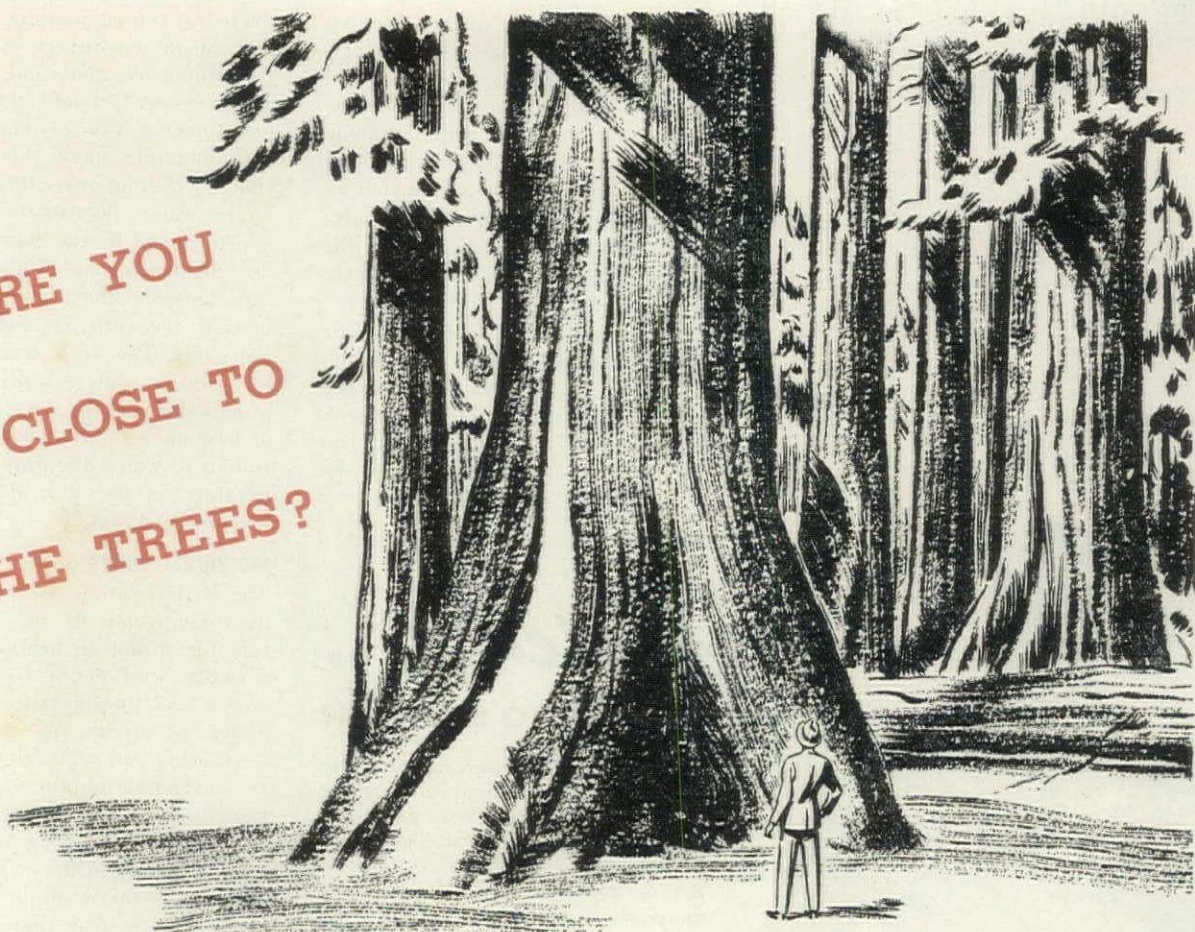
SIMPLE IN DESIGN and easily installed, the AVCO Automatic Door Operator applies to any type garage door. You control it by two buttons ... one in your car and one in your house.

BY PRESSING THESE BUTTONS, you open or close and lock your garage automatically. At the same time you turn its lights on or off. Yard flood lights and house entrance lights can be controlled as an optional extra. At all hours and in all weather, the AVCO Automatic Door Operator turns a daily nuisance practically into a pleasure!

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THE TREES?



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IT'S A BUDGET BALANCER!—Because of its low cost, Reading Barley is helping many users keep within budget limitations. Savings of 12 to 15% are frequently reported.

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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 Size.

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

NAME

STREET NO.

CITY STATE.....

(Continued from page 180)

direction in both mains, returning to the mechanical plant from the last building for re-heating or re-cooling.

This should result in approximately equal pressures at the take-off points to each building, with a minimum of adjustments required to balance the water flow. However, the different distances away from the mains, and different heating and cooling loads for the two types of buildings make it necessary to have some means of adjusting the amount of

water flowing to each air conditioning unit. Therefore, it is necessary to provide a test tee in each supply and return connection to each air conditioning unit for manometer and thermometer readings, and a plug cock in the supply pipe to regulate the amount of water flowing to each unit. A gate valve is provided in each line to shut off the water to the coils in order to install the testing instruments.

After the water flow to all of the air conditioning units has been properly adjusted, the plug cocks are locked in position and the test tees plugged. The engineer in the central plant can vary the temperature of the water de-

livered to the mains in accordance with the outside conditions of temperature, solar intensity, and wind velocity. This prevents any tenant from setting his thermometer at an extreme temperature and obtaining more than his allotted share of heating or cooling.

The water quantity to be circulated is determined by the maximum summer heat load using an 8° rise in temperature between the water entering and leaving the different air conditioning unit coils. The same quantity of water is used in winter, utilizing the same pumps, but due to the greater number of heat units to be added to the air per volume of water, the drop in water temperature in the individual unit coils, amounts to about 29°.

INDIVIDUAL UNITS

The basic heating equipment for each apartment consists of a conventional type forced hot air heating unit, having a heating coil, motor driven fan, filters, casing and thermostatic control with a system of supply and return ducts for circulating and recirculating the air between the unit and the rooms. The additional equipment necessary to make it function as a cooling system consists of extra capacity in the coil, a small addition to the thermostatic control system and an increase in the sizes of the distributing ducts. The latter is necessary because a larger amount of air is needed in the summer than in the winter.

Duct runs have been kept as short and straight as possible for efficient operation. The outside connection for fresh air was omitted and the system relies entirely on the leakage through doors and windows. This was done because of the danger of freezing the coil during the winter if the intake were left in an open position from summer use. Accepted standards for fresh air per person vary from the old figure of 30 cu. ft. per minute to the wartime standard of 5 cu. ft. per minute. Leakage through windows on an average hot summer day would probably approximate the lower of these figures. If desired, a window could be opened part way to increase the amount.

CONTROLS

The apartment thermostat is arranged to give the tenant three positions of control, "summer," "winter" and "off." When turned to summer, the thermostat starts the fan when the room temperature rises above its setting, thus causing cool air to be circulated to various rooms. When turned to "winter," the thermostat starts the fan when the room temperature falls below its setting, causing warm air to be circulated in the ducts. In actual practice, it probably will be satisfactory to leave the thermostat set at about 72° both in summer and

(Continued on page 188)

Experience...

ANOTHER LEG TO STAND ON

Two of the most perplexing problems facing architects and engineers making elevator and dumb waiter plans for postwar buildings are—first, "what can I do to keep my clients' costs down despite the high cost of labor and materials?" And second, "how can I plan to maintain high operating efficiency while reducing costs?"

Part of the answer might be found in the economy and efficiency of Sedgwick elevators and dumb waiters—in the skill and knowledge of Sedgwick engineers—and in Sedgwick's manufacturing "know how."

For more than 50 years Sedgwick has designed, manufactured and installed freight and passenger elevators—electric and hand power—for factories, hotels, hospitals, schools, stores, churches, restaurants, libraries, private residences, and institutional and public buildings.

This experience, plus the lessons learned designing and manufacturing freight, passenger and airplane elevators for the Army, Navy, Coast Guard and Merchant Marine, can be put to work for you . . . helping you solve cost reduction problems, through more efficient movement of men, material and merchandise.

If your postwar plans are stymied by vertical transportation problems—tell us about them. Our engineers will be happy to help work out the solution and show you how Sedgwick electric and hand power elevators and dumb waiters reduce costs by increasing "man" handling and materials handling efficiency.

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Good air conditioning is *not* hokus-pokus! It can only be the result of *correctly engineered equipment* correctly applied!

From the beginning, Westinghouse has worked singularly on this one principle. For any installation, regardless of size or purpose, is only as *right* as the engineering behind the equipment that performs the magic of *correctly* conditioning the air.

By *correct* air conditioning Westinghouse means the scientific blending of desired temperature, humidity, circulation, ventilation and air cleanliness.

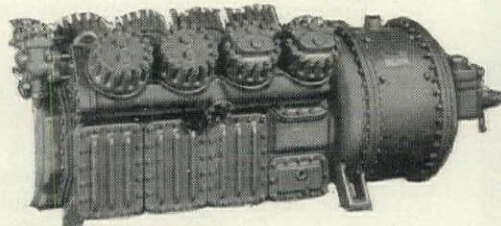
Consider these advantages: First, an air conditioning plant which will provide exactly the conditioned air you want to "live" with. Second, an installation which can be depended upon to give continued trouble-free and economical service. Third, correctly engineered equipment resulting from Westinghouse know-how.

If you're thinking about air conditioning, write for your copy of "How to Plan Correct Air Conditioning." Call your nearest Westinghouse Office, or write Westinghouse Electric Corporation, 150 Pacific Avenue, Jersey City 4, New Jersey.

CURRENT
WESTINGHOUSE
ADVERTISING
IS DESIGNED
TO SELL
YOUR AIR
CONDITIONING
KNOW-HOW

The Heart of Correct Air Conditioning WESTINGHOUSE HERMETICALLY SEALED COMPRESSOR

The entire mechanism of the Westinghouse Hermetically Sealed Compressor—including its motor—is sealed gas-tight. This feature means sealed-in power and sealed-out trouble... has been service-proved in thousands of Westinghouse installations. Compact and lightweight for easy installation. Low operating costs.



Westinghouse presents John Charles Thomas—Sunday, 2:30 E.W.T., N.B.C. Tune in Ted Malone, Monday through Friday, 11:45 A.M., E.W.T., Blue Network.

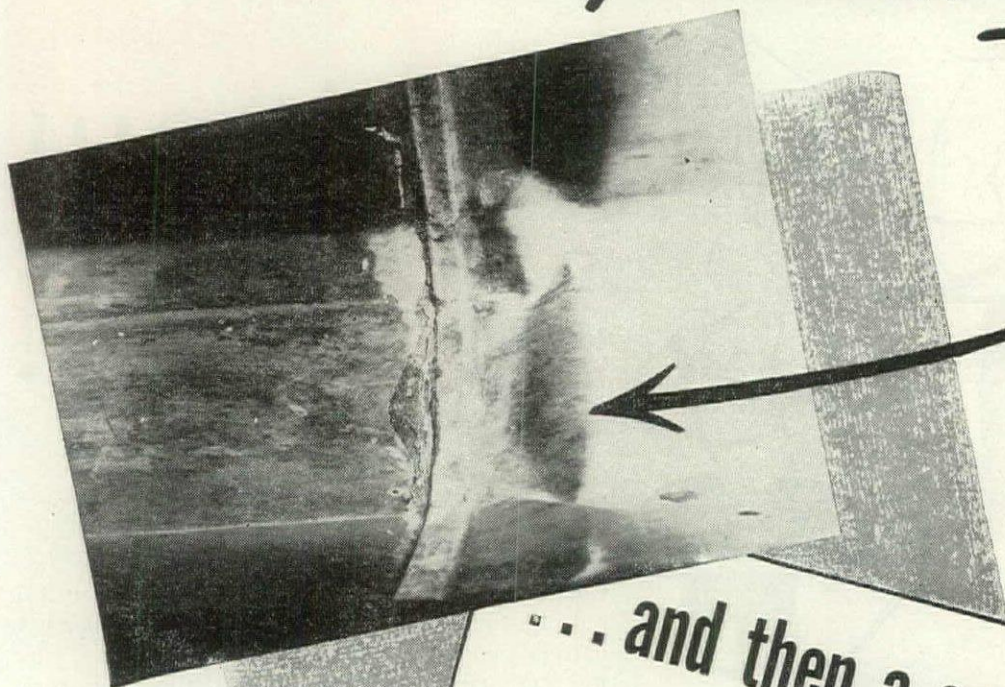
Westinghouse

PLANTS IN 25 CITIES OFFICES EVERYWHERE

CORRECT

Air Conditioning

*Correct design
will prevent this*



*... and then a copper gutter
can last
for generations*

WHEN a copper gutter failed, in the past, nobody seemed to know the real reason. Revere determined to get to the root of this matter . . . on behalf of sheet metal contractors, architects, and the copper industry itself.

Revere research soon showed that a typical failure starts in the way illustrated above. The metal gutter buckles locally; sometimes the soldered lockseam is sheared. This may be caused by expansion and contraction of the copper with changing temperatures, or by some movement of the building.

The way to prevent such effects, it was found, is to engineer into the gutter enough columnar strength so that buckling is eliminated, and to make certain the shear strength of the joints is fully adequate.

From such facts Revere has worked out new and simple methods that reduce sheet

copper construction to a matter of engineering design. These will be described and illustrated in a 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 in difficult problems, call on the Revere Technical Advisory Service, Architectural.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

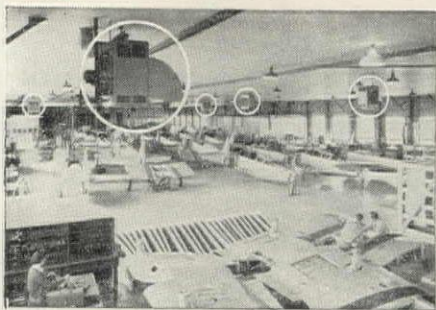
Executive Offices: 230 Park Avenue, N. Y. 17, N. Y.



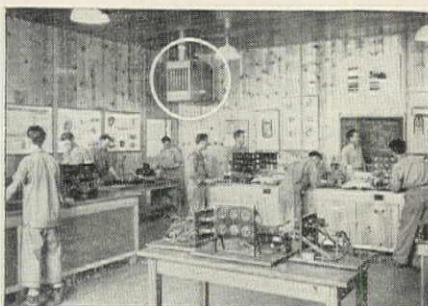
to The Human Adventure on the Mutual Network every Wednesday evening, 10 to 10:30 p. m., E. W. T.

6 COMMON HEATING PROBLEMS

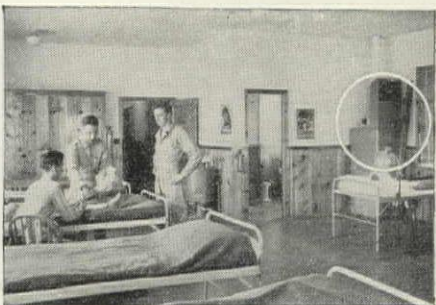
*Solved
at Spartan
by Janitrol*



WORKING COMFORT IN LARGE AIRPLANE OVERHAUL AREA. This final assembly shop is only one of the several large areas heated by a battery of Janitrol Gas-Fired Unit Heaters. Complete employee comfort at low installation and operating cost.



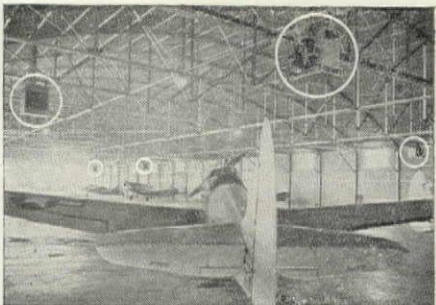
CLOSELY CONTROLLED TEMPERATURE AND CLEANLINESS FOR LABORATORY. Where clean air and constant temperature are required because of delicate instruments, Janitrol fills the bill. Janitrol automatic controls keep temperature constant.



CLEANLINESS AND WARMTH FOR INFIRMARY. The sick require the comfort of even temperature. That's why they appreciate Janitrol. No drafts, overshooting, nor lagging temperatures with the Janitrol Floor-Type Air Conditioner.



CONSTANT TEMPERATURE FOR STOREROOM. Whatever the optimum temperature for goods in storage, Janitrol can be depended upon to maintain it exactly. And thorough circulation of air means no damaging hot spots or cold corners.



BIG HEATING CAPACITY FOR HANGARS. Huge open hangar doors let in tremendous volumes of cold air. Large expanse of sheet metal wall and roof lose much heat by conduction. Answer: Janitrol for big volume, low cost gas heat to meet peak demands or continuous requirements.



HEATING COMFORT PLUS 'CLASSROOM BEAUTY. Janitrol Gas-Fired Unit Heaters mounted behind the wall circulate steady warmth into every corner of the room. With gas heat there's no dust or soot, to mar walls and decorations.

HERE at Spartan School of Aeronautics, Janitrol has met and solved a wide variety of typical heating problems. Your factory, store, garage, warehouse, or other type of building may not have *all* of these 6 heating requirements. But, whatever your needs may be, you can be sure that the complete Janitrol line includes equipment ideally suited for your purposes.

That's why more and more alert engineers and maintenance men are utilizing Janitrol's *unique flexibility* to meet their heating requirements with quick, economical gas heat *where* they want it . . . *when* they want it. The photographs on this page will give you some idea of the many types of Janitrol Gas-Fired heating equipment . . . suspended Unit Heaters with propeller type fans . . . other models with powerful blowers . . . floor type air conditioners delivering filtered air. For further information, write Surface Combustion Corporation, Toledo 1, Ohio.

Janitrol

**GAS-FIRED
HEATING EQUIPMENT**



Winter Air Conditioner



Gravity Furnace



Conversion Burner



Unit Heater



Boiler



Floor Type Blower Unit

PRODUCTS AND PRACTICE

(Continued from page 184)

winter — just shifting the "summer," "winter" control once each season. During intermediate seasons the tenant is able to turn the control to "off" and open his windows.

COST ANALYSIS

The cost of water distributing piping will be slightly higher than the cost of high pressure steam distributing piping. This is due to the increased size of the piping only, as the excavation and labor

costs will not change materially. However, this increase in cost will be offset by the elimination of pressure reducing valve stations, vacuum pumps and a simpler boiler plant design omitting complicated boiler room piping, feed water heater, feed pumps and suction tanks. The omission of the condensate, vacuum pumps and pressure reducing valve stations means less maintenance throughout the project.

In cost, only those items allocated to the refrigeration and cooling systems are considered. The total additional cost of the cooling system is \$80,000. The yearly operation cost of the system would be \$22,600. The system would

supply 1,479 rooms in the project at a cost per room per cooling season of \$15.30 or \$1.27 per room per month. These figures include the amortization of the cooling equipment over a period of 20 years and also taxes, administration, electrical energy, condensed water, operating labor, repairs and 6 per cent interest on the unreturned investment.

ADDITIONAL COST OF COOLING SYSTEM

Additional plant space	\$10,000
Refrigeration Equipment	60,000
Apartment Air Conditioning Units:	
Extra Coil Surface	\$10
Additional Automatic Control	10
Larger Ducts	10
Per Apartment	\$30
328 Apartments at \$30 each	10,000
Total Extra Cost for Cooling	\$80,000

YEARLY OPERATING COST

Return of Investment based on 20 year life of equipment	\$ 4,000
Average interest at 6% on unreturned investment	2,520
Taxes 2%, plus administration, 4% = \$80,000 x 6%	4,800
Electrical Energy (Ref. Plant) based on 2c/KWH	6,000
Condenser Water Loss	100
Operating Labor	3,600
Repairs	1,580
Total Cost of Operation per Cooling Season	\$22,600

RENT FACTORS

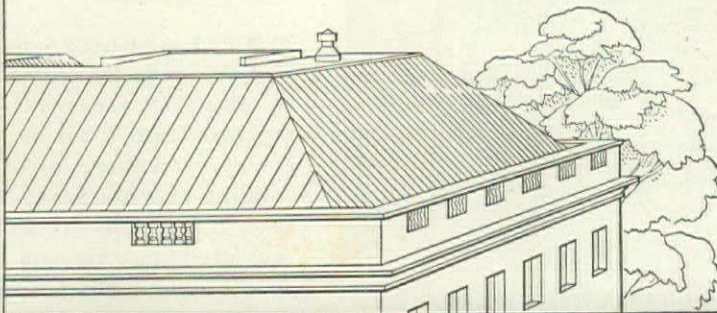
One method of charging for air-cooling services is to make the service optional with the tenant, the other is to include the service in the rent.

By installing a meter on the chilled water line to the apartment cooling unit, the amount of cooling used during a given period can be determined and charged to the tenant. Since the refrigerating equipment and plant must be of sufficient size to accommodate all apartments, fixed charges of operation would remain constant and the cost of cooling per room would constantly vary. Administrative costs of meter reading, bookkeeping and collection would add to the overhead.

The practical solution is to add summer air-cooling to the monthly rent. Each tenant can then control the amount of cooling desired up to the maximum allocated to his apartment. The seasonal air-cooling charge is not excessive when added to the budget of a large development.

Development planners and investors will face the summer air-cooling problem in the near future. A workable compromise to a complete air-cooling installation is the central, circulated hot water heating system designed for the future expansion of an air-cooling service.

Unique Advantages



with

FOLLANSBEE

SEAMLESS Terne Roll Roofing

★ **NO CROSS-SEAMING.** Furnished in 50 and 100 foot *seamless* rolls. Due to the ease of handling and elimination of cross-seaming, substantial savings are effected in the costs of labor and solder.

★ **DISTINCTIVE DESIGNS** can be achieved to enhance the appearance of various structural types—without unsightly cross-seams. A Follansbee Seamless Terne roof can be painted any color to complement the rest of the exterior.

★ **LONG-LIFE, LITTLE MAINTENANCE.** Many of the finest institutional and commercial buildings, as well as residences, are protected with Follansbee terne roofing. Records prove exceptionally long service with remarkably low maintenance costs.

Send For Data And Specification File **A.I.A. 12-C-1**

FOLLANSBEE STEEL CORPORATION

GENERAL OFFICES • PITTSBURGH 30, PA.

Sales Offices—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee.
Sales Agents—Chicago, Indianapolis, St. Louis, Nashville, Houston, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada.
Plants—Follansbee, W.Va., and Toronto, Ohio



ALLOY BLOOMS & BILLETS, SHEETS & STRIP • CLAD METALS
COLD ROLLED CARBON SHEETS & STRIP • POLISHED BLUE SHEETS
ELECTRICAL SHEETS & STRIP • SEAMLESS TERNE ROLL ROOFING



Air Filter QUIZ

1—IS IT ALL METAL?

All-metal filters are effective in preventing passage of fire in the ducts, and resist deterioration.

2—IS THE FILTER CLEANABLE?

Cleanable filters cost more to buy, but are much cheaper in the long run. They can pay for themselves in a year or two.

3—IS IT CONSTRUCTED TO RESIST VIBRATION?

The filter media should be of fixed density throughout. It must not shake down, leaving open spaces that will pass unfiltered air.

4—HAS IT AMPLE DIRT-HOLDING CAPACITY?

Filters that collect dirt on the surface only, need attention much oftener than filters providing a depth of dirt penetration. The latter hold more dirt, and still permit passage of air without undue restriction.

5—WHAT WILL BE THE INTERVAL BETWEEN SERVICING?

Man-hours are precious. Be sure you have enough filter area to provide the maximum operating period before filters need cleaning. To accomplish this, try to keep air velocity at face of filters around 300 feet per minute.

6—IS IT BEST SUITED TO MY PARTICULAR APPLICATION?

Every ventilating job is tailored to your need by your ventilating engineer. He knows that important factors such as size of particles to be collected, initial resistance, over-all efficiency, as well as cost, must be carefully considered for each application. Reliance on his judgment will save you money and assure permanent satisfaction with your air filters.

• • •

You get engineered filtration in every Air-Maze Filter. Whether your interest in filters applies to air conditioning, ventilating, compressors, blowers or engines, remember—"If it uses air—use Air-Maze". Air-Maze Corporation, Cleveland 5, Ohio. Representatives in principal cities. In Canada: Williams & Wilson, Ltd., Montreal, Quebec, Toronto, Windsor; Fleck Bros., Ltd., Vancouver.

IF IT USES AIR... USE

AIR-MAZE

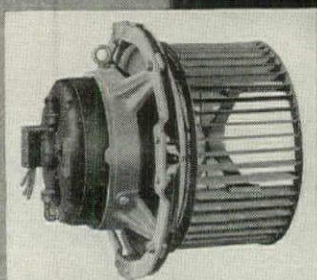
ENGINEERED AIR FILTRATION



- Oil bath type filters and filter-silencers
- Cleanable filter panels for air-borne dirt, oil, grease and liquids
- Oil-wetted type filters and filter-silencers
- Exhaust spark arresters
- Gear case, crankcase and tank vent breathers
- Oil-separators for engine crankcases
- Full-flow type cleanable oil filters

HAVE YOU TRIED ILG

FLOATED DRIVE?



Simple, compact arrangement of ILG direct-connected motor and wheel unit with "Floated Drive".

Motor and Wheel "ride in rubber" for effective, low-cost sound isolation!

Extremely quiet operation is yours with ILG patented "floated drive"! This tried and proved ILG development eliminates metal-to-metal contact, isolates sound and vibration *at point of origin*, prevents noise amplification by fan housing. Four point vertical floating of the weight takes advantage of all three loading factors—compression, tension and shear—providing utmost dampening effect. Motor and wheel are isolated as a single unit. Unbalanced cushioning is impossible. Cost is

low—installation is quick and simple—results are highly satisfactory. Can be mounted at any time on Centrifugal Fans. Write us or call nearby Branch Office (consult classified directory) for complete information.



VITALIZED VENTILATION

AND AIR CONDITIONING

FREE!

88-page book on solutions to ventilating problems.



WANTED: GRADUATE ENGINEERS!

for ILG Branch Offices, Research, Engineering Depts. Exceptional opportunities now and post-war for graduates of accredited technical schools. Send details on education, experience, health, age, marital status.

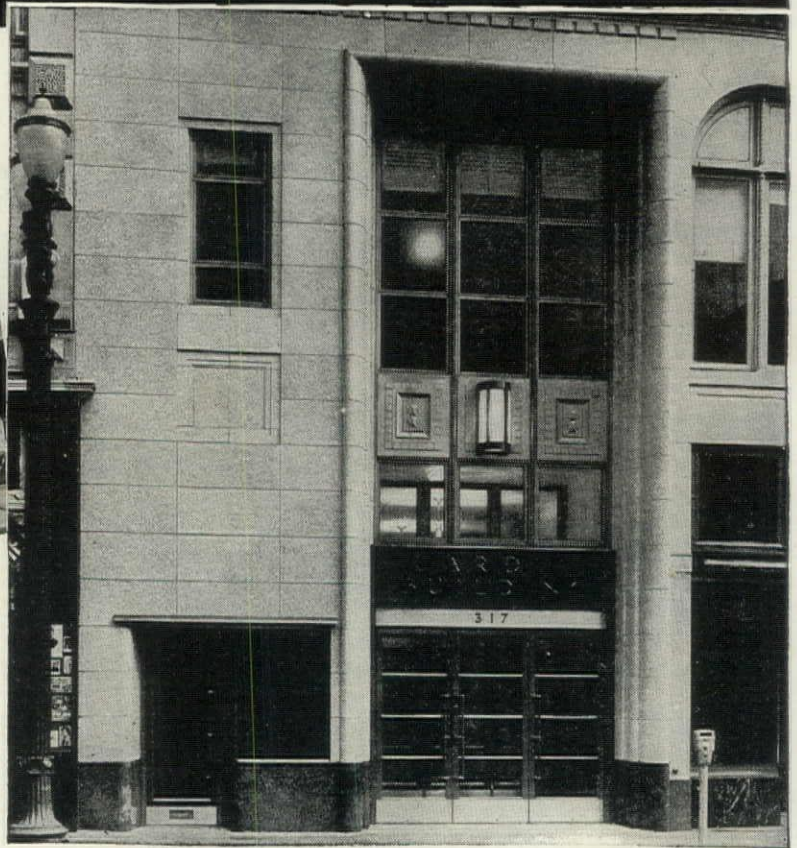
ILG ELECTRIC VENTILATING CO., 2899 N. Crawford Avenue, Chicago 41, Ill.
Offices in 40 Principal Cities

When your problem is— **MODERNIZATION**



Remodeled entrance of Guardian Building,
Portland, Oregon.

H. A. Herzog, Inc., Architect.



...use ARCHITECTURAL METALS **for both beauty and serviceability!**

What a difference a new store front or a new entrance can make. Gives any building a "fresh" start — increases its rentability.

Today the need for building modernization is especially great. Hundreds of thousands of old structures need to be modernized inside and out.

As you plan the modernization of old buildings or the design and construction of new ones, consider the many ways you can use architectural metals to good advantage. Use

them to give extra strength or protection in stairs, railings, windows, door frames and hundreds of other building items. Use them, too, in the entrance, for store fronts, marquees, grilles and all types of exterior and interior decorations.

Architectural metals—both ferrous and non-ferrous—will be available for immediate use when building starts again. Include them in your plans right now. For a Directory of Leading Architectural Metal Fabricators who are anxious to work with you, write to Dept. F-7.

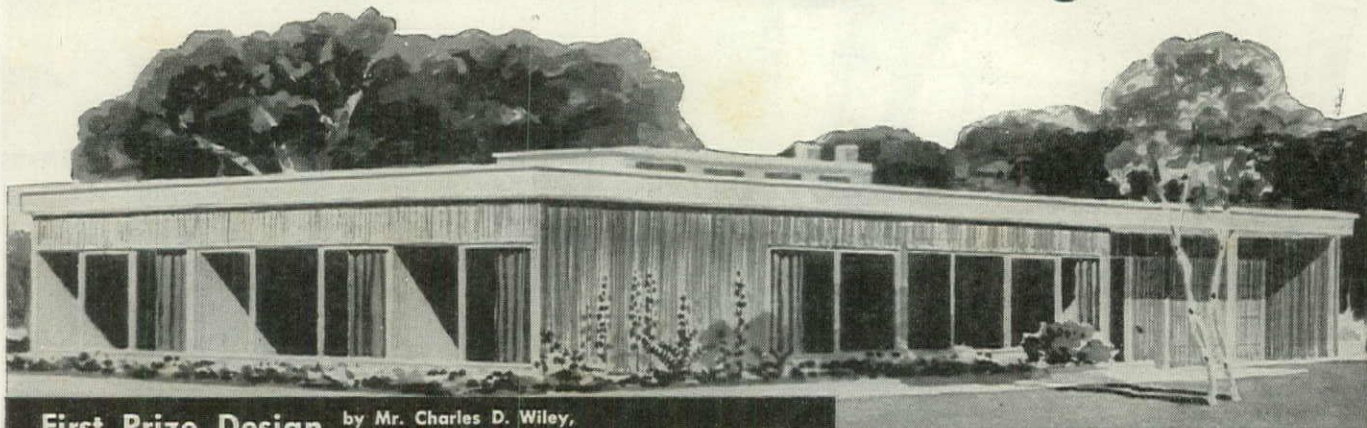
NATIONAL ASSOCIATION OF ORNAMENTAL METAL MANUFACTURERS

209 CEDAR AVENUE

TAKOMA PARK

WASHINGTON 12, D.C.

A Prize-Winning Plywood House for FLEXIBLE living



First Prize Design by Mr. Charles D. Wiley,
2023 "O" Street, N. W., Washington, D. C.

A GARAGE

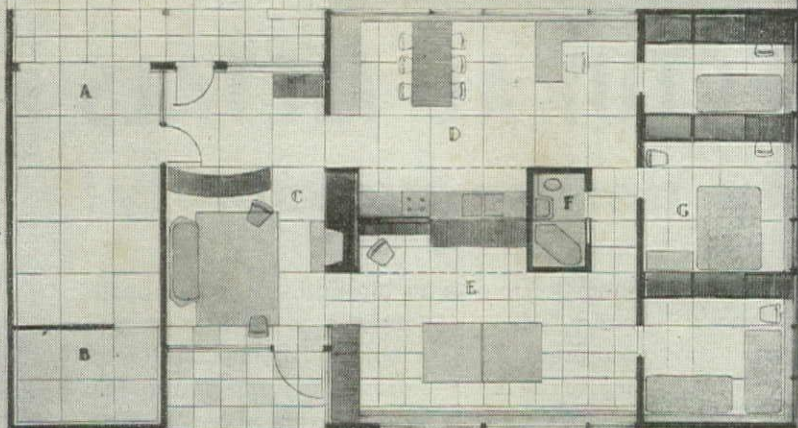
B STORAGE

C A QUIET ZONE. That part of the house that is always in order, used for rest and conversation, has fireplace, music and books.

D A DOMESTIC CENTER. Her part of the house with space for cooking, eating, laundry, sewing and child tending.

E AN ACTIVITY CENTER. The place where the family can make a mess and leave it. Work shop, Ping Pong, electric trains, doll house, play room, party room, study room. The heart of the household given its place.

F THE MECHANICAL CENTER. All plumbing and heating. Lighted and vented by clerestory. Cooking space can be hidden by lowering the built-in roll screen.



G A FLEXIBLE SPACE FOR SLEEPING

Changeable in size and number by moving the cabinet separators. The guest room can be reduced to a storage closet and the other bedrooms increased.

H A SUNKEN TERRACE

provides privacy and protection from weather.

GRAPHIC SCALE
0 1 2 3 4 5 6 7 8 9 10

WELDWOOD Plywood

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

THE MENGEL COMPANY
Incorporated
Louisville, Ky.

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

Play, work, unexpected guests or just plain settin' . . . all are amply provided for in Charles D. Wiley's prize-winning design.

His first-prize plan, in the recent United States Plywood—"Arts & Architecture" Small Home Competition, put today's desire for care-free comfort into every nook and corner of this extremely "livable" house.

Mr. Wiley took full advantage of plywood's ability to combine *beauty with utility*.

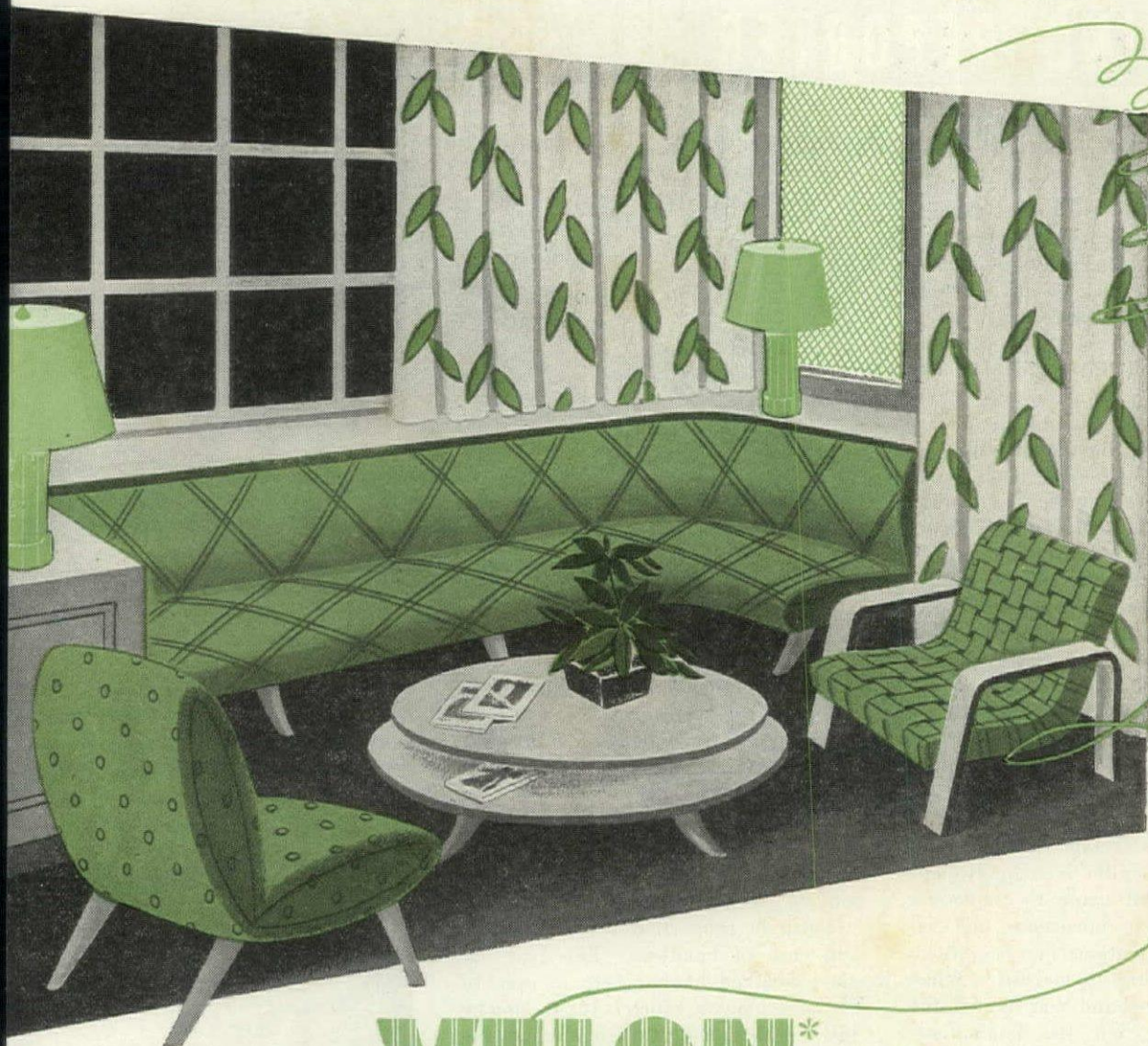
Among the many applications of plywood in this home are waterproof exterior Weldwood, plywood sheathing for sub-floors and ceilings, and Weldwood hardwood interior paneling.

Complete details of this and other winning designs are available upon request.



Plastics and Wood
Welded for Good

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



It's all **VELON*** in this picture

It's the picture to remember for your first postwar projects—the picture of versatility in Firestone's new wonder fabric, *Velon*.

Velon's possibilities are unlimited. It is capable of an infinite variety of colors, weights, textures, weaves, patterns and styles—all of them supremely *practical*.

Velon is amazingly cleanable; a mere wipe with a damp cloth or cleaning fluid brings it back to original freshness. Dirt and grime cannot cling to *Velon*'s non-porous threads, nor can acids and alkalis stain it.

And *Velon* is non-inflammable, non-fading. It cannot sag or stretch, snag or scuff.

Think what *Velon* will bring to postwar

interiors! Upholster in light, bright, glowing or delicate color—and *Velon* will outlast the furniture itself! *Velon*'s lampshades and draperies make possible any color and style effect, impervious to sun, heat, moisture.

It's all *Velon* in this picture—and *Velon* will be prominent in the picture of the postwar world. And while most of it now being made goes to war, every day new uses, new applications of *Velon* are being discovered.

There's a place for *Velon* in your picture. So plan now to be ready for *Velon*, when *Velon* is available to you.

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



Listen to the Voice of Firestone Monday Evenings over NBC

Firestone

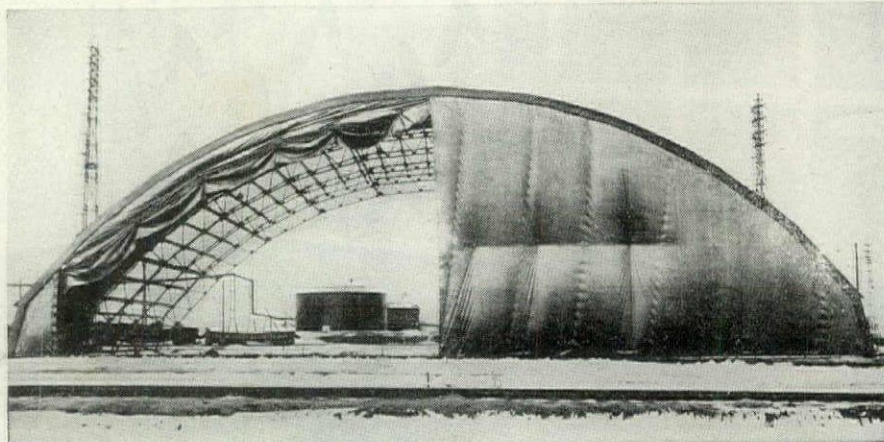
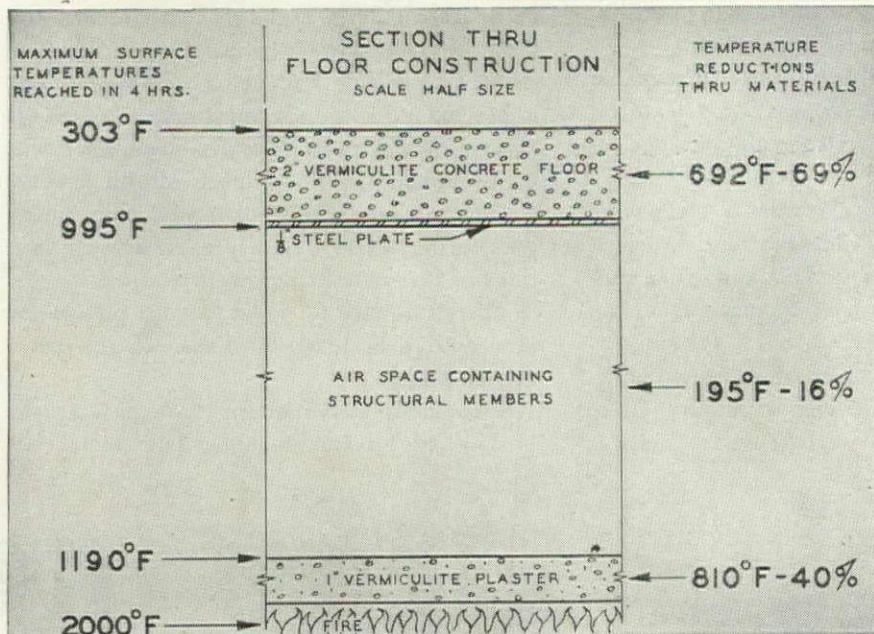
*Trademark—Pronounced VEL-LON

BUILDING REPORTER

Fire resistance of vermiculite . . . Glass hangar walls . . . Laminated bows . . . Three-dimensional layouts.

VERMICULITE PLASTER of 1 in. thickness, on metal lath used as protection for steel floor and structural members, has been given a 4-hr. fire rating by the National Board of Fire Underwriters, which is the highest rating they award to any material. Schematic drawing depicts the results obtained, and shows the maximum temperature reached by the various surfaces after continuous exposure to extreme heat pressure for four hours. This test, sponsored by the Vermiculite Research Institute, was conducted on an incombustible floor construction consisting of a reinforced plate and I-beam assembly provided with a 2 in. reinforced vermiculite concrete top flooring and a 1-inch suspended vermiculite plaster ceiling applied to diamond-mesh expanded metal lath. The 1 in. of plaster not only resisted direct flame for four hours, but it reduced the transmitted heat 40 per cent, making this construction probably the lightest, cheapest and thinnest fire protection to withstand this test. Vermiculite is a lightweight granular material made by exploding vermiculite ore, a micaceous material made up of laminations between which are small quantities of moisture. When the ore is prepared and heat treated, the moisture between the laminations changes to steam and expands the flakes of ore into cellular granules. Vermiculite plaster weighs only one-third as much as sand plaster and affords an attractive finish as well as good acoustical properties.

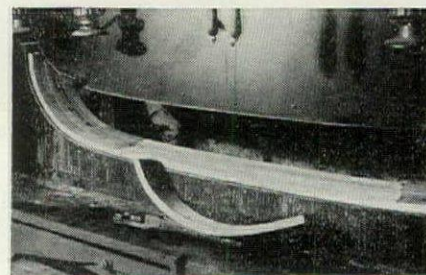
UNDERWRITERS GIVE VERMICULITE PLASTER 4-HOUR FIRE RATING



COATED GLASS CLOTH USED BY ARMY AIR FORCE ON LARGE HANGAR DOOR

GLASS, one of the oldest of manufactured materials, has been put to a new use by Army Engineers. Warplanes at advance Army Air Force bases are now housed in steel-framed hangars whose walls are made of glass cloth. Woven of glass fiber yarns and coated with synthetic rubber or resin, glass cloth was chosen for its resistance to weather, high strength in proportion to light weight, and ease of handling. Two types of glass-sheathed hangars are in use. In the large hangar, which is 162 ft. long by 146 ft. wide and 39 ft. high, and capable of housing many planes, a glass-cloth door screens the entire span. In the much smaller "nose" hangar, glass fabric side walls and end are of panel construction to allow wing tips and tail of the plane to extend outside the hangar.

LAMINATED WOOD BOWS are successfully replacing steel in roof construction of automobile house trailers. The new bow, constructed of 24 laminated birch strips, resinous bonded and formed in special heat treated presses, has proved su-



LAMINATED BOW SECTION IN PRESS

perior in exhaustive tests to the formerly used steel bows. According to The Schult Corp., originator of this wartime development, the laminated bow has many advantages. It will not warp, contract or expand, is more elastic than steel, and has a higher safety factor. It also contributes to a material reduction in the weight of the trailer. The new bows are constructed by machinery and presses developed in the Schult plant, and according to the manufacturer they will be employed in all future trailers produced by this company.

THREE-DIMENSIONAL LAUNDRY LAYOUTS for planning postwar replacements are offered by The Troy Laundry Machinery Div. of American Machine and Metals, Inc. as a unique service to help architects and commercial laundry owners visualize the postwar plant. From sketches, rough plans or blueprints, the engineers make a model laundry layout of the plan, utilizing scale models of (Continued on page 198)



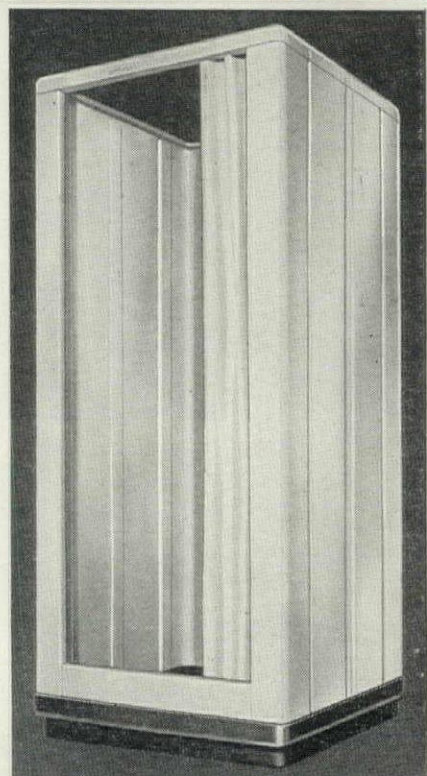
The modern shower bath is as soothing and refreshing as a warm Spring rain . . . restful . . . relaxing. The water is always so clean and sparkling . . . drenching the body . . . rinsing it . . . quickly . . . pleasantly. That's why so many people prefer a shower . . . and perhaps why the forecast seems to indicate an even increasing preference.

Of course, the choice of shower cabinet depends upon its design and construction . . . its appointments . . . and its adaptability to various bathroom arrangements.

All of these things have been given

careful thought and consideration in the design and building of the new Tiletone Shower Cabinets. They're steel, of course . . . sturdy and rigid . . . with a handsome baked enamel finish. Built to last, but with an eye to streamlined beauty and genuine utility. And they're designed to meet the requirements of almost any type of bathroom arrangement.

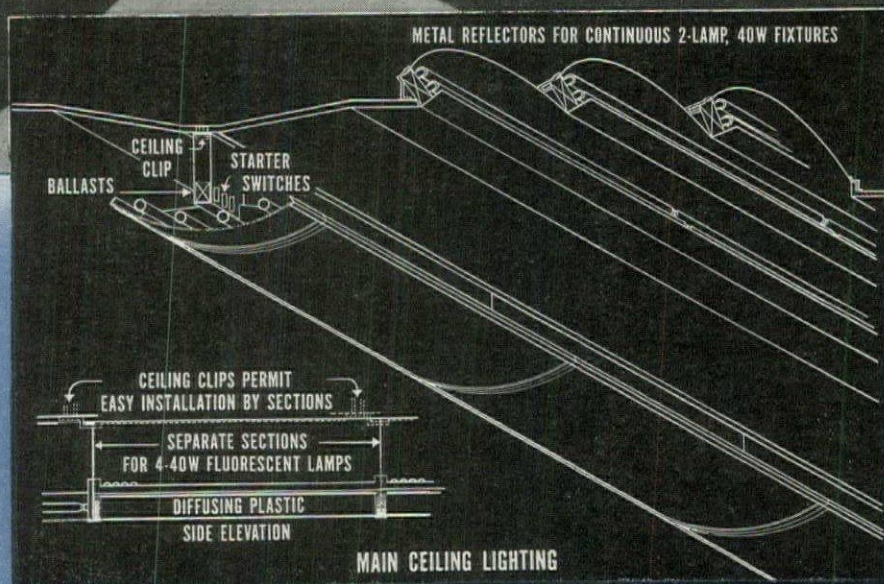
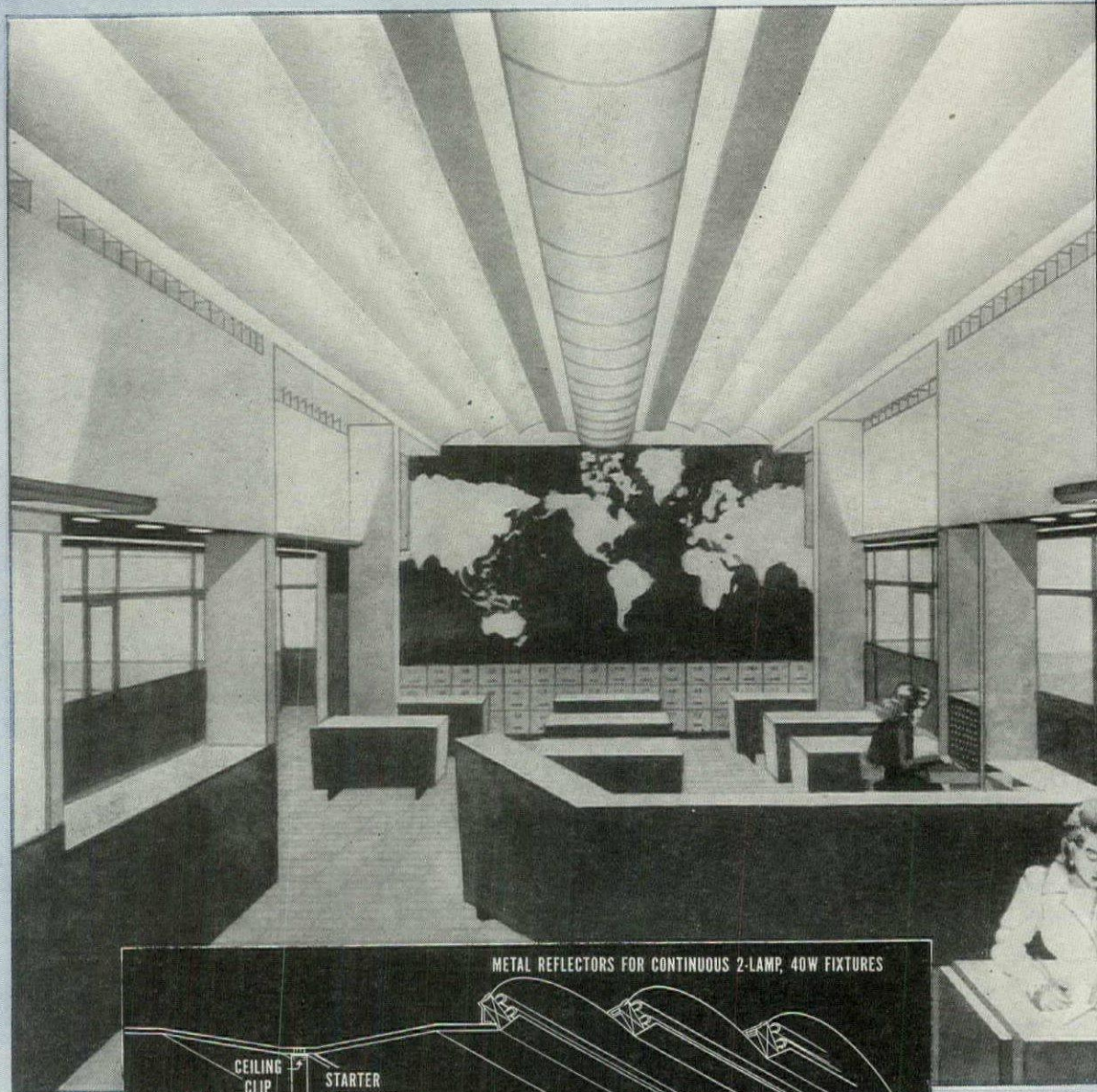
Several new Tiletone models will be ready for delivery soon . . . new from base to dome light. If you're planning on using shower cabinets on any of your projects, perhaps we can be of service to you.



THE TILETONE COMPANY, 1760 Wrightwood Avenue, Chicago 14, Illinois

TILETONE *Shower Cabinets...*

← Wall·to·Wall



No investigation has been made by General Electric Company regarding the patent situation on the design or construction suggestions shown in this advertisement.

Here is a lighting design adaptable to offices in new buildings, to modernizing present offices or to the conversion of loft building space from manufacturing to office use.

LIGHTING

for Tomorrow's Office

GENERAL ELECTRIC presents another postwar lighting perspective with particular application to office space . . . by Louis E. McAllister, Philadelphia.

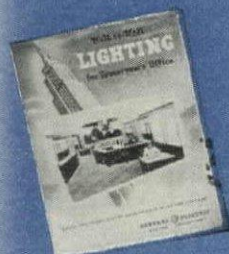


Says Mr. McAllister:

"To increase the efficiency and add to the comfort of office personnel, many changes will be made in tomorrow's offices.

"And one of the most flexible tools for such modernizing work is LIGHT!

"In planning for general office space, long lines of soft, cool fluorescent light have been utilized to provide the effect of spaciousness . . . together with a cheerful atmosphere for work. These might be fitted to interiors of varying size by using standardized, pre-fabricated sections of light as indicated in the accompanying detail drawing. The overall result: Wall-to-wall lighting that promotes better handling of paperwork, with less eyestrain."



For additional details on Mr. McAllister's ideas on lighting for tomorrow's office, write for a copy of the new booklet, "Wall-to-wall lighting". Address General Electric Co., Dep't. 166-AF7, Nela Park, Cleveland 12, Ohio.

THE CONSTANT AIM OF G-E LAMP RESEARCH

IS TO MAKE G-E LAMPS *Stay Brighter Longer*

G-E MAZDA LAMPS

GENERAL  ELECTRIC

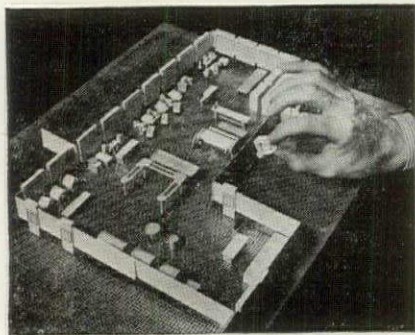


BUY WAR BONDS
AND HOLD THEM

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

(Continued from page 194)

laundry machines and equipment to fit individual floor arrangements and space limitations. This layout is photographed

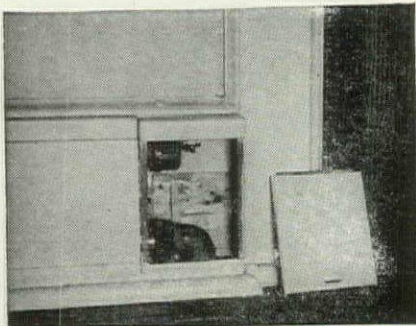


LAUNDRY EQUIPMENT VISUALIZED

and the picture together with specifications is furnished the architect so he may show his client a three-dimensional plant.

RADIANT BASEBOARD, located along the bottom of an outside wall in a room of the I-B-R Research Home at the University of Illinois appears to be conventional trim, yet is the heat source of the room. Made of hollow cast iron, it is

supplied with hot water from a standard domestic heating boiler. It provides an inconspicuous, easy-to-clean source of heat which gives evenly distributed room temperatures. Shown is the radiant baseboard where the pipe connections to the boiler and the air-vent valve are located.



AIR VALVE AND PIPE CONNECTION

NEW PRODUCTS

FLOOR FINISH

Fast drying, waterproof and wear-resistant floor seal.

This new and greatly improved floor finish, Heavy Duty Penetrating Floor Seal, resulted from research to find a coating that would stand up under hard

wear given floors in war housing projects. Applicable to any type of wood floor, new or resanded, it is made with O'Brien's Thermolyzed Oils, and possesses unusually good penetrative power. It also has waterproof and wear resistant qualities. Application properties are excellent. Its easy flow permits fast, "gum-free" removal of any excess on the surface by either hand or machine. Drying in only one hour, it is particularly convenient for use in residential, institutional or industrial floor finishing. Available for immediate shipment in drums, 5 gal. cans, gallons and quarts. *Manufacturer: O'Brien Varnish Co., South Bend 21, Indiana.*

MASONRY CEMENT

Improved cement combines properties desired by masons.

Introduction of a modern masonry cement, the result of intensive research and mason's field tests, provides the six principal properties required by masons. Plasticity, high water retention, strong bond, controlled setting time, water repellency, and the ability to hold color are provided in the new cement to a degree which assures excellent job performance. Lone Star Masonry Cement

(Continued on page 202)

A REPORT on the PERFORMANCE of MINWAX CAULKING COMPOUNDS

"In Good Condition Today after 10 to 17 Years' Service"

These photos and service records submitted by one of New York's largest and best known weatherproofing companies are convincing proof that MINWAX Caulking Compounds can be depended upon to give long, trouble-free life at lowest cost per year of service. For further evidence, ask for our file of Pittsburgh Testing Laboratories Reports and our new booklet on "Weatherproof Caulking". The MINWAX Company, Inc., 11 West 42nd St., New York 18, N. Y.

For the 27th consecutive year OUR COMPLETE CATALOG IS IN SWEET'S

Let's Finish the Fight with the mighty 7th

<p>17 YEARS 41 Park Row New York City</p>	<p>15 YEARS New York Dock Co. Brooklyn, N. Y.</p>	<p>14 YEARS Mutual Benefit Life Ins. Co. Newark, N. J.</p>	<p>10 YEARS American Chic Co. Long Island City, N. Y.</p>	<p>12 YEARS American Can Co. Newark, N. J.</p>
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WEATHERPROOF CAULKING
COMPANY INC.

Weatherproofing Contractors

30 CHURCH STREET, NEW YORK, N. Y.
CONTRACTORS - NEW YORK

Minwax Company
New York, 18, N. Y.

Gentlemen:

In reply to your recent inquiry, we are sending you some photographs of buildings on which we used Minwax Caulking Compounds - installations which we know to be in good condition today, after 10 to 17 years of service. In our opinion, the performance of your materials on these jobs speaks louder than words, and furnishes ample reason why we always keep a good supply of Minwax Caulking Compounds on hand.

Very truly yours,
Wm. J. Eggar
President

**Waterproofings
Caulkings
Dampproofings**



**Wood Finishes
Waxes
Protective Coatings**

COMPLETE CATALOGS IN SWEET'S

WIPE OUT... An American City of 10,000



SHEETROCK *Fireproof* WALL and CEILING PANELS



Imagine the headlines if fire wiped out Washington, Ind., or Astoria, Ore., or Americus, Ga. . . cities of about 10,000. All America would mourn. This isn't likely to happen, but fire kills 10,000 Americans every year. And fire losses total close to \$300,000,000.

Such grievous destruction demands better safety education, better fire fighting equipment, even safer building methods. You

can help. Install fireproof Sheetrock wall and ceiling panels that stand guard against the spread of fire till help has a chance to arrive.

Sheetrock* brings outstanding wall beauty to any home. You can "weld" the panels into one with Perf-A-Tape* or feature the joints with Beveled Edge Sheetrock. Woodgrained Sheetrock is finished in faithful reproductions of knotty pine, bleached mahogany and walnut. Write today. 300 W. Adams St., Chicago 6, Ill.

*Reg. T. M.



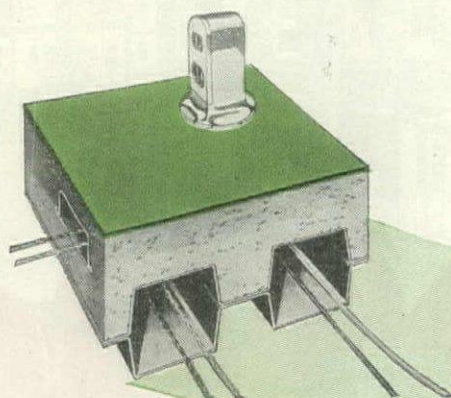
United States Gypsum

For Building • For Industry

Gypsum • Lime • Steel • Insulation • Roofing • Paint

SPECIFICATION:

Lay 32 sq. ft. of floor
in 30 seconds
without shoring or forms.



"How fast can you put it up"—that's a major question in your work.

Q-Floors reduce building time 20 to 30%. Q-Floors are *quick-in*. Two men can lay 32 square feet of Q-Floor in half a minute. Q-Floor units of cellular steel subfloor are welded to the steel framework. Floors can be completed almost as soon as the frame. No wet materials delay progress—no forms, no shoring. Quick, quiet, clean, fireproof! Stairs can be installed as soon as the floors. Q-Floor immediately becomes a working platform for all other trades, and construction zooms ahead.

Q-Floors are light in weight. This makes possible lighter, less expensive steel framework. But construction advantages of Q-Floors are the least of their virtues. Q-Floors enable the tenant to tap any six-inch area of floor, the day he moves in or twenty years later and establish an electrical outlet. Every channel in the floor, connected by means of cross-over wireways, is a source of electrical availability.

From your point of view, this gets rid of some of the worst grief in the business. Outlets and partitions can be located after occupancy; changed again as often as the tenant changes his mind.

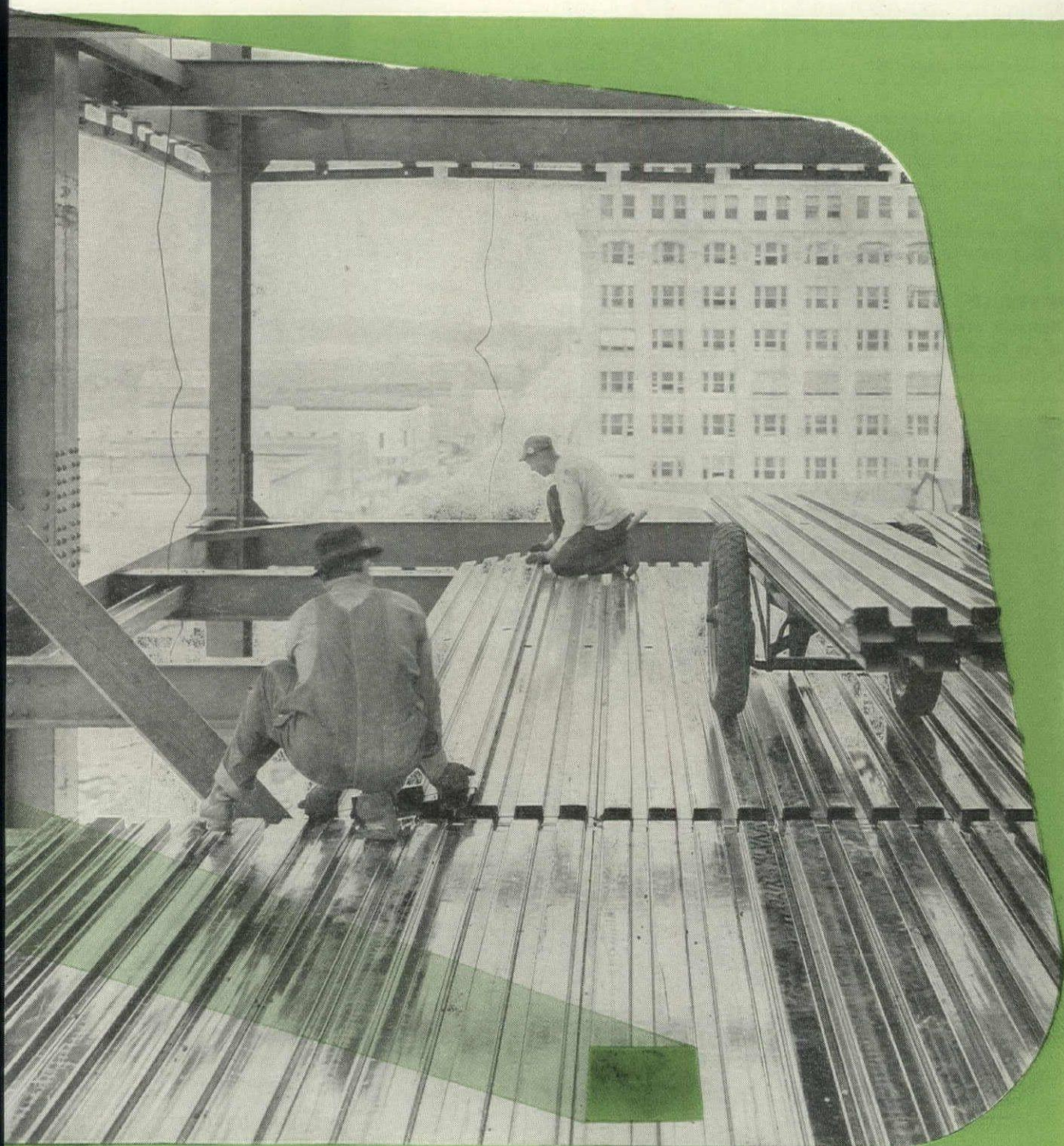
From the owner's point of view, Q-Floors keep his building modern, in step with changing mechanical demands. His electrician can drill anywhere, any-

time and set up outlets. The job takes only a few minutes, requires no trenches, leaves no muss or fuss.

Quick-in and quick-change—these are essential qualities of today's structures. Quick-in and quick-change—these are what you get with Q-Floors. There still remains the question of cost—it's very well in line. Many factors enter into the cost and they add up to what you would call "standard". A Robertson representative will be glad to answer all questions, or you can write for Q-Floor literature. The Electrical Fittings for use with Robertson Q-Floors are available through General Electric construction materials distributors.

TIME-TESTED — OVER 3000 ROBERTSON Q-FLOOR INSTALLATIONS.

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



OWNER... COMMERCIAL NATIONAL BANK CORP.; ARCHITECT... MCKIM, MEAD & WHITE;
CONTRACTORS... JAMES STEWART CO., INC.

Q-FLOORS

H. H. ROBERTSON CO.

2403 FARMERS BANK BUILDING
PITTSBURGH 22, PENNSYLVANIA



OFFICES IN 45 PRINCIPAL CITIES
WORLD-WIDE BUILDING SERVICE

(Continued from page 198)

exceeds the requirements of Federal specification SS-C-181b and A.S.T.M. specification C 91-44T. It is packed in multi-wall paper bags containing 70 lbs., net, or 1 cu. ft.

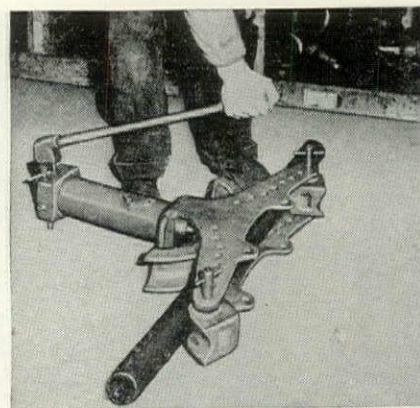
Manufacturer: Lone Star Cement Corp., 342 Madison Ave., New York, N. Y.

PIPE BENDER

Hydraulic portable unit bends steel pipe in one simple operation.

Tal's Prestal bender will bend easily all

wrought iron and steel pipe as well as solid bars of mild steel from $\frac{3}{8}$ in. to 2 in., and standard pipe of $2\frac{1}{2}$ or 3 in. Adaptable to any job where quick changeovers to various pipe sizes are necessary, pipe is inserted in the bender and a hand operated hydraulic pump action completes the operation. A quick release device enables the operator to remove the pipe instantly. Use of pipe bending has been receiving increased attention for plumbing and heating pipe work, and it is particularly adapted to the sweeping curves used in radiant heating installations. By eliminating numerous elbows and fittings it avoids leaky joints and reduces friction losses



"This water is really something!"

The modern architect, in designing a swimming pool, designs the *water*, too. It pays dividends—in goodwill, in prestige.

How do you design water? Simply call in Permutit.* Permutit makes every type of equipment for treating swimming pool water . . . equipment to make the pool water *as pure as drinking water*.

Permutit is no stranger to architects, builders and real estate devel-

opers—all working to provide better living through better water. They're used to specifying this economical water conditioning equipment for industrial plants, municipal water works. It will be familiar equipment in private homes, post-war.

Whatever your water problem, bring it to The Permutit Co., Dept. AF7, 330 West 42nd Street, New York 18, N. Y. or Permutit Co. of Canada, Ltd., Montreal.

*Trademark Reg. U. S. Pat. Off.

PERMUTIT

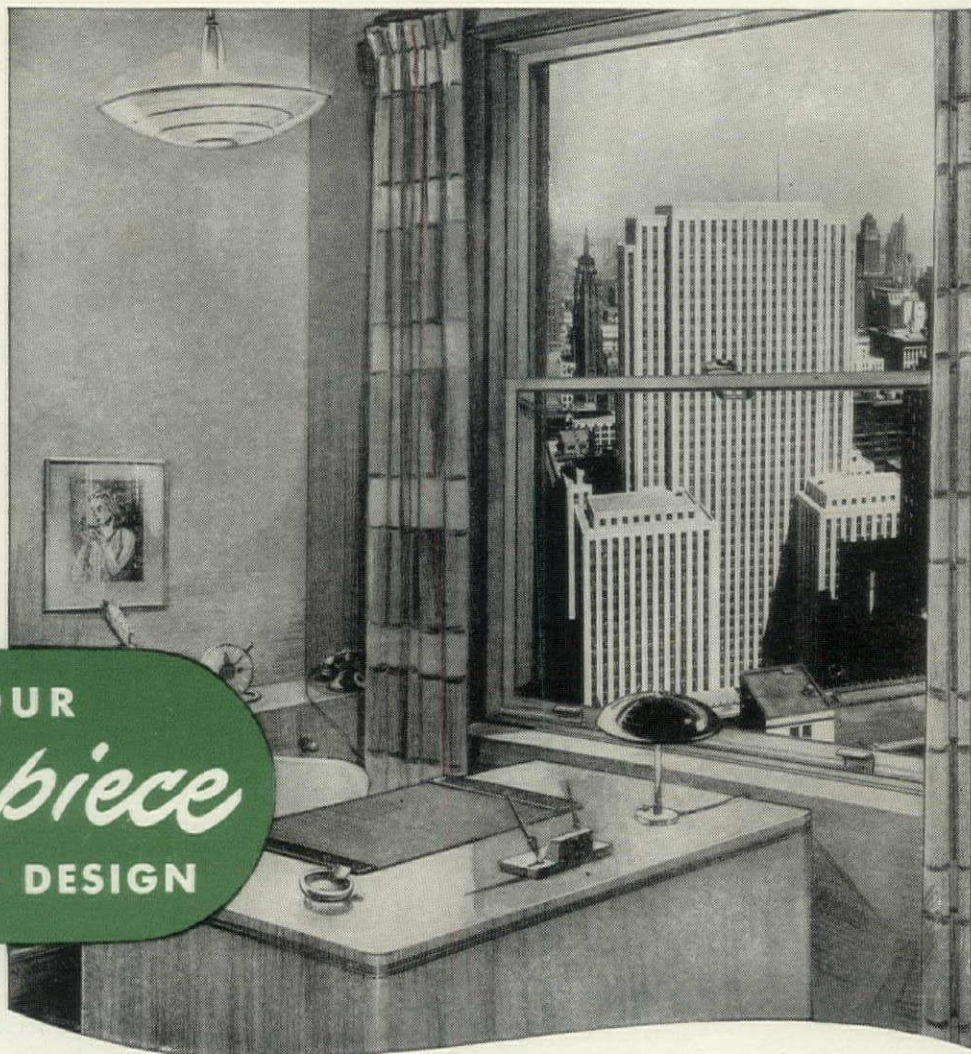
WATER CONDITIONING HEADQUARTERS

by producing smooth bends. The bending formers are scientifically developed to bend pipe at just the right arc so as to prevent cracks or fractures at any point. To operate, pipe is inserted in the holder frame, release screw is closed and pet-cock opened. Pumping is started and continues until grade of bend is obtained. The release screw is opened and the ram returns automatically. This portable unit bends up to approximately 180 degrees in one operation, the smaller the pipe the nearer the bend will approach 180 degrees, 2 in. pipe bends approximately 150 degrees, $2\frac{1}{2}$ in. and 3 in. bends 90 degrees in one operation. **Manufacturer:** Tal's Prestal Bender, Inc., Milwaukee 2, Wis.

CUSHION SUPPORT

Elimination of coil springs might revolutionize commercial seating.

A new type of cushion support for latex cushioning material will incorporate the leaf spring principle into seating. By use of the new seating base, the company will be able to supply in volume complete cushioning units for installation in automobiles, buses, theaters, hotels, auditoriums, homes, etc. Advantages include simplification of construction, assembly and installation, space saving and greater comfort in seating. This equipment, eliminating the traditional coil springs, will bring increased comfort because it combines leaf steel springs and the flexible surface of a diaphragm. Latex cushions can be easily
(Continued on page 206)



FOR YOUR
Masterpiece
IN BUILDING DESIGN

Truscon Heavy Double-Hung Steel Windows*

Truscon Series 145 Heavy Double-Hung Windows are designed especially for the modern treatment of large openings. The development of this heavy double-hung steel window culminates years of experience in the manufacture of plate type and tubular type double-hung windows. It incorporates the best features of both windows. This window is designed for either conventional counterweights or spring balances to meet particular requirements.

The sash stiles and rails are of tubular construction which assures strength and rigidity, yet maintaining the grace and appearance of a molded sash design. Slip-in glazing beads hold glass in place and eliminate unsightly screws.

Non-ferrous weatherstripping at all four sides of the sash assures minimum infiltration of air. Weight balance chains are concealed. The design of staff bead and frame gives ample rebate for screen and storm sash, and insures proper provision for all types of window cleaning bolts.

New-billet steel, electro galvanized, combined with bonderizing and baked-on prime coat of paint, assure long life and satisfaction.

See Truscon's Steel Window Section appearing in the 1945 "Sweet's Architectural File." Request a Truscon window engineer to assist you with your postwar projects.

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



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

TO ARCHITECTS:

An Interim Statement on Automatic Heating by General Electric

POSTWAR, this Company will aim at substantial sales increases in the fields of domestic heating and air conditioning equipment. The sales increases we will seek cannot be achieved unless and until we obtain wide acceptance of our new designs by architects, heating engineers, building contractors, and dealers, as well as by future home owners.

It is a matter for regret that because of war pressures on our facilities and personnel, and war restrictions on materials, we must still postpone announcements to architects and engineers of the specific details of new designs and services.

We probably will have no miracles to offer . . . but building on our sound and successful prewar experience we plan to offer a line of products competitive in price with all heating equipment of like quality, and offering genuine economies in fuel consumption and service requirements.

If the name "General Electric" means to you what we hope it does in technical competence and integrity, in full acceptance of all proper responsibility for every product bearing the G-E Monogram, this statement of our belief in the new line will earn a certain measure of your interest.

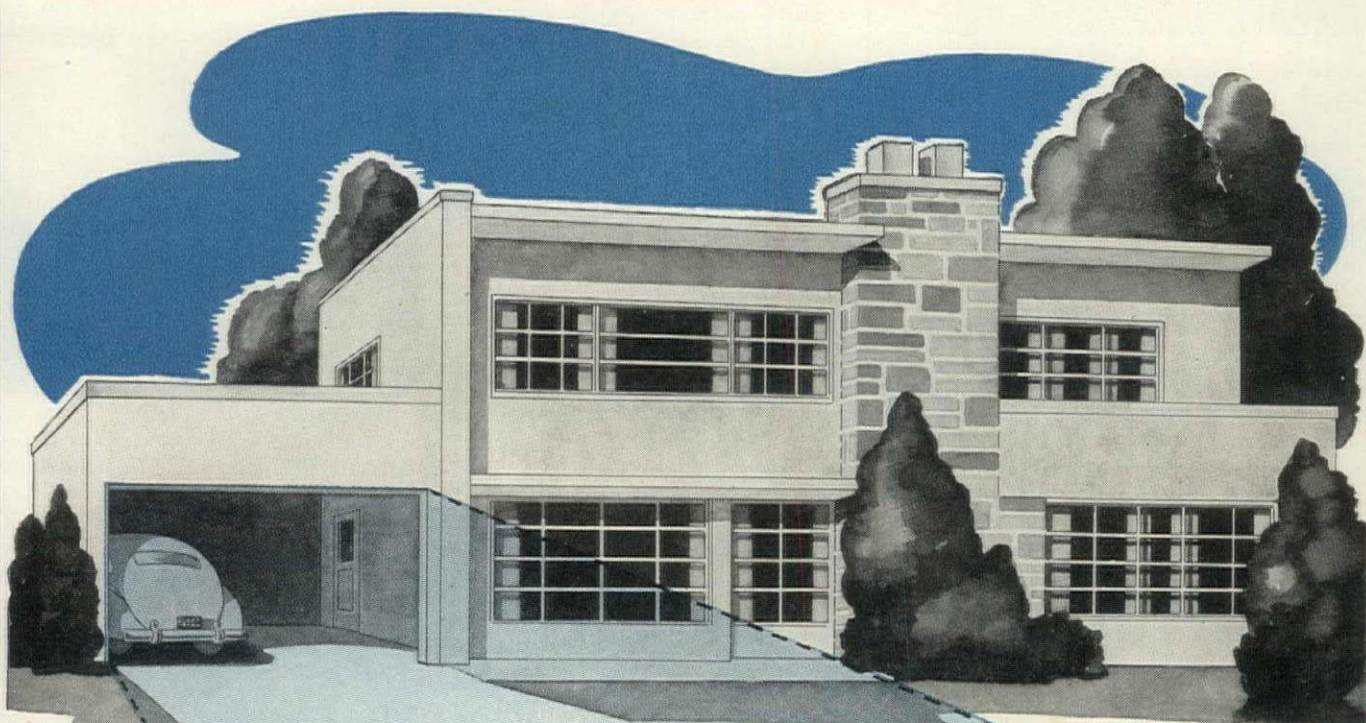
In the not too distant future we hope General Electric can serve you, and serve you well . . . not alone with products which will justify your selection of them, but with layout and specification assistance of a highly practical character. So we hope that as circumstances permit, you will "wait for G E" . . . with this assurance of our belief that you will then find it highly worthwhile to turn to G E. *General Electric Company, Air Conditioning Department, Section 5137, Bloomfield, New Jersey.*

BUY . . . and hold . . . WAR BONDS

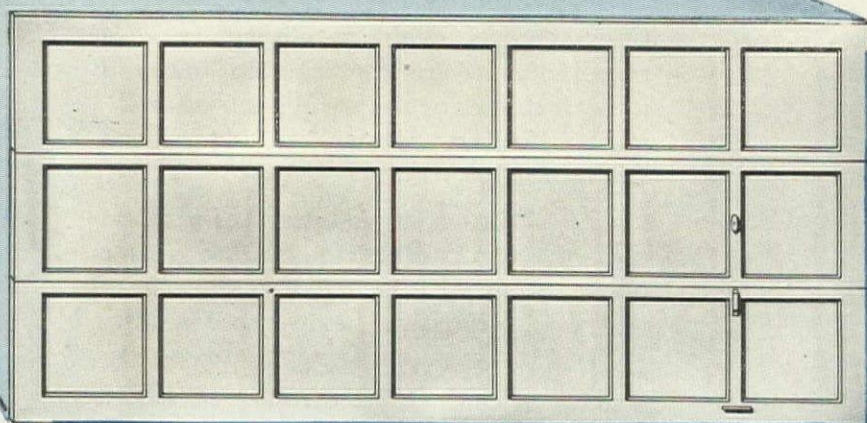
GENERAL  ELECTRIC

Automatic Heating Equipment

Tune in: The "G-E HOUSE PARTY" every afternoon, Monday through Friday, 4 p. m., E W T, C B S . . . The "G-E ALL-GIRL ORCHESTRA," Sundays, 10 p. m., E W T, N B C . . . "THE WORLD TODAY" News, Monday through Friday, 6:45 p. m., E W T, C B S.



Illustrated below is the Crawford Junior Door Model TC, for a two-car garage. Although double width, it is so scientifically counterbalanced that it glides up and down at a touch of the fingers. This design is much favored by those who prefer all-wood panels



HERE'S OUR SLANT

ON
MODERN GARAGE DOORS

FOR THE MODERN HOME

Crawford

UPWARD - ACTING
DOORS

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

Next time you're working on a home in the "modern" manner—with the accent on those many conveniences which contribute so much to easy and pleasant living—consider how this modern Crawford Door facilitates the use of the garage and, incidentally, enhances the feeling of unified design in the entire front.

It is a handsome door. The design is strong, simple, effective. It combines particularly well with the newer architectural motifs. It is a sturdy door—built to stand up, and it will not rack the door frame. It is engineered for finger-tip ease of operation, and because it glides up and completely into the garage, it is unaffected by wind, rain or snow.

This is one of the many types of Crawford Up-ward-Acting Doors which have become so familiar to home-owners, architects and builders during the past 15 years.

As an indication of public interest in garages and doors, it may interest you to know that more than 10,000 people have written for copies of Crawford's book, "How to Plan Your Garage." Crawford Door Company, 401 St. Jean Ave., Detroit 15, Mich.

(Continued from page 202)

cemented to the new cushion carrier called, Flx-i-base and will be part of the seat frame itself.

Manufacturer: United States Rubber Co., Rockefeller Center, New York, N. Y.

ELECTRIC WASHERS

New type washers for home and institutional kitchens, and industrial use.

The efficient, economical Modern Maid home washer utilizes a new principle of completely submerging dishes by forcing

4 to 5 gals. of hot water over them at the rate of 140 gals. per minute. Washing action is complete in three minutes. Trays which hold the dishes do not move during the washing operation, hence there is no breakage. The washer bowl holds a table service for four and comes complete with three trays, two rubber coated trays for dishes and silver, and a brass wire mesh tray for vegetables and linen. A pull-out rubber hose spray is provided for rinsing dishes on the drain board, but rinsing may also be done efficiently in the washer. Cabinet is available in enameled steel or wood, sink and dishwasher bowl are steel finished in acid resistant porcelain. The



unit employs a 1/4 hp motor and requires only attachment to standard household plumbing and an electrical outlet. Modern Maid replaces the average sink and can be installed in a space 48 in. by 25 in. This size unit sells for \$187.50 F.O.B. the factory, other sizes are available. The restaurant dishwasher forces 385 gals. of water per minute over the dishes so they are completely submerged as long as the motor is running. The 6 1/2 to 7 gals. of water used is forced up between the inner and outer tubs by a motor driven propeller, hits a splash ring and is drawn down over the dishes. The unit consists of a washer and rinse vat, with either a foot operated spray or overflow, and comes equipped with three baskets. It is 22 in. wide, 48 in. long, and 32 in. high, and utilizes a 1/3 hp splash-proof motor. Either electric or gas heated models are available. The heavy duty model washer includes rinse

vats for production line work. One man can operate three baskets of metal parts, washing, rinsing, draining each basket at the same time. The Modern Mechan-



ic's impeller pump is powered with a 1/2 hp single phase motor and forces a ton of solvent every minute over parts to be washed. Only 65 gals. of washing liquid are used and it is automatically screened by baffle-and-grill so it can be used over and over. Since the washer has only three moving parts, service is reduced to a minimum. Price \$275 F.O.B. the factory.

Manufacturer: Modern Maid Co., Inc., 122 So. Michigan Ave., Chicago 3, Ill.

GERMICIDAL FIXTURE

Used to curtain areas against outside germs.

The new Barrier Fixture for use with germicidal lamps has many uses including offices and rooms of the home, and can be arranged to curtain off an entire area against outside germs. It can also

(Continued on page 210)

FINER, SMOOTHER

ARCHITECTURAL EFFECTS with CALCIUM CHLORIDE IN YOUR CONCRETE

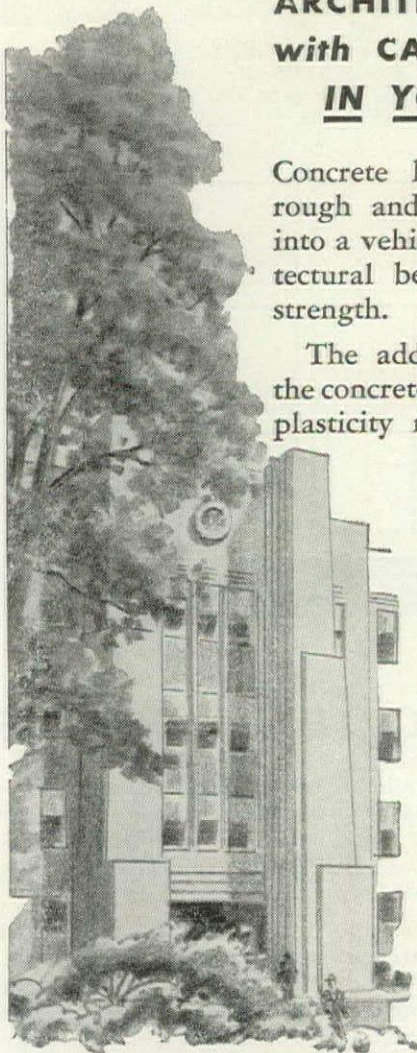
Concrete has been developed from a rough and ready construction material into a vehicle for the expression of architectural beauty as well as for rugged strength.

The addition of calcium chloride in the concrete mix gives concrete the greater plasticity needed to make it flow into intricate forms more readily without tamping to distort the forms. Such concrete leaves smoother surfaces, fewer voids and less blemishes. It provides the high early strength and built-in curing so desirable in protecting fine formwork against damage.

Our Bulletin 28, "Early Strength Concrete," gives the facts. Write for your copy.

CALCIUM CHLORIDE ASSOCIATION

4145 Penobscot Bldg., Detroit 26, Mich.



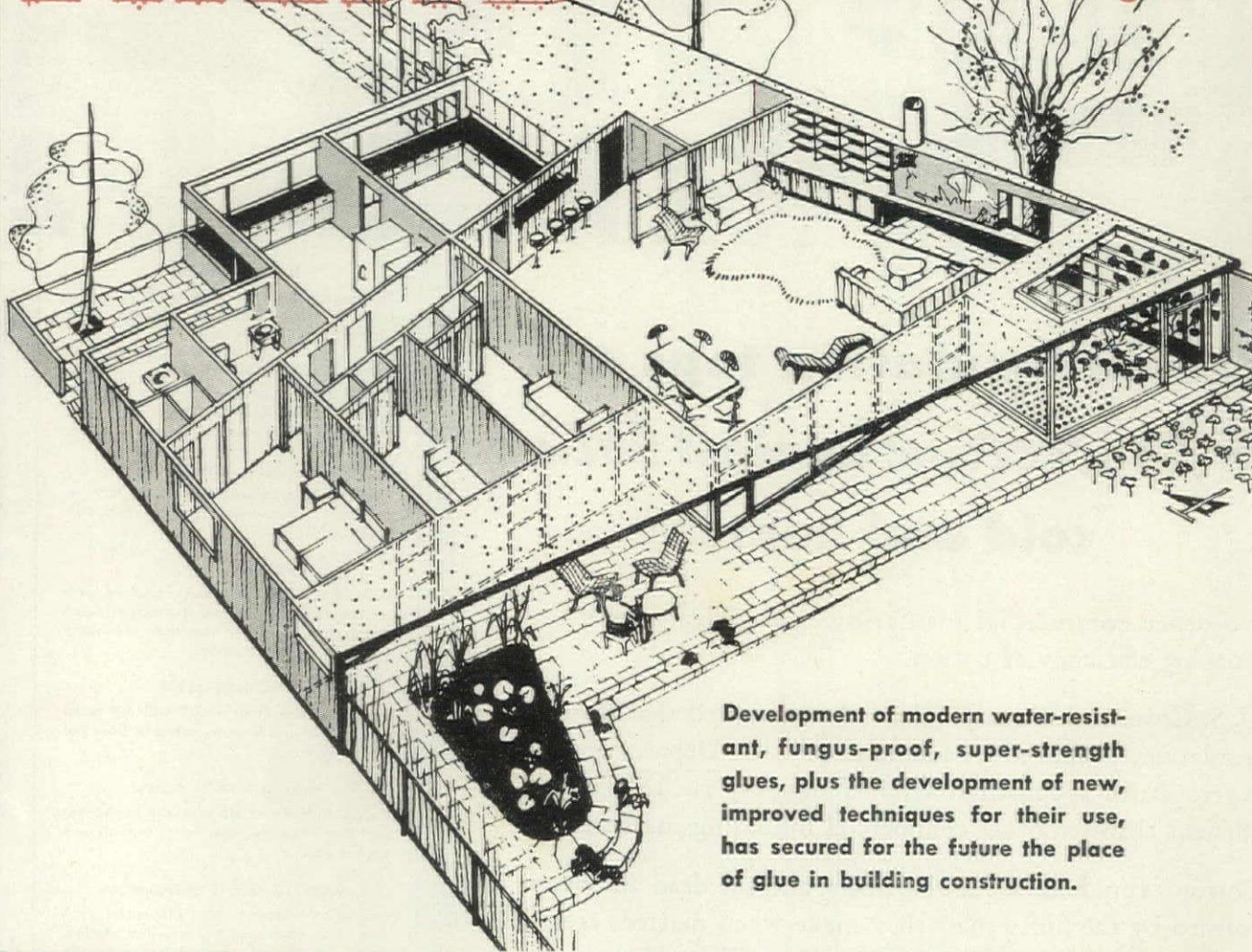
CALCIUM CHLORIDE

FOR BETTER CONCRETE CONSTRUCTION



TREND

tomorrow's better homes
...engineered with wood
and Laucks construction glue



Development of modern water-resistant, fungus-proof, super-strength glues, plus the development of new, improved techniques for their use, has secured for the future the place of glue in building construction.

Where are LAUCKS glues used in the modern building?

In Plywood ... the first large scale demonstration of the strength and practicality of glue in construction. I. F. Laucks, Inc., pioneered the development of modern glues for plywood.

In built-ins, prefabricated units, in sash, doors, etc. ... for better, stronger construction.

In Dry-Built Construction ... where walls are built of plywood or other wallboard ... glue is the approved method of affixing panels to walls. Twenty-four million feet of dry-built walls were recently erected with Laucks Construction Glue on a single housing job.

In glued laminated arches, beams, trusses.

In Shop Prefabrication ... for greater strength, rigidity, speed in construction ... Laucks glues secure panels to framing. I. F. Laucks, Inc., has worked with and supplied major prefabricators for years.

In this unmistakable trend towards more wood-and-glue construction, architects and builders are offered new opportunities for more freedom in design, new strength, safety and interest factors with familiar, acceptable materials.

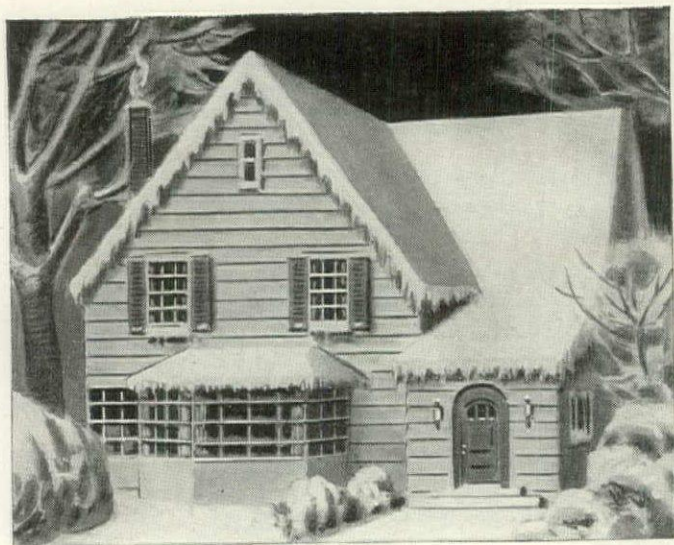
For information on the use of the correct glues for each construction application, come to "America's Glue Headquarters," address:



In the West:
Seattle 4, Wash.
Los Angeles 1, Calif.

In the East:
Lockport, N. Y.
Portsmouth, Va.

In Canada:
Laucks Ltd.: Vancouver, B. C., Stanbridge, Que.



Cotton Insulation tops all in *protection* against both cold and heat!

No other commercial insulating material possesses the amazing efficiency of cotton.

U. S. Government analyses have demonstrated that Cotton Insulation, prepared in accordance with Department of Agriculture specifications, is from 4% to 36% more efficient than ten other commercial insulating materials.

Cotton's tiny hollow tubular fibers, and the dead air spaces formed by the fluffy mass they make when matted, create a natural barrier against both cold and heat. Cotton, as insulation, is nature's own efficient creation.

Light-weight . . permanent resiliency . . safety in handling . . fire resistance . . ease of installation . . these and many more advantages are yours in Cotton Insulation.

Cotton Insulation is the insulation of the future and the insulation of TODAY. For it is made in thicknesses and widths to meet your needs and is adapted to quick installation in new or existing structures.

To learn more about this remarkable product, just send for the book, "COTTON INSULATION".

**NATIONAL COTTON COUNCIL OF AMERICA
COTTON INSULATION ASSOCIATION**

HANDLES EASILY

One person can insulate an attic in a few hours, or experienced applicators are available to install Cotton Insulation.

SIMPLE TO INSTALL

To lay it flat, just unroll it like a rug. For upright installations, you simply clip it on. Not abrasive. Harmless to skin and clothing.

MAXIMUM INSULATION

Exceeds other materials 4% to 36% in insulating effectiveness. Can cut fuel bills up to 30%.

LIGHT IN WEIGHT

With 20% to 25% less bulk required, Cotton Insulation represents a structural load factor 40% to 90% less than the same thickness of other materials.

WILL NOT BURN

Even a blowtorch at 1800° will not make it burn. Nor will freezing affect it. Does not attract vermin.

WILL NOT PACK DOWN

It stays fluffed and efficient with permanent resiliency. Neither age nor vibration will pack it down.

MADE TO GOV'T STANDARDS

Production is government inspected. FHA and FPHA approved. No priorities needed.

SEND FOR THIS BOOK TODAY!

In this book you will find the full amazing story of Cotton Insulation and a full detailed account of government tests. Every architect, contractor, builder, and dealer can benefit by it.



National Cotton Council
P. O. Box 18, Dept. —
Memphis 1, Tennessee

Please send me your book containing government analyses of the properties and use of Cotton Insulation.

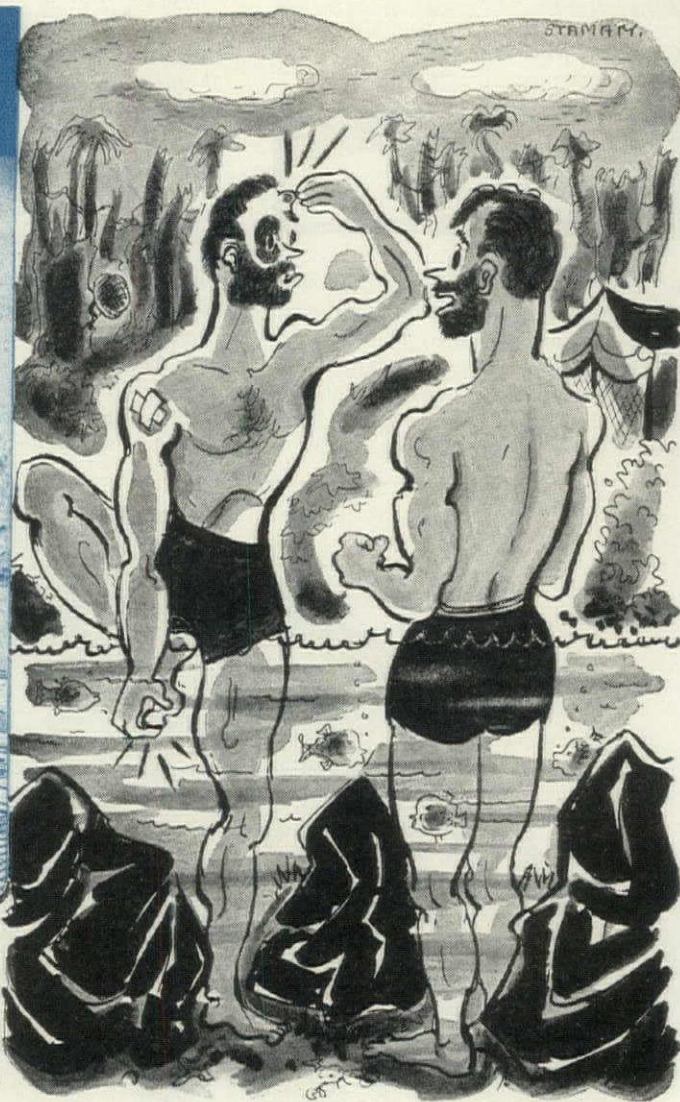
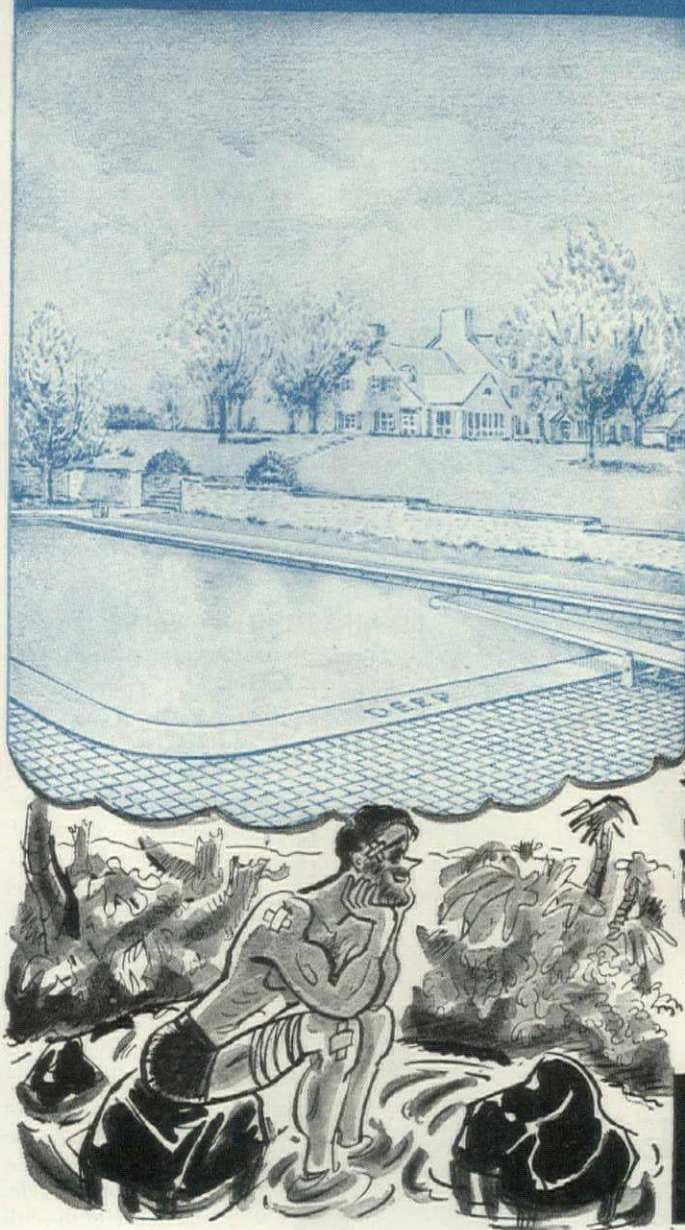
Name.....

Occupation.....

Address.....

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

★ *What they dream about*




"You can have this 'ole swimmin' hole' stuff—
give me a safe sanitary Suntile pool!"

★ **WHAT THEY SEE...**

Every now and then another substitute for tile appears on the market. Most of these products are colorful and attractive. Some of them are quite satisfactory for certain uses. All of them pay tribute to the superiority and leadership of tile by trying to duplicate its many assets.

No substitute has ever been found to replace real clay Suntile. Suntile is at home in any climate. Whether it is used indoors or out, its beauty is permanent . . . its colors bright for life. Suntile is easy to clean and to keep clean . . . it requires no waxing, no painting, no refinishing. Since the first cost is usually the only cost, Suntile is a real economy.

Specify color-balanced Suntile in your plans now. We will be making it again when our war work is finished.

THE *Cambridge*  *Bright with color-Right for life*

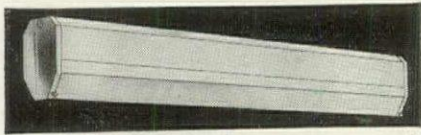
Money Invested In
SUNTILE
Is Wisely Spent

TILE MFG. COMPANY
MEMBER OF THE PRODUCERS' COUNCIL

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. PAPER, URGENTLY NEEDED TO MAKE OR WRAP OVER 700,000 ESSENTIAL WAR PRODUCTS, IS A NO. 1 WAR MATERIAL SHORTAGE. HELP SAVE PAPER.

(Continued from page 206)



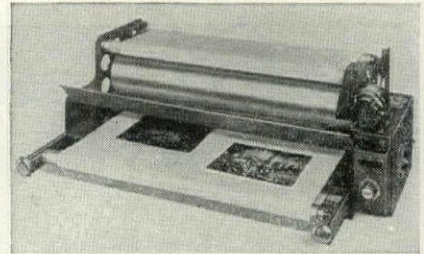
be used in doctors' offices to prevent germs from passing between the reception room and consulting offices. Used over food counters the ultra violet beam can be directed on exposed food to prevent settling of air carried germs. This new Barrier Germ Killing Light is

equipped with a highly concentrating Alzak reflector and is available for use with 15 w. or 30 w. germicidal lamps. *Manufacturer:* Edwin F. Guth Co., 2615 Washington Ave., St. Louis 3, Mo.

PHOTO-PRINT DRYER

Compact, high quality, low cost dryer designed for industry and Armed Forces.

The new Peck & Harvey B-8 photo dryer, operating with additional electrical heating elements that assure maintenance of even heat, quickly and efficiently dries matte, semi-matte or glossy prints as well as blue or black and white prints. Variable speed drive motors and con-



trollers permit instantaneous speed changes over a range of 6 in. to 3 ft. 6 in. a minute. The unit has a steel framework, a chromium plated copper drum which finishes photos with high glossy surface, and a seamless band. Steel-clad, refractory insulated, Nichrome heaters, nickel contacts, and asbestos insulated nickel wire are used in the long lived heating control unit. Thermostatic control is available at small extra cost. Available in two sizes, 26 in. and 44 in. widths, the units are priced at \$285 and \$425 respectively. Both come complete with receiving tray for dried prints. *Manufacturer:* Peck & Harvey, 4327 Addison St., Chicago 41, Ill.

DIAPHRAGM RELIEF VALVE

Unique construction valve meets wide industrial demand.

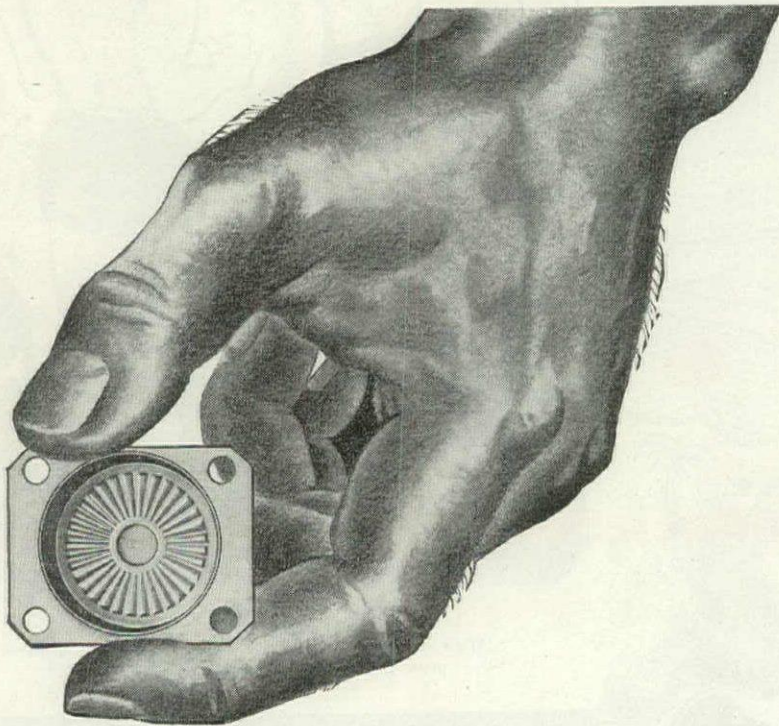
The Farris Relief Valve, Type 1000, perfected for use aboard naval and merchant marine vessels, is now used extensively in refineries, chemical, power and industrial plants. The diaphragm acts in several capacities. It seals the valve from leakage around the stem, making it highly acceptable for relief service where there is fluid constantly on the downstream side. It opens to the full relieving capacity



at 20 per cent overpressure, rather than the approximate 35 per cent in conventional relief valves. The Farris diaphragm relief valve opens as a result of pressure on the diaphragm and as its area is greater than that of the conventional disc, the force is greater. The diaphragm type of valve will close at the set pressure, and there is no loss of pressure as a result of the valve bleeding down below the set point. These features make this valve particularly applicable where it is used as a control valve, for controlling the pressure at the relieving point, rather than the use of a reducing valve.

Manufacturer: Farris Engineering Co., 345 Commercial Ave., Palisades Park, N. J.

(Technical Literature, page 216)



Here is the SECRET of Positive Automatic Temperature Control

WHITE-RODGERS automatic temperature controls operate on the principle of expansion and contraction of a liquid with heat and cold. This principle is the secret of positive control. Hydraulic-Action is an exclusive feature of White-Rodgers automatic temperature controls. Write today for engineering data for your present or post-war products.

Here's How It Works:



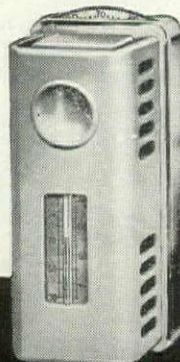
CONTRACTED

At left is a cross-section of the diaphragm and part of the liquid-filled capillary. The liquid has contracted, the diaphragm moving inward, causing the switch to function.



EXPANDED

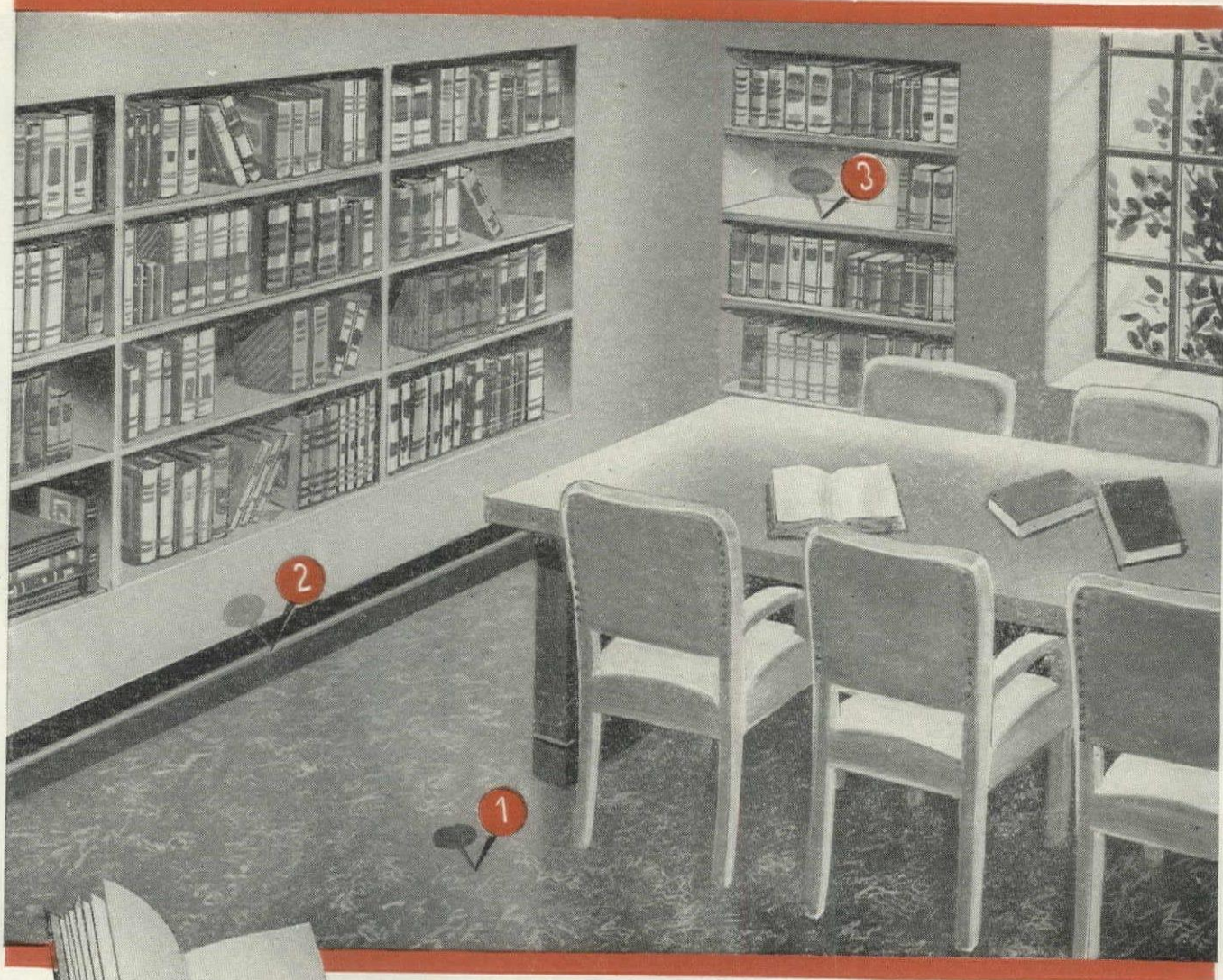
In view at left, the liquid charge of the capillary has expanded with a rise in temperature. This positive force moves the diaphragm outward and causes the switch to function.



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Controls for Refrigeration • Heating • Air Conditioning



Ideas for Architects

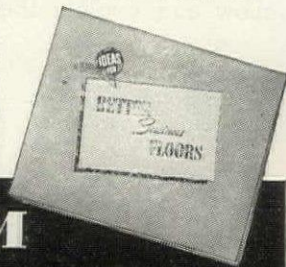
designing school libraries

1 Resilient floors of Armstrong's Linoleum cushion footsteps, help give libraries a quiet atmosphere. Made in a variety of colors and designs, they form a pleasing background for many decorative schemes. And Armstrong's Linoleum can take the heaviest of traffic.

2 Linoleum cove base, a modern baseboard treatment, helps speed cleaning by eliminating dirt-catching corners and crevices. It also gives a trim, finished appearance to the room interior.

3 Book shelves and work tables when covered with Armstrong's Linoleum are easy to keep neat and attractive at all times. With proper care, they do not require costly refinishing.

YOU'LL FIND MANY MORE PRACTICAL IDEAS in our new color-illustrated book, "Ideas for Better Floors." This book shows how Armstrong's Linoleum Floors add distinction to interiors plus many other ways Armstrong's Linoleum can serve your clients. For your free copy, write Armstrong Cork Company, Floor Div., 2307 State St., Lancaster, Pa.



ARMSTRONG'S LINOLEUM



ARMSTRONG'S LINOWALL • ARMSTRONG'S RESILIENT TILE FLOORS

Electrical Living

WIRING HANDBOOK

Individual pieces of equipment should have sufficient for the load which they supply. The determining size of circuits for cooking is related to 7,000 watts, for ranges rated up to 15, 20, 25, 35

Electrical Code classifies circuits as branch circuits, and individual branch circuits. Branch circuits are used for the rating or setting of the minimum size of conductors that can be used for the rating or setting of the over-current device protecting the circuit. If conductors of a larger size are used in order to reduce the voltage drop, the change in size of the conductor does not change the classification of the circuit. For example, if the rating of the over-current device is 20 amperes, the circuit is a 20-ampere circuit, regardless of whether the conductors are Nos. 12, 10 or larger.

CHART A
KITCHENS SERVED BY CIRCUITS
GROUP A

CHART A
EQUIPMENT AND ROOMS SERVED BY CIRCUITS
IN HOME GROUP A

EQUIPMENT AND ROOMS IN HOME GROUP A			Remarks
Type of Circuit	Number of Circuits	Equipment Rooms Served	
General Purpose (15-Ampere) Circuits	2	(a) Lighting (fixed and portable)	All Rooms
		(b) Small portable appliances	
Appliance (20-Ampere) Circuits	3	(a) Refrigerator, Toaster, Fan, etc.	Living Room Bedrooms Bath Utility Space
		(b) Ironer, Hand Iron, etc.	
Individual Equipment Circuits (Fixed Equipment)	4	(a) Refrigerator, Dining-Space	Kitchen Dining-Space
		(b) Ironer, Hand Iron, etc.	
Individual Equipment Circuits (Fixed Equipment)	4	(c) Range 7000 W (25A, 240V), 11W, 2300W (d) Water Heater 3000 W (20A, 240V) (e) Heating Unit 700 W (3A, 240V), 115V (f) Radiator 315 W (20A, 240V), 115V	Laundry
			One circuit to serve kitchen, dining space, two circuits to serve laundry.
			Each appliance or equipment unit served by an individual circuit.

**LOOK TO THIS NEW BOOK
FOR THE RIGHT NUMBER OF
CIRCUITS TO MAKE PEOPLE
REALLY WANT YOUR HOUSES**

In the new Home Wiring Handbook, charts clearly show and explain the right number of circuits to

The same comprehensive assembly of pertinent technical information on all other phases of electrical needs is included in this 120-page reference book. Use this valuable timesaver to guide you in designing and planning homes. Costs one dollar. Send coupon below.

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Westinghouse

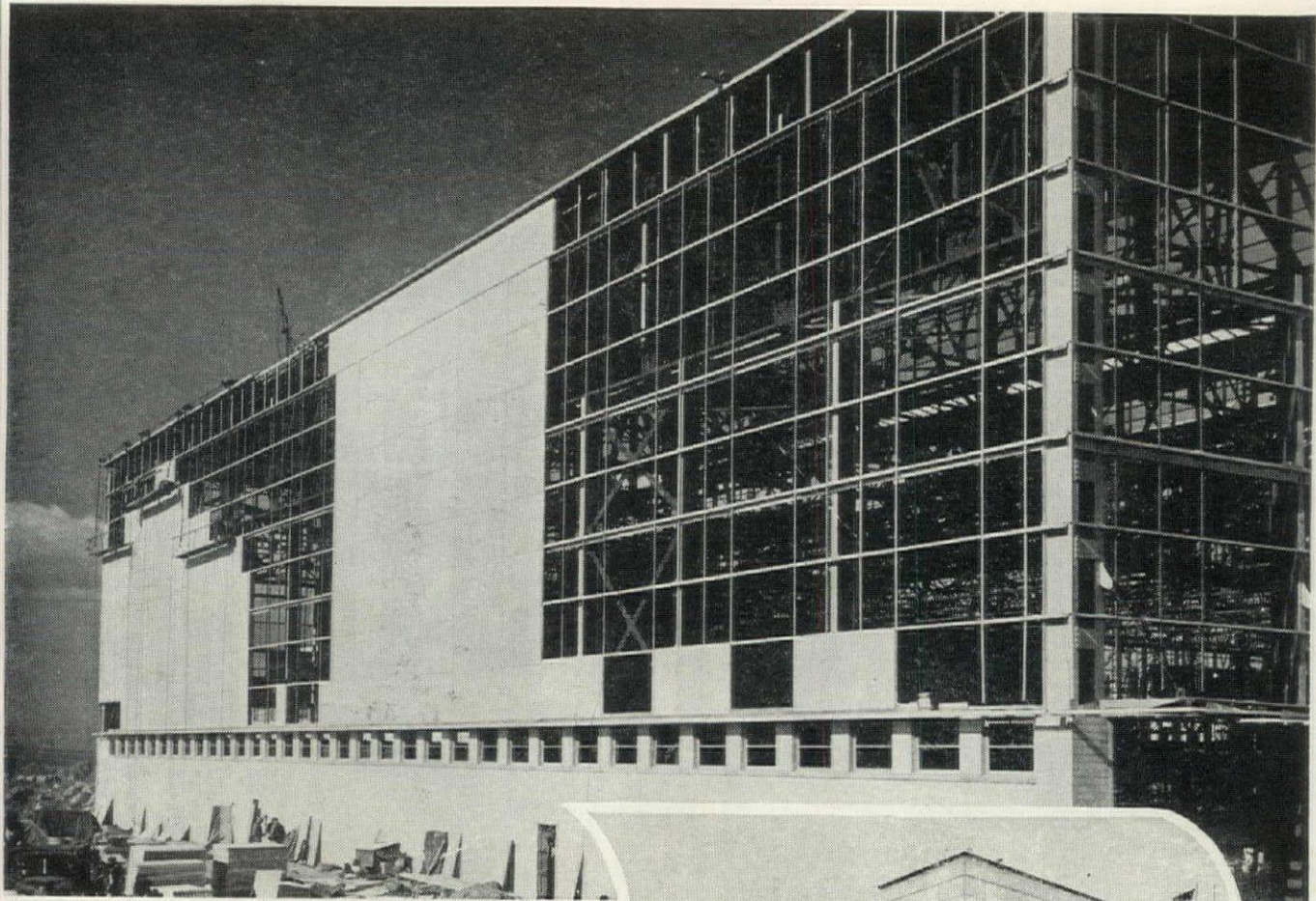
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

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

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

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



J-M TRANSITE

simplifies construction

...and it's attractive, modern, durable!

HERE is construction in the modern trend . . . using Johns-Manville Asbestos Corrugated Transite for the exterior walls.

Quickly applied over light steel framework, the fireproof, rotproof Transite sheets effectively carry out a design that is modern in appearance . . . streamlined for production!

In this instance, the large Corrugated Transite sheets are bounded by areas of flat asbestos sheets, producing an attractive two-tone effect.

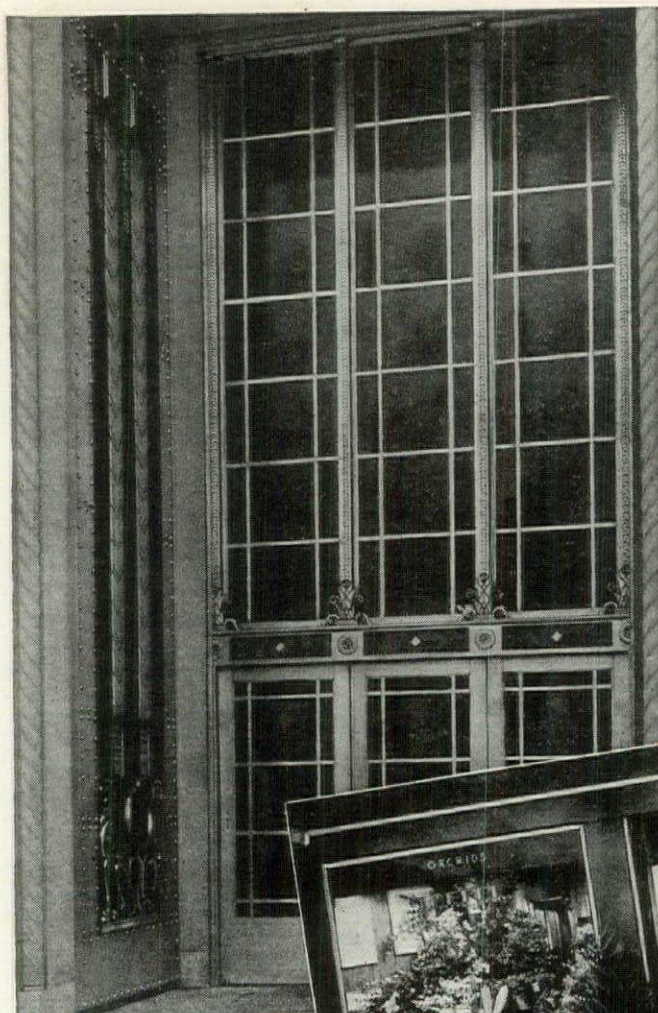
Used alone . . . or in combination with other building materials . . . Johns-Manville Corrugated Transite sheets are adaptable for all kinds of industrial construction.

They require no painting, no preservative treatment, no upkeep expense. Made of two practically indestructible materials, asbestos and cement, they're highly resistant to acids, fumes, and severe temperatures. And because they're easily dismantled, they're 100% salvageable!

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Johns-Manville CORRUGATED TRANSITE



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Washington, D. C.
Zantzinger, Borie & Medary, Architects



Office Building at 608 Fifth
Avenue, New York, N. Y.

Store Front, Rockefeller Center, N. Y.



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Chicago, The New England Life Insurance Company Building in Boston and The Oregon State Capitol.

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SIX CONSECUTIVE ARMY-NAVY "E" AWARDS

(Continued from page 210)

FIREPLACES. Book of Successful Fireplaces, How to Build Them, Eleventh Edition, 80 pp., 8½ in. by 11 in. Price \$.50.

This illustrated manual of fireplace facts and practice places emphasis on the masonry fireplace, giving plans and descriptive text to inspire the design of fireplaces that burn cleanly, giving maximum warmth. A chapter is devoted to the Donley Heatsaver, a heat circulating type of fireplace. Outdoor fireplaces of various sizes and types are presented with designs, photographs

and helpful discussions. Other chapters cover fireplace history; troubles and cures; fire tending and amateur fireplace building. This edition incorporates an interesting chapter on Scandinavian type fireplaces and will be sent free to architects making request on their letterhead. The Donley Bros. Co., 13900 Miles Ave., Cleveland 5, Ohio.

RESEARCH AND INVENTION. New World of Machines, 308 pp., 6 in. by 8½ in. Price \$3.

An exciting and timely book, by Harlen Manchester, about the inventions and discoveries which will reshape the post-war world. The subject matter is not

Wellsian dream concept but facts obtained from scientists and research laboratories. Intricate processes are explained with great simplicity for the average nontechnical reader. The book, divided into three parts, covers all of the important research and wartime developments in industry. The first part covers electronics, television, radar, lenses, polaroid glass and fluorescent lighting. Part two covers the improvements in octane gasoline, the power engines of the future and the helicopter. Part three covers new materials and methods with such subheads as plastics, artificial rubber, metal dust casting, and air conditioning. The book is carefully documented and is an accurate reporting job on the shape of things to come. Random House, New York City.

TOILET COMPARTMENTS. Sanymetal Toilet Compartments and Toilet Room Environments, Catalog No. 83, 16 pp., 8½ in. by 11 in.

Five types of all-metal toilet compartments for postwar installation are described and colorfully illustrated. Three types will be available in three different finishes Porcena (porcelain on steel); Tenac (baked on paint enamel over galvanized bonderized steel); and baked-on painted enamel finish over regular finish, cold rolled steel. Information on Sanybestos type toilet compartments with steel posts and headrail bracing for wartime installation is included. Each type is adequately described and illustrated. Specifications and details explain the numerous types of toilet and shower compartments. The Sanymetal Products Co., Inc., 1701 Urbana Rd., Cleveland 12, Ohio.

ADHESIVES-COATINGS. Miracle Adhesives and Plastic Coatings, 4 pp., 8½ in. by 11 in.

This pamphlet combines data on the properties and characteristics of Miracle adhesives and plastic coatings, and gives information on a few typical applications to convey an understanding of their functions and potential uses in construction, modernization and maintenance. Miracle Adhesives Corp., 852 Clinton Ave., Newark 8, N. J.

CONTRACTS - SPECIFICATIONS. Engineering Contracts & Specifications, 188 pp., 5¾ in. by 8½ in. Price \$2.25.

This book, suitable for reference and textbook use, is a guide in writing legal-proof private or government contracts and specifications and includes examples of various contract documents for both private and public work to illustrate the text. Useful to practicing engineers, architects, contractors and college students, the scope was determined by a course in contracts and specifications (Continued on page 220)



*"There's going to be a lot of rain, Noah—better use **SISALKRAFT**"*

Too bad, Noah, you didn't have an "Arkitekt". Then you'd have had Sisalkraft in the Master Specifications. You ran into a lot of dampness, to say the least, and from what we've heard, a lot of stormy weather. Sisalkraft has a reputation for shutting out both — plus dirt and dust, although you probably weren't bothered with the latter.

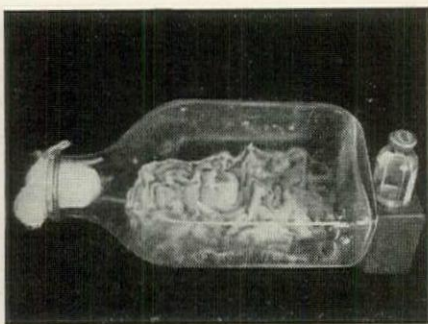
And, Noah . . . if you'd had manpower troubles, the fast, easy application of Sisalkraft — the elimination of batten strips — the little or no waste in handling — would have saved many ark hours.

We'll grant you didn't have to consider cost. But, if you were building an ark today, or a good house, Sisalkraft's low cost would carry a lot of weight.

War production has restricted immediate availability — but after the war, as before, the Sisalkraft dealer organization will be ready to serve you in 48 states.

Manufacturers of SISALKRAFT, FIBREEN, SISAL-X, SISALTAPE AND COPPER-ARMORED SISALKRAFT

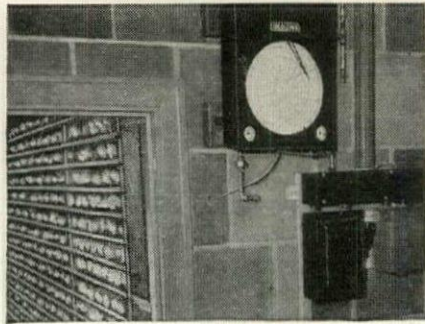




1. Quart flask containing Penicillin culture after seven days of incubation. The small bottle on the right is about $\frac{3}{8}$ full of liquid Penicillin, the only portion that is used for medicinal purposes. It takes many of the larger flasks to produce the small quantity contained in this bottle.



2. Starting growth of Penicillin. In this small, sterilized and enclosed room, the operator feeds powdered Penicillin culture into the flasks containing a corn starch base mixture. The flasks are then sent to the incubation room.



3. One of the many incubation rooms. Flasks remain here for seven days of incubation to produce the mold growth shown in the first picture. At upper right, outside the incubation chamber is a Brown recording controller that maintains the required constant temperature during incubation.

Penicillin

Production Only Possible with Controlled Temperatures

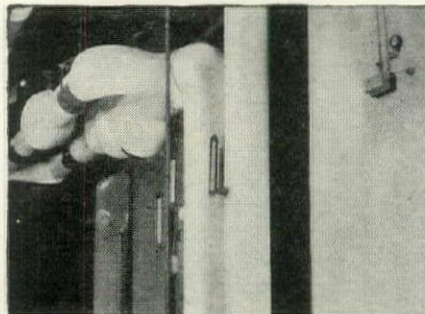
Penicillin has been called the modern miracle of chemotherapy. Since the news of its discovery was released to the world, just before Pearl Harbor, it has saved thousands of our soldiers' lives and limbs. And, according to medical scientists, its future possibilities in combating infections and infectious diseases are almost unlimited.

In the manufacture of Penicillin on a commercial scale, accurate temperature and humidity control is one of the most vital factors. In fact, technicians say it would be impossible to maintain the rigid standards of quality in the quantities in which it is now being manufactured, without the sensitive and accurate control of temperature and humidity that is made possible by the use of Minneapolis-Honeywell thermostats and Brown precision instruments.

Pictured here are the important steps in the production of Penicillin by one of America's leading biological and pharmaceutical manufacturers — the Lederle Laboratories at Pearl River, New York.

* * *

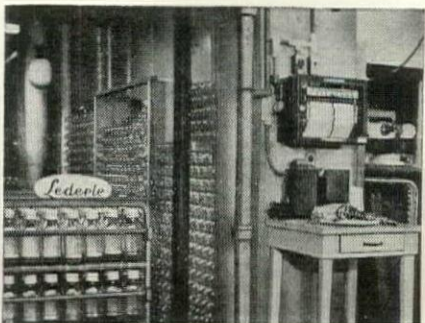
Minneapolis-Honeywell temperature controls are now busy on thousands of war production jobs. After complete victory they will continue their leadership in the control of all kinds of manufacturing processes where temperature and humidity are vital factors. Brown Instrument Co., Philadelphia, Pa., a subsidiary, and Minneapolis-Honeywell Regulator Co., 2740 Fourth Avenue So., Minneapolis 8, Minn. Branches and distributing offices in all principal cities.



4. Main air conditioning system which supplies conditioned air to the incubation rooms. At right is a Minneapolis-Honeywell thermostat for controlling dewpoint temperatures.



5. Sealing Room, where small bottles of liquid Penicillin are sealed after removal from the refrigeration room. They are now ready for shipment. The sealing room is maintained at constant temperature by the Honeywell thermostat at upper left.



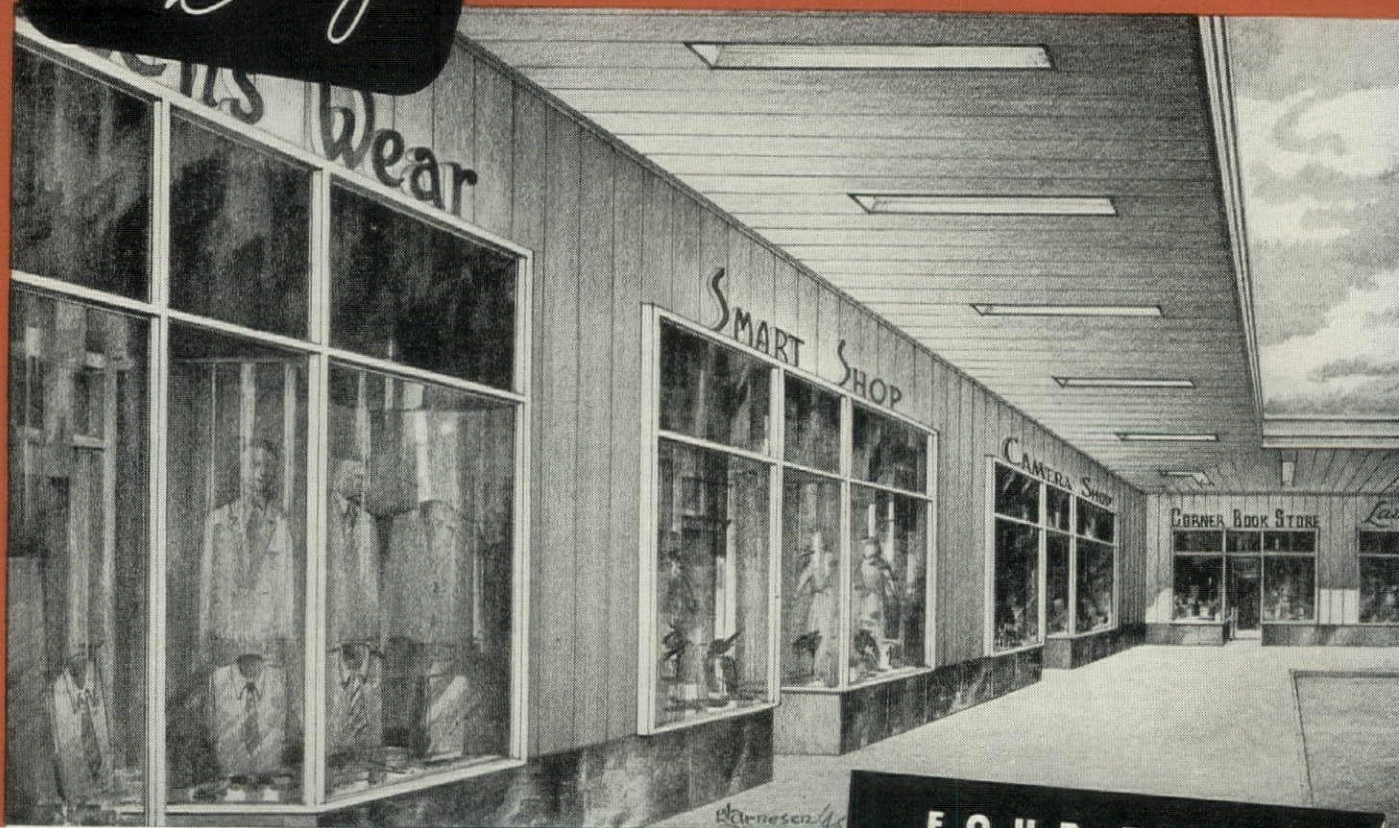
6. The beginning of another cycle. Emptied flasks are brought into this room on a conveyor belt, the flasks are cleaned of mold, washed, sterilized and re-filled with the corn starch base solution. Mounted on the wall, over the small table, is a Brown recording potentiometer which accurately records the temperatures maintained during the process of production.

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS

FLEXIBILITY

in Design

with fast-erected steel panels



New Fenestra Building Panels . . .

a practical system of fast construction of attractive buildings for many purposes

The new Fenestra Building Panels combine structural elements and finished surfaces, for floors, walls, roofs and partitions, ready to receive finishing treatments, and affording cells to house service facilities—wires, ducts, pipes, etc.

In the model shopping center illustrated above, an application of Fenestra Building Panels is suggested. Note how Type A Panels are cantilevered to provide a sheltered walk, the upper side affording a flat surface for receiving waterproofing, and the under side a smooth, attractive soffit with recessed lights.

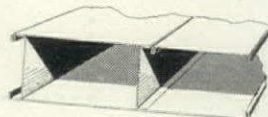
The walls are Type C Panels, filled with insulating material, and vapor-sealed. Provision can be made for the application of porcelain enamel and other decorative treatments.

Inside the building, Type A Panels are laid beam to beam, locked together for a tight-fitting floor, ready for hardwood, linoleum or carpet.

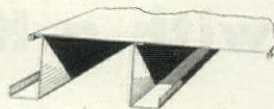
In stores, warehouses, factories, schools, hospitals, residences and many other types of buildings, Fenestra Building Panels are ideal for floors, walls, ceilings, roofs and partitions. Write for detailed information.

FOUR TYPES

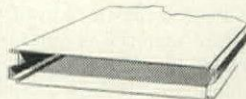
TYPE A. Two channels with top and bottom plate which, with service cover, form two-cell box beam.



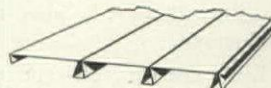
TYPE B. One flat surface, two channel-type ribs. Flat side up or down, inside or outside.



TYPE C. Horizontally or vertically, for walls. Normally filled with insulation at the factory.



HOLORIB. Steel Roof Deck with triangular-shaped ribs 6" on centers, 1 1/2" deep, for spans to 8'.



Standard width of Type A, B and C Panels, 16", in # 20 to # 10 gages. Holorib in # 20 and # 18 gages.

Fenestra

BUILDING PANELS FOR

ROOFS

FLOORS

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Please send me, without obligation, information on Fenestra Building Panels.

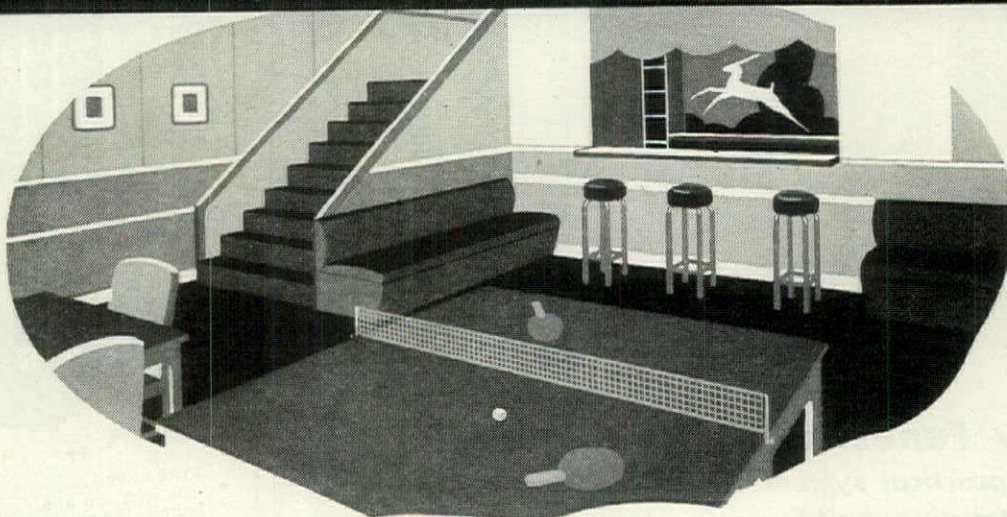
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Company

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.....your product can be improved with a Kimpreg* Surface

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

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

KIMPREG adds the following advantages to plywood: 1) increases durability and flexural strength; 2) provides resistance to

moisture and vapor; 3) armor-plates against extreme abrasion; 4) diminishes grain-raising effects; 5) makes the material scuffproof, splinterproof, snag-resistant; 6) affords a stainproof, washable, "wipe clean" surface; 7) creates resistance to chemical action, decay, temperature-extremes, fire, vermin, and mold. Moreover, it is warm to the touch, does not have the chill "feel" of metal surfaces.

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

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City State

Among the users of KIMPREG are: Buffelen Lumber & Manufacturing Company; Olympic Plywood Company; Washington Veneer Company; and The Wheeler, Osgood Company; all of whom are currently producing a Douglas Fir Plywood surfaced with KIMPREG. This product is sold under the trade name of Inderon.

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Los Angeles, California, Post Office and Courthouse
Office of the Supervising Architect, Washington, D. C.
W. Englebert Reynolds, Commissioner of Public Buildings
Gilbert Stanley Underwood, Consulting Architect



ALCOA

FIRST IN ALUMINUM

REG. T. M.



(Continued from page 216)

taught by the author, Robert W. Abbott, in the School of Engineering, Columbia University, and much of the material was derived from experience in large volume construction work. A chapter is devoted to a brief summary of the elements of business law. Contract procedure is developed for private practice but matters in which government practice differs are pointed out, and certain unique features of government contracts are explained. John Wiley & Sons, Inc., 440 4th Ave., New York 16, N. Y.

REQUESTS FOR CATALOGS

WILLIAM A. ROSE, Structural Engineer, 101 Park Ave., New York 17, N. Y.

PFC. THOMAS C. MAGLIONE, Construction Engineer, M.O.M.U., 1848 S.C.U. Camp Hood, Texas.

WADSWORTH, BOSTON & TUTTLE, architects, 57 Exchange St., Portland 3, Me.

CARLOS B. SCHOEPL, architect, 3520 N.W. 45th St., Miami, Fla.

G. W. STICKLE, architect, 3870 Carnegie Ave., Cleveland, Ohio.

VIRGEL A. DAVIS, architect, Henderson Bldg., General Delivery, Odessa, Tex.

CPL. N. E. VILES, U.S.M.C., Reproduction Div., 100 Harrison St., San Francisco, Calif.

REQUESTS FOR INFORMATION

Office of LASZLO INC., modern interiors, 362 North Rodeo Drive., Beverly Hills, Calif., would like information on home movie installations, air conditioning and heating in relation to air conditioning.

T. S. NARAYANA RAO, B.E., architect & engineer, "Aruna," East Road, Basavangudi, Bangalore, S. India, would like to receive catalogs, literature and technical data on all products connected with the building industry.

J. P. MULCAHY, Napier Hotel, Bridge Road, Richmond, Victoria, Australia, would like to receive catalogs and literature dealing with the building trade.

RICARDO C. HUMBERT, industrial designer, Migueletes 1326, Buenos Aires, Argentine, So. America, would like to receive literature and information on all products, tools and machinery which might be exported after the war.

EDUARDO MORGENS, building contractor, Compania 1289 Of. 11, Santiago, Chile, So. America, would like to contact exporters of tiles, colored bathrooms, indirect lighting fixtures and other equipment for apartment houses and theaters which can be exported at present.

G. M. WILLIS, Room 8, Marais Court, 16 Wale St., Capetown, So. Africa, would like to receive information on hospital work generally, particularly tuberculosis hospitals.

N. C. STONEHAM of Stoneham & Kirk, architectural Advertising Agents and Consultants on Housing Equipment, 50 Bloomsbury St., Bedford Sq., London, W.C.1, England, is interested in receiving literature, and information on materials and equipment for the home.

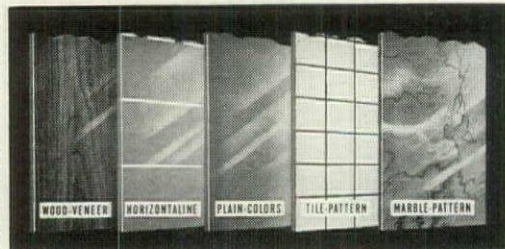
ADAM MULLER, 30 E. Hoffman Ave., Lindenhurst, L. I., N. Y., is interested in receiving literature and information on postwar remodeling of kitchens.

CAMERON M. MACKINTOSH, architectural designer, 2615 Point Grey Road, Vancouver, B. C., Canada, would like to receive literature on products to be used in postwar houses with the possibility of having agencies for western Canada.

WILLIAM L. DAWSON, P.O. Box 136, De Aar, So. Africa, is interested in American building materials for import.

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For
Interiors
of
Character,
Charm,
and Color



Architects—seeking an interior wall surfacing material that unconditionally assures authentic reproduction of their original design ideas—will find the inherent beauty, charm and color of plastic-finished Marlite panels ideal for bringing their drawing board creations to vibrant life.

Manufactured in a wide range of colors and patterns (with harmonizing moldings in presdwood, plastic, wood and metal), modern Marlite gives designers practical, decorative material that will retain its popularity regardless of changing times and tastes.

Marlite's long life and retention of original beauty is made possible by a pioneer high-heat-bake finish that guards the lustrous surface against the penetrating effects of dirt and moisture. This same pre-finishing method guarantees a surface that is easily cleaned; that never needs refinishing or repainting. Moderately priced Marlite is equally adaptable for new construction or modernization. A generous sample and full information will be sent on request. Write today!



Elevator Lobby, Foley Bros., Houston, Texas. Designed by store interior designers.



Powder Room, F. W. Woolworth Store, New Orleans, by Jones, Roessle and Olschner, Architects



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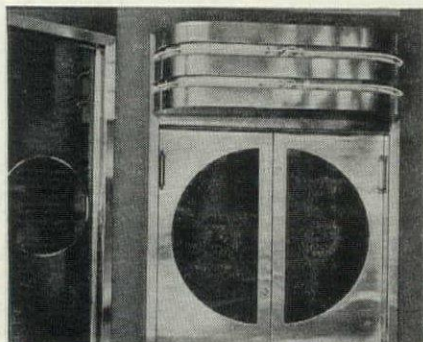
PLASTIC-FINISHED WALL PANELS • FOR CREATING BEAUTIFUL INTERIORS

New Store Design

GOES PRACTICAL

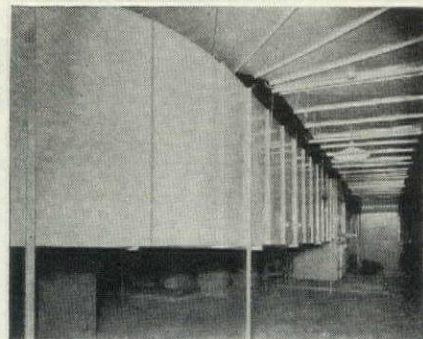
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Colorful, long-lasting porcelain enamel on U·S·S VITRENAMEL makes a very attractive, eye-catching store front. It is beautiful, durable and easy to keep clean.



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U·S·S STAINLESS AND HEAT-RESISTING STEELS to provide permanent beauty, assure high resistance to corrosion and heat, and to reduce weight.

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UNITED STATES STEEL

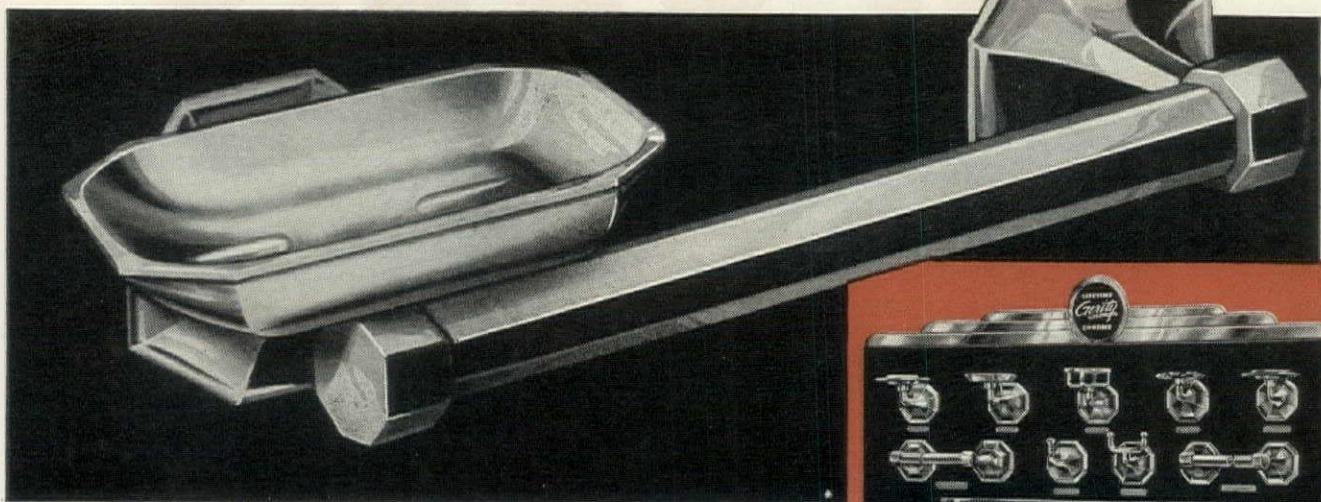
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\$100,000,000
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**War Bonds are the world's safest investment. Buy all you can . . . and
KEEP all you buy!**

Place Your "LIFETIME CHROME" Order Now!



America's Most Beautiful Chromeware — and Guaranteed for Life

Gerity expects to be one of the first manufacturers of chrome-plated bathroom accessories to be in production when manufacturing restrictions are lifted.

Naturally you want to be among the first to replenish your chromeware stock and cash in on the tremendous pent-up demand for this type of merchandise.

Our extensive and up-to-the-minute equipment will enable us to fill all orders promptly. We can still accept a few more orders for our first production run.

Dealers, architects, and builders all tell us that the new Gerity lines are the most beautiful they have ever seen. They should be—they were created by leading industrial designers and are produced by Gerity, one of the largest and most progressive manufacturers in the chromeware field, a leader in plating development and the advancement of plating methods.

Distributed in Canada by Crane Limited.

GERITY-ADRIAN MFG. CORP.
ADRIAN, MICHIGAN

Gerity chromeware is *unconditionally guaranteed for the life of the product*. This is a sales point which lifts Gerity chromeware above competition.

And Gerity helps you sell—with ultra-modern wall, counter, and window displays; with brilliantly modern packaging which you will want to place on the most prominent shelves in your store. National advertising tells the "Lifetime Chrome" story to your customers. In fact, Gerity provides all the many services required to give you a completely rounded-out advertising and sales promotion program.

If you have not already placed your order with us, write today on your business letterhead for Catalog Supplement No. 6 and prices covering the Gerity "Lifetime Chrome" lines.

LIFETIME CHROME
by
Gerity

REPUBLIC



Cedars of Lebanon Hospital, Los Angeles, California; Claud Beelman, Architect; Herbert M. Baruch, General Contractor.

THE PREFERRED PIPE

for Hospitals

...AND EVERY OTHER TYPE OF BUILDING STRUCTURE

Whatever the requirements — long service life, freedom from scale, superior fabricating qualities — you will find the answer in Republic Steel Pipe.

Long service life is assured by Republic's improved continuous weld process . . . creating a strong, tight weld that holds even under severe coiling and bending operations. Further protection in galvanized pipe is provided by a tightly adherent, non-flaking coating of corrosion-resistant zinc.

Its uniformly clean surfaces—both inside and outside—are free from valve-clogging, instrument-damaging scale.

Republic Pipe fabricates freely, too. Because it is uniformly ductile and free from hard spots, it bends and coils easily . . . cuts and threads quickly and cleanly . . . welds readily and firmly.

See Sweet's Catalog File for complete details on this modern, all-purpose pipe—or write directly to:

SEE SWEET'S FILE

*or write us for detailed information
on these Republic Building
Products*

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Enduro Stainless Steel

Toncan Enameling Iron

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Fretz-Moon Rigid Steel Conduit

Taylor Roofing Terns

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Republic

STEEL PIPE

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The advertising pages of FORUM are the recognized market place for those engaged in building. A house or any building could be built completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This FORUM does.

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"Good Housekeeping Requires Good Floors"

Hotels everywhere are acutely conscious of construction materials today. Too many customers and too few employees have highlighted to them the importance of *floors*—particularly floors that can be maintained easily and economically.

Architects specifying flooring for hotel areas can depend on Tile-Tex's having unusual *cleanability*, slip-safe surface, exceptional durability, attractive colors and designs, and speed and simplicity of installation. All of these factors plus unusually low first cost have made Tile-Tex Asphalt Tile a performance favorite with hotel men.

In cafeterias and restaurant kitchens and any other areas subject to severe grease abuse, Tuff-Tex Plastic Tile Flooring is the answer. Tuff-Tex, specially designed greaseproof flooring, will withstand severe traffic as well as grease and food abuse.

Let us assist you in any way we can with data regarding Tile-Tex products for hotel floor areas.



Ballroom of the Hamilton Hotel, Chicago, Illinois

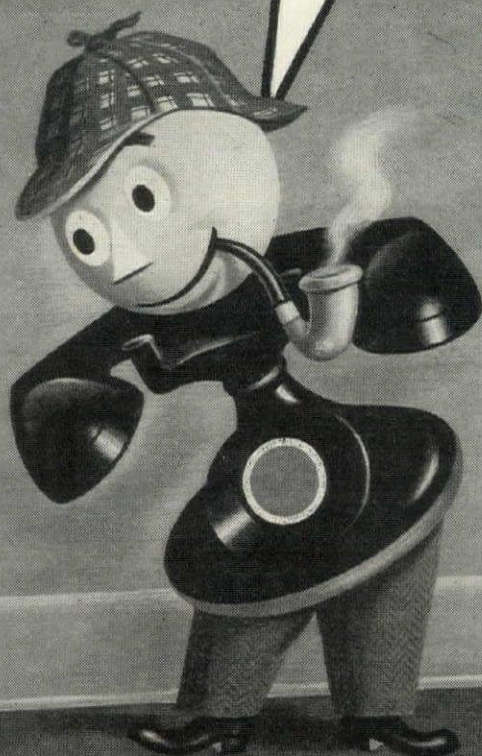
A list of outstanding hotels which have used Tile-Tex products will be sent any architect on request.

30 ROCKEFELLER PLAZA
NEW YORK CITY

The TILE-TEX Company
SUBSIDIARY OF THE FLINTKOTE COMPANY

CHICAGO HEIGHTS
ILLINOIS

LOOKS LIKE SOME ONE PLANNED AN INSIDE JOB

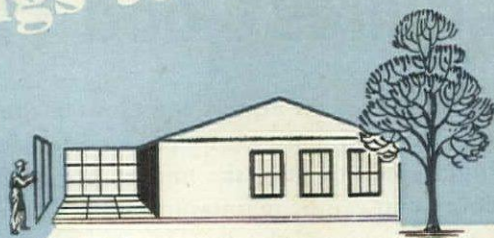


In post-war homes, built-in telephone facilities will be expected. Conduit to carry telephone wires between the walls to handy outlets costs little to install while the house is being built or remodeled. But it must be planned for in advance. Your telephone company will be glad to assist you in marking your plans.

**BELL
TELEPHONE
SYSTEM**



The FRAME of Things to Come



Prefabricated Steel-Frames Past Blueprint Stage

THE KEYNOTES of post-war building construction will be speed of erection and flexibility of design. You, as a builder, an architect, or a building-supply dealer, will want to avail yourself of the possibilities that prefabricated Steel Frames have evolved from war-time testing, with thousands of buildings proved in use by our armed services.

The company that pioneered in the building industry with famous EVERWEAR "Lock-Tight" interlocking galvanized Steel Roofing, Steel Shingles, Asphalt Roofing, and other building-materials . . . "SOUTHERN STATES" experienced, 30-year-old organization . . . will help you find a place in your plans for Steel-Frame Construction. Can you visualize its possibilities in home, vacation, industrial, business, city, and farm-building achievements?

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. These Steel-Frames can be used in combination with conventional building-materials. Anybody handy with hammer, wrench and screwdriver can assemble them.

Steel-Frame construction provides greater flexibility of design because it is not limited to standard lumber lengths. With it you can economically build homes, buildings, or additions as needed, even though Steel-Frames were not originally used. It permits better insulation. It compares in cost to conventional construction-methods. For Southern home and industrial building-construction, this system is ideal because of its termite-proof foundations and framing.

Would you like further details of the progress that has been made in Steel-Frame Construction, with an eye to adapting it to your post-war plans? Write now for our new booklet: ➡

"PREFABRICATED STEEL BUILDINGS"

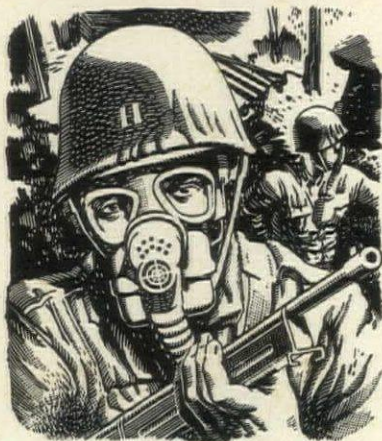


Southern States

IRON ROOFING COMPANY

General Offices: SAVANNAH, GA. • FACTORY-WAREHOUSES IN PRINCIPAL SOUTHERN CITIES

Life-Savers in Lumarith*



GAS MASK PARTS

The Lumarith* X components must fit precisely to insure vital protection. 1/64" lenses must curve to exact specifications—sealing discs in angle tube must be airtight. All the way through Lumarith X assures dimensional accuracy, toughness.



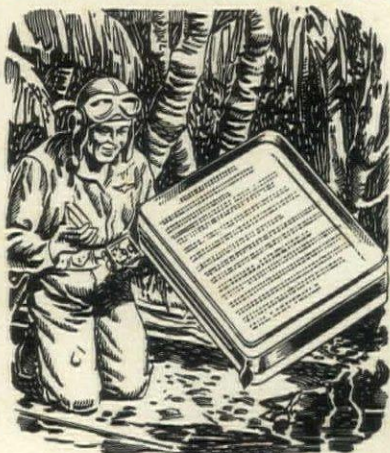
WATER TESTING KIT

This rugged Lumarith* E. C. (ethyl cellulose) container protects a set of chemicals used to test water supplies for advancing fighters. Color-reaction comparison specimens secured to the cover can be clearly seen yet protected against weather factors.



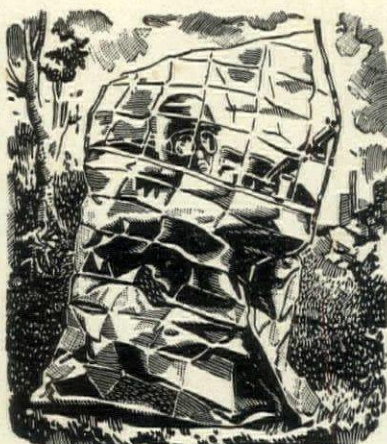
COMBINATION FLASK

First it serves as a container for emergency rations and medical supplies, then—when sealed with accompanying pressure-sensitive tape—as a flask for emergency water supply. It's made of tough, waterproof, non-shatterable Lumarith E.C.



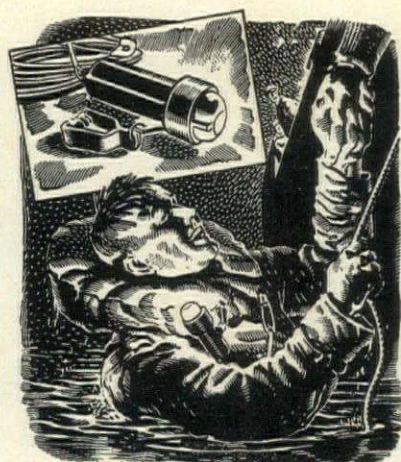
EMERGENCY FISHING KIT

Here's a real meal ticket for downed flyers awaiting rescue. Directions are permanently stamped in the container. The kit even includes a plastic lens for starting a fire. The material—Lumarith* C.A.—is water, mold and fungi proof, exceptionally tough.



GAS CAPE

Fabric, metal foil, cellophane and Lumarith foil effectively team up to protect GI Joe from poison gases. The cape is sealed with pressure-sensitive tape backed with Lumarith. For the container, Lumarith supplies waterproofness, toughness, fold strength.



RESCUE SIGNAL LIGHT

Signalling through darkness to rescue parties at sea, this Lumarith X encased battery lamp saves many a downed flyer's or seaman's life. It's tough, watertight, shock-proof—qualities that have made Lumarith plastics outstanding.

IN HUNDREDS of applications—on land, at sea, and in the air—Lumarith meets new and exacting requirements for high impact strength, waterproofness and dimensional stability.

- From spiral wound Lumarith containers for medical items, to Aero Quality Lumarith sheets for cockpit enclosures, a wide range of formulations score new highs in tensile strength, flexural capacity and surface resistance.

The war record of Lumarith Plastics highlights the great versatility of these Celanese materials. It forecasts the important role Lumarith Plastics are destined to play in the postwar construction field. Tough and colorful hardware, bathroom and kitchen accessories, transparent flexible glazing for special architectural

effects, horticulture and animal husbandry, and transparent protective films for wall papers and other wall surfacing materials are just a few of the applications in which Lumarith Plastics will serve the architect, builder and home owner.

Write for "Celanese Plastics." It is an informative and stimulating booklet that should be a part of your office files. Celanese Plastics Corporation, a division of Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

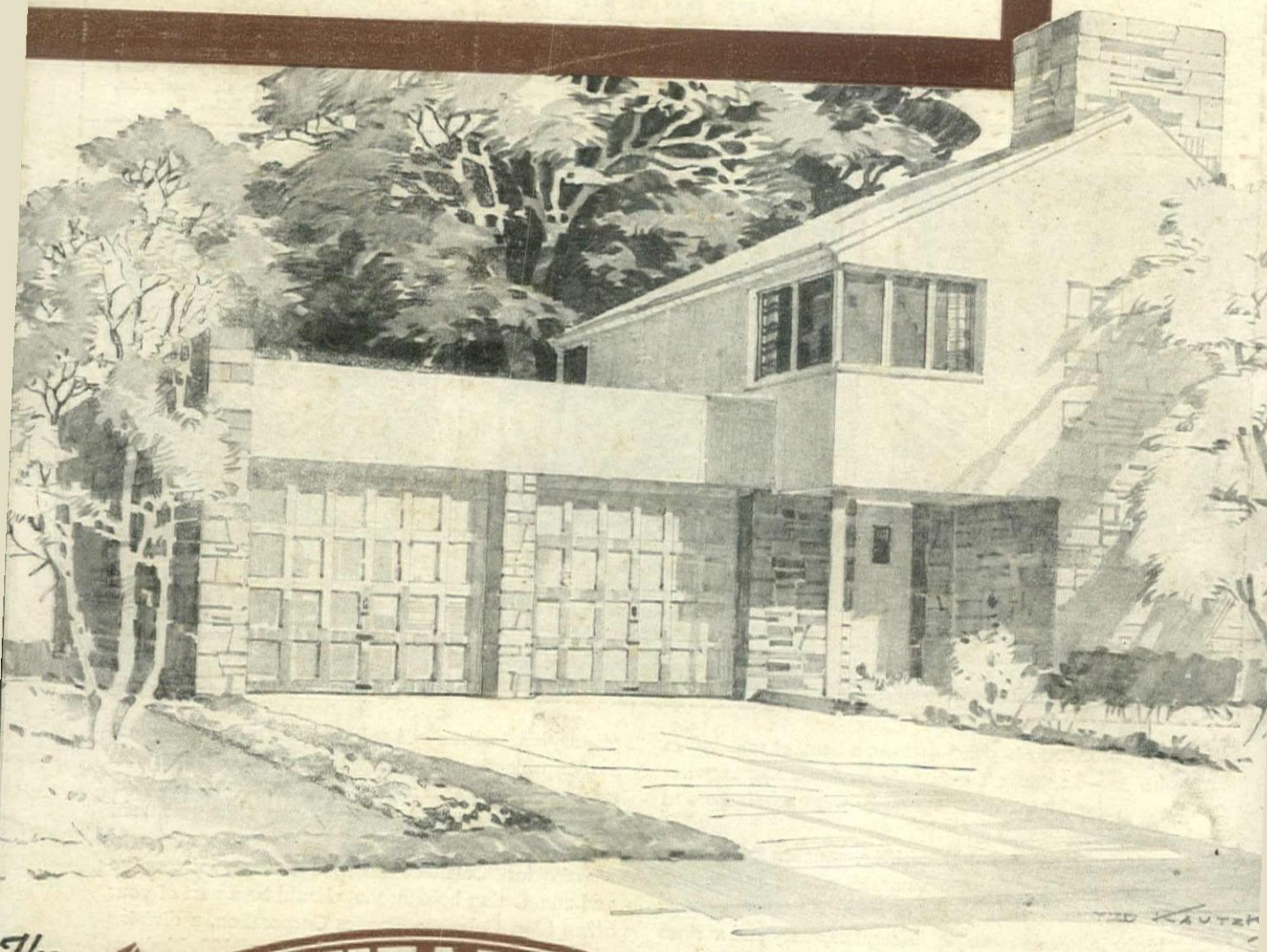
*Reg. U. S. Pat. Off.

A Celanese* Plastic

DESERVING THE *Best* IN DOORS

★ Plans perfected during the long period of restrictions on residential construction deserve the best in every detail of their execution. Doors are important. The "OVERHEAD DOOR" with the Miracle Wedge gives years of uninterrupted service and blends with any style of architecture. This quality door, weather-tight and tamper-proof, is the choice for thousands of post-war home garages.

TRACKS AND HARDWARE OF SALT SPRAY STEEL



The **"OVERHEAD DOOR"**
TRADE MARK,
WITH THE
MIRACLE WEDGE

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Any "OVERHEAD DOOR" may be manually or electrically operated. Sold and installed by Nation-Wide Sales — Installation — Service.

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