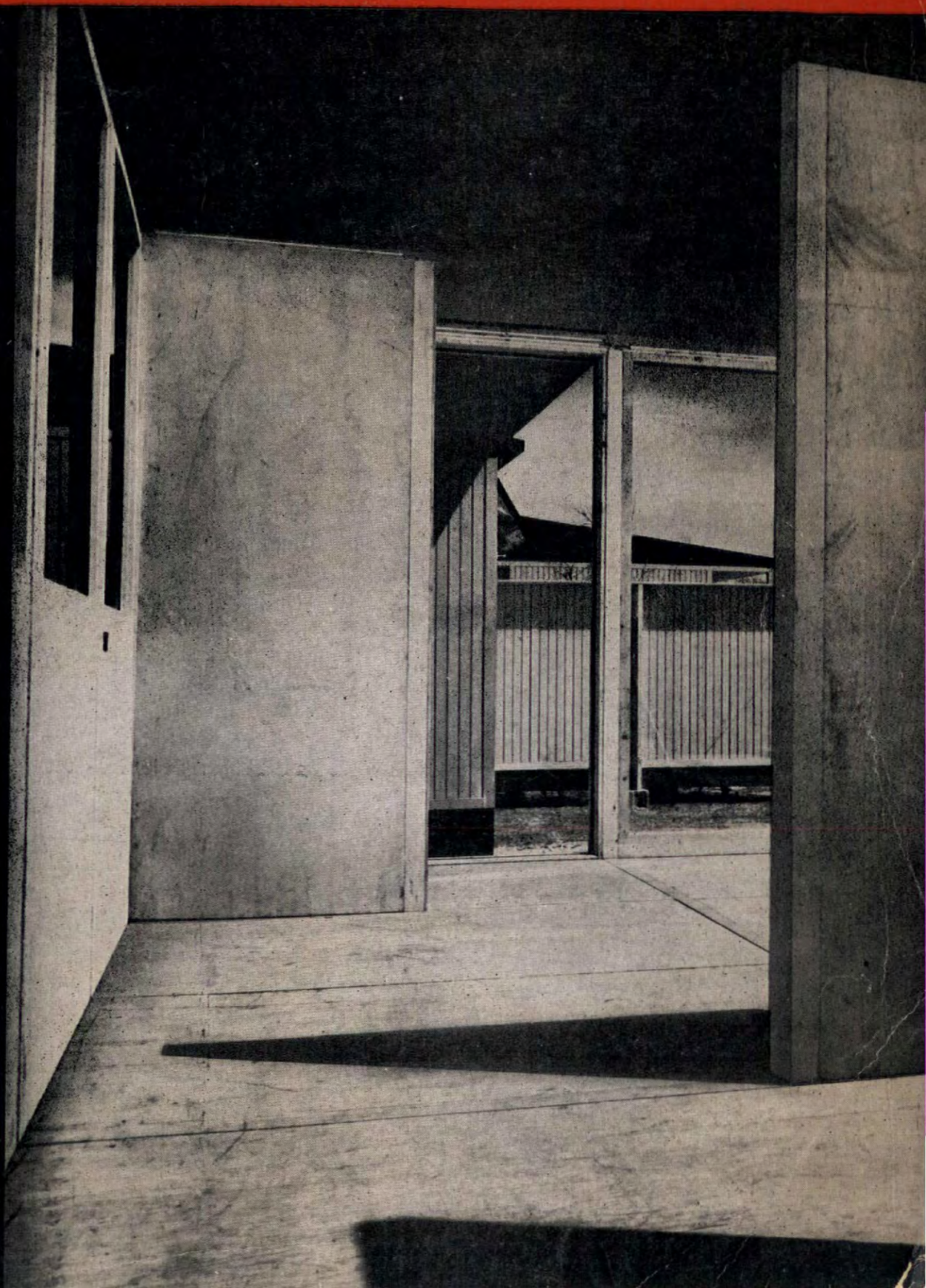
The Architectural **FORUM** Magazine of Building



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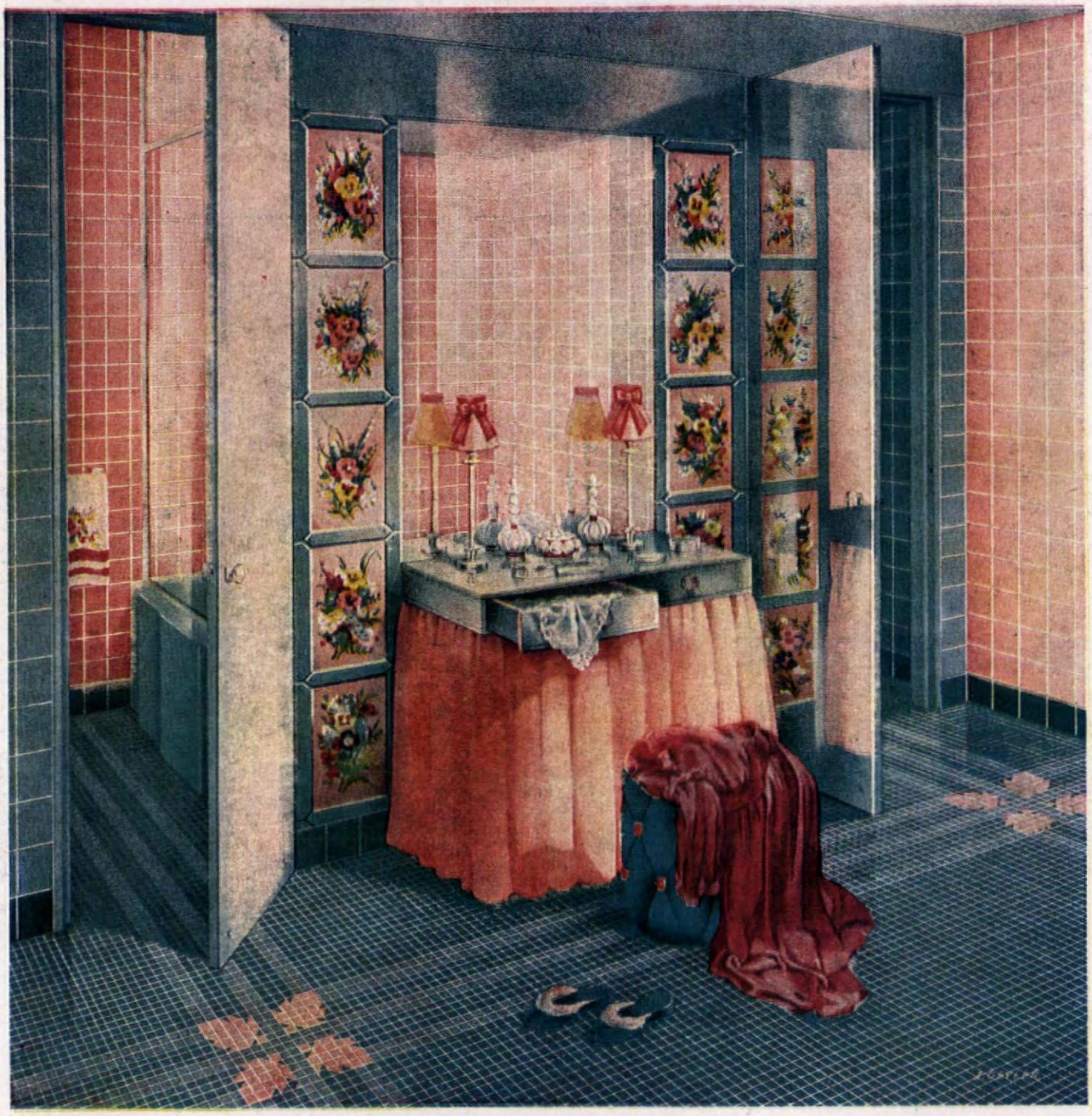
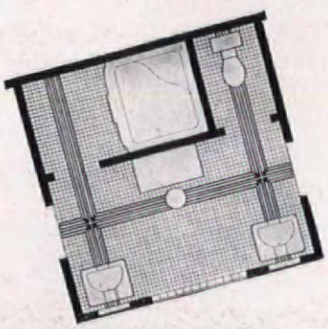


Color Balanced Suntile puts BEAUTY in the Home!



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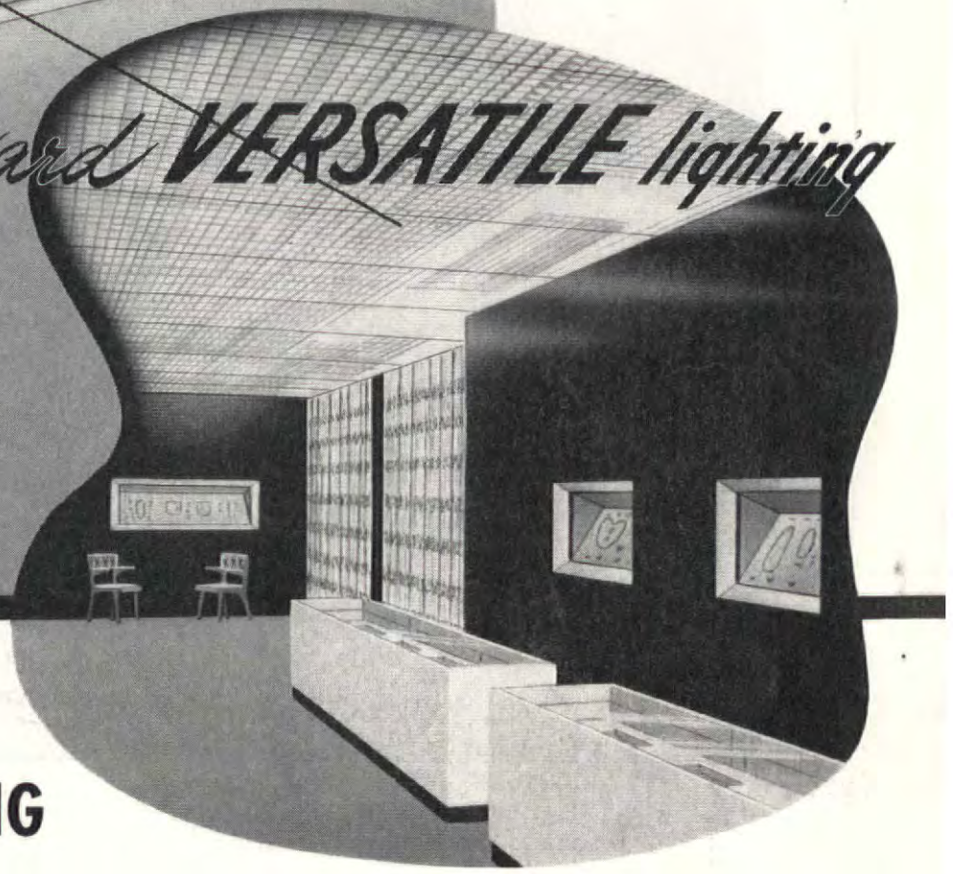
FEDERAL Cold Cathode



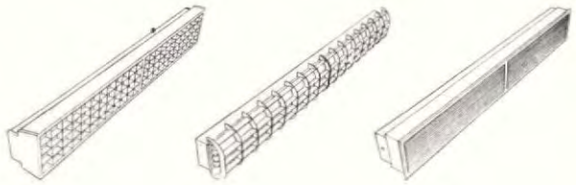
ZEON

FLUORESCENT LIGHTING

Today, the general theme is directed to flexible, continuous-run lighting. Far-sighted architects are incorporating Federal Zeon Cold Cathode Fluorescent lighting in the new buildings they are designing.

Federal's fixtures made in 8-foot units are so versatile that they allow the architect the freedom of design that has so long been associated with only custom-made jobs. Each unit, fashioned for easy conversion to continuous-run lighting, incorporates the principle of spreading the source over as wide an area as possible by using longer lengths of low surface brightness. The results are more efficient, and provide a more natural diffusion of easy-to-see-by light.

Installation of Federal Zeon Cold Cathode Fluorescent units is a sound investment in the long run. The low depreciation and long life of cold cathode lamps assure efficient operation with low maintenance costs. Federal fixtures contain all ballasts, sockets, wiring and convenient knock-outs in all race-ways for easier, more economical installing.



These versatile fixtures are available, too!

Illustrated above are three of Federal's distinctive lighting fixtures. These easily-installed units may be used in numerous ways to obtain individuality and variety in design. They can be used as individual fixtures and are easily converted, into continuous-run lighting units.

FEDERAL ELECTRIC COMPANY, INC.

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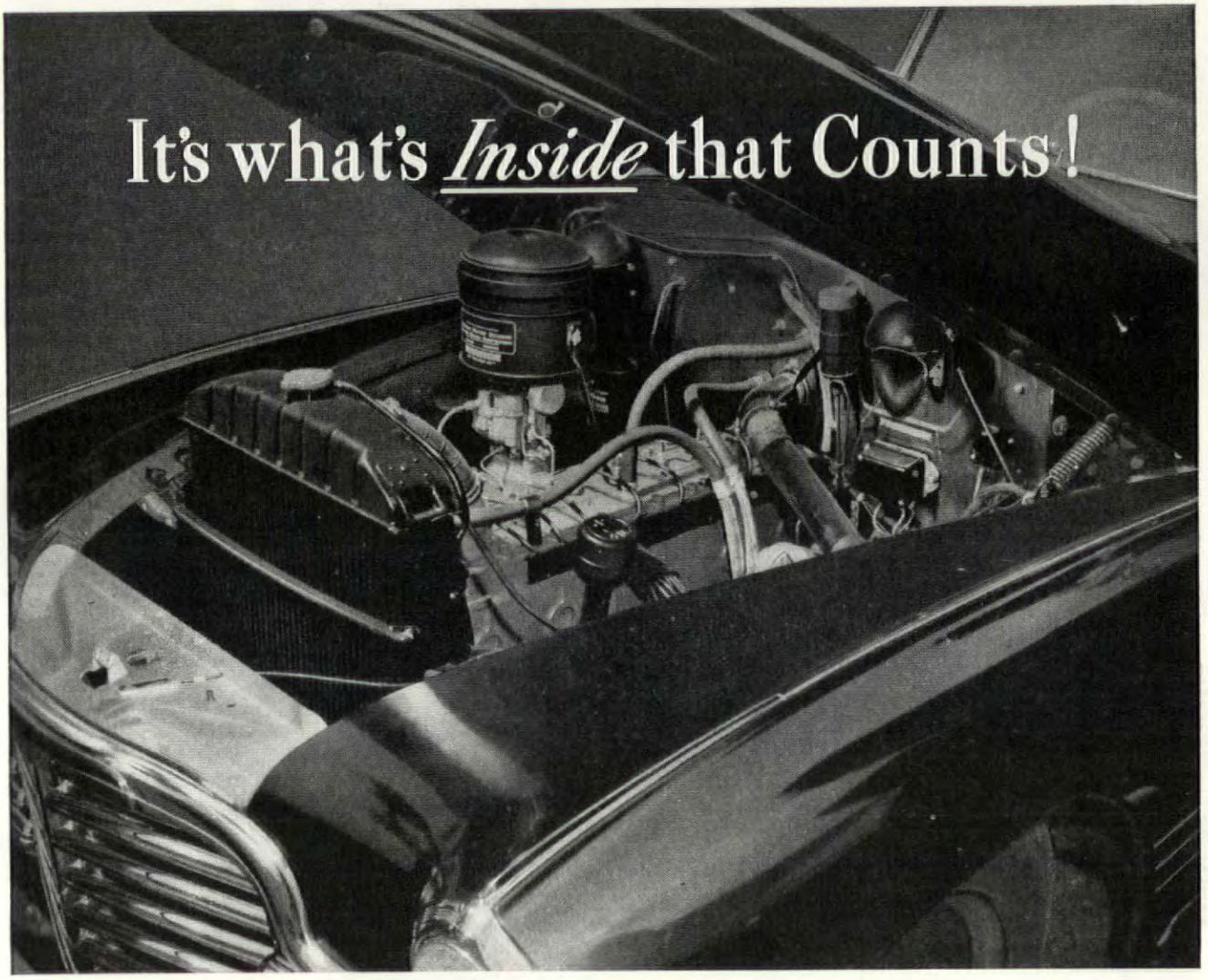

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And rigid production controls all along the line guarantee uniformly high quality of every product bearing the Celotex name.

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They make a big difference in performance . . . in long life and low cost maintenance. A difference that has proved its value on hundreds of thousands of building jobs of every kind.

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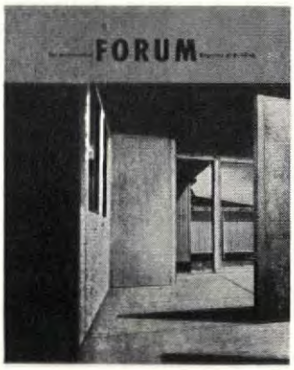

U.S. BUILDS AGAIN. General Panel Corporation's flexible system of prefabrication is first to achieve an RFC loan, FHA approval and a surplus war plant. Photo: Anna Wachsmann.

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VOLUME 86, NUMBER 2

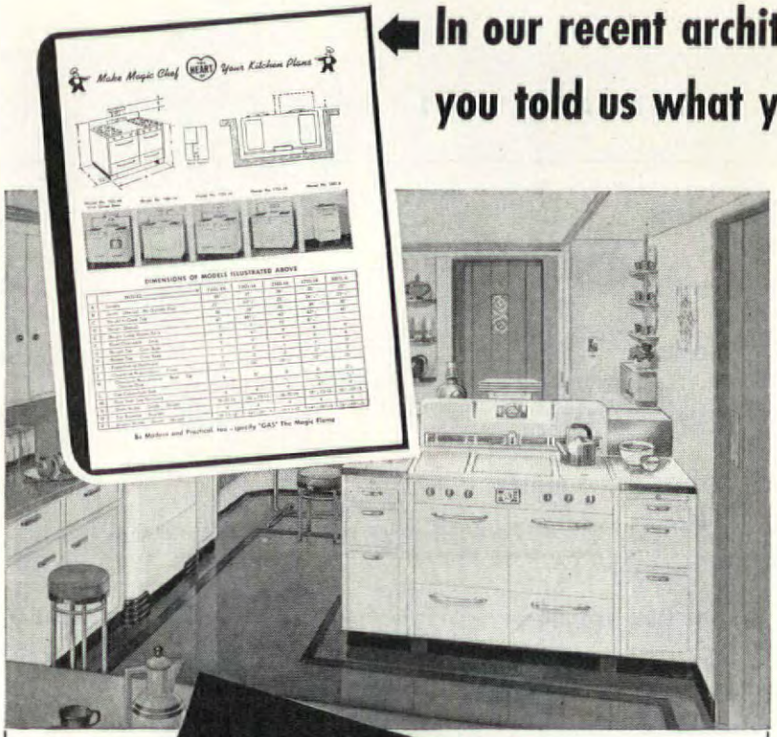
The Architectural FORUM

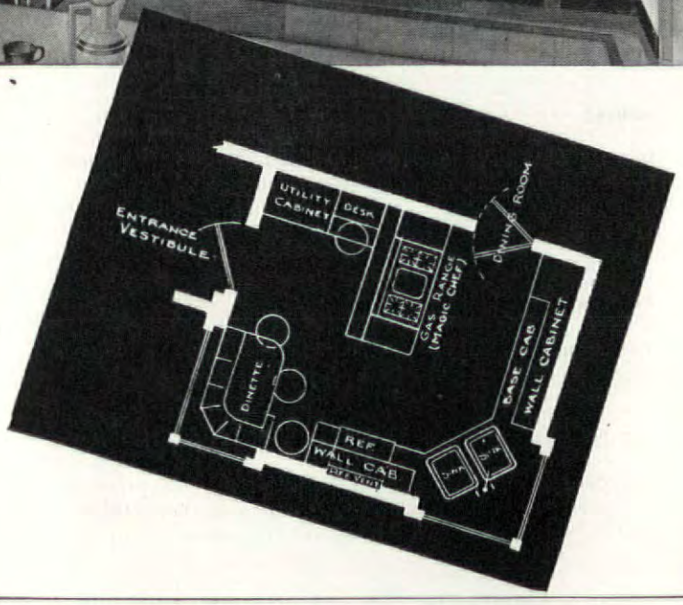
MAGAZINE OF BUILDING

FEBRUARY 1947

Send for *Magic Chef*'s KITCHEN PLANNING DATA

In our recent architect and builders survey you told us what you wanted—Here it is!





OUR KITCHEN PLANNING DATA CONSISTS OF:

1. Magic Chef Specification Page. Gives detailed measurements on 5 different models of Magic Chef Gas Ranges.
2. Kitchen Supplement showing 12 different kitchen designs offering a wide variety of arrangements and utility features to choose from.
3. Floor Plan Insert—shows the detailed floor plan of each of the 12 kitchens mentioned in item No. 2 plus detailed plans for other sections of the kitchen.
4. Kitchen Broadside shows 10 New Freedom Gas Kitchens in full color which affords excellent opportunity to study the full effects of contrasting colors in the kitchen.

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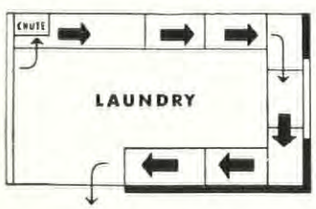
2. Information on Heavy Duty equipment for hotel restaurants ☐

A PLANNED LAUNDRY?
or just a space in the basement?



THE HOUSE PLANS are finished; the client looks over your shoulder. Charming front elevation . . . judicious disposition of living space . . . kitchen planned to full operating efficiency. "Here," you say "is the laundry"—pointing out the space with "Laundry" duly lettered in.

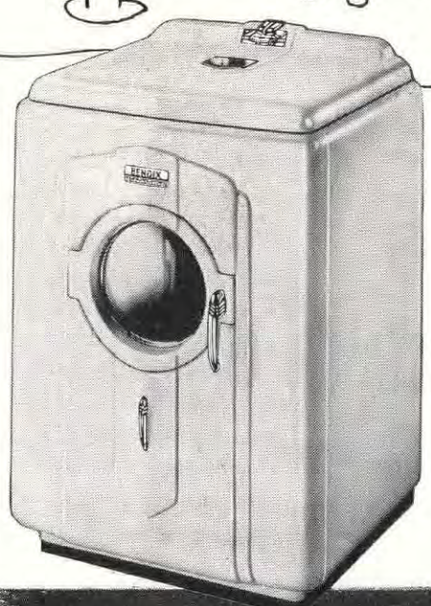
BUT *IS* IT A LAUNDRY—or just a space in the basement? When your client starts living in the house, can she have a "production-line laundry" in the space you've indicated?

SURVEYS DISCLOSE that women *want* a laundry planned to save them work . . . just as surveys show that more women want a Bendix than any other automatic washer. For the beautiful Bendix does all the washing automatically. It fits in a four-square-foot space, requires no set tubs, never slops the floor. And in most states it can be financed with the building under FHA.

YOUR PLANS will get enthusiastic acceptance if you can show your client that your arrangement of the laundry is spaced to the needs of the complete laundering operation, and planned to take full advantage of Bendix workless washing.

HERE ARE A FEW CHECK POINTS TO APPLY TO YOUR PLANNED LAUNDRY

1. The clothes chute. Has the housewife room to sort clothes and remove stains? Is there gas or electric connection for hot plate?
2. Can she work without standing in her own light?
3. Can she use an automatic washer with a ¼ H. P. motor without overloading the circuit?
4. Is there gas or electricity (230 volts) for automatic dryer?
5. Do water supply and drain lines permit automatic washer location in logical flow-of-work plan?
6. Can Ironer and Washer be used simultaneously without overloading circuit?
7. Is there provision for Ventilating Fan?
8. Can Laundry Units be arranged in logical work sequence?



BENDIX
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7 Reasons
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2. *LIGHT IN WEIGHT*
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5. *LONG LENGTHS*
6. *LOW COST*
7. *LONG LIFE*

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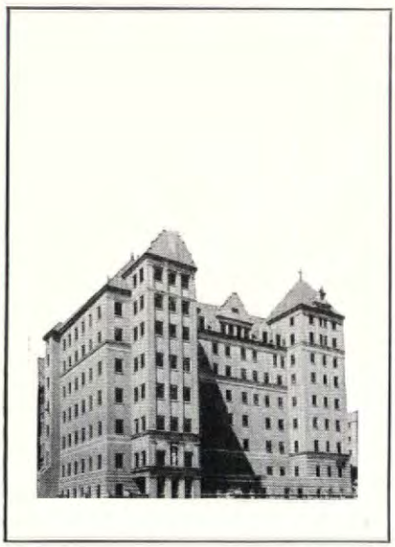

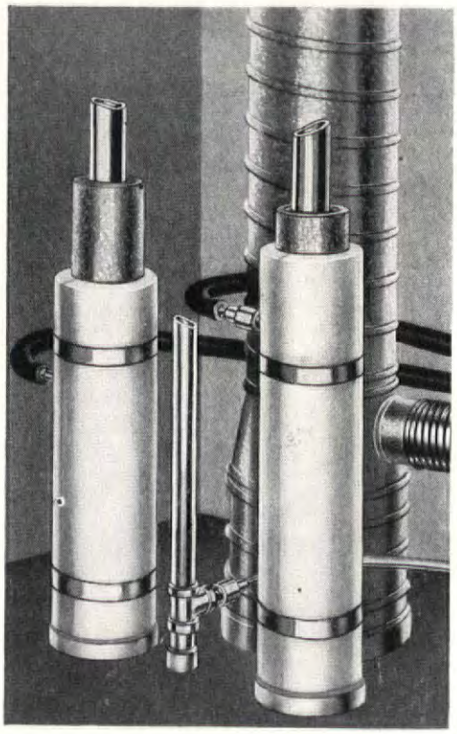

modern air conditioning keeps out of your way

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REFRIGERATION
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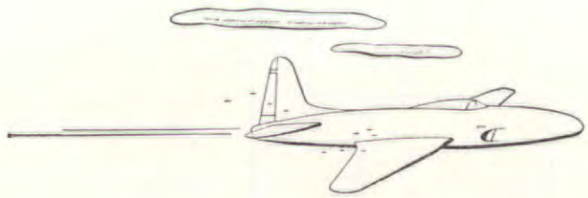
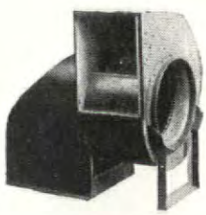


PLANES APPROACH SPEED OF SOUND --

But...

Proper Ventilation may be vastly more important to your clients

Herman Nelson Centrifugal Fans



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MOLINE, ILLINOIS

NEWS

BUILDING MONTH. With one eye on its own rising price temperature and the other on the changing political weather, Building — and Building's customers — still saw no alarming evidence that the long-promised peacetime building boom would be deflected by the moderate business depression expected this year. Building labor, too, seemed to agree that there would be plenty of work for everybody for some time to come. The trades unions were finally opening their doors to apprentices. They were also showing signs of abandoning other spread-the-work defenses. One sign: an unprecedented New York agreement under which most traditional 6- and 7-hour trades authorized an 8-hour straight-time day. This would set a pattern for other cities where contractors were tired of bidding against each other for labor by offering overtime premiums (New York contractors had found that journeymen could get as high as $262 for a 70-hour week on nearby Jersey projects).

Material prices had not yet settled down after decontrol, union wage agreements were still pending in many cities. But the price drop in a few material lines (notably brick and concrete blocks) was promising. Even more promising was the expectation that the building trades would this year ask for more moderate wage increases than those sought by the rest of labor (in Chicago, tightest of all building union towns, the trades last month settled for a 10 per cent increase, claimed it would up construction by only 2½ per cent).

Bust? There were, to be sure, a few signs of price resistance from Building's customers. Cleveland, for example, decided to defer all school building, believing that "the taxpayers' dollars will have a much greater purchasing power later." Maryland said all state building projects would be postponed while it studied "changing economic conditions." The Federal Public Housing Authority had sharply cut back its emergency housing program due to rising costs of materials and labor, and Detroit and Norfolk were threatening to sue the government, charging large and now useless expenditures for preparing sites for the temporary houses. Most alarming of all were the reports (but they were still few and scattered) of new houses going begging in a market wary of high prices and second-rate construction. Here and there, newspaper display ads on new-houses-for-sale were beginning to appear in a rather surprising volume.

Boom? But the Building front as a whole crackled with news of jobs started and jobs expected. Most of them were whoppers. The United Nations location on New York's East Side had set off a veritable flowering of the Manhattan riverfront, and the redevelopment surge was even spreading across the river to Queens, where electric signs and industrial eyesores might come down to improve the view from the UN side. As land prices in the area jumped two or three times their former price of $12 or $15 a square foot, the first big apartment project was announced: a 16-story and penthouse, $1½ million development initiated by two New York lawyers.

Backers. New York's giant insurance companies loomed up even bigger in the Building picture, moving briskly under the recently amended state law which would permit them to sock a combined purse of $540 million (3 per cent of the assets of the Big Four) into development and purchase of commercial and industrial property. Last month's moves: N. Y. Life bought $10 million worth of new plants for long-term lease to the Continental Can Co. Mutual Life bought seven Sears Roebuck retail stores for lease back to the firm. Metropolitan took a leasehold on a Fifth Avenue site (the old Vanderbilt mansion), planned to build an 18-story office building for lease to the City Bank Farmers Trust Co. and the Crowell Publishing Co. Equitable was almost ready to announce purchases of store properties in New Jersey and California.

Over the U. S. a few housebuilders were pulling out until prices settled down. On the other hand, operative builders were starting a large volume of rental housing. Prices for most building materials were still on the upcurve and by month's end had shown no sign of leveling off. But practically all Building men agreed that present price levels were still considerably lower than the black market prices prevailing before decontrol. This is how the picture looked in key cities:

Atlanta. One materials dealer summed it up: "We seem to be buying not on the basis of our storage space, but on the basis of our nerves." Lumber prices had jumped up 25 per cent since decontrol, but early last month they showed a 5 per cent drop. Most dealers predicted a price drop in all lines by spring. There was some buyers' hesitation at the prices of new houses now on the market, but not enough to be worrisome to local housebuilders, most of whom were going full-steam ahead. Only a few conservatives said they planned to wait until materials were more plentiful and labor "less triflin'."

Detroit. Builders said a slight slackening of demand for new houses had been apparent as early as the end of the last year. So far only badly located houses were going unwanted, but many builders were already concluding that the veterans' market for houses at present prices was almost exhausted and that rental housing was imperative. Holtzman and Silverman planned the biggest job: 1,200 rental units to rent for $60, built in two- to eight-family blocks along curvilinear streets in an 80-acre tract. M. M. Robinson (General Houses, Inc.) planned 1,000 rental units for an 80-acre tract he purchased last month from the Edsel Ford estate. George Miller had earmarked a half-mile square tract in north-

New York Times

FLOWERING of Manhattan's East Side includes Metropolitan Life's giant rental project, Stuyvesant Town, 8,755 units (above) and Peter Cooper Village, 2,495 units, also under construction. Two public housing projects, providing 2,286 units, are also rising along the riverfront. Soon this bustle of building activity will be further augmented by construction of the United Nations headquarters a little farther up the island, to be joined by countless private building developments.

west Detroit for row and double houses to rent, but planned to hold off until prices and supply settled down. But all builders agreed that before rental housing on the scale needed (15,000 units this year, they figured) could be started the city would have to rezone large tracts of city land, now restricted to single-family dwellings. Holtzman and Silverman said it had taken a year to get the land rezoned for the rental houses they are now about to start.

Lumber prices had risen slowly but steadily since decontrol: framing lumber was up 5 per cent; oak flooring, 15 per cent; white, ponderosa and sugar pine for millwork, 5 per cent; finished millwork, 15 per cent. But builders said they were still paying less than in OPA days, when 80 per cent of all lumber used came from the black market.

San Francisco. Milton W. Morris, head of the Associated Home Builders, thought there had been a decline of about 30 per cent in house customers. "The buyers are comparing price with value, using 1940 as par. They have been reading that the cost of living is going down and they are willing to wait." The Henry Doelger Co., now grading the land for its 880-acre development, thought the market fall-off was merely seasonal. "Sales always dry up after Christmas and before tax payments come due." The Standard Building Co., unperturbed by the decline, was accelerating its starts from three to five a day, would finish 1,000 houses this year with one-third of these to rent. Stoneson Bros. planned 400 houses this year as compared with 300 last. Lumber prices had leveled off at about $70 per thousand bd. ft., but most builders expected a price drop within a few months.

Chicago. One large South Side operator said he had sold only one of 19 houses recently completed. Buying was generally slow, and an estimated 30 per cent drop in the price of older houses was affecting the sale of new construction. Operative builders, encouraged by recent FHA Title VI changes, were making plans for small apartment units. "The new program makes it possible for builders to take a small bite at a time," said A. E. Fossier, president of the Metropolitan Home Builders Association. One big rental development was announced last month: a $10 million, 1,108 unit job. Its backers, the Southtown Planning Association, expect some city aid to level off high costs, since it will be a slum-clearance project. Common construction lumber was in good supply at $110 to $125, about $40 a thousand over OPA ceilings. Almost none of it was seasoned. Flooring and finishing grades were still very difficult to get, and prices high and indefinite. Retail yards were carrying scant stock and buying only on customers' orders.

WASHINGTON

REPUBLICAN HOUSING POLICY

Key Congressmen favor public housing.

Housing had never been so much a matter of politics. The Republicans were naturally anxious to come decisively to the rescue of homeless veterans. They were almost equally anxious to strip whatever plan they offered of any resemblance to New Deal public housing policies. Beyond this dilemma, there was another. As party leaders jockeyed for position in the Presidential line-up, it was not yet clear which partyman would be allowed to claim the credit for new housing legislation. Governor Thomas Dewey, booming his state housing program, and ex-Governor Harold Stassen both eyed jealously the housing reputation already built by leading contender Senator Robert Taft.

For all these reasons, there will be no early action on the Wagner-Ellender-Taft bill, although it will probably be re-introduced in some form within a few weeks. Taft told the U. S. Conference of Mayors last month that he hoped "we may proceed with the bill substantially as I have outlined it." But insiders said that astute Senator Taft was planning to reserve this piece of welfare legislation for use as a chaser after labor had swallowed the unpleasant legislative dose he had in mind. Few believed that housing legislation would mean much in a horse-trade with hardboiled labor leaders. But it would at least prevent Taft from being tagged as reactionary by unaffiliated liberal voters.

Senator Taft had given some thought to splitting his bill into three separate bills: 1) a public housing program of 125,000 units a year for 10 years ("about one-tenth of the total housebuilding we need"); 2) various aids to private enterprise; 3) a redefinition of federal housing machinery (housing is one problem and one agency should direct it").

Another influential Republican, Representative Jesse P. Wolcott (Mich.) had also declared himself: "There is a place for public housing and a need for it." But Wolcott was opposed to the W-E-T bill, and as chairman of the House Banking Committee he was in a key position to block it.

Wolcott's view: 1) FHA-insured mortgages should not be stretched to longer terms, because this means increased interest payments for borrowers and promises property obsolescence before the debt is liquidated; 2) too much government credit will merely increase the nation's dangerous inflationary trend; 3) private savings must be tapped to back housebuilding, and Congress should encourage multiple-family rental housing without attempting to control it. Wolcott had already launched a wholesale investigation of what the government has so far done about housing and hoped to chart past mistakes for avoidance in the future.

Wolcott was also one of the half-dozen Congressmen of both parties who have introduced identical bills calling for an RFC for veterans. While it was still impossible to tell how seriously Congress would take this bid for veterans' votes, the bill proposed an agency to make loans to veterans for almost any purpose, including housing. Its housing possibilities would differ from the existing VA-loan program by offering funds to a veteran who wanted to start a large-scale development, a slum clearance project, or the manufacture of building materials.

Congressmen's own housing problems were lending a push to a public housing program. When a bill proposing a $12 million apartment development for Congressmen to be built at government expense made its appearance, public housers gleefully reminded that chickens were coming home to roost.

For what it was worth (which was not much in the Republican-bossed Congress), President Truman's budget message had included funds for anticipated passage of the W-E-T bill. The President had called

for $1.4 billion federal building dollars over the next year. Of this, $539 million would be earmarked for housing. RFC would get the biggest slice—$443 million—to assure private enterprise a market for mortgages guaranteed by the VA and the FHA.

CEILING UP

More nonresidential building ahead.

The federal ceiling on nonresidential construction was moving upward and, officials hoped, would be out of sight by July. Last month's boost was from $35 million a week to $50 million. By April, it would likely be up to $75 million.

The January boost was a victory for General Philip Fleming, head of the Office of Temporary Controls. Against some opposition from the new Housing Expediter, Frank Creedon, Fleming had argued that most material producers would soon have excess supplies on their hands if the door were not opened wider to nonresidential construction.

Actually, the door had not been opened so wide as it seemed. The $50 million ceiling will in part merely allow for increased construction costs. Another slice of the total may go for foundations and framework—while completion of the building may be banned for the time being. CPA intends to approve foundations and structural frames in areas where there is unemployment in the heavy construction trades and where there is a good supply of cement. But additional permission will be required to finish the building. All decisions will be made on the basis of local supplies of building materials. Even if the nonresidential ceiling disappears entirely in July, this year's total of nonresidential construction will still be less than that for 1946, General Fleming said.

DYNAMITE

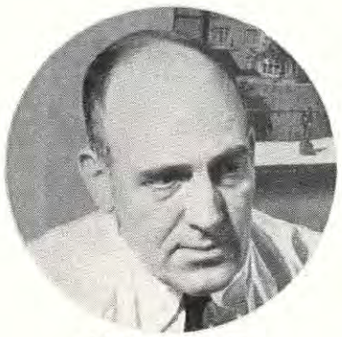
Republicans fear rent decontrol.

While four Republican senators organized support for a bill which would extend rent control to April, 1948 but provide an overall 15 per cent boost in ceilings and exempt new construction, President Truman threw the nation into turmoil by very nearly announcing a 10 per cent blanket increases in ceilings. It was still too early to tell whether this blunder would assist the Republican legislative drive. But it was safe to predict that the National Association of Real Estate Boards would not be successful in pushing its plea for decontrol for any landlord willing to give a year's lease at a 15 per cent increase. Nor would rent control be turned over to the states.

Republican enthusiasm for outright rent decontrol was rapidly diminishing. Although the Republicans were riding high on a wave of protest against all controls, they had no wish to set off the political dynamite with which the rent situation is charged. President Truman, with a belated

(Continued on page 12)

UNITED NATIONS: MEN FOR THE JOB



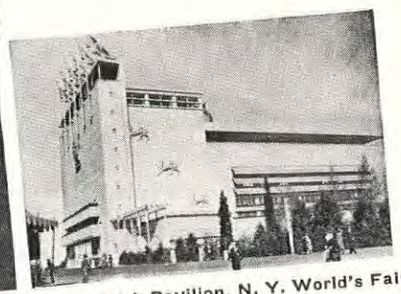
Wallace Harrison

James Dawson

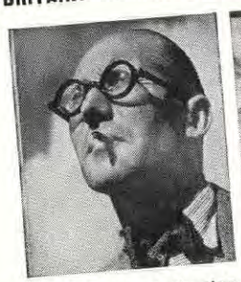
Gilmore Clarke

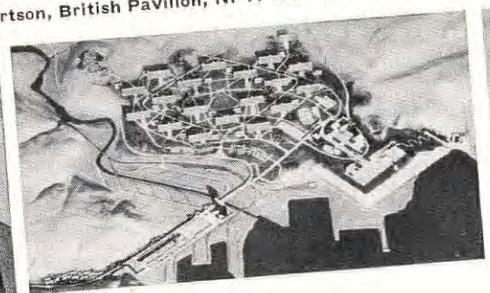
Louis Skidmore

Ralph Walker

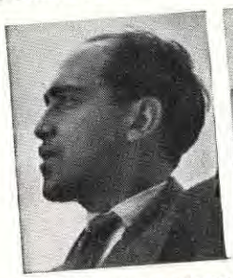


BRITAIN: Howard Robertson, British Pavilion, N. Y. World's Fair





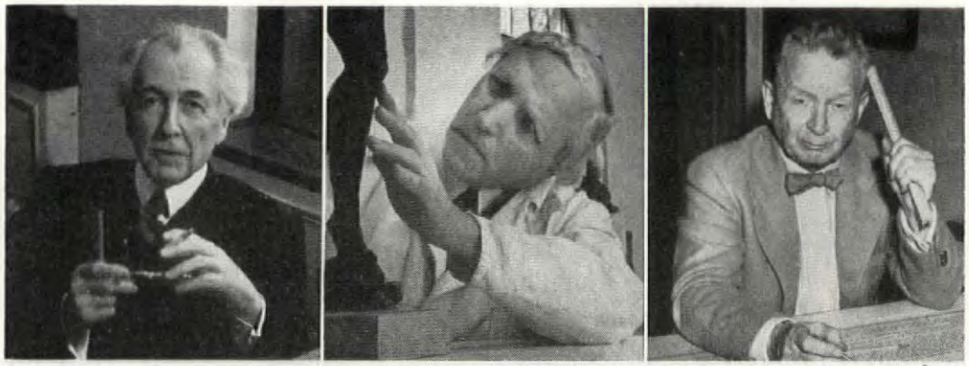
FRANCE: Le Corbusier, St. Die replanning model



BRAZIL: Oscar Niemeyer, Brazilian Pavilion, N. Y. World's Fair

U. S. S. R.: Nickolai Bassov

UNITED NATIONS architectural chief Wallace Harrison (Rockefeller Center) named as his associates the architectural firms, Voorhees, Walker, Foley & Smith (N. Y. Telephone, many other skyscrapers, temporary UN headquarters) and Skidmore, Owings & Merrill (veterans' housing, Willow Run, Oak Ridge housing), site engineers Clarke, Rapuano & Holleras (N. Y. Fair landscaping, parks and highways all over U. S.). James Dawson, as city liason, is at work on new zoning. A 10-man board will advise on design. Expected to be members: Robinson, LeCorbusier, Niemeyer and Bassov, an engineer (see cuts). Final selection will be made by Harrison but each of 54 UN members has been invited to nominate candidates. Since U. S. architectural firms are participating actively in administration, the U. S. has not been invited to name a candidate for the board. Thus the name of the man whom many believe to be the world's greatest architect (see next page) may be conspicuously missing.



HONORS last month went to these three: Wisconsin architect Frank Lloyd Wright (l.) and Swedish-born sculptor Carl Milles (c.), elected to membership by the National Institute of Arts and Letters. Finnish-born architect Eliel Saarinen (r.), electd to honorary membership by the American Institute of Architects. Except for election last year as an honorary member of the American Institute of Decorators, Wright has never before been officially recognized in his own country, but holds honors from Japan, Belgium, Germany, Cuba, Brazil, Great Britain, Uruguay, Mexico, Finland, U.S.S.R. Holland, Switzerland.

dexterity, had already wired the charge. The President, after fumbling the political hot-cake of a flat ceiling boost, had strongly urged continued rent control, but made it plain that this would be up to Congress.

To the dismay of real estate interests, rent control occupies a unique and almost impregnable position among government controls. This is due less to the majority of votes held by tenants as compared to landlords than to the peculiar nature of the housing commodity. Most other commodities rise rapidly to meet demand in an uncontrolled market; thus when price control was dropped pork chops appeared immediately on the butcher's counter. But housing is notoriously slow in rising to meet demand (pigs are born faster than houses), and there is no politician in Washington who would like to face the political consequences of a period in which rents rise faster than housing supply.

Organized property owners saw any hope of breaking rent control in the courts go a-glimmering last month. The Supreme Court refused to overrule an Emergency Court of Appeals decision which denied a suit brought by three New York apartment owners on the ground that the rent control base year (1939) does not permit a profit at present costs.

Hotel owners fared better. OPA, believing that it's now easy to get a hotel room, said it will decontrol rents on transient hotel rooms and motor courts on February 15. OPA agrees that hotel vacancies are showing up alarmingly, while rent ceilings have meant that hotelmen must have 95 per cent occupancy to break even.

JOBS

BONANZA

Gangsters got big St. Louis contract.

Chippy Robinson flashed a brand new $500 diamond ring and a brand new Buick sedan. Steve Ryan bought a DeSoto and carried a fat roll. Both boys agreed they hadn't done so well since they got out of the penitentiary, after a 16-year stretch for mail robbery.

Almost everybody else had had a good time, too. There was practically always a crap game you could get into on the round-the-clock job, and a pleasant custom of stepping over to the tavern across the street. Some journeymen had found as much as $385 in their weekly pay envelopes, and it was a poor punk who found less than $250.

By the time the police arrested Robinson, Ryan and their two partners in the American Construction Co., the four had already split $30,000 as "profits" for three months work on a building job for St. Louis University. The chief of police picked the names of 20 well-known hoodlums off the payroll. The Secretary of State said the booming American Construction Co. had never bothered to register. Then the FBI moved in, finding signs of other gangster infiltration in the building business in St. Louis.

"I suppose we were naive in dealing with these people . . ." the University's construction supervisor said. "When we questioned the high payrolls they always cited the high social security payments and the high insurance costs."

The University explained that a contract to build a classroom urgently needed for GI students had gone to the American Construction Co. because the firm had promised to do the job in one month. No other builder had thought it could be finished in less than six months.

In St. Louis as in most U. S. cities, the years of building famine had opened Building's market wide for fleecing. When the police interrupted, the American Construction Co. had been nearly ready to start building houses for veterans; in Milwaukee, in Washington, in a few more cities, other sharp operators were up for scrutiny by license officials. One St. Louis construction superintendent said what many an old-timer thought: "The construction business is one big racket now. I've been in it all my life—for almost 40 years, and it never was like this before."

By the month's end, a grand jury was going over the fascinating records of the American Construction Co., and the case was threatening to blow the lid off more than outright gangstering. The *St. Louis Post-Dispatch* trumpeted for a complete strip-down of the local construction industry: "This is bigger than mere racketeering. It's a case for or against human shelter. Beyond the racketeers and the profiteers are all the questions of semi-official slowdowns, of outmoded fabrication, of all the stodgy, slow and expensive ways to build buildings, which unions and contractors cling to."

DESIGN

BOOT FOR CHIPPENDALE

George Nelson starts furniture row.

Drawing itself up to the full height of a Chippendale breakfront, the furniture industry last month let it be known that it had been kicked where it hurt the most. FORTUNE magazine had delivered the kick. Architect George Nelson had aimed it.

Stripping off the traditional horsehair, Nelson had got down to the big brass tack on which the whole industry is impaled: it has failed to keep pace with either modern design or mass production. Sample Nelson punch: "The average manufacturer has no convictions whatever about design, or any understanding of it. Today he is making a lot of '18th century'—tomorrow, if he believed it would sell, he would cheerfully switch to Turkish Bordello."

Nelson thought that war jobs had taught producers new techniques of molding plywood and electronic gluing that might encourage them to rationalize furniture design and production. But even if "the manufacturer tries to change his product drastically, the retailer can effectively prevent the product from reaching the public."

Assembling in Chicago last month for their semi-annual shuffle through the American Furniture Mart's seven miles of showrooms, retailers had plenty (but little new) to say in reply. Consensus: "If Mr. Nelson were a furniture dealer who in a weak moment bought a few 'modern' pieces, put them on his floor and found that, after a few months, the termites were the only consumers interested in them, he would go back to the staple pieces (even if they were in poor taste) and wait for the tastes of his customers to catch up with 'enlightened' design."

As designer for Herman Miller (succeeding the late Gilbert Rohde), Nelson himself is about to test for termites and taste. Miller, which showed its new line for the first time at Chicago, is out to prove that there is a profitable difference between juke-box modern and design geared to modern living needs and production methods. In addition to its own products, Miller has made arrangements to distribute the revolutionary molded plywood furniture designed by Charles Eames and manufactured by Evans Products (FORUM, Feb., '46).

PREFABRICATION

RADICALS PUSH AHEAD

New RFC loans, public stock issues, redesign plans mark progress.

Against the enormous horizon of the 1947 housing market, the factory-built house was steadily growing larger and larger in scale. The month brought these new signs of just how big it was likely to get:

▸ Ready to close with RFC for a $225,000 production loan, General Homes, Columbus, Ohio* is the first aluminum house to get a boost from the government under the emergency housing program. Unlike most factory-builders, General Homes intends to erect its own houses and develop planned neighborhoods. First projects are an 83-unit development in suburban Columbus and a co-operative venture of 35 houses just outside of Washington. Plans are underway for a 300-house development in Ohio. What are probably the first aluminum row houses ever produced will be a part of these developments. A detached, 3-bedroom house with land is expected to sell for not more than $7,000. General Homes uses an 8 x 20 ft. panel, which sandwiches a corrugated aluminum stiffener between two aluminum sheets with an insulated fill.

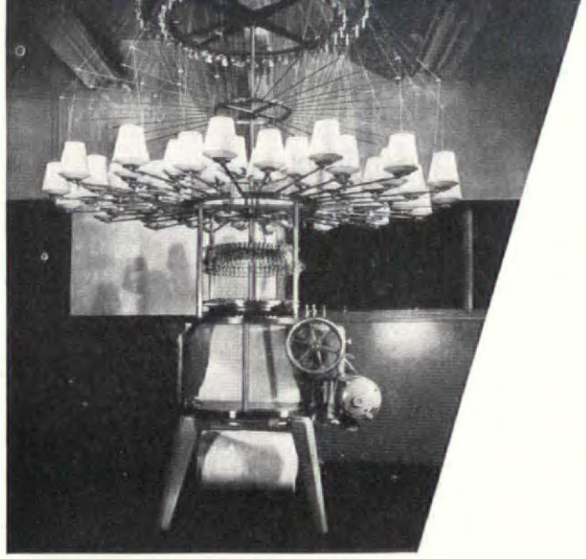
▸ Anchorage Homes, Westfield, Mass. was also momentarily expecting final RFC approval of a $700,000 government loan. Anchorage produces a Cape Cod styled house, whose lumber panels are carefully shingle-finished to look like a hand-built product. Now operating in an efficient prefab plant (which it built last spring with funds raised by a public stock issue), Anchorage intends to limit distribution to Massachusetts, Rhode Island and Connecticut.

▸ Lustron Corp., whose publicized fight for the Chicago Dodge plant precipitated housing boss Wilson Wyatt's resignation, was negotiating for a surplus war plant in Cincinnati or Columbus, which would suit almost as well. Holding off until Lustron made satisfactory plant arrangements, RFC was believed to be ready to grant the production loan it had once denied.

▸ Harman Corp.; Philadelphia, passed one big test of public acceptance of its radically re-engineered product: a house whose steel frame and stressed steel panels were developed from a system used for heavy truck bodies. The Corp.'s first public stock issue, amounting to $3 million, was over-subscribed in a single day last month. Harman also got a loan from the Chase National Bank, will need no RFC financing. Its government guaranteed market contract calls for 10,000 houses this year, which it will produce in an ex-shipbuilding plant at Wilmington, Del., leased from the Navy.

(Continued on page 14)

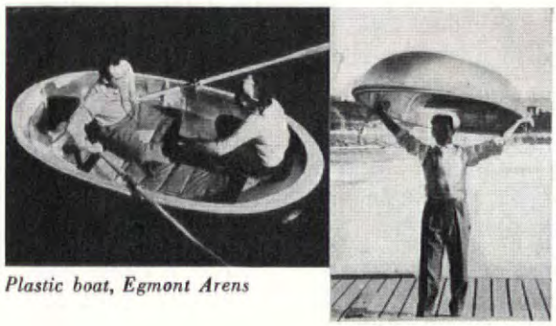
* *Not to be confused with General Panel of New York (see page 115) or General Houses of Chicago* (FORUM, *Jan.* '45).



Circular knitting machine, Van Doren, Nowland & Schladermundt

Mousetrap, George Sakier

Duplicating machines, Walter Dorwin Teague

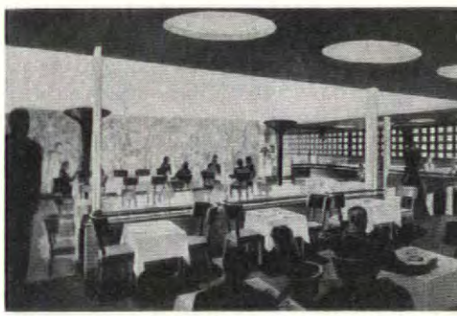


Plastic boat, Egmont Arens

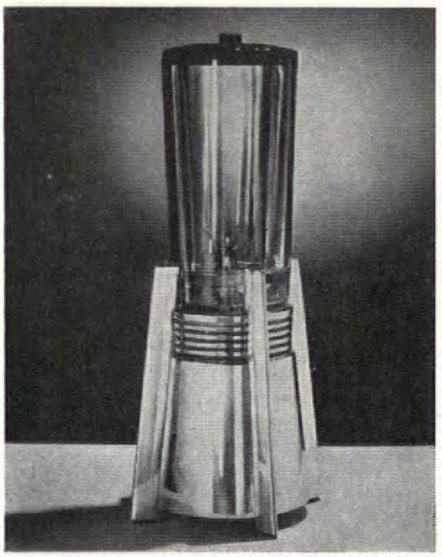
Wheelchair, John Gordon Rideout

INDUSTRIAL DESIGN 1947

POSTWAR WORK by leading US industrial designers is shown in an exhibit arranged by the Society of Industrial Designers which began a country-wide tour last month. Contributors were represented by photographs or drawings of objects already in production or accepted for production. Designs ranged from better mousetrap (see cut) level to the design of assembly lines and ship interiors.



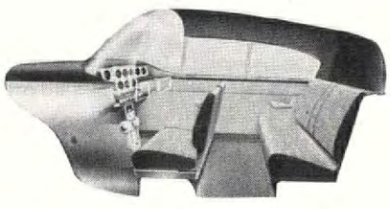
Ship interior, Henry Dreyfuss



Cocktail mixer, Francesco Collura

Prefabricated house, Donald Deskey

Plane interior, Raymond Loewy



▸ Unperturbed by the rash of curvilinear jokes its Quonset Huts have provoked, Stran Steel is now bent on dressing them up as a major bid for the prefab house market. Top-flight architects Skidmore, Owings & Merrill, New York and Chicago, and Smith, Hinchman & Grylls, Detroit, are now at work on plans intended to break up the harsh lines of the Quonset half-barrel. Stran Steel expects to sell a two-bedroom house for $3,500 and a three-bedroom house for $4,500 (not counting land) and include built-in furniture. The refurbished Quonsets will be submitted to FHA for approval for mortgage insurance. Stran Steel will have one important edge on other industrialized housing producers: it will have no worries about how to get enough of its basic material.

▸ Shelter Industries benefited last month from the first state decision overriding a local building code. Its stressed-skin plywood house, designed by Donald Deskey, had been banned in Natick, Mass., but the Massachusetts Emergency Housing Commission reversed the local decision. Soloray Corp., Massachusetts distributors of the house, had appealed to the state commission on the ground that the prefab construction was more than equal in performance to Natick's building code requirements. This means that Soloray will be able to go ahead with a 180-acre development at Natick, and that decisions on the house pending in a dozen other Massachusetts towns will be favorably affected. This prefab step ahead can be charged to the Veterans' Emergency Housing program, since Massachusetts was the only state to respond to Wilson Wyatt's request for setting up state machinery to by-pass obsolete building codes.

PREFAB house designed by Shelter Industries was already erected on Natick site when local building officials ordered it removed as code violation. But state emergency housing commission reversed the local decision.

By month's end the industrialized housing newcomers were getting so big that the Prefabricated Home Manufacturers Institute was nervously gauging prospects of a rival trade association. The Institute, whose members got their start during the war with wood-and-plywood, precut-and-panel systems, has hitherto turned a conspicuously cold shoulder to the new backers of more radical systems and has more than once protested the helping hand offered them by the government. Now that it is apparent there is no stopping the newcomers, the Institute would be happy to have them come into the fold.

OVERSEAS

REVOLUTION IN LAND?

British planners will have power to locate industry, end suburban sprawl.

Last month Britain's Labor Government proposed—and Parliament seemed almost certain to pass—a bill that at least promised a way by which modern man might be able to shape an environment more favorable to the survival of his species than the slum-pocked, sprawling cities and the industrial wastelands that seemed to be the best he could do in a century of unplanned urbanization. Whether Britain's way was the best way, whether Britain would find to its dismay that it meant merely that a Britisher's home was now his government's, remained to be seen. But in the U. S. as in older, crowded Britain, the bill read clearly as a reminder that rational use of land is one of the crucial questions which modern man can no longer duck.

Transatlantic observers were quick to call the bill revolutionary. Just as Britain's First Enclosure Act (which in 1709 empowered nobles to fence off common land for sheep raising to supply the first elements of the country's great textile industry) had marked the beginning of the industrial revolution, so the Town and Country Planning Bill, 1947 may possibly mark the beginning of another era, as yet unnamed and unclearly defined. But if the British bill was revolution, it had been, like much of the revolution in our time, so long in coming and so well bulwarked by earlier legislative steps in the same direction that not even the Tories found it hair-raising.

Aggravating Calm. So far the British press and Parliament were taking the news with a calm aggravating to many observers on this side of the Atlantic. Land company stocks actually rose the day after the bill was published. Said the universally respected *Economist:* "The advantages of establishing effective control over all forms of physical development—so as to exorcise the sprawling suburb and the seaside shantytown, so as to site factories near their workers and protect rich horticultural land, so as to provide green belts and open space, and wide roads and spacious, uncrowded city centers—these advantages are well worth the getting, even at the cost of a new crop of controls."

At first glance, the British proposals did look something like confiscation of property rights. The bill made it plain that property owners would have to ask the government what they could build or whether they could build at all. If the government denied the owner the right to build on his land or change the use of his property, he would have no legal right to compensation. If the government approved the owner's plans for development, he would be required to pay a development charge covering "in whole or in part" the resulting increase in the value of his land. The whole country would be blanketed by a national plan, demolition of buildings not conforming to the new plan could be required, planning authorities would have greatly increased powers to acquire land (at the government's price) for lease or sale to private developers interested in building to the plan.

Revolution in Manhattan? If all this sounded as if the planners had finally captured the Britisher's castle, Americans might stop to reflect that something not very different was going on along New York's East River Drive. To protect the United Nations site, the city is now planning to zone the bordering unrestricted district to a restricted retail district. When this is done, property owners will lose certain development rights and get no compensation for their loss.

Actually, the British bill would simply put into effective practice on a national scale a basic principle long recognized in embryo by U. S. municipal zoning. The principle: the government has a right to regulate the use of land in the public interest. Thus a Britisher who owns land on the edge of London would have to get permission before he could start a housing development or build a factory. This is exactly the situation in the handful of U. S. cities which have set up effective zoning and subdivision control. A Britisher who owns a dwelling house in Charing Cross might be forbidden to convert it to a rooming house (or any other new use)—just as any U. S. property owner in a protected neighborhood might be stopped by zoning.

Nationwide Control. The big difference in the British proposal is that it extends planning control to the whole country (anybody blocked by U. S. zoning can usually go outside the city limits and build whatever he pleases) and that it gives the planners positive powers to put their plans into effect by acquiring land and starting development or encouraging private enterprise to do so (city planners have for the most part been limited to the purely negative power of zoning). In addition, the bill accepts a corollary of the general proposition that land use must be planned in the public interest. The corollary: the development value of land is a socially created value and belongs to the community.

Foundation for this legislative step had already been laid by Justice Arnold Uthwatt, whom not even the most embittered landlord could call a revolutionist. The Uthwatt report, a milestone in a changing concept of property rights (FORUM, Nov. '42), had put it this way: "The public control of the use of land . . . necessarily has the effect of shifting land values: in other words, it increases the value of some land and decreases the value of other land . . ."

No More Speculation. The new bill, recognizing that public building and public planning (roads, transportation, utilities, parks, housing developments) inevitably affects the value of privately owned land, assumes that there is no reason why a private owner

should reap the benefit of a public act. Thus the bill does, in theory, abolish development rights. But, recognizing that this would cause hardship for the nation's property owners, the bill does, in practice, provide for compensation to anybody who can claim his land had a development value on the day the bill was introduced. A fund of about $1.2 billion is to be set up for this purpose. (News of this was enough to account for the rise in land company stocks.)

An interesting indication of the difference between conservative opinion in the U. S. and in Britain is that fact that opposition to the bill is centering, not on the greatly increased planning powers and the loss of a legal right to development value, but on the amount allotted for compensation. Although this is just about what Uthwatt recommended in the earlier Coalition report, British Conservatives think it too small an estimate of the total development value residing at present in British land. The thorny problem of how present development value is to be appraised is left up to administrative decision.

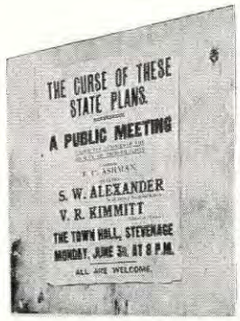
MINISTER SILKIN

The bill would not stop private land sales. It would stop land speculation. Land would sell at a price reflecting only present use value, rather than a potential value based on hoped-for development which may never take place.

To this problem the bill's author, graying, efficient Minister of Town and Country Planning Lewis Silkin, brought the full benefit of his own somewhat bitter experience. As chairman of the London County Council housing committee, Silkin had been stymied more than once in locating a housing development by the high price of land. Since then, the basic problem in replanning has seemed to him to be how to squeeze out the unreal or speculative element in land cost.

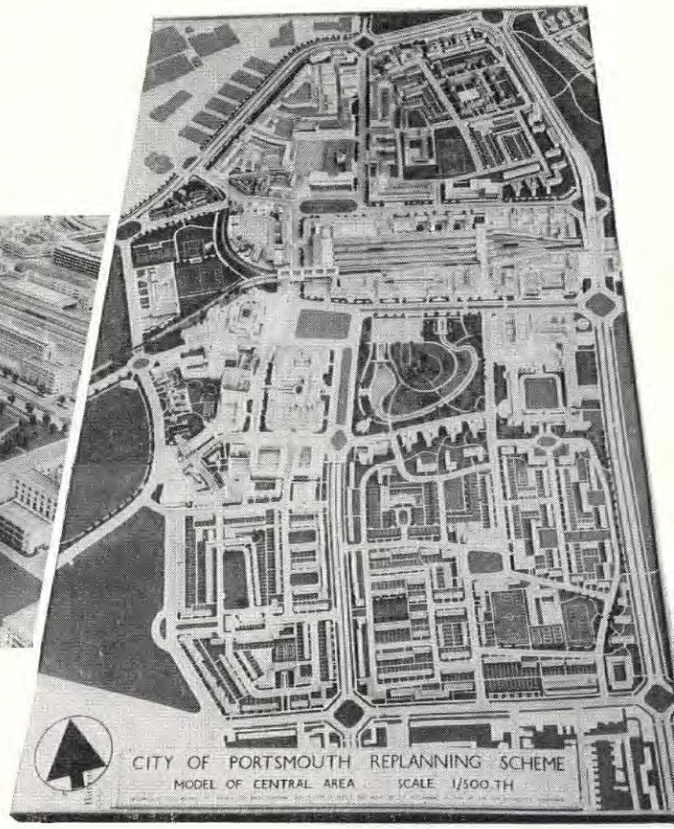
Private Development Encouraged. The bill is certainly not intended to discourage private building enterprise. In U. S. terms, it would work like this: Smith & Jones, builders, decide to put up an apartment building. They locate a suitable site, hitherto farmland, on the outskirts of Stevenage. Since Stevenage is headed for expansion to take care of some of the people "decentralized" from London, the local planners are very happy to give Smith & Jones an

British Combine, INS



BRITISH TOWN-PLANNING may begin at Stevenage, 30 miles from London. New planning bill would greatly aid land acquisition for Stevenage, decentralized London's first "satellite town". But Stevenage residents are up in arms against "these state plans" (see wall-placard, left) which would jump their population from 6,000 to 60,000, prefer elm-shaded, un-remodelled village.

INDUSTRIAL MIDDLEBOROUGH, in Yorkshire, may some day resemble the spaciously-planned model at right. New town-plan provides broad play areas, grassy walks. Such plans may take from region the stigma of "black towns".



WAR-DEVASTATED PORTSMOUTH is due to be rebuilt after model (above) produced by City Architect. Town-planning bill now before Parliament will provide legal and financial powers making such replanning possible.

okay. Smith & Jones then start negotiations with the owner of the site. They arrive at a price considerably lower than that of the old, planless days. This is because Smith & Jones know they have to pay a "development charge" to the Central Land Board, and they keep this in mind in dickering with the property owner. When the deal is closed, Smith & Jones pay the property owner his price. Then a government appraiser fixes a charge representing the development value of the land—that is, a sum representing the difference between its value as farmland and its value as the site of an apartment building. This is the charge Smith & Jones pay to the government. But because the government is anxious to encourage residential building at Stevenage it reduces the charge by 25 per cent. If, on the other hand, the property owner is a hold-out, Smith & Jones can ask the government to acquire the land and re-sell it to them.

TEXAS TYCOON Leo Corrigan joins with oilman Leland Fikes to buy government-built Fairlington, world's largest apartment development.

U. S. criticism might well be directed to a rather startling lack of democratic checks. The bill says that any unhappy property owner can appeal to the Planning Minister, which is roughly comparable to suggesting that a property owner contesting the location of a housing project appeal to onetime USHA boss Nathan Straus.

One reason why the U. S. has given so little attention to democratic land use planning is that many of its citizens still fail to recognize how much public regulation is already an established fact in urban land use. Planning is still condemned as an invasion of property rights. But this misconception promises far more danger to democratic survival that a realistic acceptance of democratic planning. Legal concepts of property rights have changed greatly in the last century, may change much more. Example: New York's Trinity Church once fought a law giving water on each floor to its slum tenants as an invasion of property rights.

BUILDING MONEY

BIGGEST BUY

World's largest apartment development goes to Texas realty tycoon.

The Defense Homes Corporation, big wartime landlord, was having a hard time pulling out. For three years it had been trying to sell its hefty batch of permanent housing projects. Unlike other government projects, DHC developments had been carefully planned for higher-income war workers and designed to appeal to private buyers. But so far the biggest items in the DHC bundle had gone begging. Few private investors were interested in town-size holdings; rent control deterred those who were.

Last month, however, the agency succeeded in making the biggest realty sale of the new year. Ready to pass out of its hands was the world's largest apartment development, 3,439-unit, 322-acre Fairlington near Washington, D. C. In the same package went another Washington project, McLean Gardens, where hundreds of government workers live in furnished residence halls and apartments, and a smaller project built for war workers in Bremerton, in the state of Washington. For all three properties the government would get back $43,600,000; DHC figured that it had already reduced its original investment ($47,500,000) sufficiently to make this mean $1 million profit.

Ready with $4 million cash down-payment was Leo Francis Corrigan, fast-moving ringmaster of Dallas real estate. The deal would add a rental empire of over 5,000 units to his already massive hotel and apartment holdings throughout Texas (valued well over $35 million).

For the DHC buy, Corrigan had enlisted the help of a friend, Leland Fikes, Dallas oilman, who put up half the cash and shared the 28-year mortgage on the balance. Partner Fikes, a middling oil operator who has never hit a big lick, is not the first to be fired by the dash and resource of realtor Corrigan. Thirty years ago old-time real estate men were telling 21-year-old salesman Corrigan that the way to build holdings was to "own 'em clare." So he bought his first bit of property, a drugstore, for cash. But ever since the Corrigan formula has been: pay a little down, let the rent pay the rest; above all, buy smart and fast, build shopping centers, concentrate on promising locations, take a small profit on big volume. He won friends and cultivated customers. Starting as a salesman, he was soon on his own, selling and buying hand-over-fist, building small apartment houses and shopping centers with borrowed funds. During the depression he ran his properties so well that apartment vacancies were less than one per cent.

Thirty years ago young Leo Corrigan, a hard-scrabble St. Louis childhood behind him, swung from the Katy railroad coach for his first look at Dallas. He sold his cheapside suitcase to pay his first week's room rent, got a job selling ads for the *Dallas Dispatch* at $10 a week. Last month, in his spacious offices in one of his own Dallas skyscrapers, brisk, still boyish Corrigan jotted down a building program for 1947: 10,000 apartment units in Chicago and Southern California, two skyscrapers in Dallas, office buildings in Fort Worth. As real estate king of the southwest he had already climbed up past Houston's fabulous Jesse Jones. Risks? "Experience is the foundation of courage; that's Emerson. I am projecting the acquisition of a hundred thousand units. I'm not afraid of it at all."

ART ON INSTALLMENT

Bank extends credit on modern art.

The New York bank operated since 1923 by the Amalgamated Clothing Workers union is undoubtedly the only financial institution ever to do business surrounded by 500 sq. ft. of mural painted by socially-conscious, modernist Philip Evergood. A maverick in many other ways, the AMC bank has always been an art lover.

Not long ago it occurred to bank president Michael M. Nisselson, a collector himself, that a lot more people would like to buy paintings than can afford to put cash on the line for them. Art lovers, he thought, are likely to be a good risk, probably a better one than the borrower who wants to buy a refrigerator or a radio. Other bank officials agreed. Last month AMC, following the historic precedent set by the Renaissance financiers who subsidized Leonardo da Vinci and Michelangelo, became the first bank in modern times to set up installment credit for contemporary art. From now on, anybody who wants to buy a painting can ask Amalgamated for the cash, pay it back in installments over 18 months at four per cent.

First gallery to benefit from the AMC plan is, not unexpectedly, Manhattan's American Contemporary Artists gallery, whose stable includes such leftish bignames as Evergood, Gregoria Prestopinio, David Burliuk, Moses Soyer, Anton Refregier. Other galleries are considering signing up for the plan.

Amalgamated will make no appraisals, having reached the conclusion that you can't put a price on creative work. "We will lend on the work of any living American painter or sculptor," Nisselson said. "It makes no difference to us whether the artist is an impressionist, post-impression ist, surrealist, realist. I say living painters because they are the ones that need help We are not going to lend on purchases of the old masters."

SERVING THROUGH SCIENCE

U. S. PLASTIC NAUGAHYDE AT 21 Club

Headquarters for celebrities, the "21" Club of New York is re-furbished throughout its two floors of dining room, lounge-foyer and bar with this handsome plastic-coated fabric.

Naugahyde won't crack, peel, chip, burn or scuff—yet it "flows" in the handling as easily as any other luxurious fabric. Here its many uses are demonstrated. So practical—it wipes and washes clean of spills. Naugahyde is available too, in special flameproof construction.

Wherever beauty and hard-wearing durability are desired—you get many advantages with the wonder upholstery—Naugahyde.

U.S. PLASTIC Naugahyde
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UNITED STATES RUBBER COMPANY

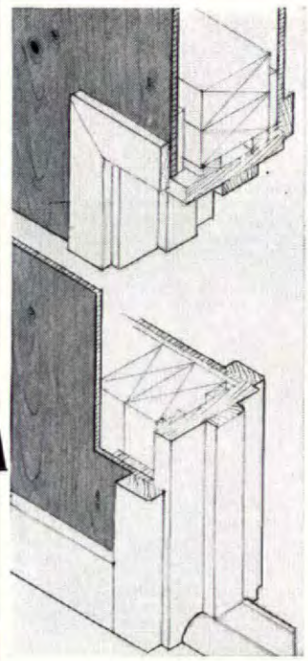
COATED FABRICS DIVISION, MISHAWAKA, INDIANA

How to Adapt Weldwood Paneling to Stock Door and Window Frames

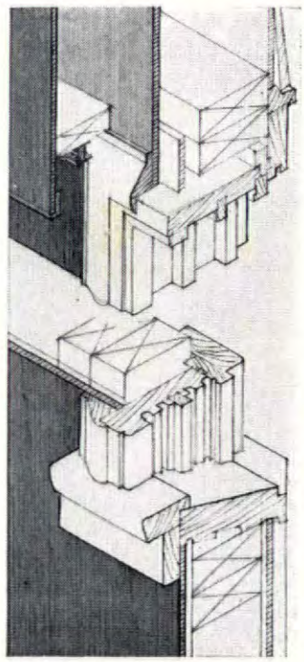
For new construction or remodeling, you'll find it quick and easy to use Weldwood Plywood with stock sashwork.

Here are four methods selected from those illustrated in the Weldwood Installation Booklet. You'll find a host of other helpful and valuable suggestions for the many interesting structural details possible with this versatile material.

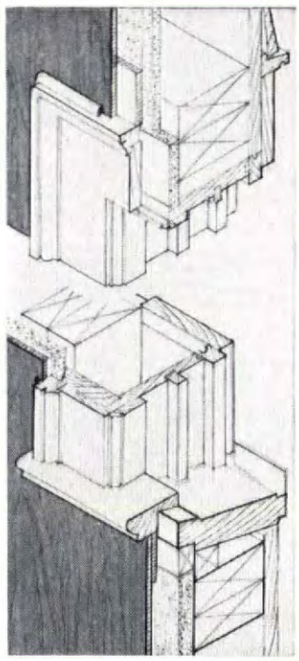
This profusely illustrated booklet is yours for the asking. Write for your free copy today.



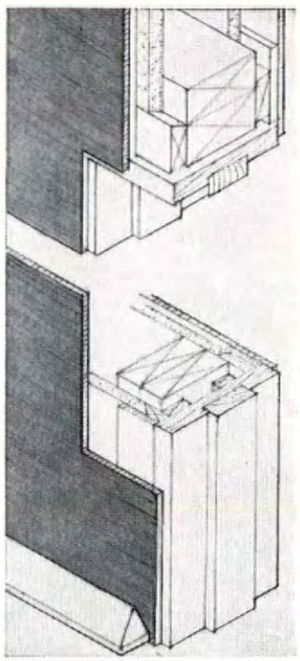
This detail shows a simple but effective method of adapting Weldwood Plywood to an inside door jamb during new construction. Weldwood is brought flush, and covered with stock molding.



Dri-bilt construction, with Weldwood adapted to stock window frame. Note the unique plywood valance, concealing all fixtures. Easily made from Weldwood during construction.



Double-hung window in standard plaster wall construction, with back band casing. Banding must be thick enough to install small molding around opening, to cover fitting imperfections.



You can use Weldwood equally well without any type of casing, as this detail of an interior door opening shows. This method is equally satisfactory for new construction or remodeling.

Weldwood
Plastics and Wood Welded for Good

Waterproof Weldwood for exterior use is bonded with phenol formaldehyde synthetic resin. Other types of water-resistant Weldwood for interior applications are manufactured with extended urea resins and other approved bonding agents.

WELDWOOD Plywood

Weldwood Plywood and Mengel Flush Doors are products of

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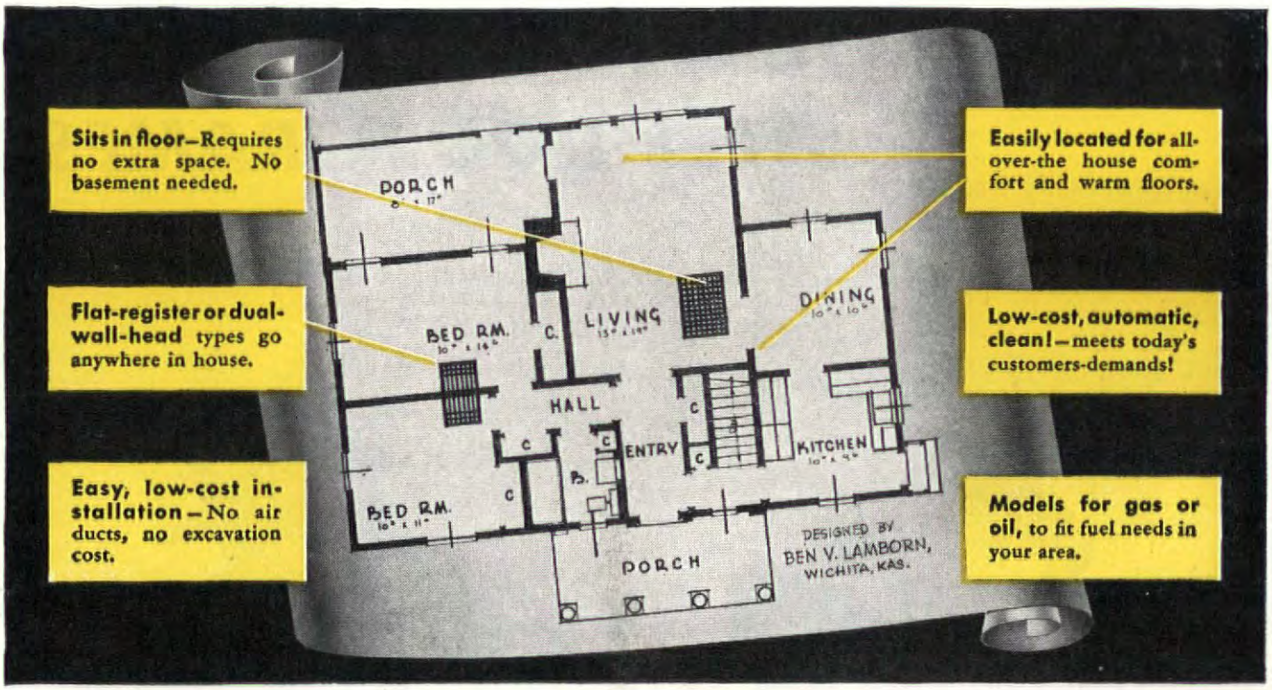
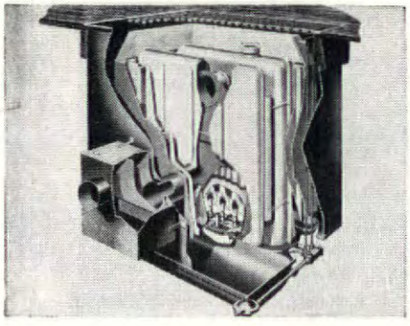


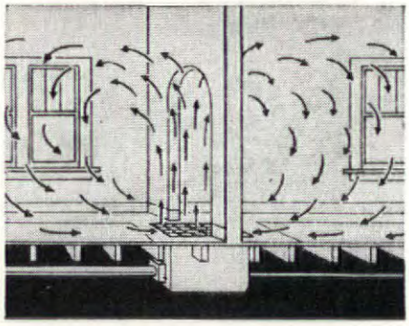
How Features That Increase Coleman Floor Furnace Popularity

ALSO HELP CUT BUILDING COSTS



Exclusive Coleman features: Cut-away view, above, shows how Coleman features draw cold air off floor, re-warm it and circulate it 35% faster than obsolete designs, provide unusually *even* warmth, from ceiling down to well-warmed floors. (Gas or oil models.)

Easy installation, with or without basement: In new house, saves basement cost; saves furnace-space in utility room. A complete, packaged unit. Saves cost of ducts. Yet—Coleman engineering often makes it give more efficient heating than many basement furnaces.



Coleman "Moves-the-Heat": Cut-away house shows how Coleman Floor Furnace is installed—set *in* the floor; not above it, not in the basement. Easily hooked to gas or oil lines and to chimney vent. A quick, clean, satisfactory installation in 3 to 4 hours average time.

The Coleman Co., Inc., Dept. AF-652, Wichita 1, Kas.; Philadelphia 8, Pa. (Terminal Commerce Bldg.); Los Angeles 54, Calif.

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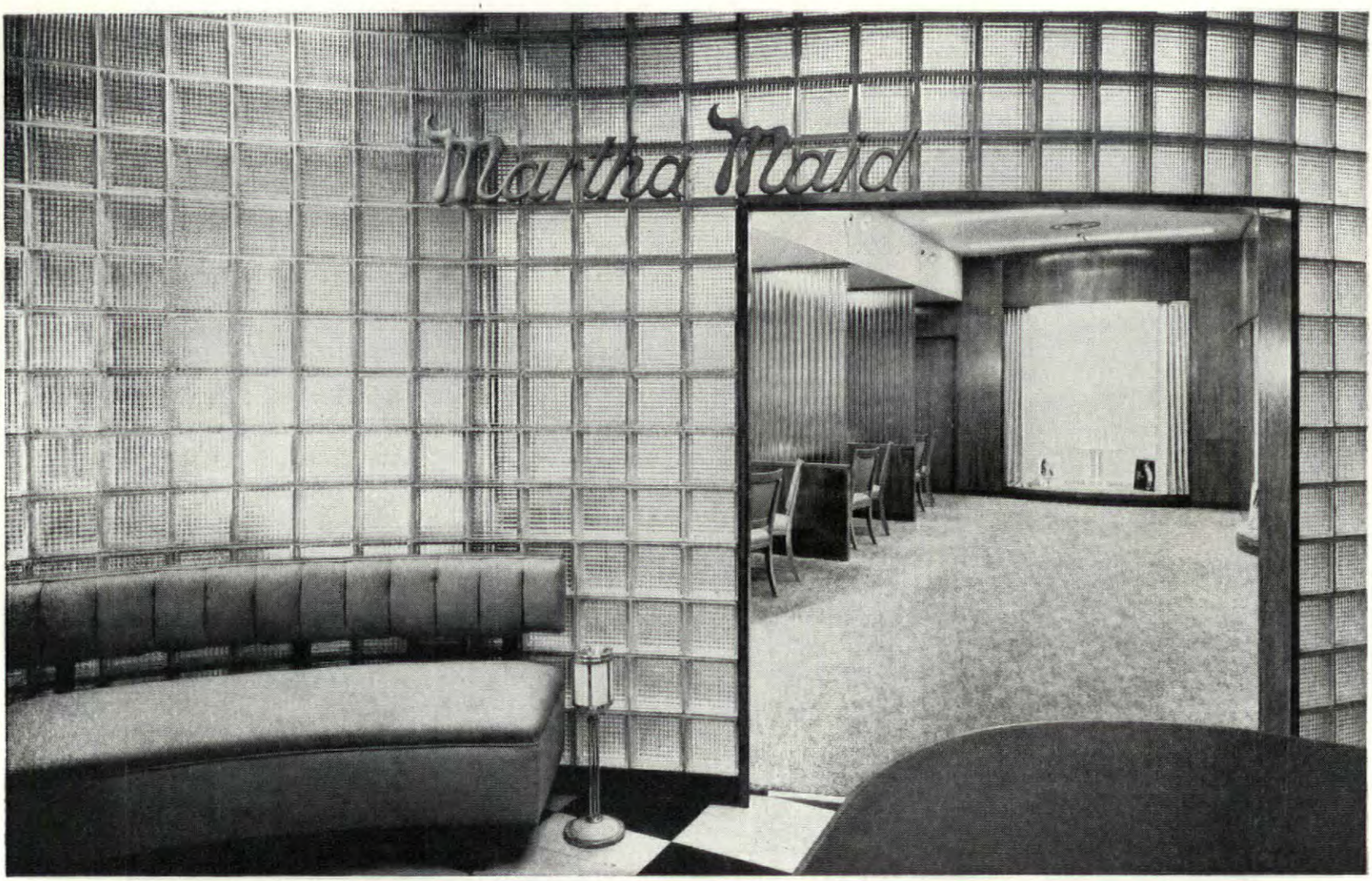
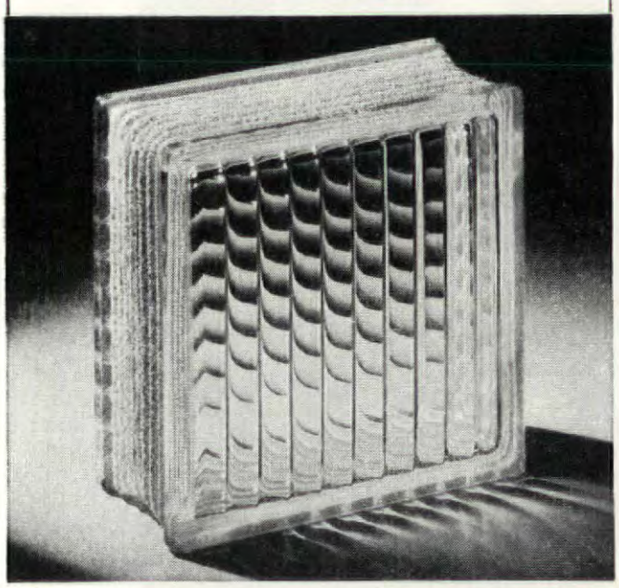


This entrance in Martha Maid Manufacturing Company's showrooms is highlighted by a gracefully curved floor-to-ceiling panel of Insulux Glass Block. The Insulux panel transmits light from room to room—creates an atmosphere of spaciousness—for this Chicago manufacturer of women's lingerie. Architects are Loewenberg & Loewenberg, Chicago.

OWENS-ILLINOIS

INSULUX

GLASS BLOCK



Insulux Glass Block is manufactured in three sizes, many attractive and functional patterns. It is designed to do many things other materials cannot do. Investigate!

Direct approach to lighting for sales

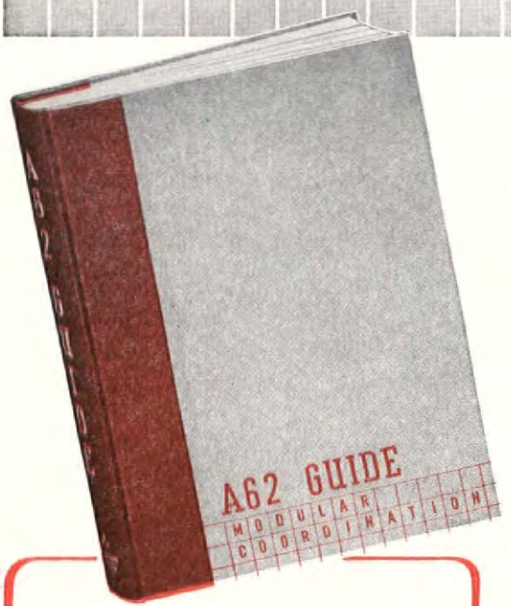
IN SHOWROOMS, stores and shops, Insulux Glass Block has proved its merit time and time again.

Exterior panels and interior partitions of Insulux are a direct architectural approach to improved lighting—with the maintenance of privacy. This versatile material diffuses light and permits the "borrowing" of light for rooms lacking an outside exposure.

The fresh spotless appearance is appealing, sales-making—and Insulux is readily adaptable to a wide variety of design possibilities of definite functional value.

Check the "Glass" section of Sweet's Architectural Catalog for technical data, specifications and installation details. Or write Dept. D-14, Owens-Illinois Glass Company, Insulux Products Division, Toledo 1, Ohio.

A62 GUIDE FOR MODULAR COORDINATION



ARCHITECTS • BUILDERS • DESIGNERS

ACCURATE SCALE DRAWINGS and a minimum of text are used to explain the broad principles of modular coordination, their connection with the various stages of the architect's work, and their application to different classes of building products and types of construction. These drawings show not only modular details approved by Project committees, but also details which illustrate methods employed in meeting practical job conditions.

As a concrete example of the application of these principles and products, the final chapter contains photographs of some of the architect's drawings for a New York Health Center. Throughout the GUIDE, text and drawings are carefully arranged for easy reference.

290 pages, 314 illustrations, 9" x 12" Price $10.00

AMERICAN STANDARDS ASSOCIATION PROJECT A62

For the coordination of dimensions of building materials and equipment

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•

Project staff provided by
MODULAR SERVICE ASSOCIATION
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•

"The approval by the American Standards Association, as **AMERICAN STANDARD**, of the basic Standards for the Dimensional Coordination of Building Materials and Equipment, has given direction and authority to an outstanding forward step in the solution of the costly and time-consuming problem of cutting and fitting the materials of construction to permit their assembly in the field."

JAMES R. EDMUNDS, JR., Pres.
The American Institute of Architects

Technical experts of the building industry cooperating in the committees of this project have developed modular coordination as a basis for correcting the confusion of dimensions. They have applied this basis to a wide variety of building products and to the details for their assembly.

Coordinated sizes have already been adopted for:
Brick — Structural Clay Tile — Concrete Masonry Glass Block — Structural Facing Tile — Steel Windows Wood Double-Hung Windows

Many other products have long been made in sizes suitable for dimensional coordination.

The purpose of the A62 GUIDE is to assist architects in using modular products and designing buildings in accordance with the established principles, so as to gain the immediate advantages and economies of modular coordination.

CONTENTS

Introduction, The Standard Basis, Modular Masonry, Structural Facing Tile, Custom Masonry, Floors, Wood Frame, Windows, Doors, Glass Block, Skeleton Frame, Stairs, Examples of Working Drawings, Appendix "A" — The Derivation of the Basis, Appendix "B" — Height Coordination Tables, Appendix "C" — American Standards for Modular Coordination, Index.

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LETTERS

Scramble for a World Capitol . . . More on the Imperial Hotel . . . Elmslie & Purcell Mollified . . . The Devilish Position of Railroad Signboards . . . Tudor Oak for Sale. . . College Housing . . . Shortages and Solutions.

UNITED NATIONS

Forum:

If the U. N. site is to be near New York, why, oh why not on the Palisades—where land is cheap, where buildings could be modest, where it could look at Manhattan and where the modest worker could live in nearby New Jersey (Radburn, etc.) and thus avoid the fearful commutation jam? Why further complicate the city planning of Manhattan?

WILLIAM W. WURSTER, Dean
Massachusetts Institute of Technology
Cambridge, Mass.

Forum:

Everybody in the world who knows something about architecture surely has a single opinion about which architect must create the buildings for the assembly of the United Nations. In order to find the only man for that all-significant task, there is no need for a competition: he would never participate in such a nonsensical proposal. The greatest idea of the modern world is the creation of the United Nations, and the next firm and supreme step to be taken is to house it properly. To do this, one can only rely on the one true genius amongst all the world's architects, the man whose work, whose world-wide reputation, whose outlook, whose supreme imagination and profound responsibility are the only guarantee of success in creating a modern building worthy of a unique modern idea. Providence has given this man to the world, has allowed him to live long enough to be trusted on the summit of his career with the most responsible of all architectural tasks, to crown the works of his life in significance and thus live forever in the coming ages. This one man can only be Frank Lloyd Wright.

Could not President Truman, as the foremost personality in the United States, take the responsibility of appointing Frank Lloyd Wright, and thereby set himself also a memorial ever gratefully remembered in times to come?

DR. KARL DIRNHUBER
Birmingham, England

CRACKS AND CAMBERS

Forum:

Regarding the Imperial Hotel at Tokyo here is some further testimony:

I was in Japan with the Portland Cement Association for two months in the fall of 1923 studying earthquake effects upon structures. During that period I lived most pleasantly and comfortably in the Imperial Hotel which continued operations without interruption.

The building—or buildings—are low and spreading with two, long, 3-story bedroom wings on the sides between which are several lower structures—lobby, dining room, etc., all connected by corridors and passageways and enclosing, or partially enclosing various gardens or patios. The only portion of the structure of any height at all is the 7-story grill and theater unit to the rear of and independent of the dining room.

Earthquake damage appeared to be about as follows: both long bedroom wings settled somewhat unevenly, cracking through at about the third-points. This was very minor damage. The 7-story theater unit settled vertically about 15 in. and naturally ripped and tore the connecting arcades and passageways in so doing. The dining room, which continued in service, presented a most curious appearance with its floor bowed steeply down at the sidewalls and curved like a heavily cambered ship deck. This had occurred before the earthquake however, due to swimming pool loads beneath.

On returning to the U. S. it was to read and hear much of the marvels of the earthquake-resistant Imperial Hotel at Tokyo and the triumph of the cunning foundation engineering that had been employed in its construction. But what was there to it? The building was mostly too low to be damaged and the foundations had actually failed to function. So what? Well, we Americans dearly love being told how clever we are, and here reportedly was positive proof. As a matter of fact, the outstandingly good work was that done by Dr. Taichu Naito, Dr. Mikishi Abe and certain other Japanese, whose maximum height buildings—100 ft.—did behave quite as creditably as the Imperial Hotel was supposed to. American engineering in that earthquake revealed considerable inexperience, not to mention examples of blind ignorance.

But, anyhow, hurrah for our side!

HOMER M. HADLEY
Seattle, Washington

ELMSLIE ORCHESTRATION

Forum:

Purcell and Elmslie thank readers Yost and Bailey for correcting the statement that Frank Lloyd Wright was Sullivan's only disciple (FORUM, Dec., '46).

Elmslie was a true disciple of Sullivan's because, like the master, in addition to great creative facility he was a good engineer and a capable business man. He also recognized that people would be using his buildings and that the human spirit should be able to dwell therein—functions which all too often fail to find satisfactory forms in current construction.

No small part of the best of the work ordinarily attributed to Sullivan is actually from the hand of George Elmslie. For example, Elmslie's marvelously orchestrated grills for the tellers' cages of the Owatonna Bank have to my knowledge seldom been surpassed in decorative architectural design. The works of Sullivan and Elmslie are as individual as that of Bach and Sibelius and can be identified at once, in part or whole, regardless of formal authorship ascription. In Sullivan's office I sat beside Elmslie and saw him produce many of these works . . .

WILLIAM GRAY PURCELL
Pasadena, Calif.

KITTEN VS. SIGNBOARDS

Forum:

Looking at the photographs of the new Chesapeake and Ohio Railroad station for Prince, West Virginia (FORUM, Oct. '46), I wondered again how the architectural conspiracy of putting the name-sign on the roof at the ends of railway stations rather than on the side facing the tracks ever got started. No more devilish position for such signs could be devised, yet there they stand on railroad stations the length and breadth of the land . . .

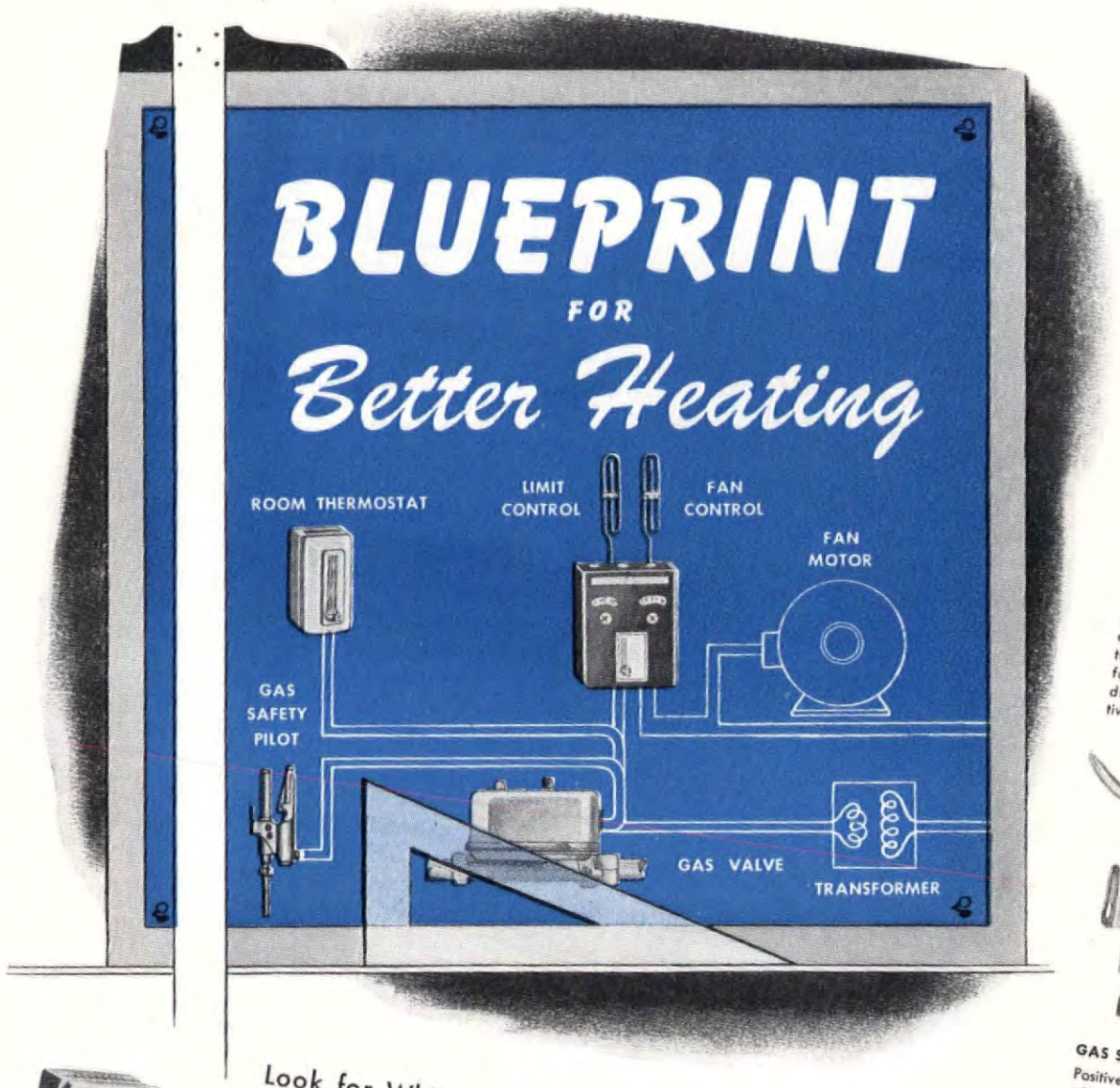
Alas, in spite of all of the Chesapeake and Ohio's otherwise successful efforts to please their passengers, even down to providing kittens in their pullman berths, I'm afraid my first irritated comment upon riding through Prince, W. Va. would be: "What in heck is the name of this burg—and it has such a nice new station, too."

CHARLES R. PHILLIPS
Camp Detrich
Frederick, Md.

Forum:

. . . Although the FORUM article does not specifically mention, nor do the photographs show, the platform signs at Prince, there are in addition to the two signs on the ends of the platform canopy, five signs facing the track and uniformly spaced along the 392 ft. canopy. Name-signs at the ends of the station have in the past served a valuable purpose to passengers in observation cars and, at the smaller

(Continued on page 26)



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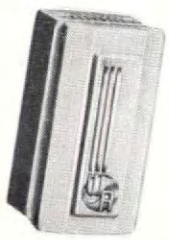

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Leading manufacturers of heating equipment supply White-Rodgers controls as standard. You can be sure that they have been proved more accurate and dependable by their careful tests.

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The accuracy and dependability of all White-Rodgers controls satisfy your customers and relieve you of service worries.

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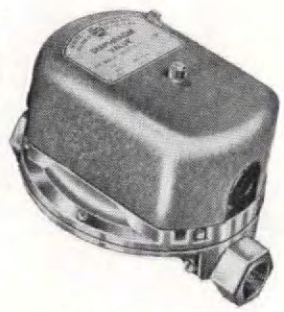

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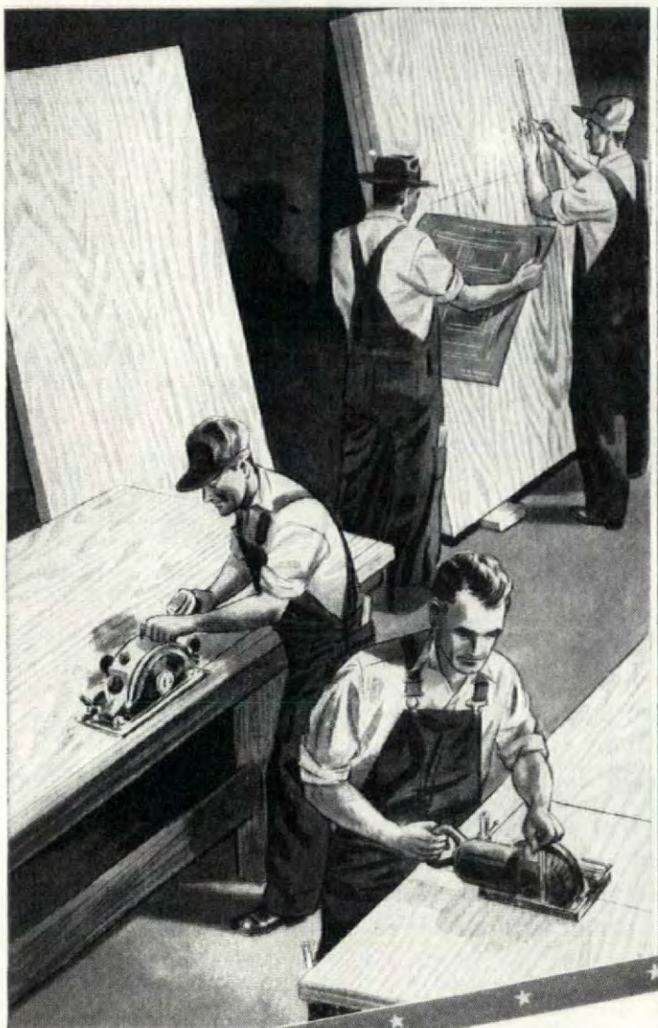

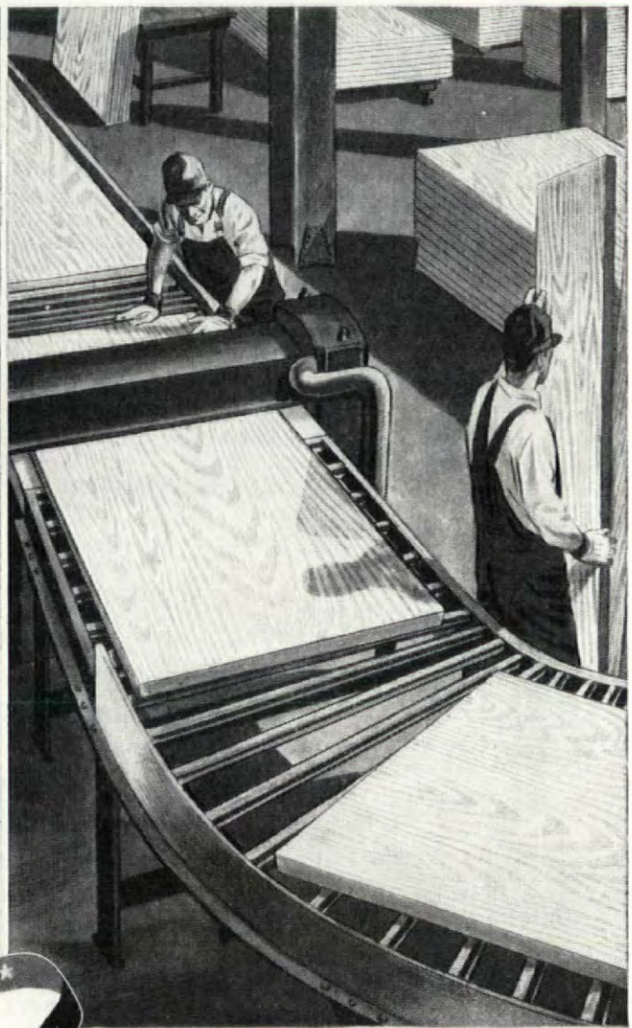

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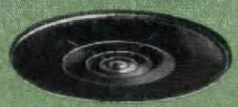

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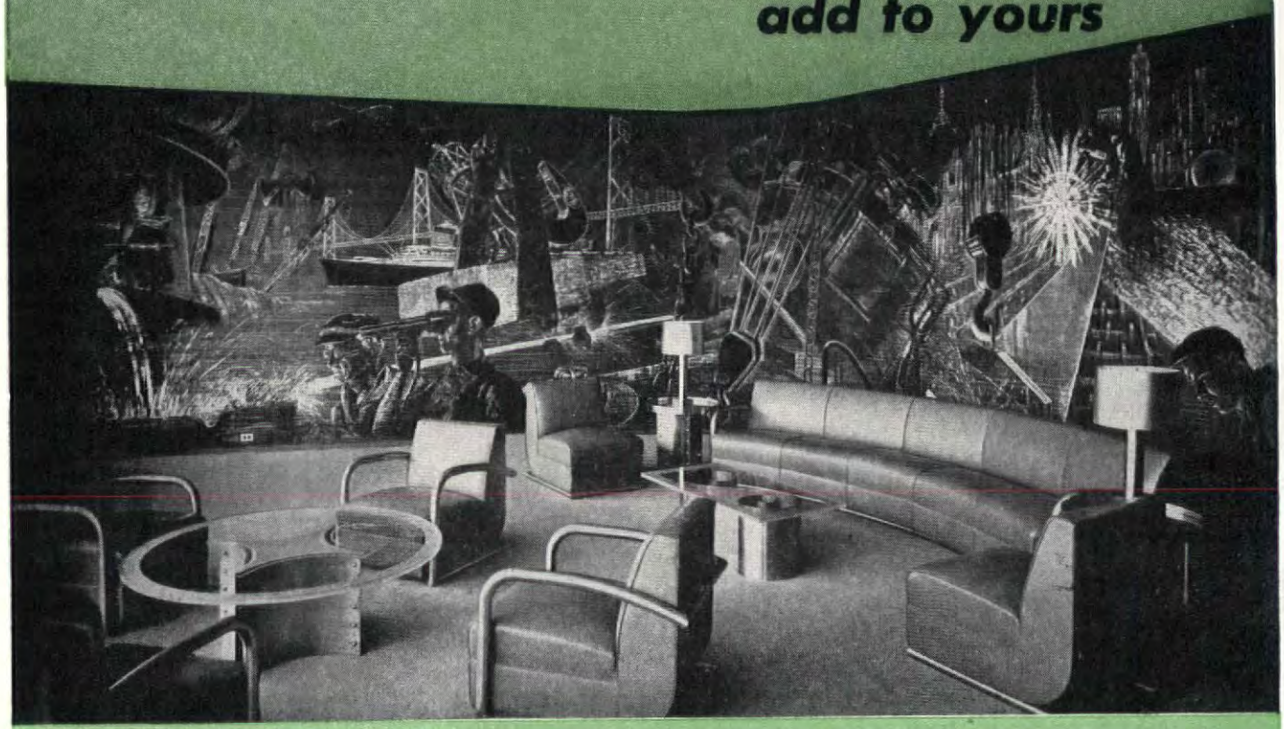

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stations, have served the coach passengers as well. With the advent during the coming year of the Chesapeake and Ohio's new streamlined trains, "The Chessies", with their vista-dome observation cars, both midtrain and rear-car type, the value of such signs will be greatly enhanced.

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Chesapeake & Ohio Railway Co.
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TRAILER-MADE

Forum:

I thought you might be interested in a few notes on the college housing situation here in Gainesville, Florida where my husband is headed for his slightly-delayed law degree. The University of Florida, like most other universities, is crowded beyond description. However, if an applicant to the University is a veteran and a resident of Florida, he has to be accepted. From this inflexible rule sprang the beginnings of the housing problem here in Gainesville. Additional complications followed quickly when it became evident from applications that some 30 per cent of the men were married and 10 per cent had children.

As far back as two years ago, plans were formulated and applications taken for various types of housing supplementary to the existent dormitories. These consisted of prefabricated units, dormitories converted into apartments and—what seemed outlandish at first—trailer camps.

Through the Federal Public Housing Authority and the War Dept., the University acquired Alachua Army Air Base, a piney area of 20 acres, six miles from the campus. When University officials stepped on to the base, it was just as the Army had left it—desolate and padlocked, but usable. Four months later found it the site of two "Trailvet Villages"—bustling communities of about 40 trailer coaches each, whose occupants shuttled furiously back and forth on University-provided buses. In addition, barracks at the base house 1,000 single men who are moving campusward as prefabricated units reach completion.

Because of the distance from the campus and because of the University's policy of student self-government, a student manager has been appointed for each village. He has direct access to campus officials, puts in requisitions for materials, gets advice, makes suggestions and is an aide to the village government. At Trailvet Villages, the New England town meeting has found its ideal setting. Each village governs itself, has its own constitution and a commission of five councilmen to look after community needs.

As to the trailers themselves, each one is blocked up on a 42 ft. x 50 ft. lot, is piped for cold water and wired for electricity. Total outlay for "rent" and light is eight dollars per month. There is no limit, short of the ridiculous, to electricity, and water is free, including hot water for laundry and showers in buildings specially designated for those purposes.

The trailers range from 30-ft., three-room coaches to some as small as 14 ft. But no matter what the length, actual living space is at a premium, and therefore, almost every trailer boasts an appendage. These range from canvas canopies to finished screen porches. One man has set up a large awning over a gray brick floor which is carefully inclined to provide for drainage. Large sheets of roofiing tin form the lower sides of one porch, and plastic screening goes to the top. My ingenious husband built an enclosed porch from sheets of masonite, ready-made screens and odds and ends of lumber—all surplus property from the nearby air base. The flooring consists of old mess hall table tops, formerly covered by the masonite which is now used for walls. The exterior is painted fog gray to match the trailer, and in time the inner walls will be sealed and the floor covered with linoleum. These porches are combination storage-rooms, living rooms, and in some cases, bedrooms.

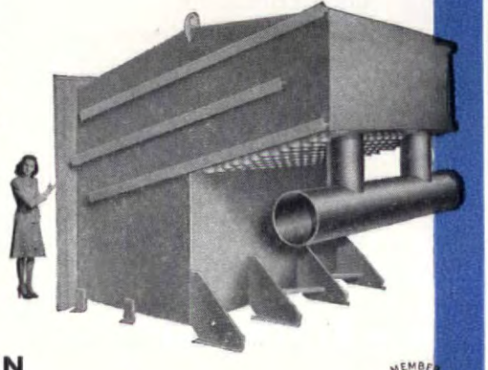
Lawns, vegetable and flower gardens have been started with a fine disregard for the approaching winter, and picket fences are appearing. Soon paths, walks and roads will be put in. Most shopping is done in town, but the PX has every-other-day milk deliveries, bread and most drugstore items. An air base co-op store for meats and vegetables is being planned. Ice is delivered to the trailers every day and a dry cleaning service canvasses every other day.

A children's day nursery is also being

(Continued on page 30)

Big Installations MADE EASY WITH J&C POWER HEATERS

No matter what type building you're planning— bowling alley, church, school, office building, apartment dwelling, factory, theatre—you can depend on a J & C Power Heater to heat it to complete satisfaction of owners and occupants. J & C Power Heaters are engineered to produce from 160,000 to 3,200,00 Btu, burning coal, gas, or oil. They have a direct radiation surface that captures more usable heat from the flames and throws it off for circulation by smooth, quiet forced air system. Ample humidity control adds greatly to indoor comfort. One-piece welded construction of high quality steel assures a gas-tight, leak-proof unit. Yet, with all this heating power and these multiple heating advantages, J & C units are simply designed. They require a minimum of detailed planning in proportion to the size of the building. Plan on a J & C Power Heater, and you'll be sure of a heating plant that will render maximum heating satisfaction, dependability, and economy.



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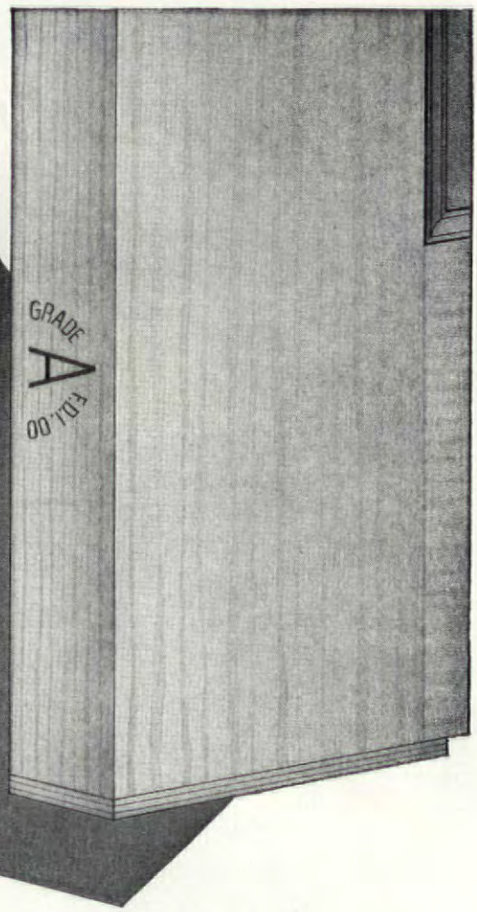
W O R K W E L L D O N E S I N C E '8 1

Profit from these Precision Features of Durable Douglas Fir Doors!



WHEN Douglas fir doors are ordered Pre-fit, Pre-sealed — or completely machined under Factri-fit specifications — essential trimming and fitting operations are performed at the door plant by modern, high-speed, precision tools. As a result, these fine doors — manufactured of all-heartwood Douglas fir, the wood made durable by nature — reach the job ready to install. Time and labor are saved; a trimmer, more attractive installation is assured. The slight additional cost is more than offset by on-the-job economies.

MORE FIR DOORS ARE COMING SOON

It is true that the supply of Douglas fir doors will continue critical for a number of months, due to the present shortage of shop lumber. But it is ALSO true that production is increasing substantially as controls are lifted. More Douglas fir doors are coming! Soon warehouse and dealer stocks should reflect this production upswing. Keep in touch with your regular source of supply.

PRE-FIT

Douglas fir doors may be ordered pre-fit to exact size. No finish cutting or fitting — no sawing or planing — is necessary on the job.

PRE-SEALED

Douglas fir doors may be ordered pre-sealed . . . a feature which improves dimensional stability, reduces moisture absorption, and eliminates the need for one prime coat.

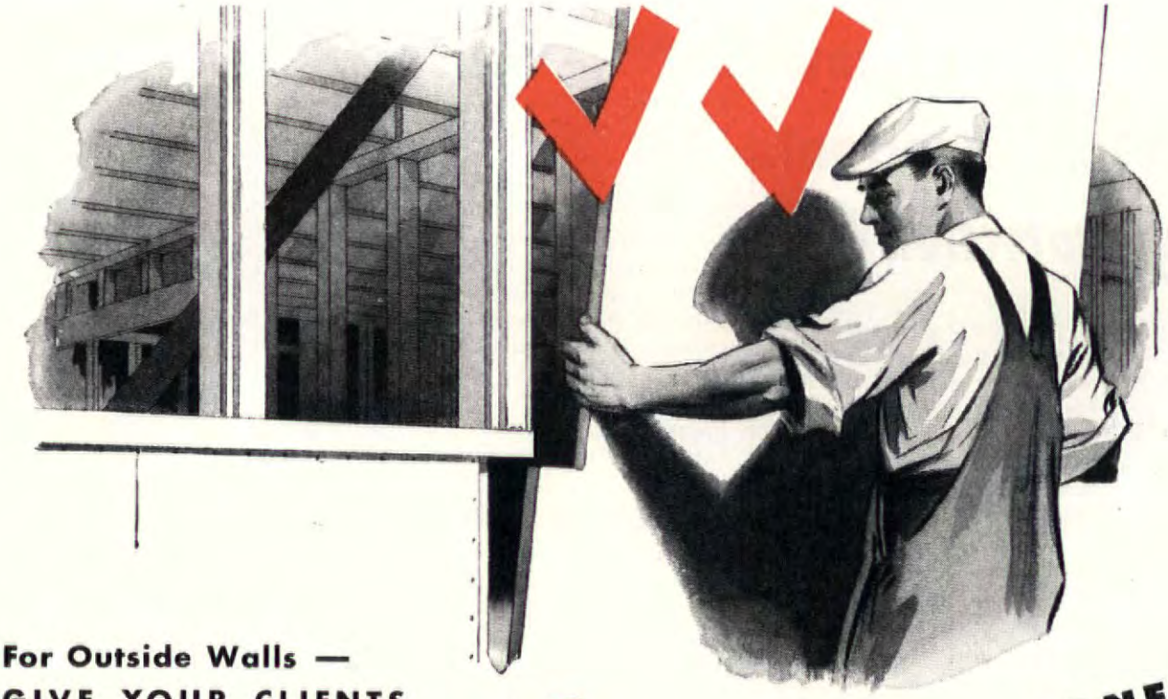
FACTRI-FIT

Douglas fir doors may also be ordered completely machined — not only pre-fit, but gained for hinges and mortised or bored for locks as well. Doors will be grade-marked, as in the past, for ease in specification and ordering. They'll be better doors in every way.

FIR DOOR INSTITUTE
Tacoma, 2, Washington

Douglas Fir DOORS

The National Association of Fir Door Manufacturers



For Outside Walls —
GIVE YOUR CLIENTS

Double FOR THEIR MONEY!

Specify double-duty Insulite Sheathing. It does *two* things for the price of one:
(1st) *Sheathes* (2nd) *Insulates*
One product—double usage!—double service for the money!

In this day of excessive construction costs, here at least is one place where you can tell a client "You get *two* uses for the money you spend."

Tests prove Insulite Sheathing provides bracing strength superior to ordinary wood sheathing horizontally applied. Its insulation value over wood is common knowledge.

Refer to Sweet's File, Architectural Section 10a/9

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Double USAGE

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INSULITE
The GENUINE

BUILDS ✓
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DIVISION OF MINNESOTA & ONTARIO PAPER COMPANY

LETTERS

planned to serve both villages. Men with children have offered to find a suitable building on the base and adapt it to the needs of the children, and upon completion, a registered nurse will be in attendance.

Housing is still far too tight to prophesy how long this setup will last. University officials say that Trailvet Villages will continue to operate as long as the need for them exists. However, many students feel that their present arrangement is ideal, since their rent is extremely low and can probably be recovered several times over after graduation when they sell the trailers.

JEAN PUMPHREY

University of Florida
Gainesville, Fla.

ARCHITECTURAL QUANDARY

Forum:

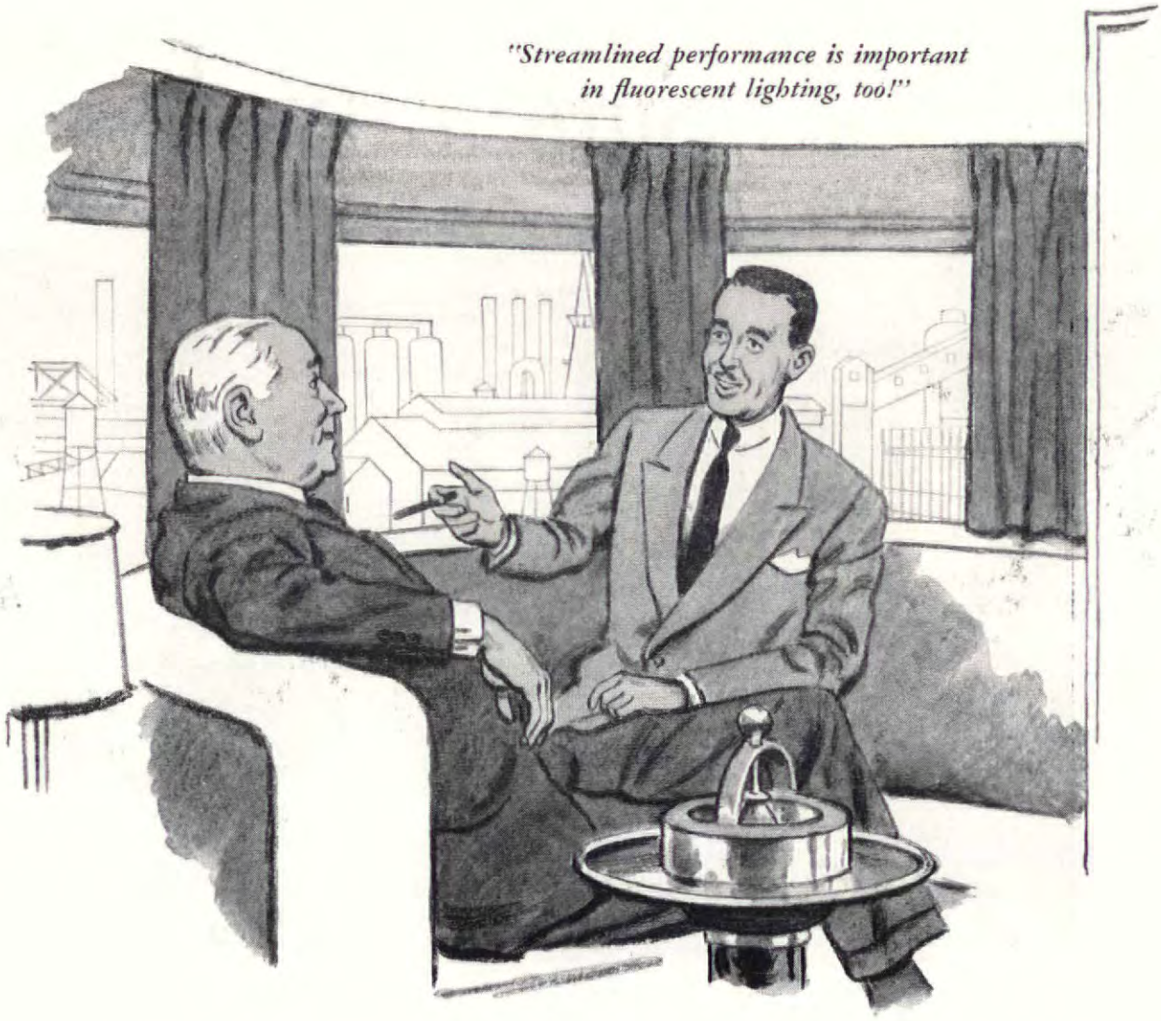
Prior to the war when we elected to pursue a course in architecture we were greatly impressed with the contemporary trend in design. Now that we have resumed our studies we sometimes question the theorizing we acquire in school on the basis of the conflict it makes with a realistic building program. This was pointed out in Caleb Hornbostel's letter (FORUM, Nov. '46). We wonder if the professional world is conscious of the quandary in which the architectural student finds himself because of the confusing issues which ensnarl the current building. After making all due allowances for obstacles as set up by the banks, labor unions, contractors, etc., we feel that these are merely impedimenta.

As students we of course recognize the existence of these obstacles, but we feel that they can be overcome. It does seem that banks, unions, etc., have an antipathy for doing anything that our grandfathers did not do; furthermore this antipathy is indicative of a retrogressive thinking which contributes to the continued slowness of institutions and organizations to keep up with change. We feel that it is about time a definite stand is taken. Why must the building industry in the United States (a leader in science and industry) look to the Scandinavian countries or our Latin American neighbors as the precursors of functionalism and modern design?

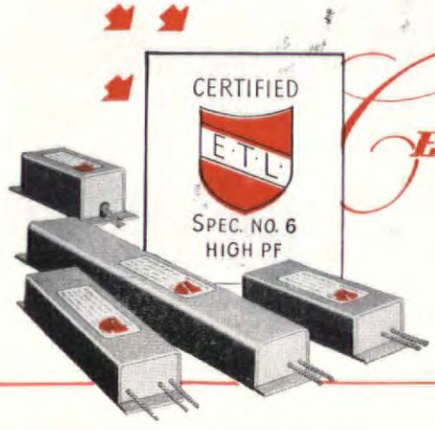
Modernists and aspirants to modernism should not covet designs of the caliber being turned out by most speculative building concerns—designs found mainly in the advertising sections of architectural periodicals and newspapers. We urge the purposeful avoidance of the publication of any material when and if it serves to misinform the public on the subject of *good* contemporary modern.

What finer living can the tenant-of-tomor-

(Continued on page 34)



...And there's a way to assure it—through Certified Ballasts. The ballast, in a fluorescent lighting fixture, is the *heart* of the lamp and fixture *operation.* And Certified Ballasts, built to exacting specifications, tested, checked and CERTIFIED by independent experts, Electrical Testing Laboratories, Inc., as definitely meeting those specifications, mean—to you—longer fluorescent lamp life—most light from lamps—greater economy. Insist on the ETL Certified label on the ballasts you specify and use!



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Sure, it can be done . . .

Another J. W. Lyon project that will mean better living for 200 families is going up near Oklahoma City. It is one of many developments in that area which offer prospective homeowners the ease and convenience of General Electric kitchens. These all-electric kitchens are completely equipped, and are scientifically designed to take much of the drudgery out of housework.

GENERAL ELECTRIC
EQUIPPED HOMES

J. W. Lyon, well known throughout the Southwest as a leading home builder, is a pioneer of *better living, electrically*. He started to include General Electric kitchens in his homes in 1937—completed and sold several hundred such homes before the war—and, today, is once again building homes that include "the appliances most women want most"—General Electric.

HERE'S THE PROOF!

J. W. Lyon of Oklahoma City says:

"My new homes offer all-electric kitchens, with complete General Electric equipment, at prices any homeowner can afford!"

As an architect or builder, there's one fact you have to face...

People buying homes today want, and expect, completely equipped all-electric kitchens included as a basic part of the house.

You know that, of course. But maybe you don't know this: *you can give people what they want and still keep your homes in the volume-selling price class!*

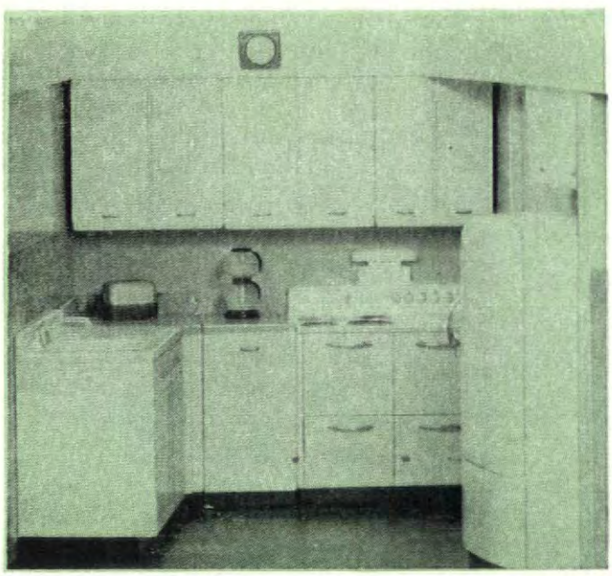
Just read what one builder, J. W. Lyon of Oklahoma City, has to say about his new development.

"Everyone who can afford a home can afford an extra $2.50 or $3.00 a month. And that's about all it costs them for an up-to-date, all-electric kitchen.

"In the new homes that I'm building, housewives rave about the General Electric kitchens. Each one is completely equipped with an automatic Electric Dishwasher, a Range, and a Refrigerator. And the General Electric Steel Cabinets provide plenty of work surface and storage space. A General Electric Attic Fan and Washing Machine are also included.

"Such top-quality kitchen equipment costs less to operate, has less maintenance expense, and lasts longer.

"Why, with kitchens like this, it can actually cost the owner less per month to live than in a home where no equipment is included, and he has to buy his own."



Better living at lower cost becomes a fact when all the General Electric equipment is included in the long-term realty mortgage. With this "package mortgage," financed by the American First Trust Company in Oklahoma City, there is only a minor difference in initial cost, while economical operation, low maintenance and long life of General Electric appliances can more than offset the slight increase in monthly payments.

Consider these facts, too!

Putting General Electric kitchens into *your* new homes will give your customers what they want—homes designed for better living, electrically. And it won't cost you a cent to do it!

What's more, by offering such completely equipped homes, at fair prices, you help to establish your reputation as a good builder. And a good reputation can be your biggest asset in the years ahead.

And don't forget—*most people want General Electric Appliances!*

Recent national surveys show that 53 per cent of all women, and 51 per cent of all men, prefer General Electric to any other appliances. A preference that is more than twice that for the next most popular brand.

No wonder that in Oklahoma City, Pittsburgh, St. Louis, Denver, Dallas—all across the country—architects and builders are making General Electric kitchens *standard equipment* in their new homes.

How about YOUR new homes?

Why not let General Electric help you plan your 1947 program? For complete information about all-electric homes, with special emphasis on kitchens and laundries, write to Home Bureau, General Electric Company, Bridgeport 2, Conn.

THE APPLIANCES MOST WOMEN WANT MOST!

GENERAL ELECTRIC

row in the medium-income bracket expect to find in the house-of-tomorrow than the facilities as specified in a modern house of Hornbostel's? We students want to be heard, and in so doing, join forces with "a lot of people with a hell of a lot of guts".

ALLAN G. MCTAGGART
BERT GARNETS
C. ROBERT STORK

Pratt Institute
Brooklyn, New York

VETERANS' CHICKEN COOPS

Forum:

In the service we heard of housing shortages. Out of the service we come face to face with the cold reality of that shortage and its full implications. I am an industrial designer recently discharged from the Navy and, like many fellow-veterans, am seeking a place to live. Here is the picture in Dayton, Ohio today:

There is no place to rent. Buying is the next resort—but what is there to buy? Some few homes are being put up at $7,500 but every loan agent tells me they are a poor risk because they will drop in value over the next few years more than I will have paid toward them. In order to even partially realize my investment I would have to live in such a place 25 years and I, like many other veterans raising or expecting to raise families, do not care to spend 25 years in a tumble-down 2 x 4 shack hardly larger than a chicken coop.

To get a decent home in Dayton it would cost me $15,000 and yet I would have only a 4-room house with a single garage on a 75 x 100 ft. lot. Such houses are being built in an average section of town and contain the usual two bedrooms, living room, kitchen and bath. All are out-moded designs (usually Cape Cod) and are built of green timber with inferior workmanship. Many houses built only a year or so ago in the same neighborhood have settled so much that cracks at least 1-in. wide have developed between the walls and ceiling. That sounds like a lot, but I have actually measured these cracks. In the same houses bath room fixtures have fallen from the walls and windows leak like sieves. No contemporary houses are being built and pre-fabs are unheard of.

Recently several new houses appeared in another section of town. They consisted of 4 rooms and bath and were not even as well-designed as the ones mentioned above. According to a sign they were "For rent to veterans of World War II only—$80 per month." These homes are unfurnished. How many veterans are earning enough money per week to be able to afford rent like that?

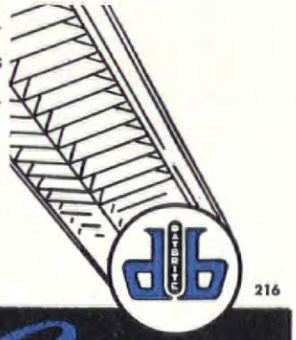
(Continued on page 38)

VIZ-AID...

...so versatile!

Its chassis is equipped with a wide variety of installation aids: holes, slots, knockouts . . . so you can mount it anywhere and anyway.

Viz-Aid commercial fixtures... for two 40- or two 100-watt lamps. U. S. Patent Nos. D-138990, D-143641, others pending. Request Bulletin 10-B-1 for complete details.



Day-Brite Lighting, Inc., 5471 Bulwer Avenue, St. Louis 7, Mo.
Nationally distributed through leading electrical supply houses.
In Canada: address all inquiries to Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

216

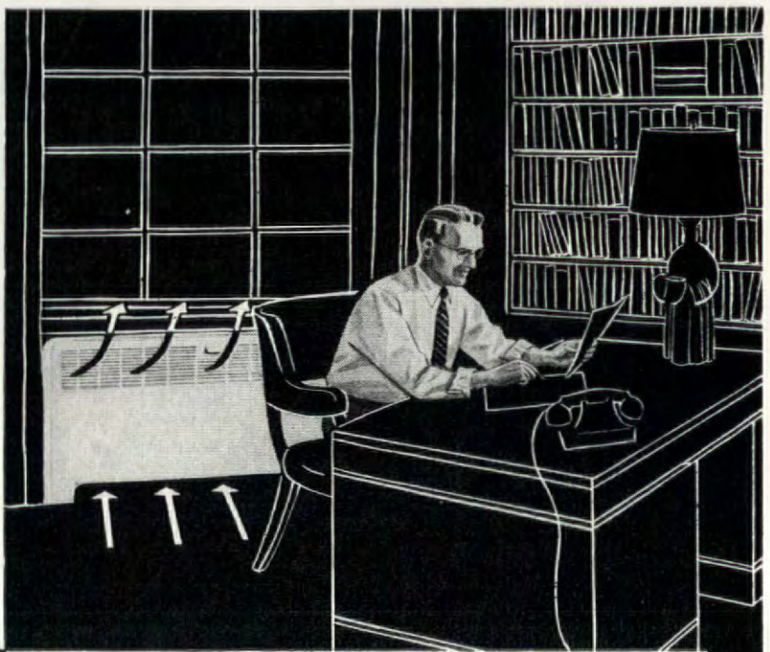
IT'S EASY TO SEE WHEN IT'S

DAY-BRITE Lighting

Modine gives you BOTH of these great heating principles blended into one!

1 RADIANT HEATING

Mild, radiant heat in just enough quantity to offset heat loss from window areas — that's what those arrows represent, coming from the Modine Convector Panel below the window. To this we add . . .

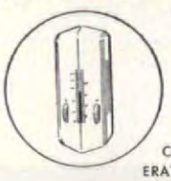


2 CONVECTION HEATING

Warmed air circulated by Convection Heating. Hot water or steam passes through copper heating unit which draws cooler, floor-line air into bottom of convector where it's warmed, rises and then passes out through grille.

Result: Dependable new heating comfort for moderate cost homes and apartments . . . distinctive room charm and cleanliness without unsightly radiators! Yes, Modine Convector Radiation provides a modern, blended heating system for modern living — a heating system that makes possible individual room control — that responds almost instantly to sensitive automatic controls—that gives you gentle air circulation without the use of moving parts that wear out. If you're planning to build a new home or apartment, think of Modine Convector Radiation . . . look for Modine's representative in the "Where-to-Buy-it" section of your phone book . . . write for complete information and free descriptive literature! MODINE MANUFACTURING CO., 1736 Racine Street, Racine, Wisconsin.


MODERN BEAUTY


CLOSE TEMPERATURE CONTROL


EASY TO INSTALL


ADDS TO LIVING SPACE


PRICED FOR TODAY'S HOMES AND APARTMENTS

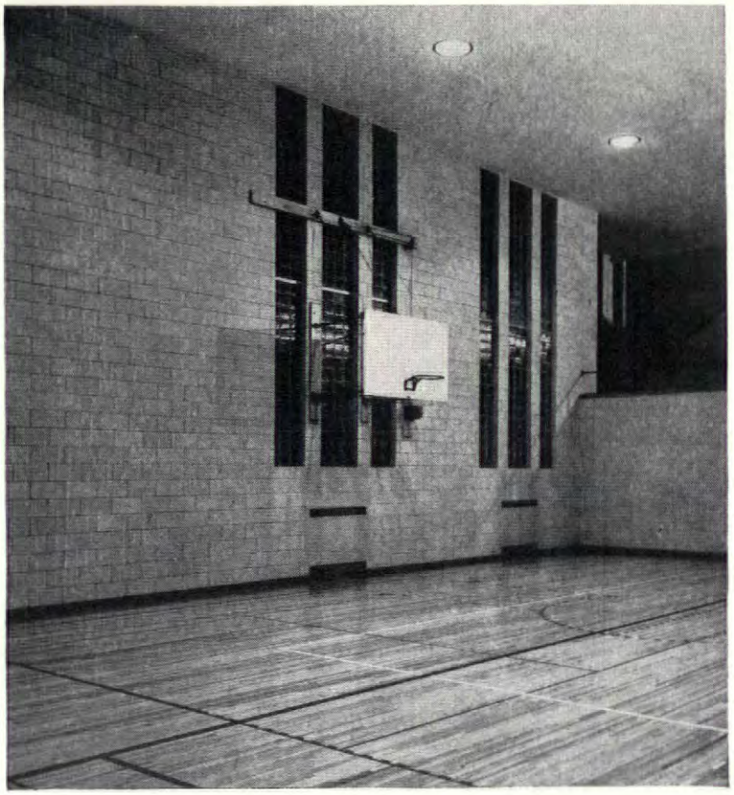
Modine

CONVECTOR RADIATION

The Modern "proved by use" heating method

School walls of *Facing tile*

...resist abuse...remain attractive...are fire-safe



Active, young Americans can give plenty of rough treatment to walls in school gymnasiums, auditoriums, cafeterias, corridors, laboratories, rest rooms.

These walls *must be able to take it.* They will—if they're built of Structural Clay Facing Tile. Strong and durable, Facing Tile resists wear and tear, stays attractive year after year without costly upkeep or maintenance.

Of prime importance, too, is the factor of fire safety which Facing Tile gives to school interiors.

Architects who design schools — or hospitals, public buildings, other Institutions and industrial plants — can achieve finer, safer interiors with Facing Tile. Sanitation and ease of cleaning are other advantages architects can obtain with Facing Tile.

This quality Structural Tile now is available in modular sizes. Modular means perfect fitting with other modular materials . . greater flexibility in design . . less time spent on drafting and site supervision . . less material waste . . better workmanship with reduced labor . . earlier occupancy.

Architects may call on any Institute Member for more information, or write direct to Desk AF-2 of the Institute. See Sweet's 1947 Architectural Catalog for additional data.

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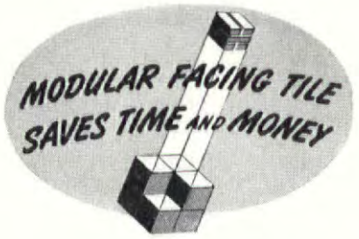

Mapleton Clay Products Co.
Canton, Ohio

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FACING TILE INSTITUTE

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LETTERS

Each month the FORUM has articles regarding the freeze on big building. It seems to be something unheard of in Dayton. Sear's Roebuck is well along with a new building covering an entire city block. Ground was broken only last summer yet the place now looks nearly complete. Chrysler Airtemp is likewise building a new factory, covering at least an average city block. This past summer no less than five drive-in theaters made their appearance. Many smaller buildings, supermarkets, theaters, etc. are going up. All this in a town of less than 300,000. I don't propose to know all the answers but I sometimes ask myself "why?" We have gone to war, lost the best years of our lives, and we come home to this.

It seems that Wilson Wyatt tried to do a good job but just such things as those described above have defeated him at every turn.

If big building was supposed to be frozen why were all the big buildings permitted to start in Dayton and why have they made such great strides while homes sit uncompleted—homes, some of which were started before any of the larger buildings?

EDWARD WM. DELAET

Dayton, Ohio

Up to this time last year government officials were encouraging commercial building, believing it necessary to prevent interim unemployment. One villain can hardly be held responsible for the present chaos in homebuilding—ED.

CONCRETE HOUSES

Forum:

Will you kindly send me the March 1939 issue of your great technical publication which contained an article about a new and different method of producing concrete houses? Pictures were shown indicating the process and progress of the operation, detailing the placing of steel forms, utilities, door and window openings, etc. Views were given of finished hollow wall structural units before the addition of roofs and other operational details.

I particularly want to use the pictures, evidently taken on the spot at the site of ten houses erected in Burbank, to demonstrate the use of specially designed forms devised by our technical mechanic. I need them in compiling a prospectus to assist in finance negotiations for the development of these homes on a large scale.

With mass production, these superior fire and earthquake-proof, dry-rot and termite proof, ultra-modern homes can be produced at greatly abbreviated cost; two to three dollars per square foot, or $400 to $500 per room less than the conventional houses of wood, plaster and paint. Although

(Continued on page 42)

Did You Get Your Copy?

Send the Coupon . . .

See How I = B = R Is Making America's Home Builders Conscious of Radiant Heating Benefits.

Never before has the story of Hot Water and Steam Heating been presented to home planners in so colorful and adequate a manner! Sponsored by the Institute of Boiler and Radiator Manufacturers, this booklet is the keynote of a sustained advertising program to drive home the outstanding advantages of Radiant Heating *in all its forms.*

Here in twenty-four pages is a world of interesting, practical heating information for home planners . . . alive with illustrations in brilliant color . . . non-technical . . . a pleasure to read. "Enjoy Better Living" pictures all the reasons why today's builder gets more for his money when he installs Radiant Heat—*whether a Radiator, Baseboard, Panel or Convector system!* Its story is authoritative—based on scientific investigation of heating methods in the I=B=R Research Home at the University of Illinois.

A valuable help to Architects

"Enjoy Better Living" brings you up to date on the many amazing things modern heating science has devised to make a home supremely comfortable. It is interesting, instructive reading—send the coupon for your copy.

I=B=R Advertising Reaches Millions Every Month!

These popular home service magazines with nation-wide circulations are used to offer "Enjoy Better Living" to America's best building prospects.

The Institute of Boiler and Radiator Manufacturers
60 E. 42nd St., Dept. TH1, New York 17, N. Y.
Send at once a free copy of "Enjoy Better Living with Radiant Sunny Warmth."

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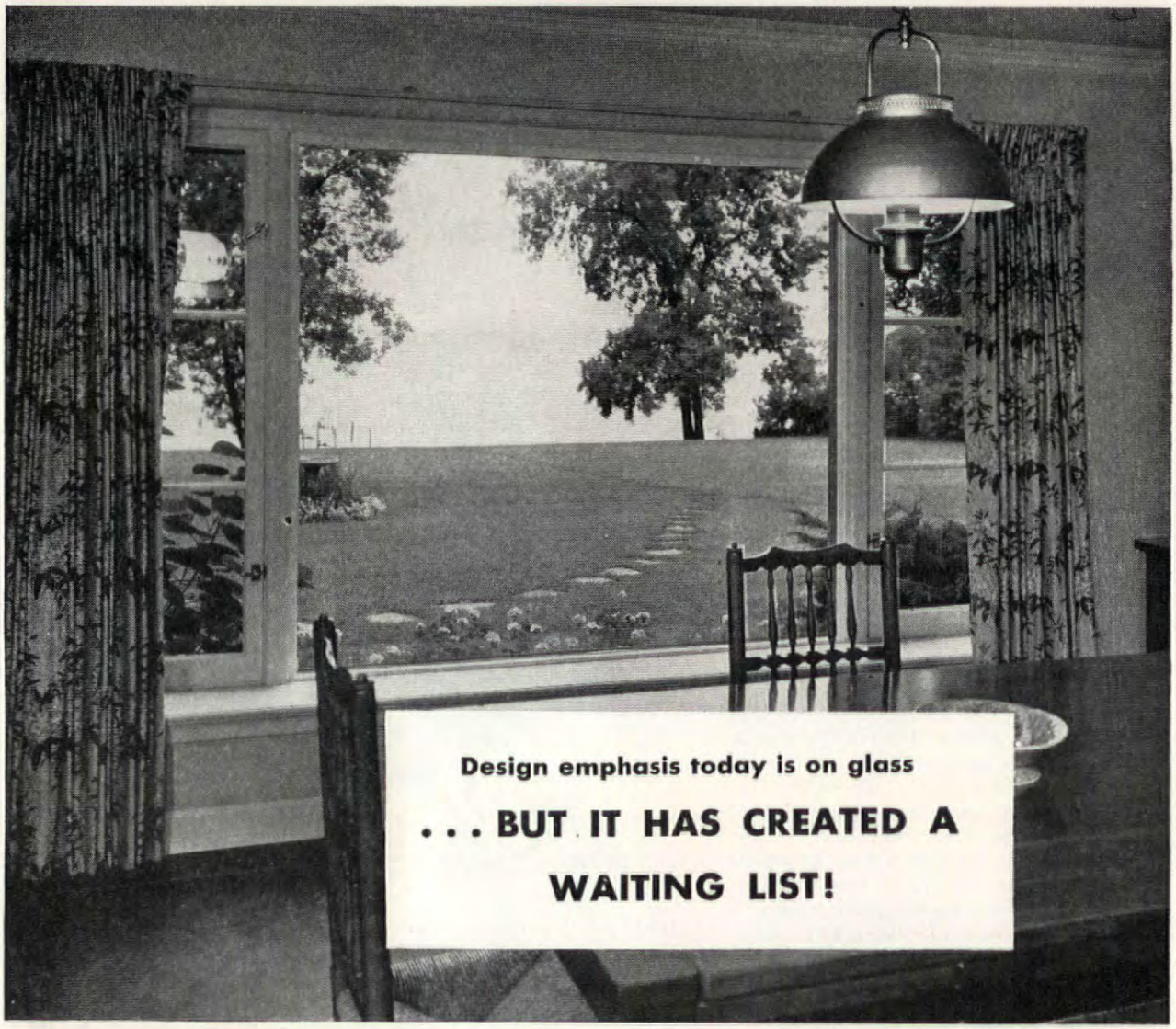
City.....Zone.....State.....

I=B=R

The *Institute* of Boiler and Radiator Manufacturers

60 East 42nd Street, New York 17, N. Y.



You see glass everywhere. In the new sunlit homes. In modern stores with their Visual Fronts. In efficient daylighted factories. In huge mirrors. In decorative glass panels.

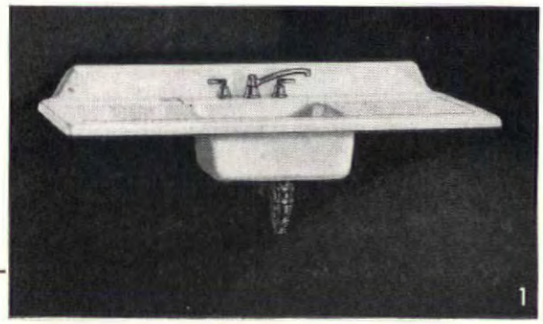
This greatly expanded use of glass may make it difficult to get the kind of glass you want when you want it. You might call it a scarcity—but it's not. Actually it is the result of the greatest glass demand in history. The phenomenal popularity of *Thermopane** has further intensified this demand and expanded the waiting lists.

We're making more glass than ever before. We've built new plants . . . expanded existing ones . . . installed new equipment . . . added hundreds of employes. But the demand rolls on and orders come in faster than they can be filled.

We suggest that you protect your clients by getting orders for glass into the hands of L·O·F Distributors as soon as plans and sizes are determined. Libbey·Owens·Ford Glass Company, 2127 Nicholas Bldg., Toledo 3, Ohio.

*Reg. U. S. Pat. Off.

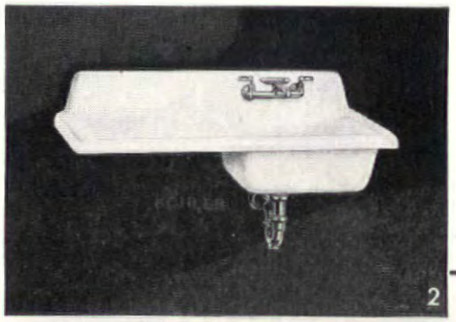
LIBBEY·OWENS·FORD
a Great Name in **GLASS**

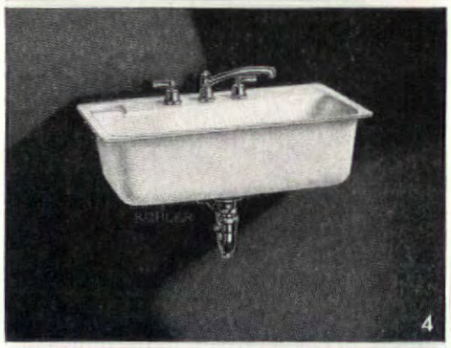


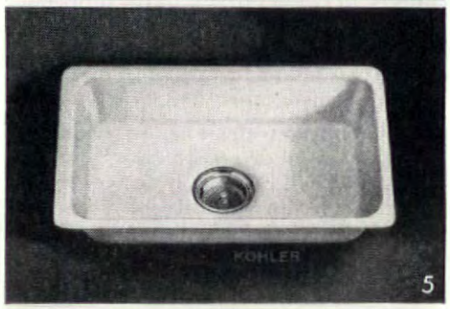
1—**CAMBERLEY K-5551-A.** Ledge sink, single compartment, double drainboard. Size, 60x 25".

2—**HOLIDAY K-6080-A.** Sink with 6" back. Size, 42x20".

3—**DELAFIELD K-6491-A.** Flat rim, double compartment ledge sink. Sizes, 32x21" and 42 x21".





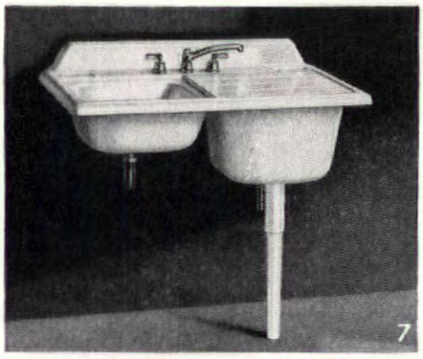


KOHLER Enameled Iron Sinks to meet present urgent needs

THE KOHLER sinks illustrated have been selected to give you a practical answer to present urgent needs. Kohler has concentrated production on this group of sinks since the war, in order to help you solve your problems.

You'll find this a well balanced selection, especially suited to the requirements of small houses, but with enough variety in sizes and designs to meet a broad range of demand. Surfaces are easy to clean and acid-resisting clear through. Fittings are of durable brass, chromium plated.

Kohler is steadily increasing production—taking steps to overcome handicaps created by manpower and material shortages. All Kohler plumbing fixtures and fittings now being manufactured maintain the same high standards that have built the 73-year-old tradition of Kohler quality. Write for further information. Kohler Co., 136 High Street, Kohler, Wisconsin. Established 1873.



VISIT OUR EXHIBIT

4—**MAYFIELD K-6511-A.** Flat rim, ledge sink. Size, 30x21".

5—**ADDISON K-6550-A.** Flat rim sink. Sizes, 24x20", 30x20" and 30x18".

6—**ALLOWAY K-6635-A.** Flat rim sink and laundry tray. Size, 42x20".

7—**SEA CLIFF K-6603-A.** Ledge sink and laundry tray. Size, 42x25".

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS

LETTERS

exempt from the usual causes of depreciation and obsolescence, they save the builder and ultimate owner of a two- or three-bedroom home a matter of $2,000 to $3,000. That is the difference between success and failure in solving the housing situation for veterans and other groups with moderate incomes . . .

ROBERT W. BROWN
Pacific Properties Co.
Los Angeles, Calif.

UP-TO-THE-MINUTE PLUMBERS

Forum:

We have read with interest the "National Code-Making" story in the current issue of the FORUM. For the sake of the record, we wish to direct attention to the Uniform Plumbing Code adopted by the Western Plumbing Officials Association. Some three years was spent in its preparation and it has been arranged to keep this code up-to-the-minute at annual conventions by making such changes as the latest findings in the science require.

In connection with any work designed to furnish the building industry with standards which will inevitably affect plumbing engineering, we feel we must express our conviction that great care should be exercised to avoid sacrificing adequate protection of the public health for the sake of speed alone.

The speeding-up of a national house building program via the code route is not reassuring to those of us who have had experience with the national wartime emergency standards for plumbing. We are convinced that when the emphasis is placed on speed rather than health protection, the high standards adopted by many progressive cities may be somewhat neutralized. Such seemed to be the case during the war when federal agencies demanded certain innovations which were so obviously substandard as to be distressing to serious-minded plumbing engineers . . .

Western Plumbing Officials Association
Los Angeles, Calif.

THE RIVETS AND THE WELDS

Forum:

Arc welding has been of decisive importance to America. It did more than most other manufacturing processes in producing the tools of war during World War II. It has also maintained a record for reliability over many years that is unmatched by any other manufacturing process. Yet arc welding is being attacked in a way which is tremendously handicapping its future use.

The attack is aimed not at the process,

(Continued on page 46)

What a World of Difference The Right Finish Makes

In floors, too...

IT'S THE *Finish* THAT COUNTS!

BRUCE

America's Beauty Floors

BRUCE FINISHED FLOORS ARE 8 WAYS BETTER THAN ON-THE-JOB FINISHES

1. ***Smooth Sanding***—Each strip is sanded to perfect smoothness on precision sanders. No sander marks.

2. ***Prime Condition***—Finishing starts immediately after sanding. No "raised grain". Moisture content is right.

3. ***Perfect Filling***—Highest quality silex filler is rubbed into Bruce Flooring as it moves down the finishing line.

4. ***Thorough Sealing***—Finish penetrates into wood, seals pores against dirt and wear. Beautifies the grain.

5. ***Infra-red Drying***—Applies heat uniformly. Welds finish into tough, even film. No "unfavorable drying weather".

6. ***Extra Buffing***—High-speed brushes burnish finish into wood, provide a harder, smoother surface for waxing.

7. ***Superior Waxing***—Special wear-resistant Bruce Floor Wax is applied evenly, then polished with brushes and buffers.

8. ***Ready to Use***—No waiting around for finishing, no floor jobs ruined by finishes being walked on before dry.

E. L. BRUCE CO., MEMPHIS, TENN. · *World's Largest Manufacturer of Hardwood Floors*

BRUCE FINISHED FLOORS

Stran-Steel framing is a building product of Great Lakes Steel Corporation

YOU NAIL TO STRAN STEEL FRAMING

Stran-Steel provides a highly practical, economical method of fire-resistant construction for light buildings. This modern framing material is not only non-inflammable itself, but also permits the most efficient use of fire-resisting collateral materials.

Freedom of choice in selecting collateral materials is made possible by the *nailing groove* in Stran-Steel framing members. This patented feature, exclusive to Stran-Steel, enables workmen to nail other building materials directly to the steel framing members. Construction with Stran-Steel is fast, rigid, durable . . . assures longer building life and simplifies maintenance problems.

Build lasting value into homes, apartment buildings and light commercial and industrial structures . . . build with Stran-Steel! For further information, see Sweet's File, Architectural, Sweet's File for Builders, or the January issue of Building Supply News.

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STRAN STEEL

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Stran-Steel Division • Dept. 35 • Penobscot Building • Detroit 26, Michigan

UNIT OF NATIONAL STEEL CORPORATION

A community asset

built with **BRICK** and **TILE**

PHOTO BY JEAN ST. THOMAS

Any community would be proud of the United Carbon Building in Charleston, West Virginia.

This splendid building illustrates how clay masonry adds well-proportioned strength and beauty to a city skyline.

Community leaders could well use this building as a "standard," as they plan new office structures, hospitals, homes, schools, factories and apartment houses.

Walter J. Martens and Robert E. Martens, both A.I.A., have achieved genuine distinction in blending traditional building materials with modern design in both exterior and interior.

As you make *your* contributions to community construction, you will find the new modular sizes of brick and tile of great advantage in your planning, estimating and site-supervision. They will help you save erection time and dollars for your clients.

Two FREE booklets are available to architects. One, "Modular Sizes of Brick and Tile," for those desiring to use these sizes in current design; the other, "The ABC of Modular Masonry," for those interested in the development of coordinated dimensions. Write the Structural Clay Products Institute, Dept. AF-2, 1756 K Street, N.W., Washington 6, D.C.

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STRUCTURAL · CLAY · PRODUCTS · INSTITUTE
WASHINGTON D.C.

NOW IT WILL BE BUILT WITH MODULAR-DESIGNED

BRICK AND TILE

LETTERS

as such. It is obvious such tactics would fail. The attack consists in throwing suspicion on the process by writing into specifications expensive and impractical tests which have little to do with the excellence of the weld. Most of them have to do with infinitesimal variations of no possible importance, but of great cost.

We see, for instance, the ruling that welds must be X-rayed, which increases the cost by several times, yet the commercially welded joint is always of greater strength than the parent metal and is tremendously stronger than any riveted joint, where X-raying never has been suggested.

Riveted joints are made tight by caulking and this process is accepted without question. The resulting undercut is enormous, yet a welding undercut that is infinitesimal is frequently made the reason for rejection.

Welded vessels are rejected because of trifling defects such as infinitesimal porosity either on the surface or beneath, yet parent metal in the same structure with much greater defects, and whose weakening effect would be tremendously more serious, is accepted without question.

Welding electrode specifications are being written which enormously increase the cost of production with no increase in either the reliability or in the excellence of electrodes. For instance, the weld is rejected if the ductility of the electrode deposit is low. The contour of the deposit is also a matter of very close inspection. Rivets have no such tests to handicap them.

Because of the higher elastic limit of the weld metal, there is no load that can be put on a welded structure (in which the weld is of equal or greater section than the parent metal) which can affect the weld in any possible way until great distortion of the rest of the structure has taken place.

Welding over the years has done a more reliable job than the rivets it has replaced. That record is conclusive. The engineering profession must resist this studied attempt to eliminate the arc welding process. The success of such an attack is neither good advertising for the engineering profession nor good ethics for those involved in the attack. It is time we dealt with reality.

J. F. LINCOLN, President
The Lincoln Electric Company
Cleveland, Ohio

FOUNTAINHEAD ECHO

Forum:

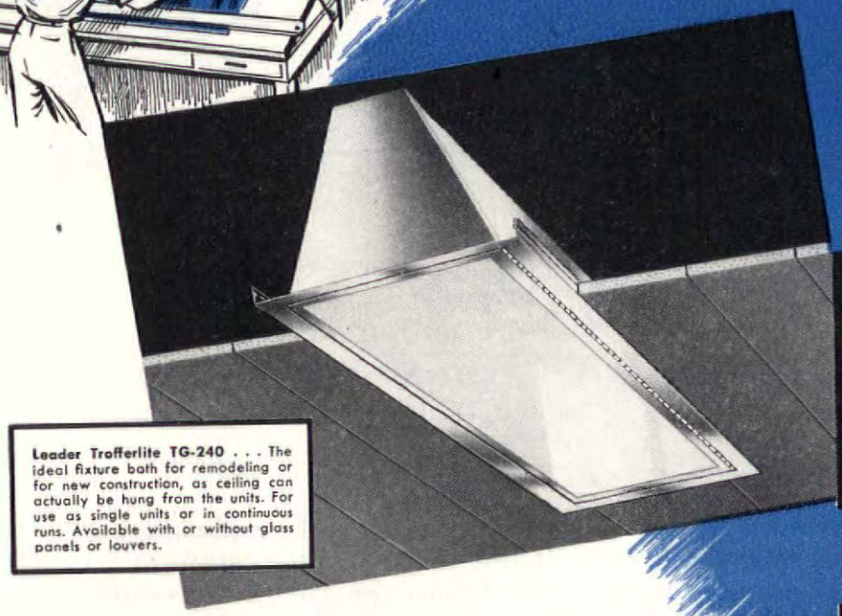
The review of the novel "The Fountainhead" by Henry Fagin (FORUM, Dec. '46) interests me and I echo its sentiments.

EDWARD F. KLAVON
Aberdeen, Md.

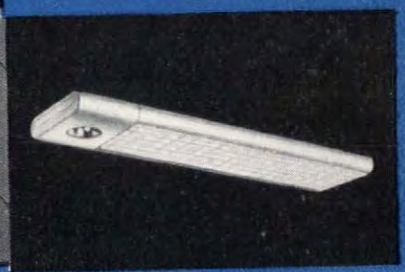
(Publisher's Letter on page 50)

LOOK TO *Leader* FOR PRECISION ENGINEERING

Look at the various models of Leader Fluorescent Luminaires, from any angle. You'll readily see that every Leader fixture is engineered to exacting standards, for simple, easy installation and for years of trouble-free service.

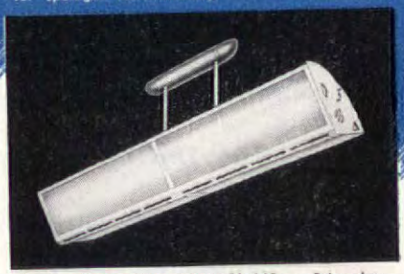


Leader Trofferlite TG-240 . . . The ideal fixture both for remodeling or for new construction, as ceiling can actually be hung from the units. For use as single units or in continuous runs. Available with or without glass panels or louvers.



Leader Officer VL-440, with adjustable Direclite... A striking example of Leader's advanced modern design. Wafer thin. High gloss white enamel louvers give maximum soft light diffusion. Direclite, for "spotlight" merchandising.

Leader's advanced engineering features make certain the *correct* installation for every lighting need. For example, Leader Trofferlites give the appearance and performance of a custom built installation through the use of standard fixtures. Yes, Precision Engineering contributes much to the popularity of Leader Luminaires with "Big Business" as well as "Little Business" all over America. So, for latest lighting techniques, simple installation, and easy maintenance, Look to Leader.



Leader Glass Enclosed Unit GL-440 . . . Brings luxury lighting within the reach of all! Ribbed glass construction with moderate diffusing louver for plenty of soft, pleasing light. Excellent for schools, stores, offices.

Leader Stratoliner IUO-240 . . . A durable, heavy duty industrial unit. Excellent for continuous runs. Easily installed; eliminates all installation "extras."

Only better electric wholesalers have Leader franchises. There is a Leader representative in your area.

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WEST COAST FACTORY
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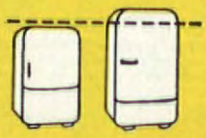
Kelvinator's NEW "SPACE SAVER"

6 cubic feet in the floor space of a 4!

SEE IT AT THE BUILDER'S SHOW
HOTEL STEVENS, CHICAGO,
BOOTH NO. 1



Only 3⅞ inches higher and with almost the identical floor space, yet has a full six cubic foot capacity instead of four! It's the answer to the prayer of every architect, builder and home owner who ever struggled with the problem of getting a big family-sized refrigerator into a modern small kitchen. Whether your problem is small kitchens in new homes or the replacements of inadequate refrigerators anywhere, Kelvinator has your solution—the new "Space Saver."

Kelvinator quality throughout . . . with these great features

High Speed Freezer of stainless steel for permanence and faster concentrated cold . . . ample room for frozen foods, too.

Handy Chilling Tray of unbreakable drawn aluminum.

Extra Room for tall bottles on both sides of freezer. You can remove any shelf for storage of bulky foods.

Sturdy Plated Shelves of closely spaced welded bars—dishes slide easily, but won't tip over.

Beautiful Exterior of welded steel with a lustrous long-wearing Permalux finish that's stain-resistant.

Polarsphere Power Unit . . . the famous trouble-free, money-saving, cold-making mechanism, sealed in steel and permanently lubricated.

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There is no other insulating material like

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NO other insulating material is made up of millions of minute air cells, each enclosed in pure glass, molded into light, strong, rigid blocks.

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When you need insulation for roofs, walls and floors, be sure you have complete and up-to-date information on PC Foamglas. We have recently published authoritative booklets which give all the data you need. Send for your selection of free copies today. Pittsburgh Corning Corporation, 632 Duquesne Way, Pittsburgh 22, Pennsylvania.

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T. M. REG. U. S. PAT. OFF.

A LETTER FROM THE PUBLISHER

Stories about the rapid-fire arrangements which finally and dramatically brought the World Capitol to Manhattan are numerous and, in most cases, without foundation. This one comes from a reasonably reliable source . . . After Wallace Harrison had signed the history-making option in William Zeckendorf's Monte Carlo nightclub, he started back to Rockefeller Center to report the news to Nelson Rockefeller. Realizing how much Rockefeller wanted to know the outcome, Harrison decided to telephone. When the word came through, Mr. R. was understandably delighted and shouted, "Wally, that calls for a celebration. See if you can't bring back a bottle of champagne."

Entering a liquor store, Harrison, after deliberation, selected a vintage appropriate to the occasion. Carefully he withdrew his wallet from an inside pocket. In it were the executed options for $8,500,000 and two $1 bills.

Now that Mr. Blandings has built his dream house within a stone's throw of every alternate U. S. family, it might be assumed that the long-awaited building boom is about to collapse. Any such dire notion is nonsense sheerer than 54-gauge nylon. Inevitably, Mr. Blandings' tragic experience will have no more horrendous result than to provide heart-warming encouragement to a new crop of happy home-seekers. We have at least two firm convictions about Mr. Hodg . . . oops, Mr. Blandings. The first is that the American Institute of Architects and the National Association of Home Builders should each award him a gold medal. Our second conviction, we regret to report is that neither will.

This view is documented by the following. Some months ago barrister Charles Abrams authored a piece in *McCall's* Magazine titled "Your Dream Home—FORECLOSED!" An illustrator provided a heading showing a cutey-pie, ivy-covered, Cape Cod cottage superimposed on which, in terrifying red letters, was the word FORECLOSED. Recently the author telephoned Editor Wiese to find out what the reactions were to the article. Wiese was ecstatic, said that the article had produced more mail than any other feature in the issue. Abrams, delighted at his success in dampening public ardor for home ownership, asked Mr. Wiese to what he attributed this response. "Oh, that's a cinch. They all wrote in to find out how to get in touch with the architect of the house."

* * *

George Sakier, who divides his time between sweet design and cynical observation, recently attended an exhibition of architectural photographs. Our reporter overheard him muttering . . . "The same old new stuff . . .same old new stuff."

* * *

Twitting their colleagues on FORUM and FORTUNE as mere pedestrians, the boys on TIME and LIFE think of themselves as jet-propelled journalists. Speaking just for ourselves, we normally turn our back when the subject comes up and brood over a fresh martini. This once, however, we will report that on a recent Sunday night at 11:45 o'clock came an insistent long-distance call. Both we and the FORUM had "gone to bed" a few hours before and visions of sugar plums were about to dance. It was our Washington man screaming that Republicans had changed their minds again, involving major revision of our story and an immediate trip to the printer. Looking out we found flying conditions impossible—a 00 ceiling. Our car was on blocks for the winter. We rushed to the cellar of our flat building, seized our two-wheeler and peddled furiously to the printer. The rest is now history. Having stopped the presses, killed the story, substituted another, we put our bike in a cab and luxuriously returned home and to bed. In no time we were dreaming that we were solo-flying the Hump with a packet of exclusive dispatches gripped firmly in our teeth.

H.M.

HAS *YOUR* BUILDING THIS RAINCOAT?

One bad storm will result in costly damage to your unprotected building and contents. To protect your building and beautify it is now a simple process with Waterfoil. Unlike any other protective coating, Waterfoil is made of irreversible inorganic gels which bond both chemically and physically to masonry surfaces. By helping to impede water penetration into concrete, brick or stucco walls, Waterfoil also prevents reinforcing bar rust, spalling or disintegration. Don't wait for the gale. Write for the literature today—it's important to all building operations.

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

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It shouldn't happen to a Home Owner!

● Dependability and low cost make Bituminous Coal the leading home-heating fuel, as every architect and builder well knows.

And as stoker developments and improved local services make coal an "automatic" fuel as well, the advantages of coal heat will be even more pronounced.

So even when a client of yours *insists* on some other fuel for his new home, make sure his house plans don't tie him to that choice forever.

This means, make sure his plans provide: *(1) A chimney with sufficient flue capacity to burn coal efficiently; (2) Sufficient space adjacent to the heating unit for eventual coal storage and stoker installation.*

The cost of such sensible precautions is slight. And they may add greatly to the future value of the home.

Coal supplies uniform, *steady* warmth throughout every portion of each room. For there's always a fire in the furnace—no "pop on and pop off" periods that permit accumulated heat to rise to the ceilings and leave floor areas dangerously cold. That, plus its low cost, is why more than 4 out of every 7 homes in the United States now heat with coal!

BETTER AND BETTER THINGS ARE COMING FROM COAL!

As you undoubtedly know, the modern research facilities of the Bituminous Coal industry are hard at work not only to make coal a still better fuel, but also to devise new, low-cost *automatic* equipment that will make coal-heating even cleaner, more comfortable, more convenient and more economical. This makes it all the more important that every new home built today be planned to permit the eventual burning of coal – no matter what fuel may initially be selected.

BITUMINOUS COAL

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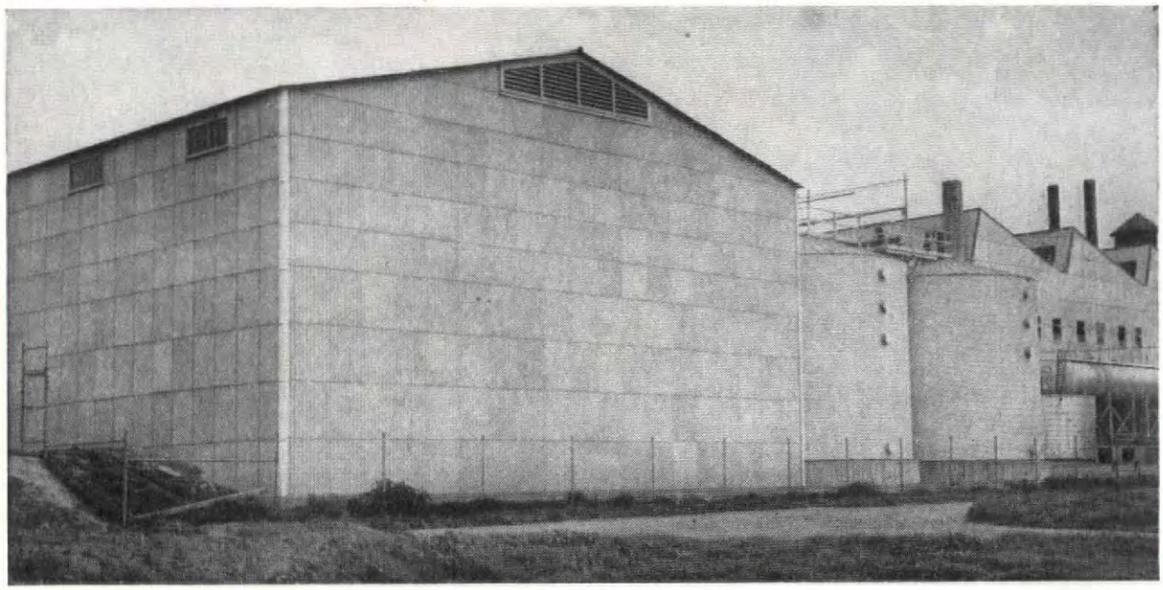
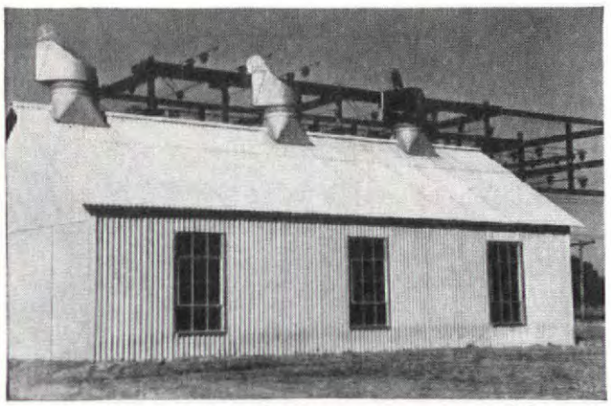
CORRUGATED TRANSITE* . . . *for the complete exterior*

*Transite is a registered Johns-Manville trade mark



For buildings large and small, industry uses Johns-Manville Corrugated Transite for the entire exterior—roofs as well as side walls. Transite needs no upkeep . . . can't rot . . . can't burn . . . can't rust



Whether it's used for a one-story utility building or a multiple-story factory, J-M Corrugated Transite meets all the modern requirements for attractive design and streamlined construction.

It builds fast! And it's built to last! Corrugated Transite is a rigid asbestos sheet that provides durable, weatherproof walls and roofs for buildings of every size and design.

Whatever your industry, whatever type of building, you can use Transite for both new and remodeled structures, and cut construction costs.

The large convenient sheets, with their unusual strength further increased by corrugations, permit a minimum of framing. They're quickly and easily applied, and when alterations are necessary can be completely salvaged.

You save on maintenance, too. Made of asbestos and cement, practically indestructible materials, Transite requires no preservatives . . . remains virtually maintenance-free.

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Because of the unprecedented demand for J-M Building Materials, there may be times when we cannot make immediate delivery. We urge you to anticipate your needs.

EASY TO BOLT TO STEEL

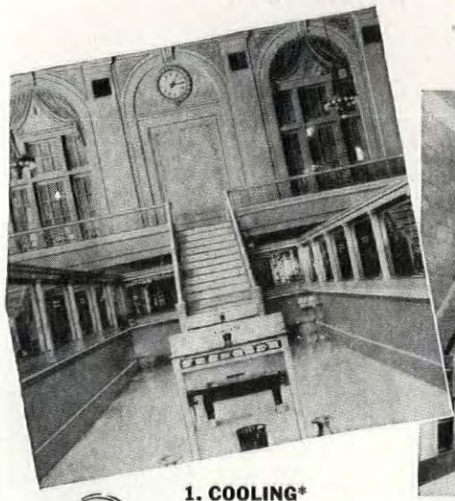
EASY TO SAW

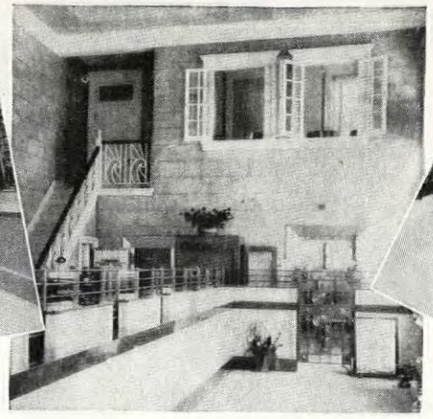
EASY TO DRILL

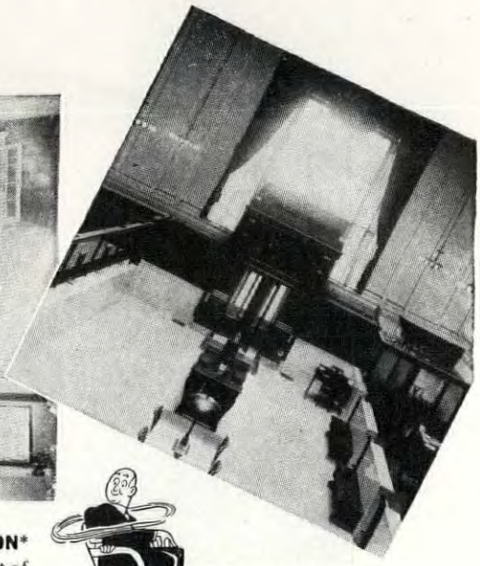
EASY TO NAIL TO WOOD

Johns-Manville *Asbestos* **CORRUGATED TRANSITE**

FIVE THINGS TO REMEMBER
when you plan Air Conditioning for a bank







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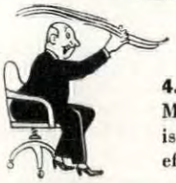
Not too cold nor too warm — just right even on hottest days.

2. DEHUMIDIFICATION*
Wrings mugginess out of the air. Proper humidity level all year round.

3. CIRCULATION
Air is gently circulated for uniform coolness throughout.



4. FILTRATION
Most of the dust and dirt is removed by the large, efficient filter.

SURE A BANK should be cool. But it takes more than just cooling to make a satisfied client. It takes all five benefits of Better Air Conditioning—General Electric Air Conditioning.

Make sure your client gets Cooling*, Dehumidification*, Circulation, Filtration, and Ventilation in the proper balanced combination.

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You'll find description and summary specifications of General Electric equipment in Sweets Catalog, Section 29 A-6. *General Electric Co., Air Conditioning Dept., Section 7132, Bloomfield, N. J.*

* In winter Better Air Conditioning includes controlled heat and humidification.

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Maintains fresh atmosphere by introducing plenty of outdoor air.

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The inside facts on Varlar! How this miracle wall covering resists greases, pencil and ink marks, water, fire, vermin, dirt—stains of *all* kinds! How it begins a new day of low-cost wall beauty and maintenance for homes and buildings!

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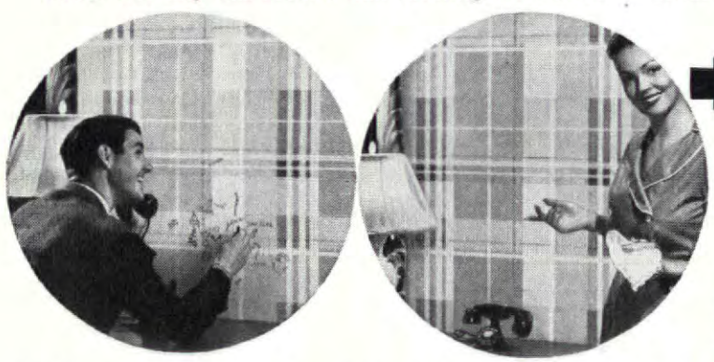
See with your own eyes how Varlar stands up under every type of test! See how Varlar resists water, fire, steam, vermin, abrasion, mildew and bacteria!



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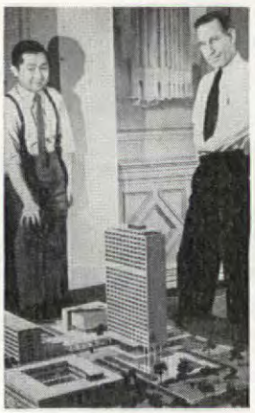
FORUM

Behind the scenes with FORUM contributors



MINORU YAMASAKI, J. W. LEINWEBER and **AMEDEO LEONE,** all of Smith, Hinchman & Grylls, constitute the triumvirate responsible for the Michigan State Office Center (p. 80). "Yama," barbecue specialist extraordinaire and, incidentally, chief designer, comes to the firm via the University of Washington, New York University and several New York offices, including Harrison & Fouilhoux and Raymond Loewy Associates. Project director and chief dispenser of funny stories is Vice President Leinweber. Educated at the Carnegie Institute of Technology, he joined the firm in 1922. Project architect is Amedeo Leone, company Vice President and Secretary who received his training at the Donn Barber Atelier and Cooper Union Institute.

PHILIP A. MOORE, fired with youthful ambition to become a second Rembrandt, entered Cincinnati's Academy of Art in 1923 to study drawing and painting. Two years there convinced him that his talents with the palette were, at best, mediocre. Urgently in need of a job, he became a junior architectural draftsman at the munificent wage of $5 a week, on trial, for a month. From that point on he has stayed with architecture. The intervening years have seen considerable progress in salary, experience and training, the latter for a year at the University of Michigan. Says Moore: "I have always been fortunate enough to work in the best offices wherever I've been, and experience is a good teacher" (p. 92).

It was close to inevitable that **GEORGE W. BREWSTER** and **ARTHUR N. SHURCLIFF** join hands eventually. Bostonians both, each attended Harvard, and each saw World War II as a Navy Lieutenant Commander. Shurcliff's own house (p. 94) united them, Brewster tending to the architecture, Shurcliff the landscape.

L. MORGAN YOST comes from Ohio, moved to Chicago's North Shore 28 years ago, became so enamored of suburbia he has lived and worked there ever since. He graduated from Ohio State University in '31, "when Corinthian caps were just beginning to wilt on the edges." Addicted at first to "Kute Kolonial Kottages," he has since switched to modern design, mainly residential (p. 97). Yost's hobby: research on the early development of modern architecture in America.

R. M. SCHINDLER, Viennese-born architect, graduated from that city's Imperial Technical College and its Academy of Fine Arts. Among his teachers: Frank Lloyd Wright, Adolph Loos and Otto Wagner. Since 1922 Schindler has had an office in Los Angeles, concentrating on residential design (p. 100). He is partial to the "idea of creating space forms that exist as integral parts of the surrounding atmosphere, designed functionally for the dwellings and working places of men and women."

One of the AIA's all too small feminine contingent, **CHLOETHIEL WOODARD** (page 103) already has a surprisingly rich experience in architecture and city planning behind her. She has been at one time or other, a Guggenheim Fellow in City Planning; professor of architecture, University of Bolivia; practicing architect in Washington, D. C.; and low cost housing analyst for FHA. Her present practice is confined to making an old house into livable quarters for her diplomat husband and infant son.

Designers of General Panel prefab (p. 115) are company officers **DR. WALTER GROPIUS** and **KONRAD WACHSMANN.** Dr. Gropius, head of the Architectural Department at Harvard's Graduate School once directed the Staatliches Bauhaus. Wachsmann began as a cabinetmaker, eventually won the Prix de Rome.

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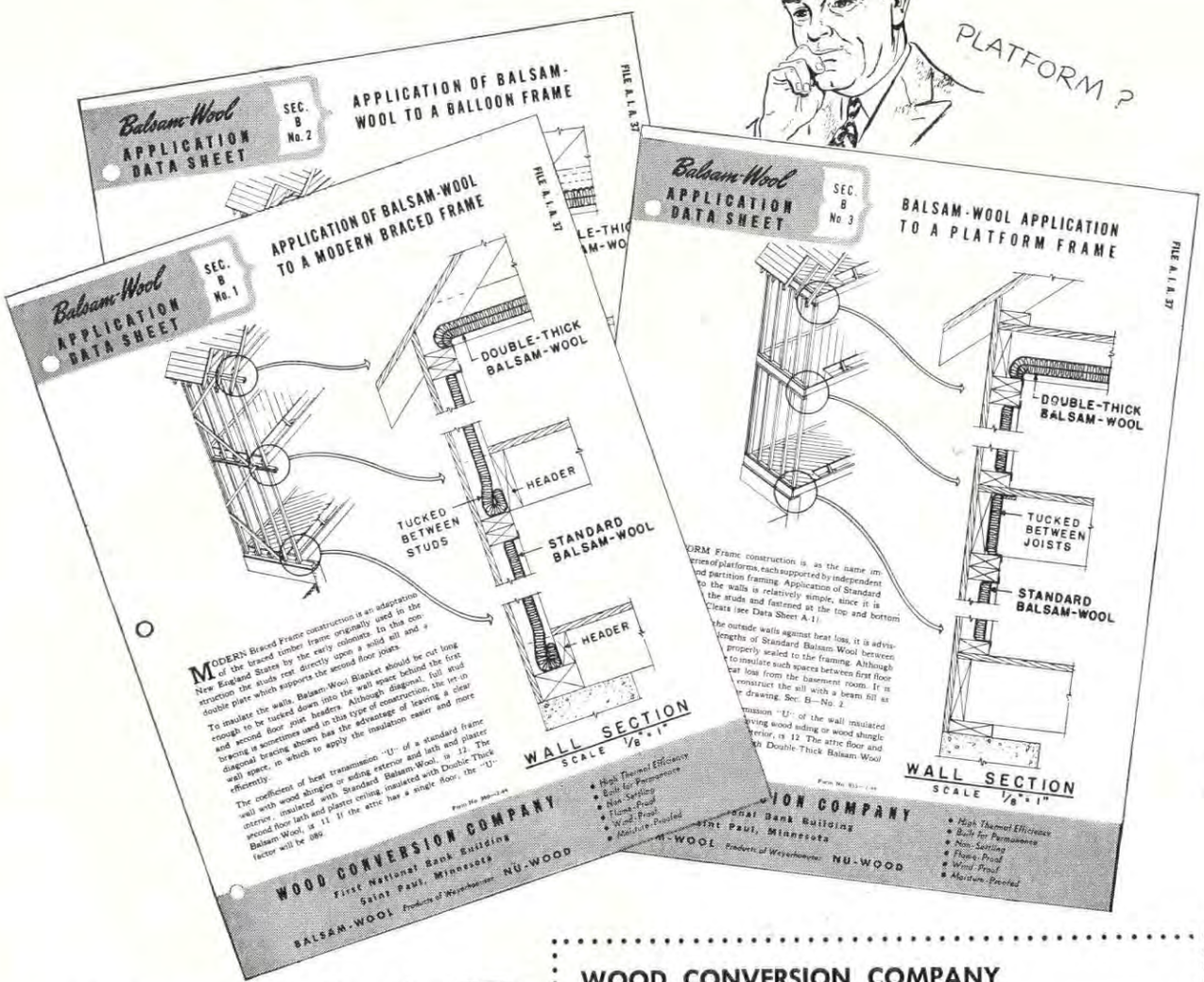

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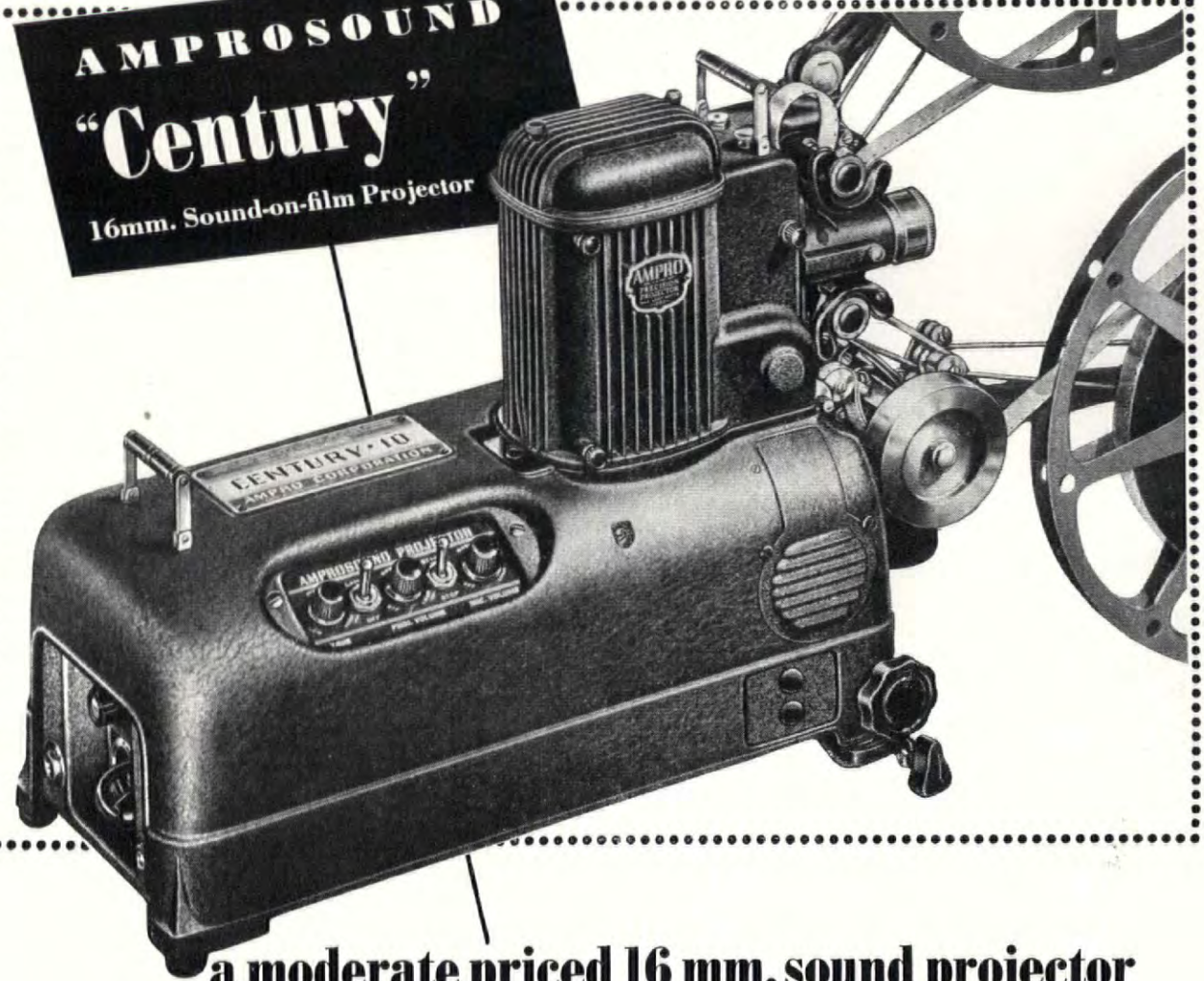

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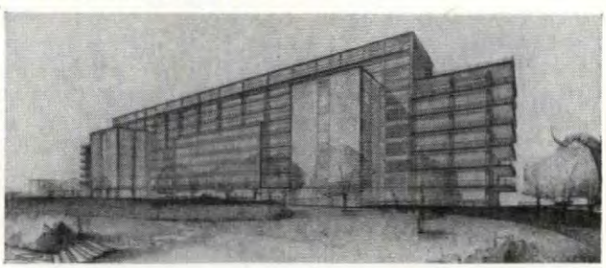
AN ACUTE SHORTAGE OF GOOD FARM-HOME PLANS was reported by Cameron Hervey of the *Farm Journal* at a recent meeting of the American Society of Agricultural Engineers in Chicago. Mr. Hervey recommended that agricultural engineering departments employ trained architects to help meet the pent-up demand for new and remodeled farm houses. Among reasons for the lack of good designs were the following: City house plans cannot be adapted for farm use because a farm is also the center of business. Farms are faced with no land shortage and almost 70% of readers want 1 or 1½ story houses which eliminate drudgery. Most farmhouse plans currently offered by land-grant colleges and similar agencies are out-of-date. Mr. Hervey suggests that colleges focus more attention on training students for this field since most agricultural engineers are not fully qualified for house design and are overburdened with other work.

THE COOPER UNION DAY ENGINEERING SCHOOL will now use the nation-wide College Entrance Board Examinations for Engineering Schools instead of its own entrance tests as a competitive basis for selecting Freshman class groups. Examinations for entrance to the Cooper Union Art School and Evening Engineering courses will still be prepared by the school committee. Entrance tests for day courses in Engineering and Art will be held during April, and applications for these must be received by March 10. Evening course exams will be given in August with applications received from May 1 to August 1.

THOMAS WILSON, an original member of Forest Products Laboratory founded at Madison, Wisc., in 1910, has retired officially from his post as Chief of the Laboratory's Division of Timber Mechanics. Mr. Wilson made outstanding contributions to many valuable research projects sponsored by the Laboratory, including: standards for determining various strength and mechanical properties of wood, values of kiln-drying, and problems of wood aircraft fabrication. Mr. Wilson will continue to act as consultant to private wood fabricating and manufacturing firms.

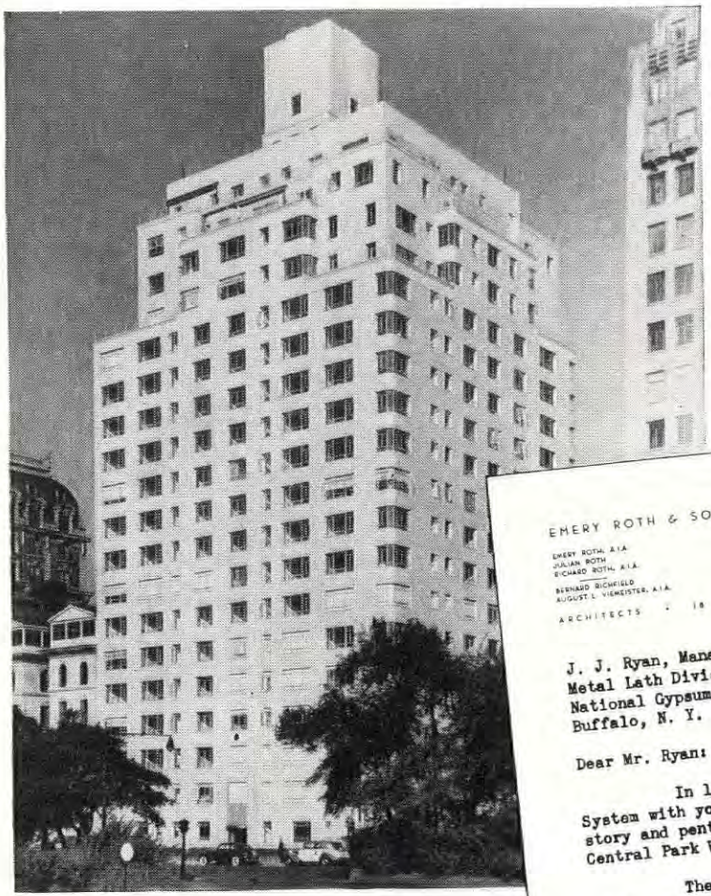
JOHN GOULD, until recently a Commander and Naval Aviation Observer in the Night Fighter Aircraft, has returned to his peacetime position as president of Webb & Knapp, Inc., the New York City real estate firm.

BUILDING PREVIEWS



TWO NEW HOSPITALS FOR VETERANS have been approved by the New York District office of the Corps of Engineers. The Franklin Delano Roosevelt Neuropsychiatric Hospital near Peekskill, N. Y. (1,984 beds) will consist of 32 units providing, in addition to the main Hospital (sketch above), 8 acute and semi-acute treatment buildings, staff quarters and chapel, infirmary, recreational and occupational therapy buildings, laundry, boiler house and storehouse. The units will be of fireproof reinforced concrete and steel frame with brick facing. Construction will begin this Spring.

A 1,000-bed General Medical and Neuropsychiatric Hospital will be located near Newark, N. J. *(Continued on page 64)*



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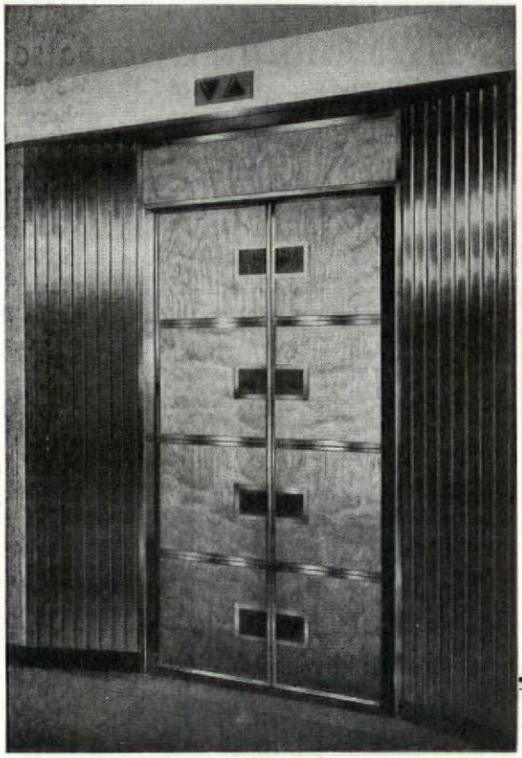
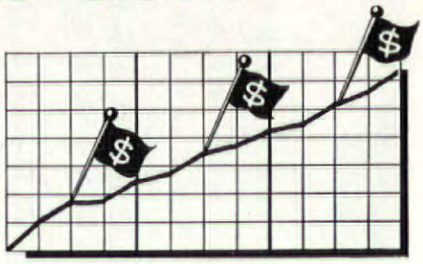


How to Keep SALES UP...



And it takes more than a modern front to do it —after you get them in the store... most stores, anyway... you have to provide adequate, modern elevator service to get them up. Otherwise, sales and profits go down.

The list of progressive stores which have installed Dahlstrom Elevator Entrances is simply a list of the finest department and specialty stores in the country—from Maine to California, Minnesota to Texas. Their own sales records offer the best evidence of customer reaction to better shopping facilities.

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Illustrated above: Dahlstrom Elevator Entrances, Lit Brothers, Philadelphia, Pa., Simon and Simon, Architects. Doors of two tone birch ply-metal panels, chrome nickel steel inlays, bindings and jambs.

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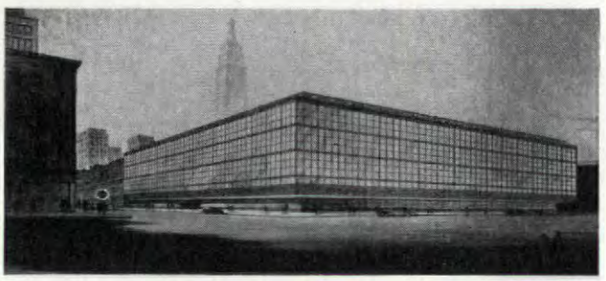
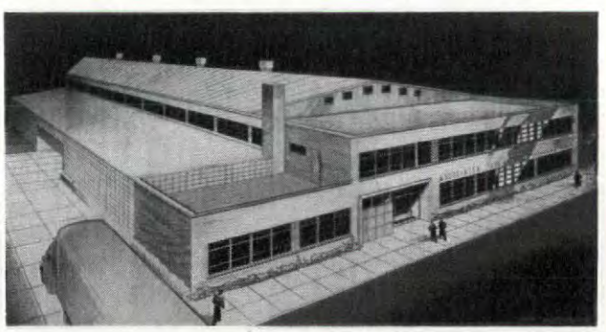
H-shaped in design to reduce corridor travel, the central building is adapted to the existing slope and provides for 13 stories above grade in front and 16 in the rear. Other buildings on the site will provide for staff housing and utilities.



A MULTI-MILLION DOLLAR COMMERCIAL BUILDING of structural steel and reinforced concrete is proposed for the block between 41st and 42nd St. on Tenth Avenue, New York City (Brown, Wheelock, Harris, Stevens, Inc., agents). The design (above) by architect J. M. Berlinger shows an exterior of glare-eliminating tinted thermopane set in gold-enameled metal framework. Continuous ground-floor display windows, set back from the building line, aim to encourage window shopping and minimize street reflections. The 200,000 sq. ft. of floor space for shops and exhibits will be kept at comfortable temperature by locally controlled air-conditioning and radiant heat. Ramps provide access to basement parking space and loading platforms.

A FACTORY AND OFFICE BUILDING for Jas. P. March Corp., manufacturer of industrial instruments and heating specialities, is under construction at Skokie, Ill. The concrete and steel one-story structure will provide 100,000 sq. ft. of working area, completely air-conditioned, on a labor-saving single level. A monitor-type roof is designed to admit maximum natural light. The building will be used as a guinea pig in the company's extensive research program for improved heating methods. Graham, Anderson, Probst & White were architects.



AN OFFICE, WAREHOUSE AND DISTRIBUTION CENTER in Queens, N. Y. for Associated Food Stores Purchasing Corp. (Sam Glaberson, architect) will provide an unusually large storage area (220 ft. x 90 ft.) entirely free of pillars for increased flexibility in arrangement and stacking. At one end of the building a trucking platform will be located with direct access to the warehouse floor; at the opposite end there will be a railroad siding for freight cars. Completion is scheduled for March.

A MIAMI BEACH SHOP, fifth and most recently completed unit in the building expansion program of Mangel Department stores, make use of an open *(Continued on page 68)*

ASBESTOS IN ACTION

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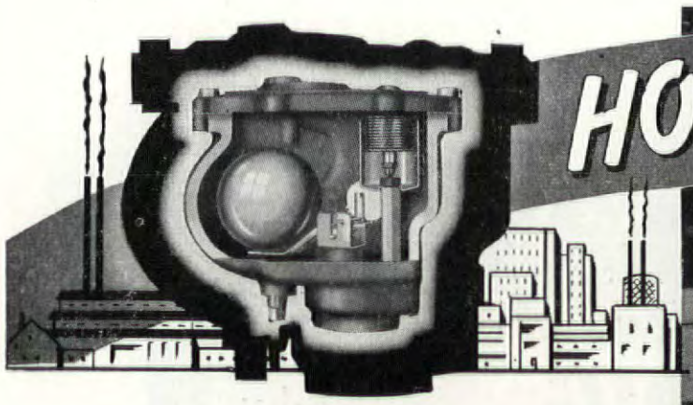


HOW A TRAP SOLVED A PROBLEM IN PAINTING

TRANE FURNISHED A STEAM TRAP TO HELP THE MAKERS OF AUTOMOBILES

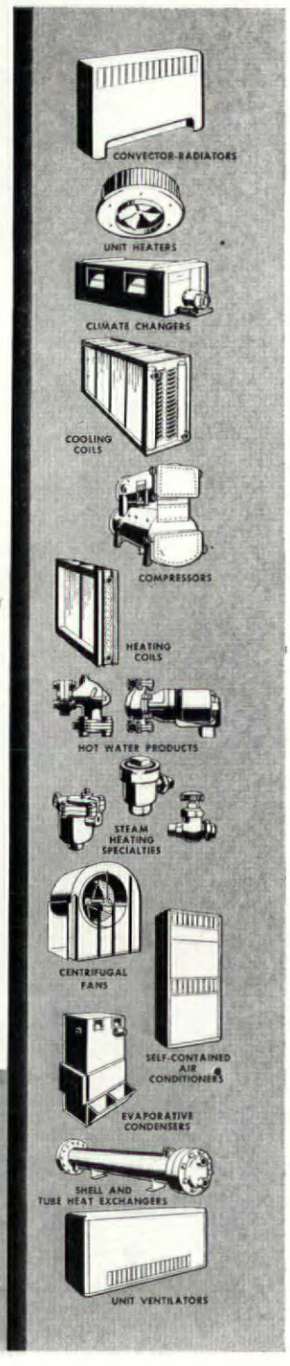
Above: Twelve Class 200 Industrial Float Traps, connected to high pressure steam heating coils in paint drying ovens in the Ford Rouge Plant. *Left:* Cutaway view of the Trane Class 200 Industrial Steam Trap, which Trane furnishes the Ford Motor Company.

In many automotive production processes, for example, in the ovens where enamel is baked on automobile bodies, high heats must be held within extremely close limits to assure uniform results. These high heats are often obtained with high pressure steam. However, ordinary steam traps discharge air and condensate intermittently—making it difficult to hold unvarying temperatures.

To solve this problem, the Ford Motor Company called on Trane for a trap that would maintain high temperatures without fluctuation. Trane Class 200 Industrial Traps were furnished. These traps permit a continuous discharge of condensate and vent air out of the heating coils, thus making it possible to hold the constant high temperatures needed.

The Class 200 Industrial Trap was so satisfactory that the Ford Motor Company promptly put it to work in several entirely new applications—among them, in a large paper drying machine and in large blast coils in several Ford plants. This trap is another example of the ingenuity of the men who design and build the complete line of Trane matched products—products that are designed and built together for use together. See other Trane products in the panel at the right.

More than 200 Trane Field Engineers in principal cities all over the country co-operate with architects, engineers, and contractors in the application of Trane products and systems—the utilization of Trane Weather Magic.



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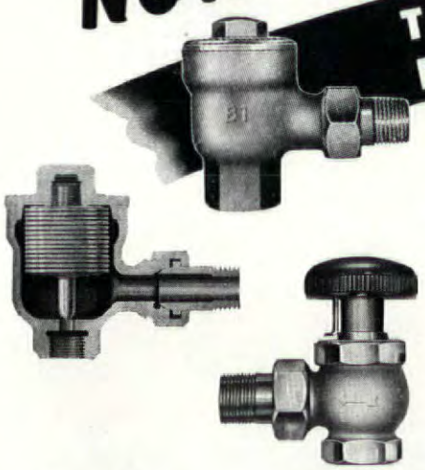

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ANNOUNCEMENTS

store front and flexible display area. Other Mangel stores scheduled for completion during 1946 will be located in Charleston, S. C.; Columbus, Ohio; Philadelphia, Pa.; Dallas, Tex.; Muskegon, Mich.; Duluth, Minn. and Chicago, Ill. Ross-Frankel Inc., New York, are designers of all twelve Mangel stores.

AWARDS

THE AMERICAN INSTITUTE OF DECORATORS, New York, announces winners in its first competition for the best furniture, fabric and wall covering designs to reach the consumer market since January 1, 1946. Bent Karlby of Copenhagen, Denmark, received both first place and honorable mention for a group of 4 wallpaper designs manufactured by Danske Tapetfabrikker A/S, Copenhagen. Dorothy Liebes of San Francisco was awarded first place for a fabric design (Goodall Fabrics, Inc.); honorable mentions in this field went to Lucille Clark of Seattle, Wash. (Frederick & Nelson Fabrics) and Ivan Bartlett, Long Beach, Calif. (Goodall Fabrics, Inc.) Charles Eames, Venice, Calif., won both awards in the furniture field for a coffee table and chairs manufactured by Evans Products Co.

An exhibit of selected designs, sponsored by the American Federation of Arts, will be shown throughout the country, starting with the Art Institute of Chicago. The jury which selected the prize-winning designs was composed of: Richard Bach, The Metropolitan Museum of Art, N. Y.; John Gerald, B. Altman & Co., N. Y.; Edgar Kaufman, Jr., Museum of Modern Art, N. Y.; Meyric Rogers, Art Institute of Chicago; Edward Stone, Yale University; William Wurster, Massachusetts Institute of Technology; Richard Gump, San Francisco.

APPOINTMENTS

SERGE CHERMAYEFF AIA, has been named Acting Director of the American Institute of Design, Chicago, succeeding Laszlo Moholy-Nagy who died recently. Mr. Chermayeff is now on leave of absence from Brooklyn College where he is Chairman of the Design Department.

CHARLES C. PLATT, architect, has been reelected President of the Municipal Art Society of New York City, a 50-year-old group which, since the cessation of the war, has resumed its active program of promoting the arts in current municipal projects.

C. RALPH FLETCHER and RAOUL DUBRUL have become associates in the firm of Lester Tichy, architect and industrial designer, New York.

F. E. SCHILLING is now Vice President in charge of labor relations for Turner Construction Co., New York.

MERRITT HARRISON has been elected president of the Indiana Society of Architects.

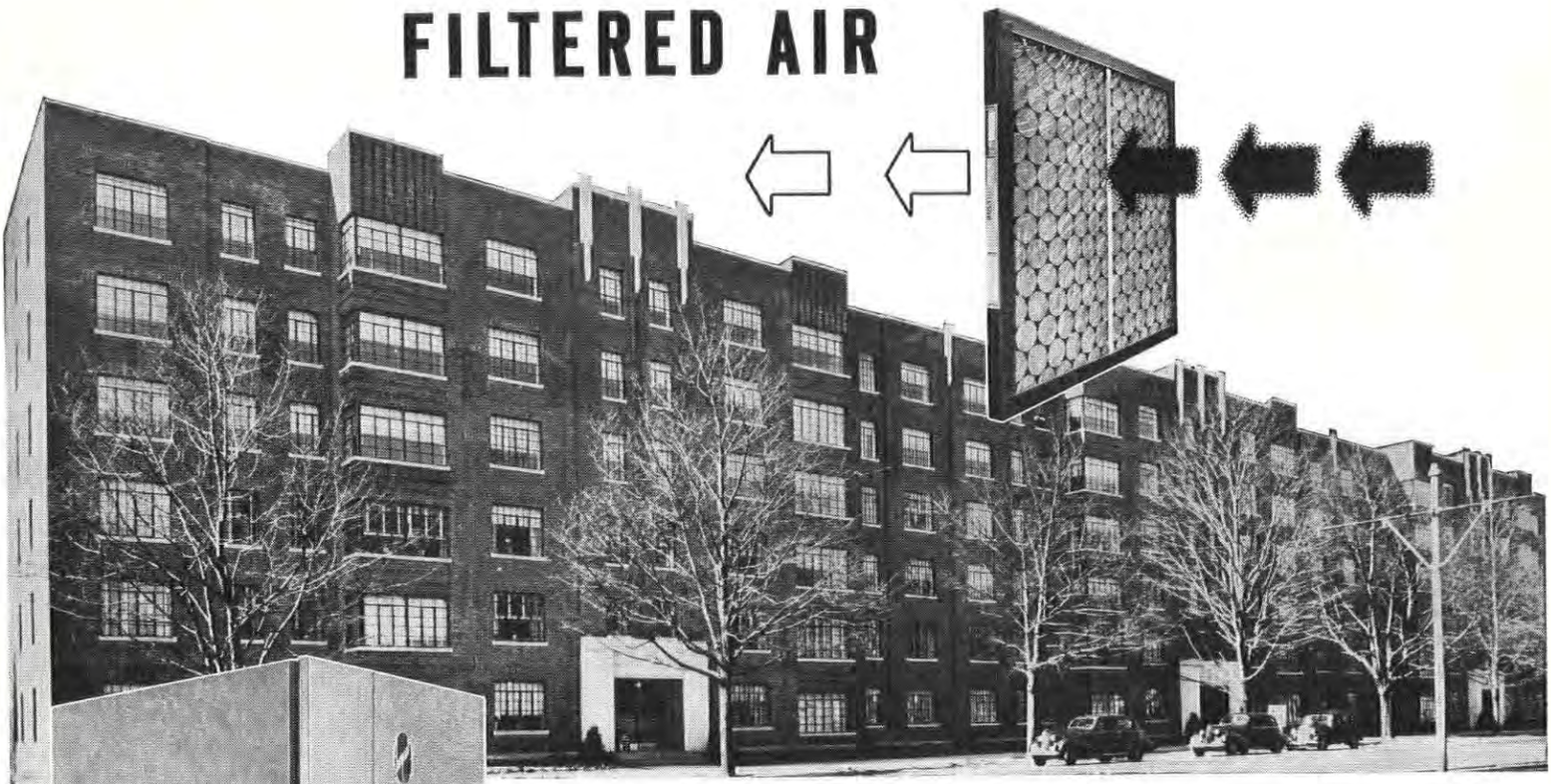
FORTUNO JERACE has recently been appointed director of retail store design for Dorothy Draper, Inc., New York City.

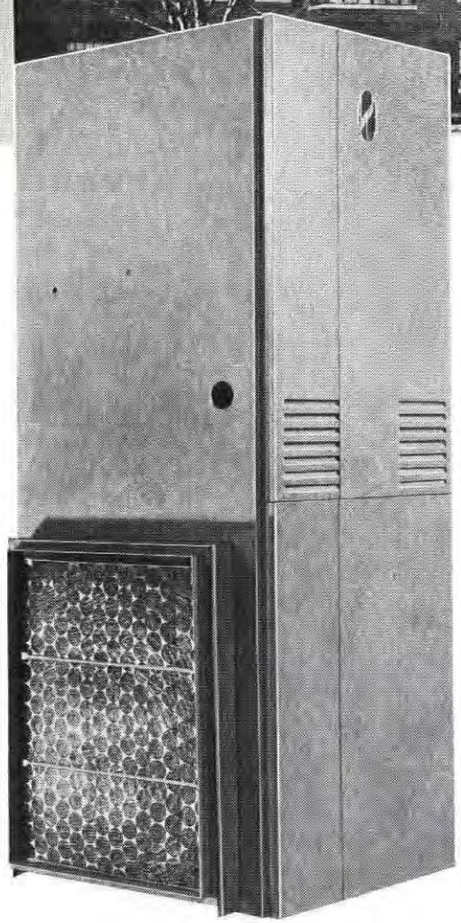
JAMES BLAUVELT, former officer of the American Institute of Decorators, has joined James McCutcheon & Co., N. Y.

JOSEPH YOUNG, president of the Lehigh Portland Cement Co., was chosen chairman of the Portland Cement Association board of directors.

(Continued on page 72)

FILTERED AIR





DUST-STOP Filters in the Bryant (Model VB) Winter Air-Conditioner installed in the Parklake Apartments, Boston, Mass. (above). Each of the 151 suites is equipped with its own warm-air heating unit and duct system, permitting independent, automatic control of temperatures by the occupants of each apartment. The Parklake was designed by Saul Moffie, architect, and built by Cline Construction Company. The P. A. Dolan Company was the heating contractor.

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Architects and builders who specify and provide modern warm-air heat know that circulating air will be cleaned efficiently. For DUST-STOP* Filters, a Fiberglas product, are the choice of most manufacturers as original equipment. They're the homeowner's choice, too, for replacement DUST-STOPS are readily available at low cost through suppliers in every community.

For complete information on DUST-STOPS, see Sweet's Files or write: Owens-Corning Fiberglas Corporation, Dept. 830, Toledo 1, Ohio. Branches in principal cities. *In Canada: Fiberglas Canada Ltd., Toronto, Ontario.*

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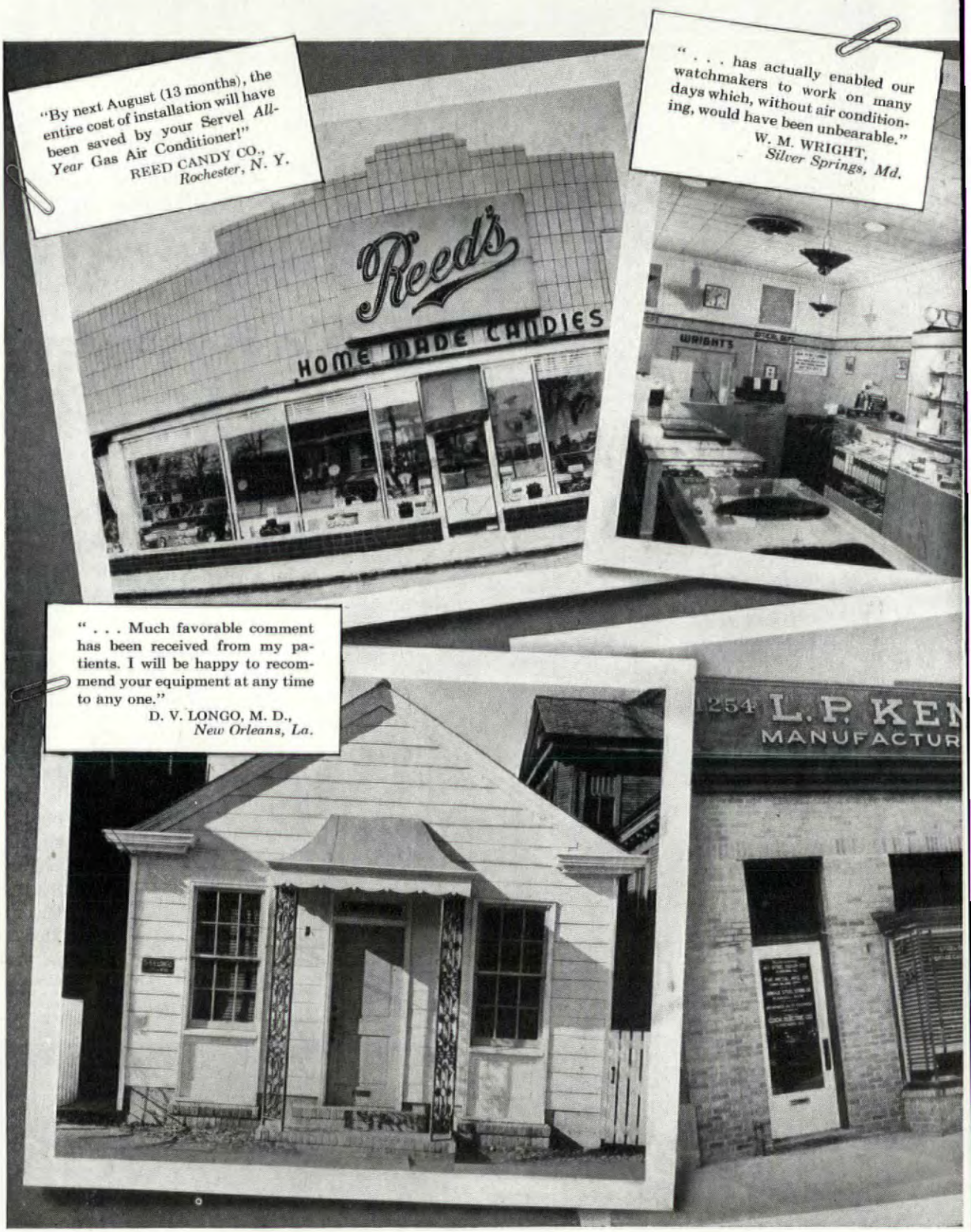
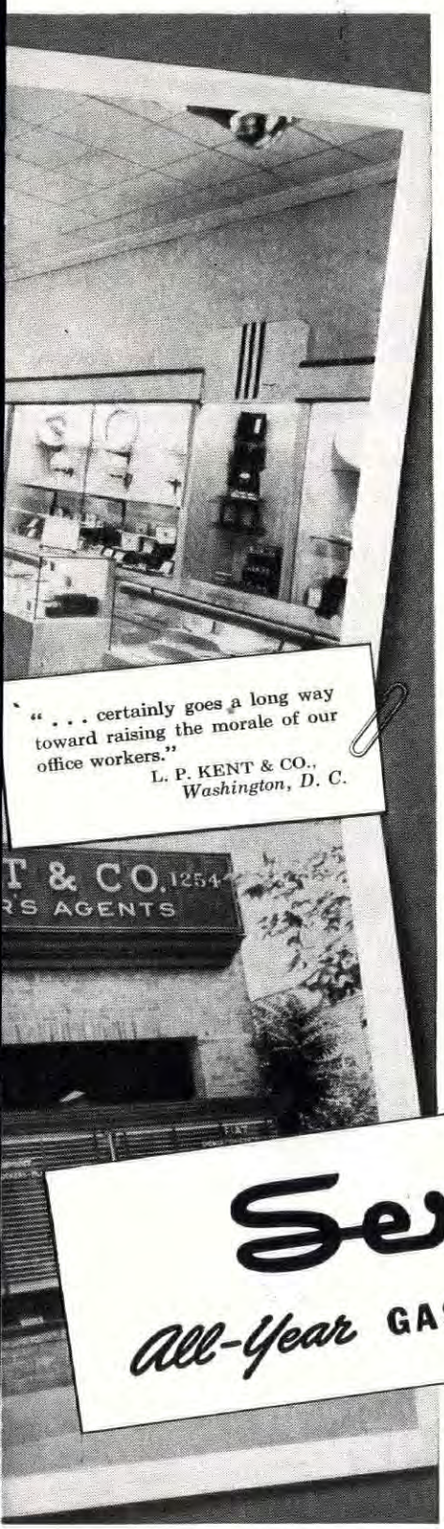


welcome this "new quality of living"



Servel All-Year Gas Air Conditioning ideal for stores, offices, clinics, etc.

Here are just a few of the money-making advantages you give your clients when you specify Servel *All-Year* Gas Air Conditioning for their stores, offices, laboratories and other commercial uses.

More efficient working conditions! Increased store traffic. Less "sick time" lost from work! Better employee relations! Low-cost comfort *the year round!*

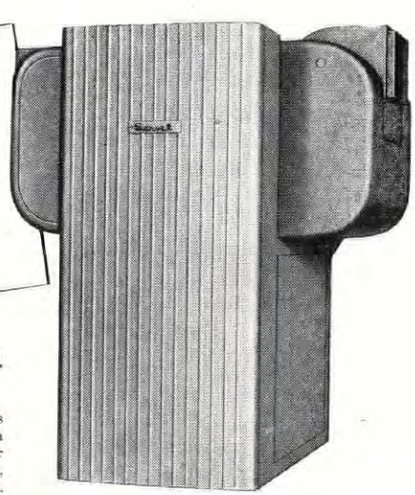
The enthusiastic comments you see at the left are typical of hundreds received from commercial, as well as residential, users in every part of the country. They offer eloquent proof of the ability of the Servel unit to provide the benefits of complete, year-round air conditioning in every climate and under every type of working condition.

This revolutionary new conditioner—complete in one compact unit—cools and dehumidifies the air in summer, heats and humidifies it in winter. The year round it filters dirt, dust and pollen from the air. It assures cleaner, quieter, refreshingly comfortable working conditions through every season, no matter what the climate outdoors.

Get more information today on how you can provide your business and commercial clients with this profit-making "new quality of living." Get in touch with your local gas company, or write direct to Servel, Inc., 2702 Morton Avenue, Evansville 20, Indiana.

Servel

All-Year GAS AIR CONDITIONER



TRIED . . . PROVED . . . SUCCESSFUL

From Boston to San Diego . . .
. . . From Bismarck to Miami

The Servel *All-Year* Gas Air Conditioner is operating in hundreds of installations from coast to coast. Some have been running for more than six years. The equipment is tried, tested . . . and *approved* by users everywhere.

ANNOUNCEMENTS

JOHN EVANS has been named president of the Store Modernization Show which is scheduled to run for the week of July 7th at the Grand Central Palace, N. Y.

NEW OFFICES

ERARD MATTHIESSEN and VERNER JOHNSON announce the formation of a partnership, Matthiessen and Johnson, architects, whose main office will be at Rippowam Village Road, Stamford, Conn. A branch office will be located at 17 E. 42d St., New York 17, N. Y.

HERVEY CLARK and JOHN BEUTTLER have formed a partnership for the general practice of architecture, including community planning and housing, in offices at 210 Post St., San Francisco 8, Calif.

VINCENT FURNO and BERNARD HARRISON announce the opening of an architectural office at 120 E. 65th St., New York 21, N. Y.

CHARLES FULLER has resumed his practice as architect and planning consultant at 645 Madison Ave., New York 22, N. Y.

W. EDWIN GLOSSOP AIA has resumed private practice as architect and consultant for industrial or commercial projects with offices in the Starks Bldg., Louisville 2, Ky.

ABRAHAM WARONOFF RA has opened an office for the general practice of architecture at 1017-12th St., NW., Washington, D. C.

WILLIAM RICHARDSON, industrial lighting engineer, has opened offices at 419 W. 55th St., New York, N. Y.

DAVID and ADELAIDE WURSTER have formed a partnership for the design and manufacture of modern lamps and household accessories at 406 Waverly Ave., Brooklyn, N. Y.

DONALD ATKINS & ASSOCIATES, INC. specializes in the production of accurate architectural, industrial, naval and engineering scale models for all purposes, including display and testing, in their office located on Winslow Road, Matick, Mass.

CHANGES OF ADDRESS

ROLF SKLAREK AIA announces the removal of his offices to 962 North La Cienega Blvd., Los Angeles 46, Cal.

PAUL HARBACH, architect, has moved to new offices at 70 Niagara St., Buffalo 2, N. Y.

VICTOR BOHM AIA is now located at 146 West State St., Trenton, N. J.

LOUIS HATKOFF, architect, has moved to 1050 Avenue of Americas, New York, N. Y.

HANS NELSON, industrial designer, announces the opening of a studio at 1510 Belle Plaine, Park Ridge, Ill.

ELM CONTRACTING CORP. is now at its new address, 64 Metropolitan Oval, Parkchester, Bronx 62, N. Y.

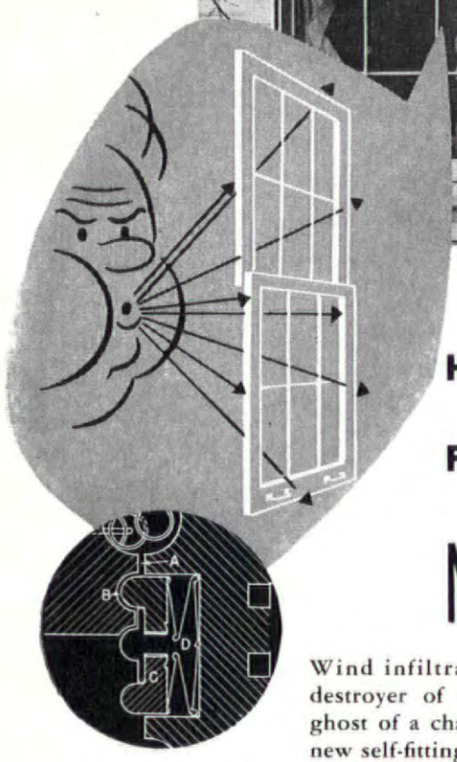
RAYMOND LESTER ASSOCIATES, industrial and architectural display model builders, are now located at 39 E. Prospect Ave., Mt. Vernon, N. Y.

DIED

IRVING OSGOOD, California architect and designer. Mr. Osgood was affiliated with Stiles Clements, and designed a number of well-known buildings in California including the Coulter's and Richfield Oil structures.

CORRECTION

BRUCE GOFF (not Hoff as misspelled in our December 1946 announcement) has been appointed as Professor of Architecture in the University of Oklahoma's School of Architecture.



HARDLY A GHOST OF A CHANCE FOR *Wind* TO GET THROUGH

NEW SELF-FITTING SILENTITE

Wind infiltration—that fuel-eating destroyer of comfort—has hardly a ghost of a chance to get through the new self-fitting Silentite window.

Thanks to scientific engineering, the new Silentite has "floating" weather-stripping. The wood sliding bars, which are seated on full-length bronze weather-strips, press tightly against moving parts of window and keep each in firm contact with the sash, regardless of its position.

At the head, a spring leaf is compressed by the top rail when the sash is closed, providing a weather-tight fit. At the meeting rails, interlocking weather-strip members solve an age-old problem. At the sills, another spring leaf weather-strip foils infiltration.

No wonder this new Curtis self-fitting Silentite is *20% more weather-tight* even than the original Silentite—which was America's first "insulated" window!

Here are some additional reasons why you'll want to specify CURTIS SILENTITE!

* Silentite is a Wood Window—and wood is a natural non-conductor of heat and cold. It is toxic-treated to give it longer life.
* Amazingly easy operation—famous Silentite spring suspension. No weights, cords or pulleys to get out of order.
* New locking safety—new self-fitting Silentite locks in two positions. Window can be left open 6 inches for ventilation and yet be securely locked.
* Easy installation—sash put in with minimum effort. Windows accurately pre-fitted at factory—no fitting required on job.
* Streamlined beauty—sturdy, one-piece narrow mullion, more glass area for given openings.

1866 CURTIS WOODWORK SILENTITE PRE-FIT the "Insulated" window

MAIL THE COUPON FOR COMPLETE FACTS ABOUT THIS AMAZING WINDOW IMPROVEMENT

CURTIS COMPANIES SERVICE BUREAU
AF-2S Curtis Building
Clinton, Iowa

Gentlemen: Please send me your new book on the new Silentite Window line.

*Name*_____

*Address*_____

*City*_____ *State*_____

First of a series: The Drexel Bathroom

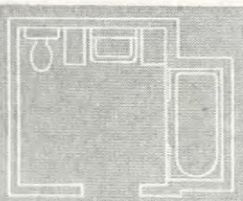
Quality Plumbing *for every building budget*

No matter what type of homes you are planning to build, you will find just the equipment your prospects want in the new Crane line.

This line includes bathroom groups, kitchen sinks and laundry trays in a size and style to fit every plan—a price to suit every building budget. The public has always expressed a preference for Crane quality, and in this new Crane line they will find the finest fixtures Crane has ever produced.

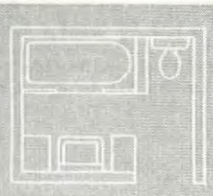
The Crane line of quality heating equipment, too, is complete, including boilers and furnaces for coal, coke, oil or gas, radiators and convectors, controls, water specialties, pipe, valves and fittings.

Your Crane Branch will gladly discuss your needs and give you an approximate delivery date. They also have available illustrations of the complete Crane 1947 line of plumbing fixtures, photographed in color in actual room settings. Be sure to check your requirements with them.



ROOM SIZE—7′ x 9′

Special rooms have been designed, built and photographed showing the new Crane bathroom groups and kitchen sinks in actual room settings. This first one illustrates the Drexel Group; others will be shown later. A floor plan of this room is illustrated at the left with two suggestions at the right on how these fixtures can be used in smaller rooms.



ROOM SIZE—7½′ x 6′

ROOM SIZE—5½′ x 5′

CRANE

CRANE CO., GENERAL OFFICES:
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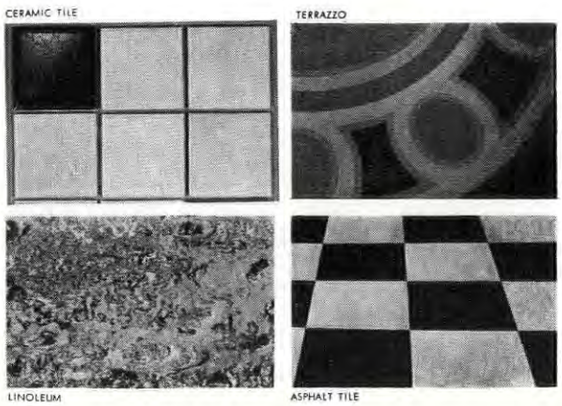
VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

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

Floor Show of the Century

It was billboard news in the last century when Frederick Walton built his factory town called "Linoleumville"... and introduced a successor to oilcloth floor coverings. Though the new linoleum had to be glued to the floor in strips, modern families of the time were delighted with it... found it warmer, softer, more durable, more hygienic.

To progressive families of today, linoleum and its contemporaries are accessories to good living. House & Garden's alert readers know that ceramic tile, terrazzo, cork carpet, wood blocks are all good decoration as well as useful floorings... know they can look to House & Garden for new trends in flooring... *new trends in living.*

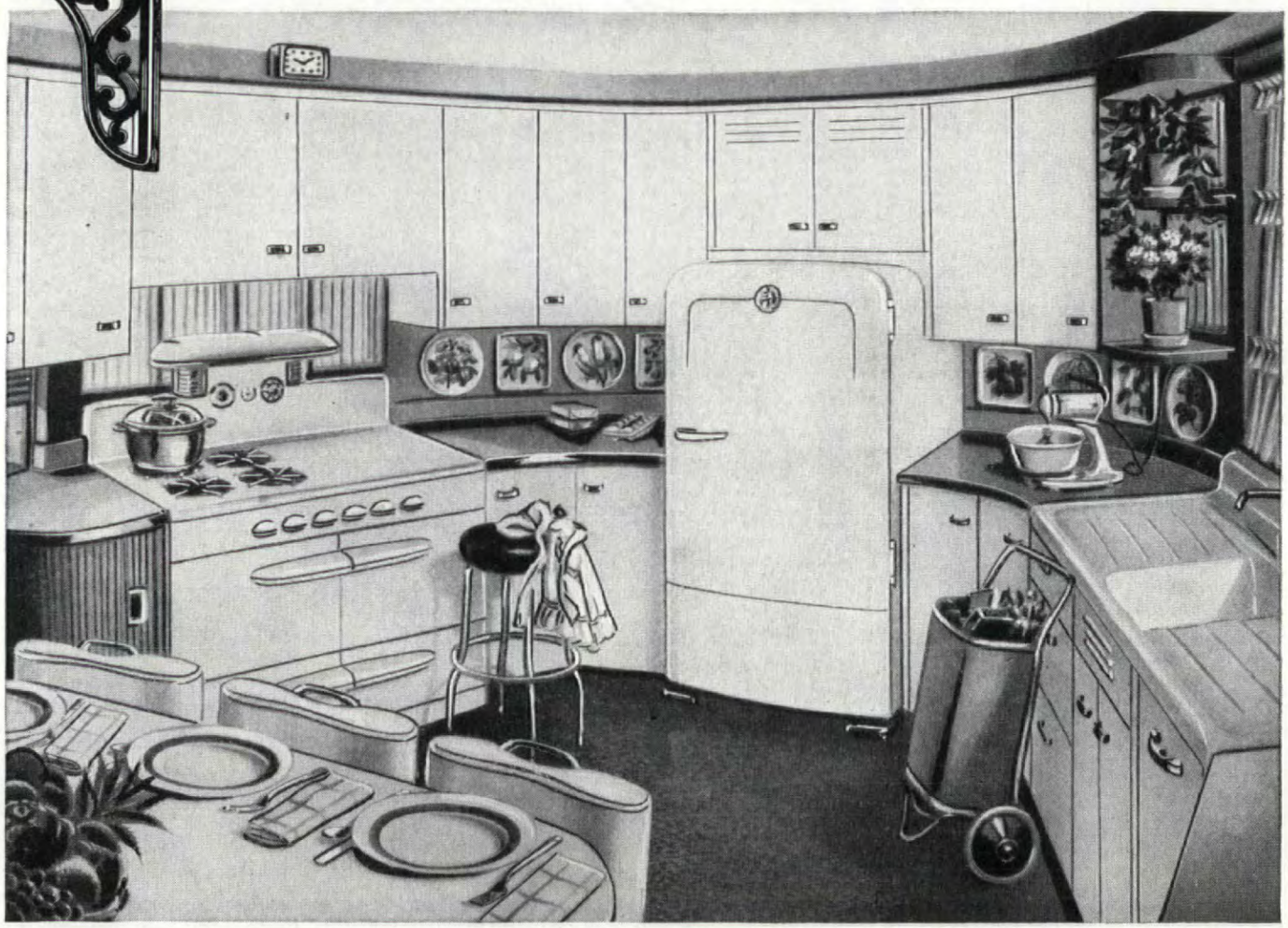


House & Garden

sells America's most influential families

Look at the facts! There's no speculation, no wishful thinking when you specify Gas. It is the preferred fuel in 21 million out of 24 million urban homes and the odds are still growing. Naturally there must be a valid reason why people continue to want Gas . . . particularly in this period of change and progress. The answer is conclusive. Gas is progressive! It is modern from every angle, in every way. *Gas as a fuel is* clean, fast, easy to regulate. *Gas service* is economical—and even more important—always available. *Gas appliances* combine the most in satisfaction with the least in work. And that goes for water-heating, refrigeration, house heating and air-conditioning as well as for cooking. Remember, more clients will want *your* services tomorrow—if you give them what *they* want with Gas, today!

BUILD FOR TOMORROW. . . .



The kitchen that's 10 years ahead of the times

Even the *shape* of this latest "New Freedom Gas Kitchen" is news! It introduces the modified semi-circular plan—for greater efficiency in a smaller space. Notice how near the refrigerator is to the range . . . and how few steps need be taken to put the food on the table and then clear the dirty dishes to the sink. Yet for all of its work-saving compactness, this kitchen has so much light and air, it would never make a woman feel "hemmed in."

Better from your point of view, too!

Feature for feature, modern Gas ranges cost less than any other type. They look smarter, last longer without expensive overhauls, are simpler to install, require no costly utility connections. In fact, you couldn't find a cooking appliance that guarantees more overall satisfaction both from your own *and* your customers' point of view! See your local Gas Company for complete technical details on new Gas ranges and all other Gas appliances.

WITH WHAT THEY WANT TODAY!

The range that's 10 ways better for cooking

One look at this list and it's easy to see why the new automatic Gas range is more wanted than ever—by more women than ever!

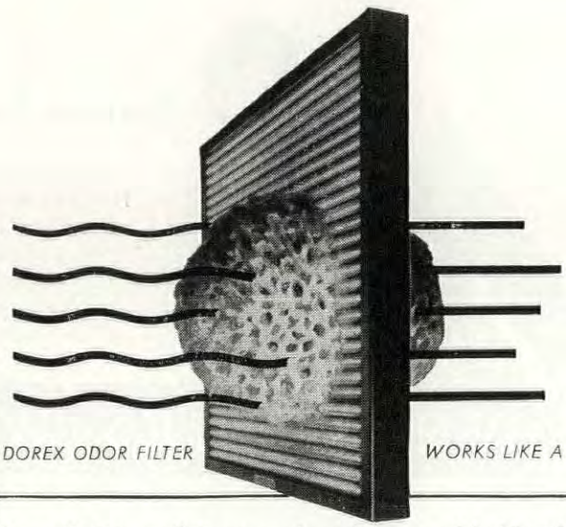
1. **It's clock-controlled...** Gas comes on . . . cooks complete oven meal . . . turns itself off (even when nobody's home).
2. **It's faster...** burners light instantly to high-boil.
3. **It's flexible...** flame not limited to 3, 5 or 7 heats—but can be turned to precisely perfect heat for every cooking job.
4. **It's cleaner...** burners set to prevent clogging from spill-overs.
5. **It's cooler...** no lingering heat long after top-burners are off.
6. **It's economical...** "click simmer" on every burner saves fuel and food.
7. **It bakes better...** oven is ventilated so that heat circulates evenly on every level.
8. **It really broils...** meats look and taste better when quick-seared and flavor-sealed by real flame.
9. **It's "custom-built" for every family...** only Gas ranges come in such a wide selection of styles (4, 6 or 8 burners—high or low broiler—with or without griddle—and many other "choice" features).
10. **It's tagged "CP"...** the buying guide that assures every woman of a Gas range built to industry-wide standards of safety, modernity and cooking excellence.

GAS

AMERICAN GAS ASSOCIATION

THE WONDER FLAME THAT COOLS AS WELL AS HEATS

Are you spending too much for Air Conditioning ...and are you getting it?



DOREX ODOR FILTER — WORKS LIKE A SPONGE

Dorex Air Recovery Units save equipment, power, and fuel by this simple method: They change stale air to fresh air. Thus, you can recirculate more of the air you have already conditioned instead of throwing it away because it is stale and odorous. That means less outdoor air to heat or cool, less costly equipment, and less operating expense. Best of all—*nothing is added to the air.* Odors are removed by soaking them up with *activated carbon*, one of the most powerful adsorption materials known.

It may pay you to get the facts!

Air conditioning is basically a simple proposition. When the outdoor air you bring in is too hot, you cool it. When it's too cool, you heat it. Sometimes you dry it. Sometimes you moisten it. *All that costs money.*

Why not re-use more of this conditioned air and save money?

Most people believe that oxygen imparts freshness to air. Actually, this is a fallacy. Stale, stuffy air is caused, *not by lack of oxygen,* but by *odors*—just plain smells that originate from occupants and their habits (body, respiratory, tobacco, and cosmetic emanations), from beverages and food in preparation and serving, and from lubricating oils, solvents, etc., in industrial processes. So you bring in quantities of outdoor air to dilute the odors—*and you must continually condition this new air.* The amount of air you need to bring in determines, to a large extent, the size and cost of your equipment and your operating expense.

You *can* get better air conditioning for less money.

By removing the odors from your expensively *conditioned* indoor air, you can greatly cut down your need for *unconditioned* outdoor air. A Dorex Air Recovery Unit does just that for you—soaks up the odors in your indoor air—cuts your need for new unconditioned air in some cases by as much as 75%—cuts your fuel, power, and water cost substantially—and gives you all the fresh air you need into the bargain.

Do you have one of these 3 air conditioning headaches?

1. You *can't* keep the room cool enough (or warm enough) with your present air conditioning equipment, *and at the same time keep the air comfortably fresh.*

2. You *can* keep the premises cool enough (or warm enough), but you have to bring in a lot of outdoor air through the ventilating system, or you have to air the place out by opening doors and windows, to keep the premises from becoming stale, stuffy, and odorous.

3. You *can't* get outdoor air economically, or you *can't* get air that's *odor-free.*

If you are planning to put in air conditioning, investigate Dorex. It may enable you to keep the premises comfortable and pleasant with smaller equipment, thus saving on installation cost, as well as year 'round operating expenses.

Free engineering help available

Trained specialists will study your present ventilating problems and tell you frankly, without charge to you, whether or not it will pay you to install Dorex Air Recovery Equipment. Their services are also at the disposal of consulting engineers, architects, and air conditioning dealers.

Write us about any problem of your own on which we may be able to offer suggestions or estimate definite savings. For full information on Dorex Equipment, call the nearest district representative or write Dept. M-20

DOREX Units are being used in:

Airplanes	Buses	Hospitals	Libraries	Railroad Cars
Banks	Chemical Plants	Hotels	Locker Plants	Refrigerated Storage
Bars	Stores	Industrial Plants	Offices	Restaurants
Bowling Alleys	Film Mfg. Plants	Institutions	Oil Companies	Telephone Exchanges
Breweries	Food Processing Plants	Laboratories	Precision Mfg. Plants	Theaters

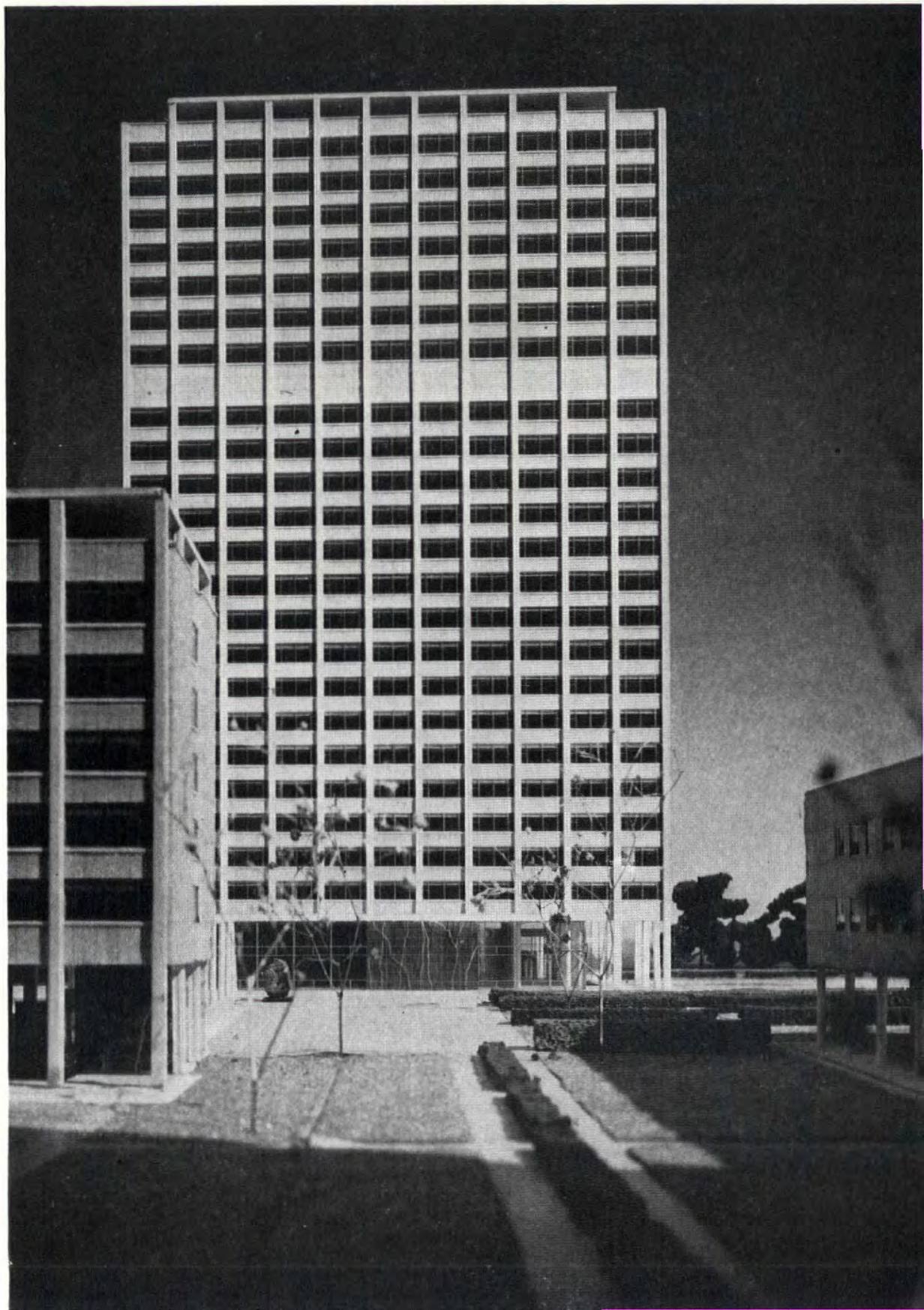
W. B. CONNOR ENGINEERING CORP.

AIR DIFFUSION • AIR PURIFICATION • AIR RECOVERY

112 East 32nd Street — New York 16, N. Y.

Representatives in Principal Cities • IN CANADA: Douglas Engineering Co., Ltd., 1405 Bishop St., Montreal 25, P. Q.

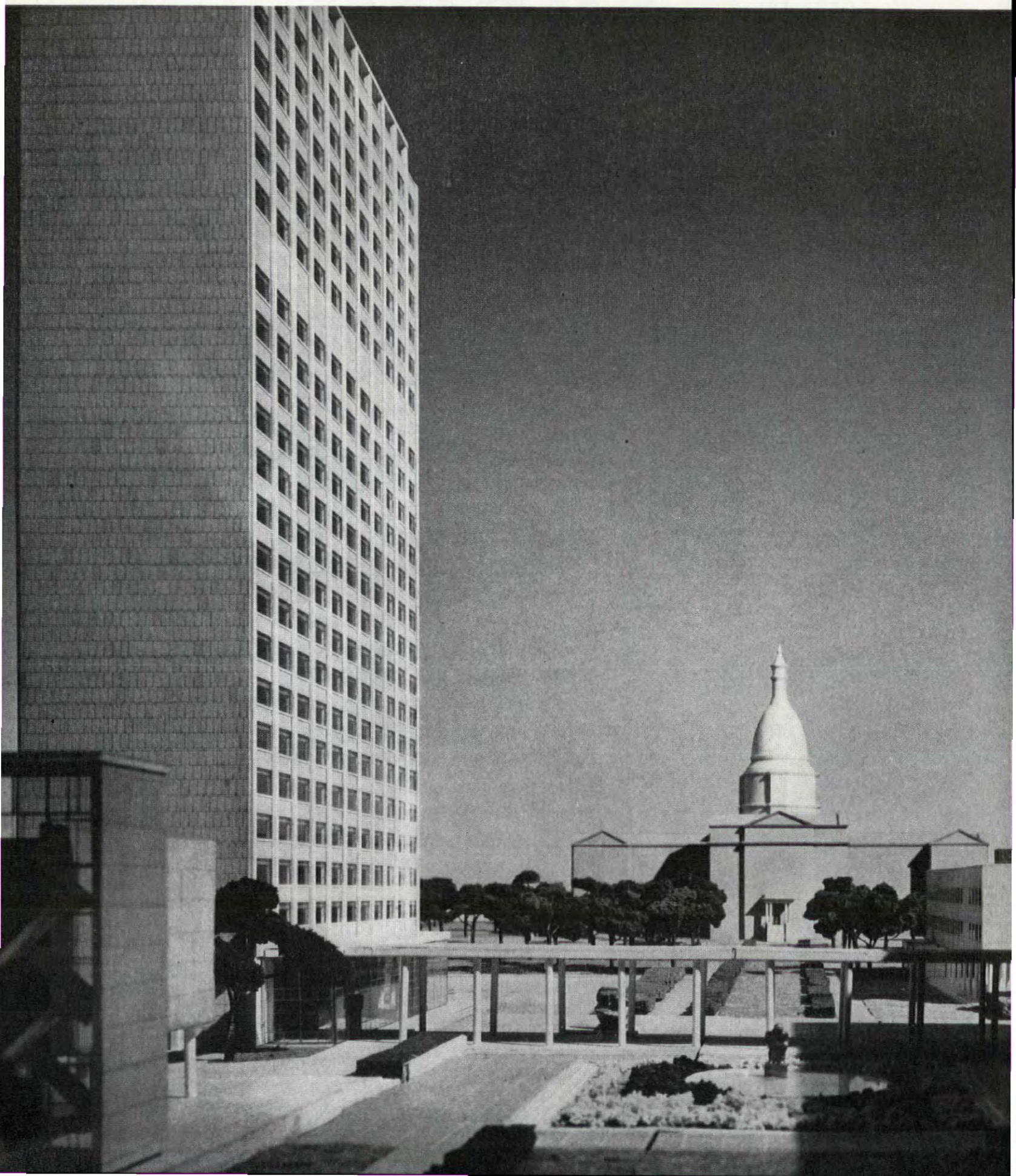
The Architectural **FORUM** Magazine of Building



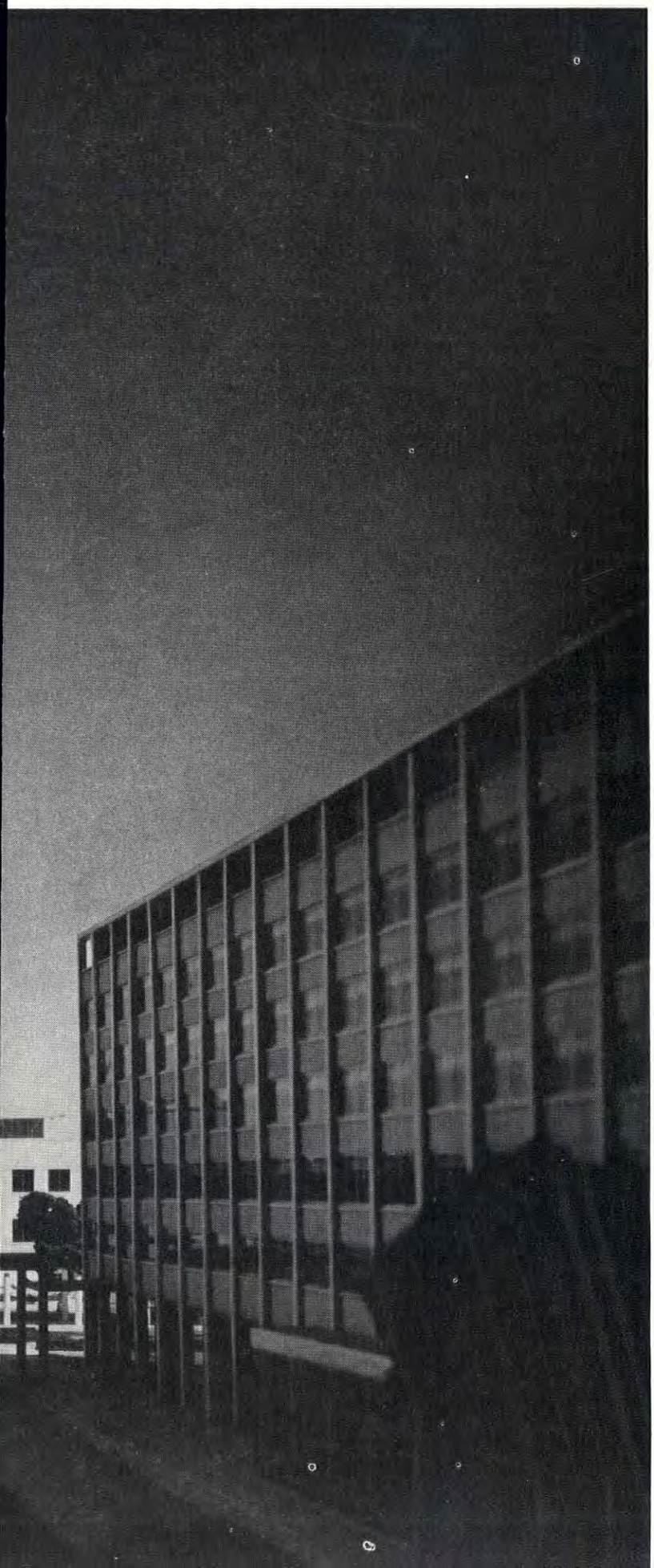
A RARE COMBINATION OF
EFFICIENCY AND MONUMENTALITY
IN STATE OFFICE BUILDINGS

Ezra Stoller Photos

STATE OFFICE CENTER



for Michigan will promote efficient, economical government, set a new high in public building design.



This month in Lansing, Mich. the state's newly elected representatives will decide whether their government will continue to operate as best it can in its presently cramped, disorganized quarters or whether Michigan is to have the most modern, efficient governmental plant in the Union. The choice is theirs; the two alternatives are clear: 1) further payment of some $400,000 a year for unsuitable office space in crowded buildings scattered throughout Lansing, or 2) construction of an integrated, $11 million group of office buildings which will efficiently consolidate the government's agencies next door to the domed Capitol.

No far-off dream, the second alternative is within the legislature's immediate reach. Halfway between the inadequate chambers of the state's senators and representatives—beneath the Capitol's ornate rotunda—stands an expertly detailed model of the proposed new office center. Designed and executed by Architects Smith, Hinchman & Grylls, the model was unveiled last week with the unanimous approval of the state's building commission. It represents a $200,000 investment in research and architectural development.

Michigan long ago recognized that its growing pains could be relieved only by a major operation. In 1937, the governor appointed a commission to diagnose the case, select a doctor and go to work. However, little work was done—and, in view of the original proposal for a single new office building whose bulk and location would have dwarfed the symbolic Capitol building, it is just as well that the operation was postponed. In 1943, continuous worsening of the patient's condition prompted Governor Harry F. Kelly to try again. He reorganized the building commission and, to insure its proper functioning, named Auditor General Vernon J. Brown to serve on it as his personal representative. A farmer, small town (Mason) newspaper publisher and public-spirited politician, Brown later became lieutenant governor and the commission's chairman; he has always been its spark plug.

First major act of the commission was to canvass the field for expert advice. That they selected Smith, Hinchman & Grylls to do their leg work and evolve a solution to their problems is attributable in large measure to the fact that this Michigan firm of architect-engineers is among the nation's largest and that its commercial and public buildings are important parts of many a Michigan city, including Lansing.

It was obvious that new buildings were necessary. Not so obvious, their size and shape was broadly defined by the number and size of the various state agencies; their location, by the existence of the old Capitol and other nearby public buildings; their design, by the sound conviction of the architects that the almost sacred, traditional appearance of the Capitol should in no way compromise the development of a project of maximum efficiency and beauty measured by today's standards.

With close reference to the government's carefully detailed needs, the architects roughed out ten alternate solutions to the problem, submitted them to the building commission and, in turn, to the legislature. That was a year ago. The solution recommended by the architects was promptly approved, and they were instructed to make a more detailed model, while the state assembled the necessary land. By the end of 1946, 70 per cent of the land had been purchased (at about $200,000 per 350 x 450 ft. block), condemnation proceedings had begun for acquisition of the balance, and the architects had perfected their plans.

Photos of model by Ezra Stoller

Site design meets needs for office consolidation without detracting from Capitol's symbolism, outweighs

Prospects for immediate construction of Michigan's state office center are not as attractive as the project's architectural appearance. Several recent changes in Michigan's political scene affect its future:

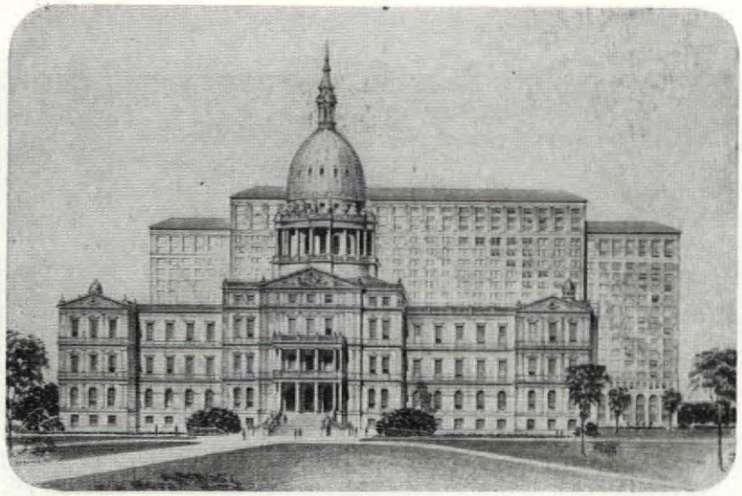
▸ When the legislature convened last month, more than half the seats were occupied by newly elected men, unfamiliar with the state's office problem and the steps toward its solution. *But*, in short order, they will be thoroughly acquainted with both.

▸ The chair of Ex-Governor Kelly, an enthusiastic advocate of the new office center, is now occupied by Governor Kim Sigler, a newcomer to Lansing. His attitude toward the new office center is as yet unknown. *But*, like Kelly he is a Republican.

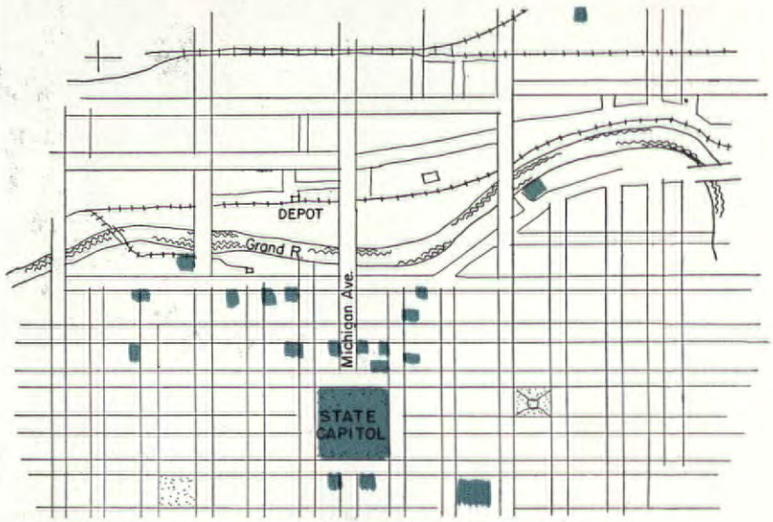
▸ Most of the members of the building commission, including Chairman Brown, were unseated in the November elections: their last official act was presentation to the legislature last week of their report and recommendation for immediate appropriation of construction funds. *But*, Ex-Lieutenant Governor Brown is still a widely respected and influential factor in Michigan political life and is not apt to let the subject lapse.

▸ The three buildings proposed for immediate construction will cost an estimated $11 million. The figure looks bigger this year than last—not only because of the rise in construction costs but also because the state this year must turn back to its municipalities a third of its 3 per cent state sales tax. This will mean the loss of some $50 million a year in state revenues, some of which might have been applied toward construction costs. *But*, the legislature has been shown that $400,000 of this annual loss will be offset by economies which will accompany completion of the office center. Moreover, with some $700,000 already spent, the state is definitely committed to the new building program.

Having been well served by a farsighted building commission, having acquired the logical site, and having obtained designs for a handsome, functional group of office buildings, Michigan's legislature will, it is hoped, promptly build the sorely needed state office center—a center which will eventually pay for itself, give the state the most efficient government plant in the nation.



EARLY SCHEME by forgotten designer copied Capitol's architectural style.



PRESENT STATE OFFICES dot entire downtown area of Lansing.

NEED FOR THE CENTER is revealed in an analysis of the state's current real estate problems.

Michigan's need for new state buildings is urgent, well documented.* The government in Lansing consists of 64 agencies, whose 3,032 employes with their files and equipment are squeezed into 478,304 sq. ft. of space. Two state buildings—the Capitol and the existing State Office Building—provide 290,127 sq. ft. but are bursting their seams. The other 188,177 sq. ft. are scattered here and there in 20 private commercial buildings, garages and aged mansions. Many are dark, poorly ventilated and unsanitary. Some are a long ten blocks from the Capitol. They cost the state about $200,000 a year in rentals, a bill which will be boosted to about $300,000 during the next few years through an anticipated rise in rents stemming from Lansing's acute shortage of office space. To this another $100,000 may be added as a conservative estimate of the annual cost of lost motion and lost time generated by the fact that the space is overcrowded, disorganized, widely scattered and of unsuitable design. Thus, the state is spending about $400,000 a year for an inadequate plant which, despite recent streamlining of governmental agencies, gets progressively worse. By 1954, space requirements will have expanded 75 per cent, and the cost accordingly. Moreover, these figures do not reflect the inconvenience to Michigan's citizens when they come to Lansing to do business with their government.

Typical of the various agencies and their space problems is the case of Michigan's State Department. Its present 33,150 sq. ft. of usable floor area are divided among the Capitol (22,433 sq. ft.), the existing State Office Building (3,433 sq. ft.) and rented downtown lofts and offices (7,285 sq. ft.). While most of this space is used for offices (24,393 sq. ft.), about a third of it is for files, storage and equipment.

Looking equally close at the other 63 agencies, the architects took the square foot dimensions of the total problem:

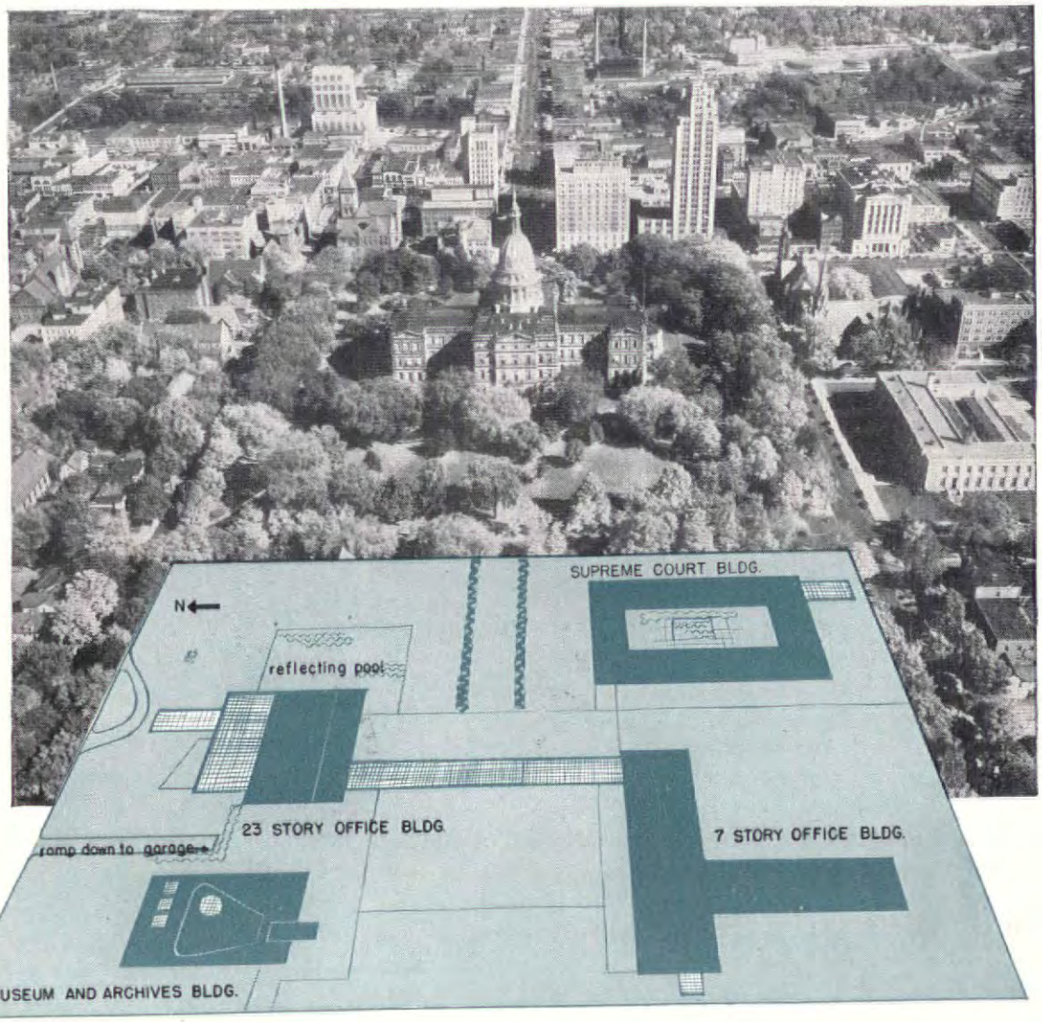
	Office Net Area	Storage Net Area	Total Net Area
Capitol Bldg.	90,253	10,000	100,253
State Bldg.	160,770	29,104	189,874
Rented Bldgs.	172,459	15,718	188,177
Current total	423,482	54,822	478,304
Increase by 1954	337,956	20,666	358,622
Future total	761,438	75,488	836,926

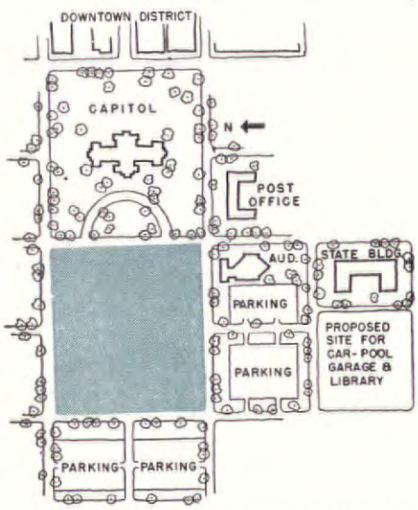
Of the current office areas tabulated above, 15,219 sq. ft. represents space occupied by machine record and reproduction equipment. All of the above figures exclude the out-of-town requirements of 44 other state agencies, ranging in importance from the Apple Commission to the State Police and, in space requirements, from hat-size offices to entire buildings. They also exclude the Liquor Control Commission whose offices are in its warehouses; the military establishment, similarly housed; the Health Department on Lansing's city limits; and the Unemployment Compensation Commission, located in Detroit.

* All space requirements were measured by the architects in 1944, but have not materially changed since then.

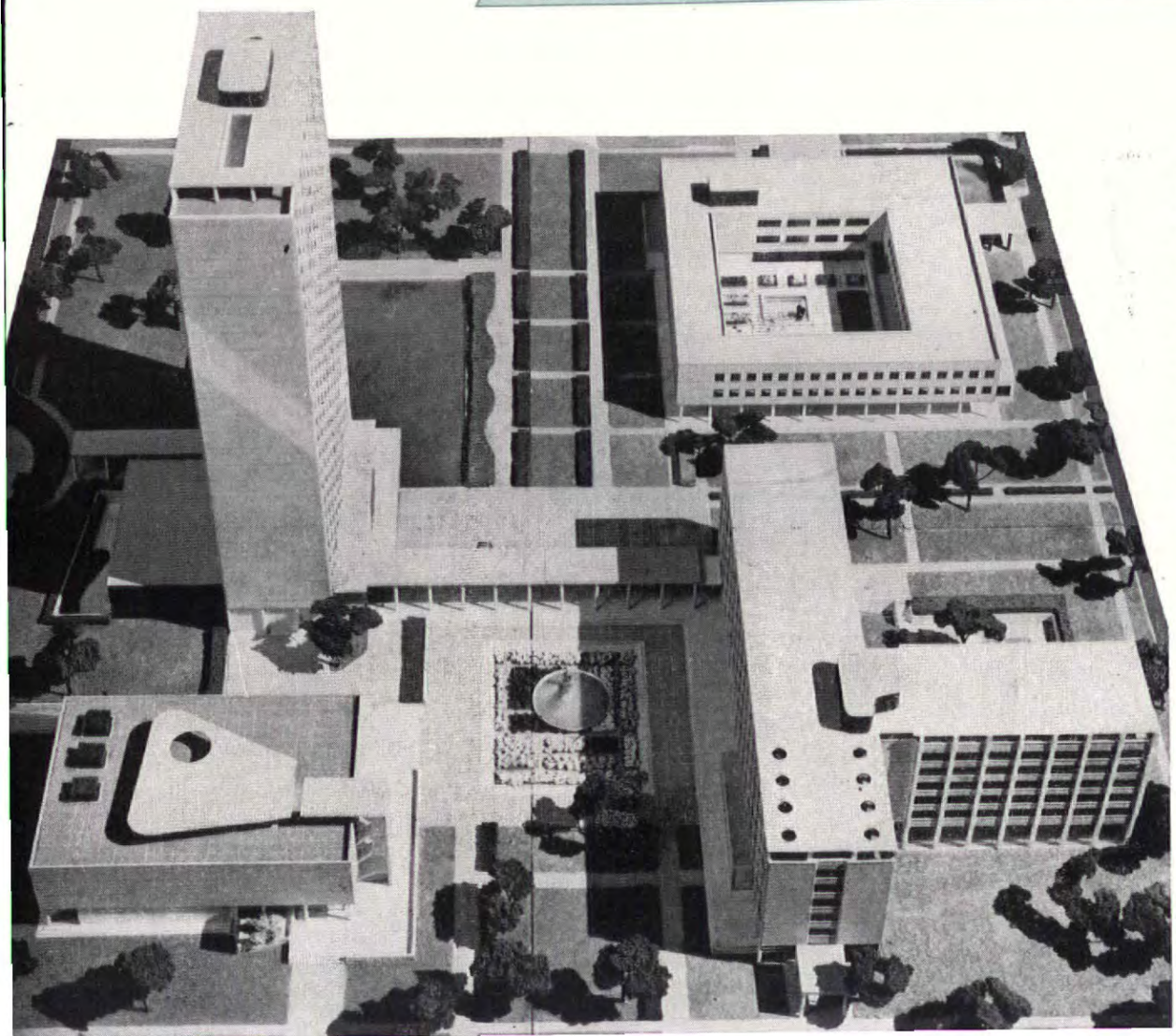
obstacles to immediate construction.

Abrams Aerial Survey Corp.



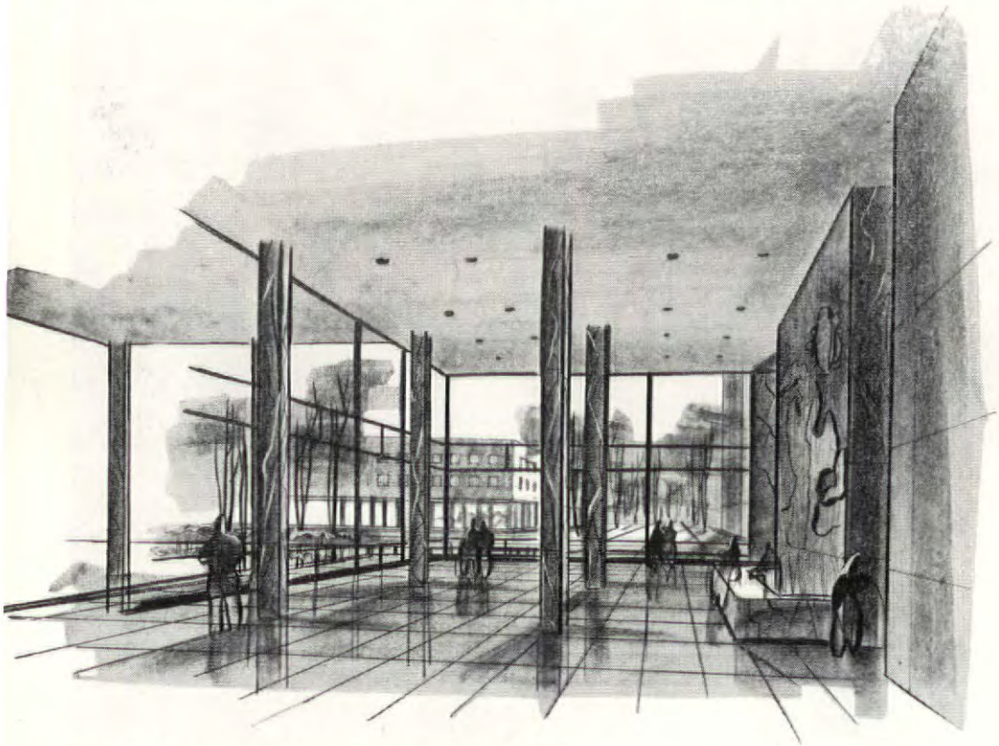


FOUR-BLOCK SITE of the new center, now covered with old houses, is convenient to Capitol and existing public buildings. Adjacent blocks ultimately may be cleared for parking and additional state buildings



LAYOUT of the four new buildings compliments the capitol. Like most state capitols, Michigan's is rich in historical association and has considerable sentimental value, if little else. On a knoll in the center of Lansing, it straddles the main approach, Michigan Ave. Immediately to the west, the new center is carefully sited and designed to accentuate the Capitol's location. The new buildings are set off the major axis so as not to block the historic line-of-sight. Instead, the office tower is on a cross-street axis, where it will dominate a secondary approach just as its 23 stories will dominate the Lansing skyline. Likewise, the fresh, contemporary appearance of the buildings, while setting them apart from the tradition-steeped Capitol, does not detract from the latter's symbolic architectural style.

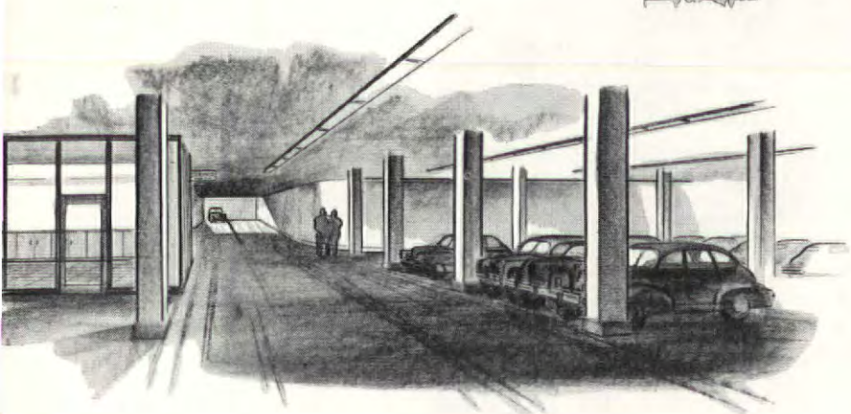
Open planning of ground floors keys all building to surrounding parks, facilitates public circulation.

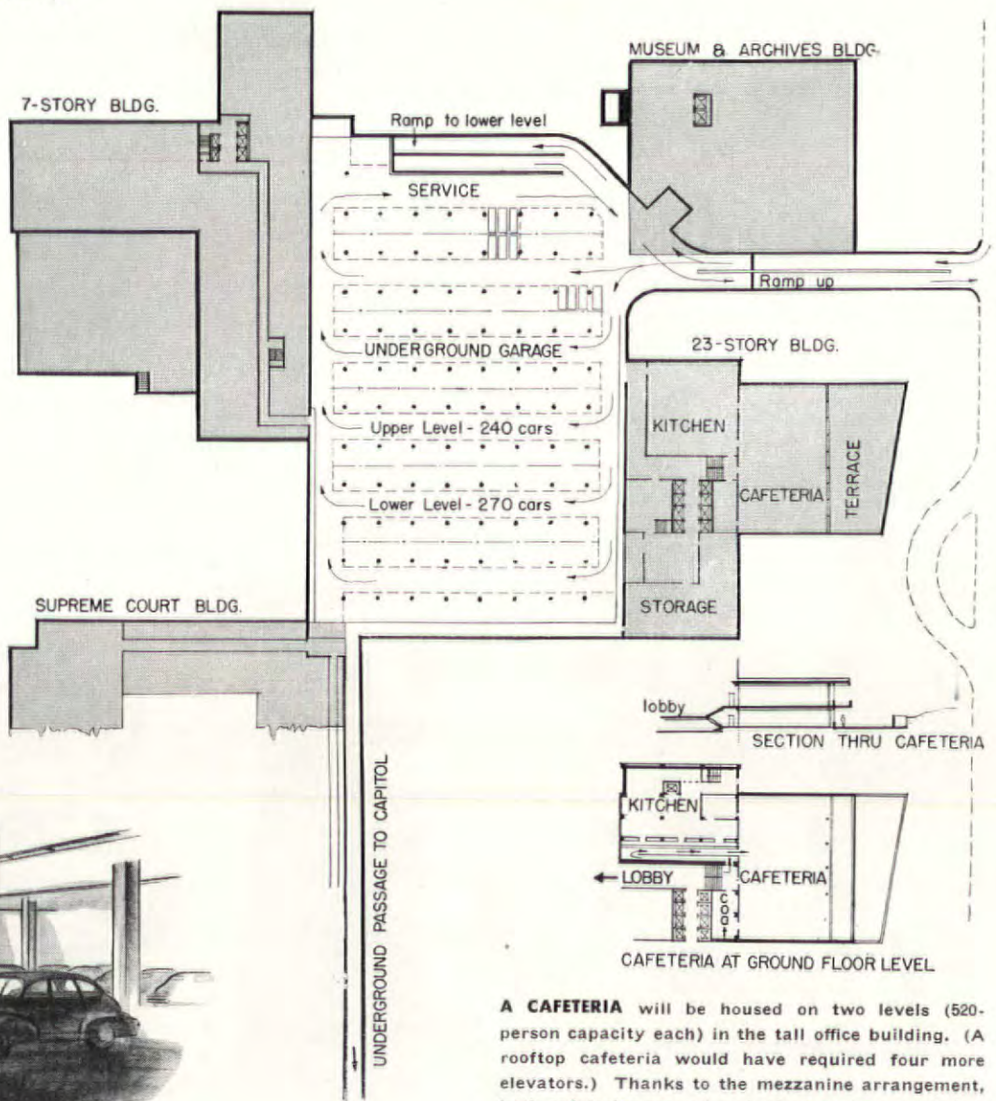


LOBBY OF OFFICE TOWER OVERLOOKS REFLECTING POOL AND SUPREME COURT BUILDING BEYOND.

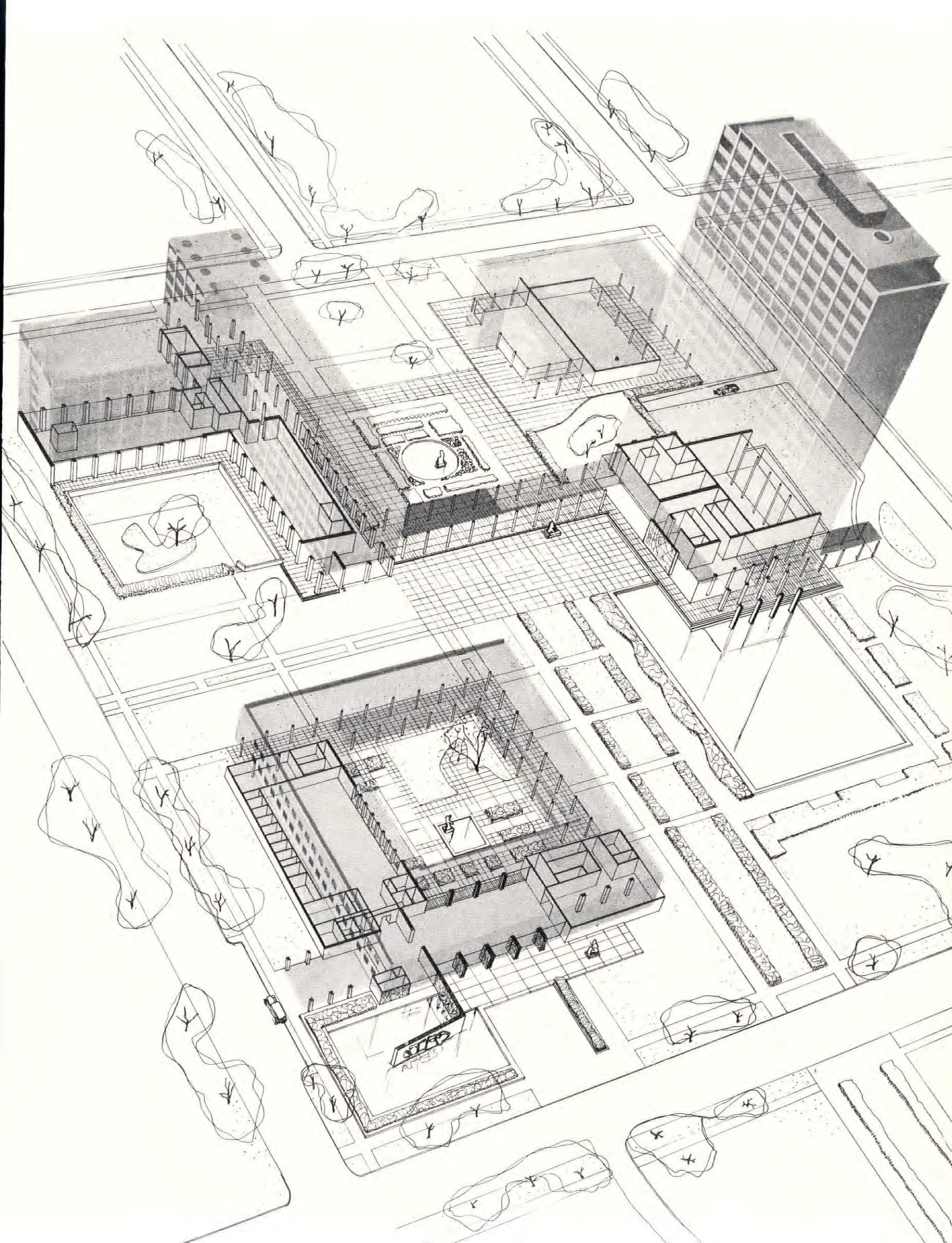
The project consists of four buildings: a three-story building for the Supreme Court and Attorney General's Department with a law library and exhibition room on the ground floor; a small windowless Museum and Archives Building in which visitors will ascend to the top floor by elevator, then walk down the glass-enclosed stairs between exhibit floors; a seven-story T-shaped office building whose large floors will accommodate the larger state agencies; a 23-story office tower whose small floors will accommodate the many smaller agencies. Although of interestingly different exterior design, all buildings are related by the similar treatment of their first floors, which are reserved exclusively for public use (no offices). Walls are of glass from floor to ceiling, interrupted only by structural columns. This ground floor openness capitalizes on the surrounding planted areas, terraces and reflecting pools whose park-like atmosphere will attract the public, much as Washington's famous parks and public buildings draw sightseers to the nation's capital. To stand the gaff of public use, ground floor walls will be finished in marble with granite accents at the entrances. (Upper walls will be finished in limestone.) Each building is served by a covered off-street taxi entrance, and the two office structures are connected by a loggia as well as by underground passages (see below).

PARKING AND TRUCKING are two problems which will be compounded with consolidation of all state offices in one neighborhood. Part of problem will be solved by a two-level executives' parking garage beneath the project's central terrace. It will accommodate 510 cars (240 on the upper level, 270 below), provide space for the loading and unloading of delivery trucks and serve as an underground connection between all buildings, including the Capitol. Eventually, surface parking lots for employes' and visitors' cars and a car pool garage for the storage and repair of state-owned vehicles may be developed. It is hoped that, when the nearby municipal auditorium now in the design stage, is rebuilt by the city of Lansing, a large parking lot will be provided for the night use of auditorium visitors and the day use of Capitol visitors.



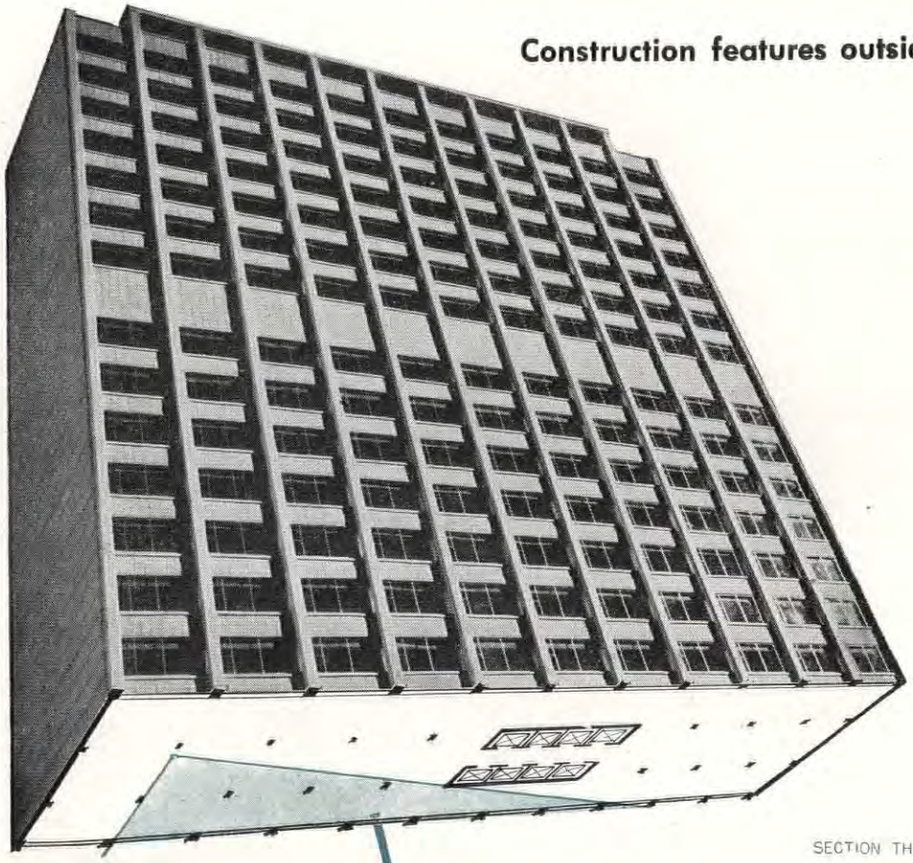


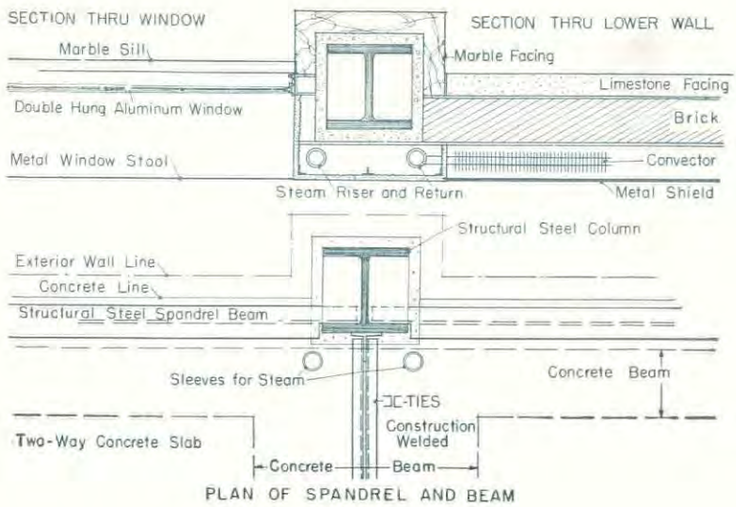
A CAFETERIA will be housed on two levels (520-person capacity each) in the tall office building. (A rooftop cafeteria would have required four more elevators.) Thanks to the mezzanine arrangement, both cafeterias are only a half-story above or below the public lobby. The lower level opens on a sunken terrace, eliminating the need for areaways.

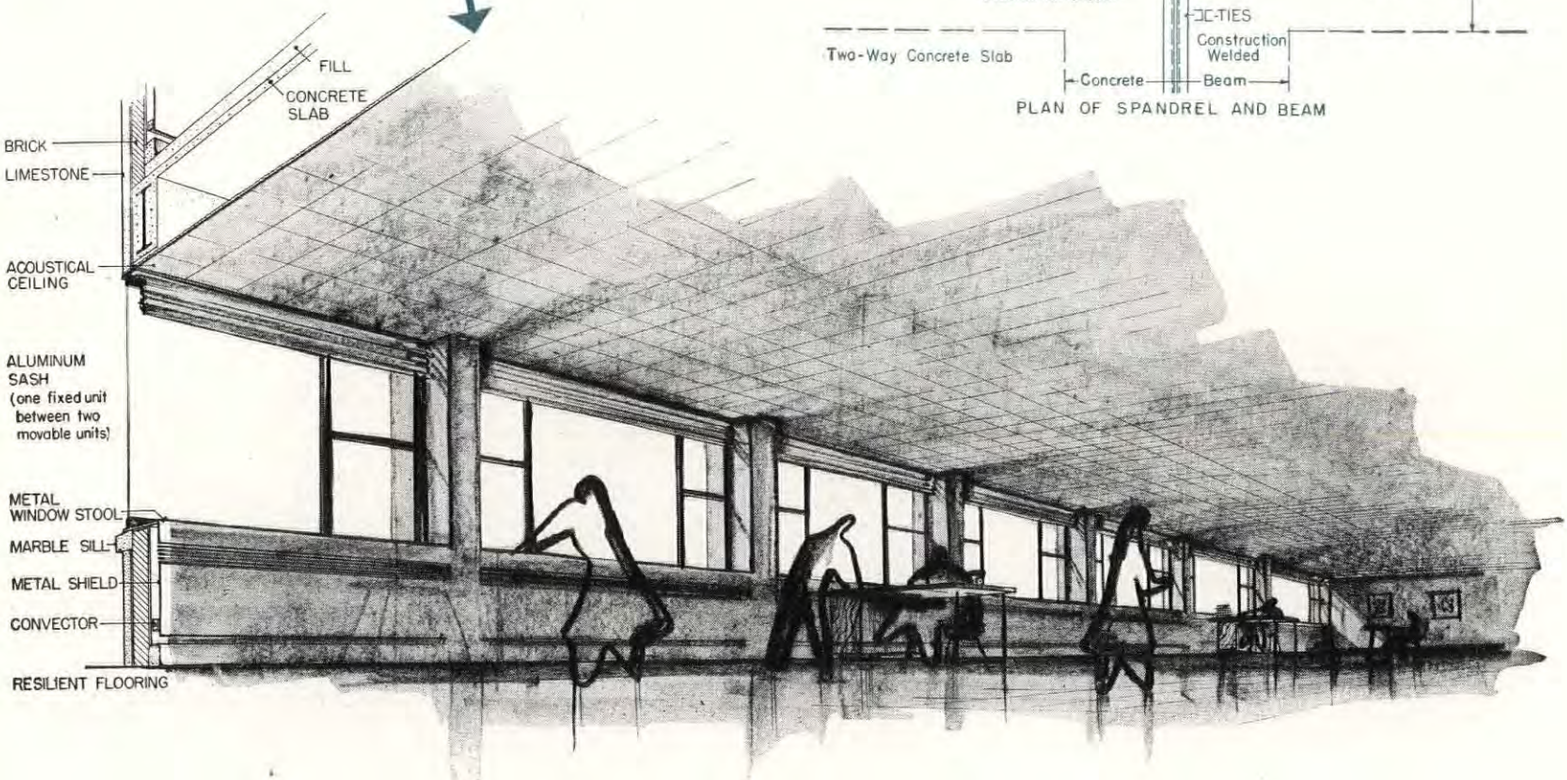


Construction features outside columns which keynote exterior design, produce smooth interior walls.

In early studies, the architects designed the two steel-framed office buildings to resemble in exterior appearance the Supreme Court Building, which frankly expresses its concrete construction. But, since the result was obviously a fake and not very attractive, it was decided that their exterior design should express their construction. This was achieved by exposing the vertical columns, a trick which produced a handsome exterior and flush inside walls—easy to look at, easy to furnish. Although added as an after thought to provide a footing for window cleaners, the projecting window sills enhance the exterior design by creating a basket-weave pattern. Like the plan of the office tower (left), the interior of the low office building is broken only by two rows of columns and lends itself to flexible subdivision with movable partitions of metal and glass. Each floor of the tower boasts 73 per cent usable area and, in the low office building, the ratio is 80 per cent (70 per cent is considered good).







FINANCING of the $11 million buildings may be accomplished in three ways.

Construction of the three buildings in the immediate program will cost an estimated $10,245,000, as itemized in the breakdown to the right. The small Museum and Archives Building, estimated at $775,000, would boost the total to a shade over $11 million, exclusive of garage and site development costs.

It has been suggested that the least painful method of financing the project would be by state issuance of revenue bonds, to be paid off by "rentals" charged each agency or department for space occupied in the new and existing buildings. On the basis of rentals now paid private landlords (averaging only about 80 cents per sq. ft.), the total "rental" to be "paid" to the state by all of its Lansing agencies would amount to about $670,000 per year, sufficient to pay interest on and retire $11 million of 2½ per cent revenue bonds in 24 years.

The second alternative is the issuance of bonds which would be general obligations of the state. They would be much more attractive to investors and would therefore cost ¾ to 1 per cent less than revenue bonds. At an interest rate of 1½ per cent, $11 million of these general bonds could be retired in 21 years with an annual appropriation equal to the $670,000 "rental" mentioned above. There are two disadvantages to this financing method: 1) Michigan is one of the select few states which are completely free of bonded indebtedness, and it naturally wishes to remain so. 2) Unlike revenue bonds, general obligations would have to be approved by popular vote.

The third possibility is the outright appropriation of state funds to cover construction costs. An annual appropriation of $3 million would see the project complete and paid for in four years with a minimum of financing costs. Since it would also get the construction underway in the shortest possible time, the latter method seems the most appropriate.

All three methods are basically the same, for, in the last analysis, each draws on the state treasury and, in turn, the taxpayers. And, whatever type of fiscal legerdemain is employed to raise the funds, the fact remains that the proposed state office center makes good economic sense, is therefore well worth building.

CONSTRUCTION COST ESTIMATE

	23-Story Office Bldg.	7-Story Office Bldg.	Supreme Court Bldg.
SUBSTRUCTURE	$244,000	$174,000	$438,000
STRUCTURAL STEEL	890,000	419,000	—
WALLS	1,366,000	883,000	497,000
PARTITIONS	346,000	245,000	268,000
FLOORS, ceilings, roof	976,000	588,000	302,000
STAIRS	36,000	17,000	8,000
PLUMBING, heating, ventilating, fire protection	421,000	326,000	120,000
ELECTRICAL	362,000	259,000	159,000
ELEVATORS	340,000	189,000	52,000
AIR CONDITIONING	—	—	300,000
BOOK STACKS	—	—	20,000
TOTAL	$4,981,000	$3,100,000	$2,164,000

WESTWARD VIEW OVER THE CAPITOL'S SHOULDER SHOWS RELATIONSHIP OF THREE PRINCIPAL BUILDINGS TO PARKS AND POOLS

DESIGN'S BAD BOY

Ben Schnall

FREDERICK JOHN KIESLER, architect, stage designer and structural theorist, is a tiny (5 ft. 1 in.), 51-year-old Viennese who looks like a cross between a mischievous elf and a rather pompous troll. His strut, charm, wit and warm human understanding, coupled with a brilliant intellect and fantastic imagination, should already have made him a successful and famous man. But F. J. Kiesler has lived and worked in America for the past twenty years in comparative obscurity. Except for the group of architects and artists who comprise the forefront of the modern movement, his name is unknown even to members of his own profession. Here is a man whom experts rank with Walter Gropius and the late Moholy-Nagy as a pioneer in contemporary design, and some even place next to Wright and Le Corbusier. But, unlike the ideas of his famous contemporaries, Kiesler's best mental images have seldom been translated into actuality. Those which did break through the blueprint prison have been erected with a running accompaniment of difficulties which would have turned a less resilient man into a santorium case.

Kiesler's U. S. history is that of the avant-garde European astray in the American commercial woods. He came to the U. S. in 1926, 10 years before his famous colleagues, proudly wearing a brilliant continental reputation. There was only one drawback: Kiesler was so far ahead of America that nobody knew what he was talking about. In Europe, in spite of the postwar economic chaos, the twenties were a period of hope, of intense creative activity, of social and artistic experimentation. In America these years comprised the lush pre-depression era of stock market tips, bathtub gin and imported Italian palaces. Into this gaudy and slightly cockeyed age, Kiesler's ideas of scientific design and planning had about as much chance of being heard as Bach's cantatas in Texas Guinan's speakeasy.

Kiesler's architectural career had begun in the office of Adolf Loos, working on the slum clearance and rehousing projects which were to make Vienna a model for public housing developments all over the world. In the early twenties, he startled theatrical conservatives with his sets for the Berlin Productions of "R.U.R." and "Emperor Jones," using for the first time in the history of stagecraft a combination of real construction and motion picture projection. As Director and Architect for Vienna's International Music Festival in 1924, he transformed the staid *Konzerthaus* into a fairylike "space stage" and unveiled a model of his "Endless Theater," the first radically new approach to theater design since the burgeoning of the Italian opera house. He became an influential member of the *de Stijl* group,* which included architects Von Does-

* Forerunner of the Bauhaus.

berg and J. P. Oud and painter Piet Mondrian.

Climaxing Kiesler's European march of triumph was his selection as architect for the Austrian Theater and Architecture Section of the 1925 Paris Exposition. This jubilee was comparable to the Chicago Fair of 1893 in its disastrous effect on architecture and design for years to come. It was the beginning of the "modernistic" style with its applique of sharp, geometric patterns which contemporary design has been trying to live down for the past twenty years. Of the work displayed, only that of Le Corbusier, Kiesler and a very few others was free from this modernistic taint. Kiesler's exhibit, however, was so fantastic that most spectators, even blasé Parisians, thought him quite mad. Eleven years later Alfred H. Barr, Jr., in his book *Cubism and Modern Art*, called Kiesler's experiment "technically and imaginatively the boldest creation in the *de Stijl* tradition." But at the time, understanding of Kiesler's construction—model buildings which touched the ground at unbelievable intervals and seemed actually to float in the air—was limited to a small group. Even Corbusier, in reply to Fernand Leger's glowing description of the "floating city," replied: "But how does he keep the houses up? Does he hang them from zeppelins?"

Actually, the airborne building techniques of the earth-hugging little architect were far from new, involving nothing more startling than the principles of the suspension bridge. But Kiesler's use of these principles was new and startling in the extreme. Buildings were hung from central masts which contained the service core of each structure. (Buckminster Fuller's dymaxion house is also based on this principle.) Business buildings were vertical, some of them based on the spiral so that floors were not divided from each other, but presented a continuous gradual incline from top to bottom (Frank Lloyd Wright's new Museum of Non-objective Art employs a similar construction). For apartment houses he invented the "horizontal skyscraper" with long, narrow wings cantilevered from the central anchorage to provide the maximum of light and air for each apartment (Le Corbusier has executed such designs). Buildings touched ground only at the central axis thus allowing distribution of parks, gardens and highways virtually uninterrupted by the building mass which "floated" above them. Corbusier's pertinent question was answered not by zeppelins, but by a series of connecting ramps between buildings. Thus, each structure supported every other in a system of continuous tension similar to a multiple spider-web. The ramps also served the double duty of allowing circulation throughout the city without the constant necessity of returning to the street. Walls were mainly glass, some opaque to permit only a diffused glow in the interior and to provide privacy; others transparent to allow the sun's rays to nourish green areas below and to make a pattern of light and shade similar to the fantastically beautiful shadow effect created by the lacy arches of the Eiffel Tower.

In conjunction with his city, Kiesler wrote a "manifesto" of urban design which most persons also thought the result of an over-fevered brain. Today, except for the "floating" concept and Kiesler's rather high-flown language, it has become a statement of accepted city planning principles:

"The Country-City: the division of city from country will be abolished.

"The Time-City: time is the measure of the organization of its space.

"The Space-City: it floats freely in space in a decentralized federation dictated by the ground formation.

"The Automatic-City: the processes of daily life are mechanized." . . .

WHEN Kiesler sailed for America in 1926, he expected to be met at the ship by grinding cameras and a battery of newspaper reporters. This variation on the brass band theme had been worked up by two eager lady editors of the *Little Review*, whose ecstasy over Kiesler's Paris exhibit was equalled only by their persuasive pleas for transporting it to America. Otto Kahn, the famous financier and art fancier, was to back the venture, advancing transport money and promising a budget of $250 a week during Kiesler's stay in New York.

Full of grandiose dreams of an American adventure, Kiesler stepped briskly off the Leviathan on one of New York's rawest January days. An icy wind was cutting across the deserted pier. There were no reporters and no cameramen; only the two lady editors "huddled together," recalls Kiesler, "like birds on a Siberian snow field." The little Austrian was a bit dashed, but merely inquired about the advance publicity and asked to take a look at the exhibition hall. There was none of either. Reluctantly, he left his packing cases, crammed with the pick of the Paris Exposition, on the snowy pier and retired to the Brevoort to recover from his strange introduction to the land of easy money and quick fame. After a week of vague murmurs from the direction of the *Little Review*, he was informed that Otto Kahn was in Florida. By this time, the Brevoort was taking an embarrassing interest in Kiesler's financial condition and appeared somewhat bored by his insistence that $250 a week was just around the corner.

After a month of growing frustration, the ladies at last informed their protegé that he had been granted an interview with the great Kahn the following Sunday morning. Kiesler's next shock came when he was ushered into an imitation Gothic Cathedral, unmistakably the home of this advanced patron of the arts. After an impressive interval of waiting in a gigantic hall filled with carved oaken furniture, Kahn descended a sweep of spiral staircase, gently fingering the rose in his buttonhole. He was charming, but slightly confused. Who was this little man and what was he doing here? Wasn't the money he had formerly contributed supposed to cover the entire exhibition? Kahn concluded with a gracious smile and the statement: "I'm afraid, Mr. Kiesler, you'll have to do what many Americans have done before you—wash dishes."

Thus ended Kiesler's triumphant entry into America. Stranded, without funds, and speaking but a smattering of English, he could only appeal to his erstwhile angels of the *Little Review*. Together with the Theater Guild and the Provincetown Playhouse, that humiliated periodical scraped up backing and the exhibit was finally staged as part of the opening of Steinway Hall in March, 1926.

Here Kiesler got his second chance at America's fairyland of millionaires. The president of one of New York's larger banks confided (via interpreter) that he was sponsoring a drive to make Brooklyn the Art Center of the World. The banker was so impressed with Kiesler's approach to stage design that he commissioned him to make a study of American theaters at $50 a week for a year. This sum was to be augmented by a fat commission from the end product, a super deluxe job for Brooklyn Heights—money, style and size no object. Kiesler decided that he had misjudged America, that it was indeed the land of golden opportunity. With his eye on the commission, he sold his house in France, turned down a theater job for Piscator in Berlin and stretched his $50 a week to cover tools, materials and draftsmen. When, a year later, he unfolded the cherished plans on his benefactor's gleaming mahogany table, he was as excited as a debutante at her coming out party. Here, for the first time in America, was a truly flexible theater which could be used for movies, plays, concerts and large or small entertainments with equal acoustical and visual excellence. Here was the first in-theater restaurant, the first provision for underground parking. As Kiesler talked, he noted that the banker was looking about the room, blowing smoke rings from his large black cigar and generally paying little attention. "You seem not to be interested," Kiesler remarked. "To be honest, I'm not," replied his rich friend, with a smile. "But I don't understand . . ." exploded the baffled Kiesler. "Now, I will tell you the truth," rejoined the banker. "When I saw your exhibit, the Democratic Party needed a project which would interest Brooklyn voters. Since Governor Smith was not elected President, I'm afraid the project has no meaning. . . ." For the first time in his life, Kiesler tried to hit somebody twice his size. He was forcibly restrained by the Princess Matchabelli, who hustled him quickly out of the house.

From that day on, depressions, wars and

subterranean rivers—a multitude of seemingly irrelevant facts—appeared with devilish perspicacity to plague Kiesler and pull a pet project down around his ears. When he won the competition for an experimental community theater in Woodstock, N. Y., the crash of '29 scotched the entire project. When the tenant for his Eighth Street Playhouse insisted on high basement ceilings, necessitating an undue amount of excavation, a long-forgotten creek rose to flood the cellar. When his book, *Contemporary Art Applied to the Store and its Design*, was published in 1930, printers bollixed his unconventional layouts, and it cost him a neat $800 to get the book back in shape. When he became instructor of an advanced design laboratory at Columbia University, World War II appeared to drain his never-overpopulated classes and cancel the course. When his sets for the recent existentialist play, "No Exit," rang rave reviews on the critics' scoreboard, a pre-Christmas slump plus the play's obscure theme rang down the curtain.

KIESLER'S actual achievements, on the other hand, are no less dramatic than the troubles which beset their accomplishment. The creek-invaded theater, a small neighborhood movie house in Manhattan's Greenwich Village, was built 19 years ago, a contemporary of the garish Paramount, which proclaims its vintage with every gilded curlicue. In 1947, the Eighth Street is still one of the most modern theaters in New York City. Fifty per cent of its patrons are drawn from other sections of Manhattan by its restful simplicity, acoustical and visual excellence. Owner Charles Abrams recalls that the theater was erected to a cacophony of insults and threatened lawsuits from tenants and builder alike. This last gentleman, outraged by Kiesler's lack of aluminum cherubs, quit at the zero hour before he had installed doors or heating system. At the gala February opening, guests braved the chill air with fur coats and lap robes to see America's first modern movie house. But, according to Abrams, Kiesler's ideas, which were the cause of so much bitter infighting are precisely what has made the Eighth Street one of the best long-term investments he ever encountered.

During the same period, Kiesler designed his famous show windows for Saks 5th Ave., the first application of modern design techniques to American commercial display. Their influence can still be seen in 5th Avenue shops today. At that time windows were always constructed as separate units made of expensive Tudorish wood paneling. Kiesler's then-startling innovation was to rip out all partitions between windows and run a continuous background panel the full length of the store. Other features which set the window-dressing world on its ear were the use of stark white as a background color and the substitution of one or two dramatic items for the usual jumble of merchandise. Saks expected to change these windows in two or three weeks, but the permanent architectural background proved so flexible that it was retained for nine years, saving Saks a sizable chunk of money.

As a designer of exhibitions which interweave color and structure to achieve the highest visual emphasis, Kiesler has also realized resounding critical success. The Peggy Guggenheim Gallery, *Art of This Century*, is perhaps the most striking example of his technique. Paintings at different eye levels and without benefit of frames project on unseen supports from a curved wood background panel. Other paintings are secured to triple "columns" of string and appear to be floating in space. These bizarre constructions were executed to a counterpoint of wails from budget-conscious Peggy and moans from conservative Bronx woodworkers whose sensibilities were deeply shocked. But when the Gallery opened in 1942, Edward Alden Jewell of *The New York Times* wrote: "Kiesler . . . has built the museum in a truly miraculous way . . ."

Kiesler's outstanding American success, however, is his brilliant 13-year record of experimental stagecraft as Scenic Director for the Julliard School of Music. Working on a shoestring budget, augmented only by his unfettered imagination and expert knowledge of stage mechanics, he has created abstract suggestions of mood and place which, for dramatic punch, are leagues ahead of grand opera's bulky realism. John Erskine, founder of the school and one of the first to appreciate Kiesler's particular genius, explains that the turbulent little Viennese is one of the few designers who understands that a beautiful stage picture is not enough—that sets must have excitement and movement to blend with the actors' performance.

THE life of Frederick J. Kiesler has been largely a history of fighting against seemingly insurmountable odds. His mother died when he was one year old and his care was relegated to the housekeeper, a Ukrainian peasant woman, whose philosophy of child-rearing was limited to feeding, bathing and generous doses of a birch rod. An elder brother, jealous of Frederick's place in his father's affections, exerted a further tyrannical rule over the little boy. Since Frederick's major pleasure was drawing, his brother plagued him by limiting the use of pencils and crayons to two hours on Sunday afternoons. A mite of a child, Frederick was nevertheless always a fighter, rebelling against the stringent home discipline and time after time running away from his strict Austrian day school.

At 15, when Kiesler was old enough to study for a profession, his father decided on business school and dispatched him forthwith to Vienna's equivalent of the famous Harvard training ground. Frederick stood it for exactly three months before switching abruptly to the *Academie der Bildendin Kunste* (Academy of Plastic Art). After hestitantly showing his drawings to the head of the school, he was admitted to the master classes, a singular honor since these were usually limited to the pick of 5th year students. "This is where I got my training for living on nothing," explains Kiesler, for his father refused to finance this latest demonstration of a son's rebellious nature. From there on Kiesler was on his own. He managed honors at the Academie plus a year at the *Technische Hochschule* by winning scholarships, working odd hours in architects' offices and developing a distaste for food.

During these student days, Kiesler became part of a group of artists and intellectuals who met each day in the back room of the "Cafe Museum" for large doses of philosophical discussion over small glasses of wine. It was here that Kiesler met his future wife, Steffi, a striking brunette who was studying philology at the University. Like Frederick, she was a rebel, for she came from a wealthy family but had broken with them in order to go to college.

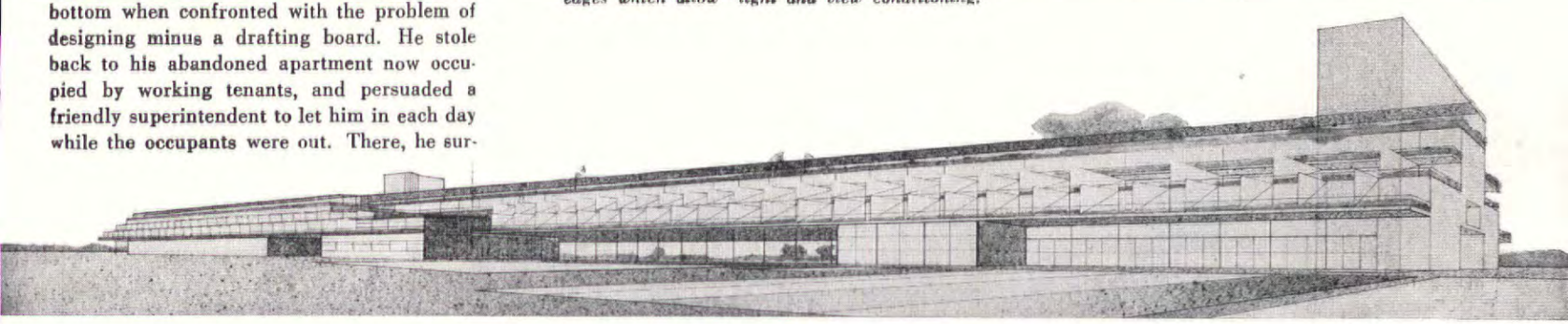
It was not until years later, after the war, however, that they decided to fall in love. Kiesler in spite of his small size, was drafted in 1914 and served three years, part of them on the front lines. When the war was over he came home to a different Vienna. As a defeated country, Austria had terrible shortages of food and fuel and was faced with one of the worst winters in history. Kiesler's first present to Steffi on his return was a pair of felt army boots he had salvaged from the military and which he declares won her heart.

In 1919, supported by the dole, Steffi's job in an antique bookshop and Frederick's uncertain free lance assignments they were married. In spite of the absence of money, food and coal, their early years of married life were exciting. The Kiesler's lived in an apartment high under the eaves, overlooking all of Vienna, with a treasured collection of 2,500 books and a red tiger cat. On the same floor with them were a number of struggling young artists and writers, among them Franz Werfel (later famed for his "Song of Bernadette") and Franz Kafka (whose frighteningly symbolic books have since established him as a literary genius). A non-resident member of the group who came often to visit was an aspiring young actress named Elizabeth Bergner. This young band of artists lived almost a communal life, celebrating a windfall with wienerwurst and wine for all, violently wrangling over philosophical and esthetic problems until sleepy tenants rapped on the floor. At Christmas time Kiesler always made a marionette theater, fashioning the puppets after members of his coterie and delegating each person portrayed to manipulate his own puppet. Because of the high percentage of artistic talent among the celebrants, they even managed to put on operas, complete with polished arias and duets.

When the Kieslers came to America in 1926 they soon became part of a group of young architects and artists which has since produced some of the best modern work in this country. After the fiasco of the Brooklyn Banker, however, the Kieslers were in a curious position. Known to his new friends as a brilliant Euro-

pean designer, Frederick was nevertheless nearly starving in the midst of America's greatest prosperity. The Kieslers ate well (and they hoped not too conspicuously) when invited to dinner with Ely Jacques Kahn or Wallace Harrison. Other evenings they ate, if at all, through the generosity of a 6th Ave. cafeteria owner, who put them on the cuff. Another hungry young German immigrant who met Kiesler at a party during this period held a grudge against the little man for years because Frederick evaded helping him find a job. Only recently did he discover that Kiesler too was desperately looking for work. Perhaps the Kieslers' best friend during that gloomy period was Princess Matchabelli, another stranded European who had been brought to America to play the madonna in Reinhardt's "The Miracle." This job turned out to be as ephemeral as Otto Kahn's munificent subsidy. "We lent each other nickels for hot dogs," grins Kiesler in retrospect.

When the Saks 5th Avenue job materialized, the Kiesler's had just been dispossessed from their apartment and most of their possessions impounded in lieu of rent. Kiesler touched bottom when confronted with the problem of designing minus a drafting board. He stole back to his abandoned apartment now occupied by working tenants, and persuaded a friendly superintendent to let him in each day while the occupants were out. There, he surreptitiously turned out the entire plans for the Saks windows.



SPACE HOUSE, *1934, designed for Modernage, illustrates the principle of continuous shell construction with continuous window framing. The whole house is one space divisible into fourteen living areas by means of button-controlled vertically-sliding partitions, sound-proof rubber curtains, etc. Note rolling panels at window edges which allow "light and view conditioning."*

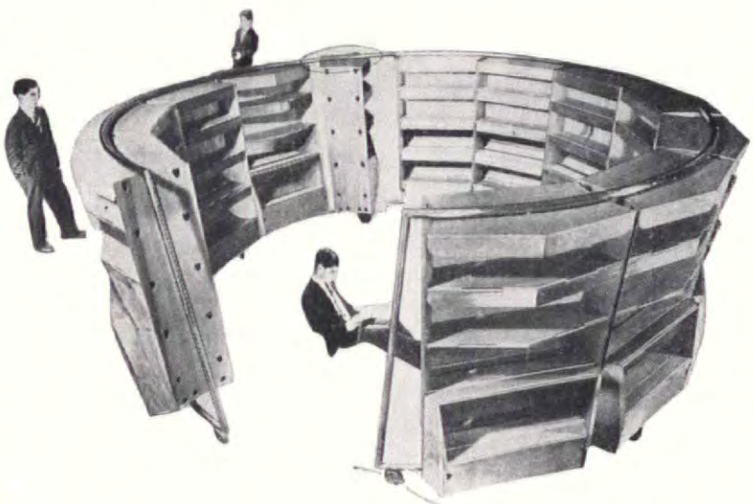
It was not until 1933 when the Julliard windfall came through that the ill-fated voyagers were able to settle in permanent quarters, a "penthouse" at the corner of 14th St. and 7th Ave. Here they still live today in a happy clutter of Breuer tubular chair, Aalto stools and original Picasso's and Mondrian's. The new life in America has, even with the passage of 20 years, retained many of the aspects of early days in Vienna. There is a bit more money, but it still appears in spurts and dribbles. Steffi, always the constant economic factor in the Kieslers' up and down career, still works—now as head of the New York Public Library's foreign book department. A new tiger cat, named Sing Sing, is again quite definitely master of the 14th Street roost.

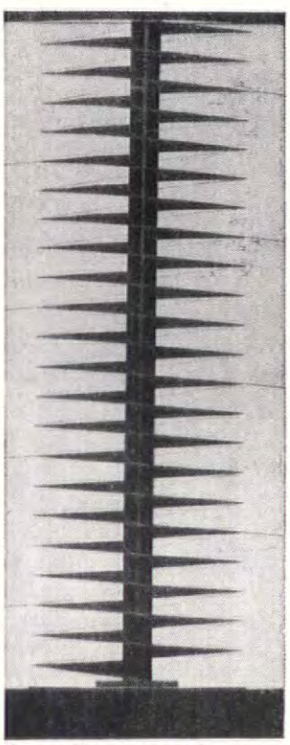
Frederick and Steffi's wide friendship still includes the great or would-be great in every art, and visitors to their top-floor apartment are apt to find talented young painters, writers, and musicians who are drawn to the household like puppies to a warm fire. Kiesler himself retains his fey humor and Viennese outlook on life. He rarely gets to bed before

(Continued on page 138)

SEARS ROEBUCK PREFABRICATED HOUSING, *1933, an adaptation of the Paris Exposition's "horizontal skyscraper." Each family has separate terrace fenced by opaque glass partitions, and access to roof recreation center.*

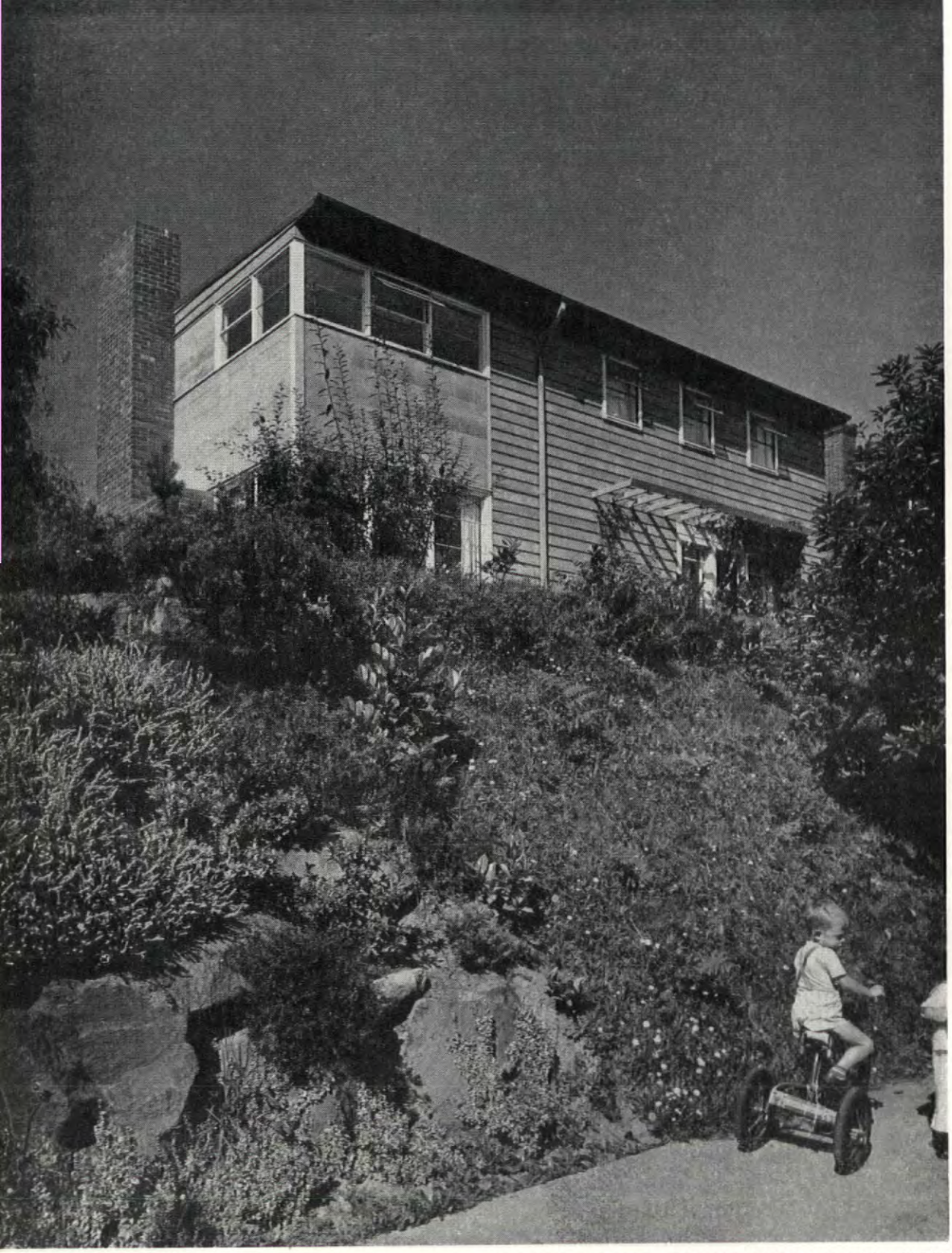
TEST BOOKCASE, *1938, built in the Columbia design laboratory, can be used in circular or straight arrangement or along walls. Prefabricated sectional units pivot on a central axis, can be utilized as separate cases.*





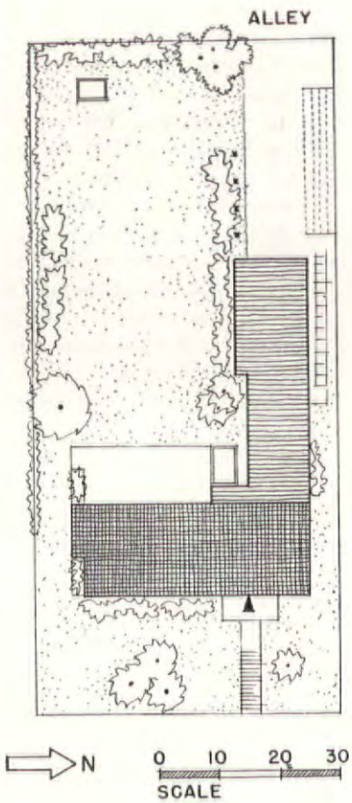
SPIRAL DEPARTMENT STORE, *1925, is held up by cables connected to adjacent structures.*

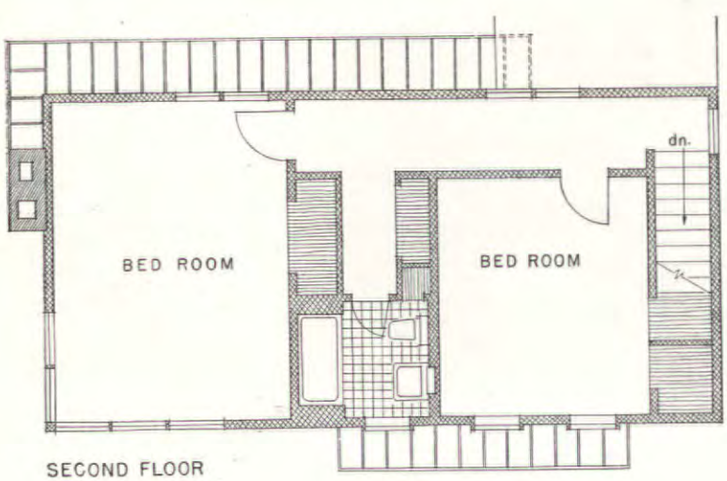
Two-story hilltop



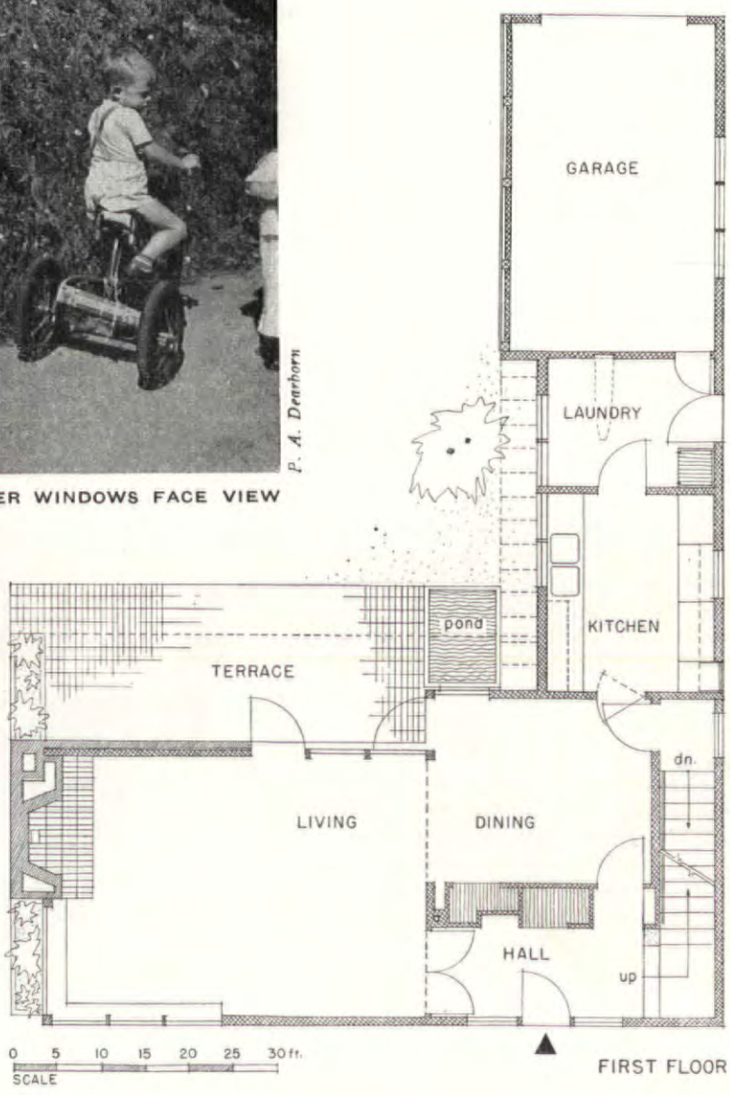
P. A. Dearborn

SITE IS LEVEL, TOPPING A BANK 12 FEET ABOVE THE STREET. CORNER WINDOWS FACE VIEW





SECOND FLOOR



FIRST FLOOR

house economizes on scarce land, capitalizes on view

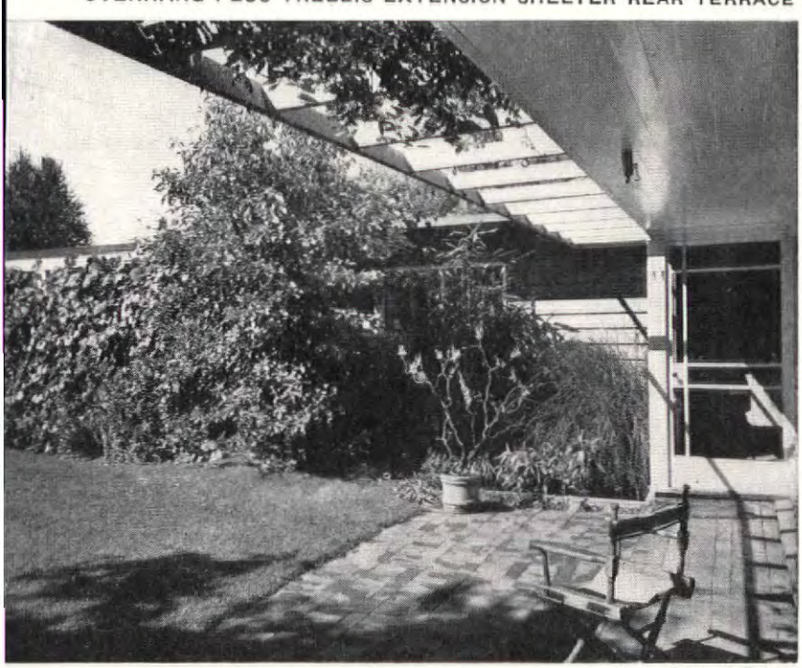
HOUSE IN SEATTLE, WASH.

MR. & MRS. PHILIP MOORE, Owners
PHILIP MOORE, Architect
S. E. WEDWICK, Contractor

This typical urban lot (50 x 120 ft.) is located in a section of the city known as "Magnolia Bluff," which is actually a high, triangular promontory projecting into Puget Sound. Confronted with the problem of designing his own house, architect Moore decided that while a one-floor plan might be desirable in many respects it would occupy too great an area, one of his chief objects being to reserve as much land as possible for gardening and outdoor living. So, despite the high bank at the front of the property, he decided in favor of a two-story house, with its view an outstanding feature. From the second floor the entire city of Seattle is visible, also the Cascade and Olympic mountain ranges to the east and west.

An alley at the rear of the lot dictated the location of the garage behind the house. Combined with the kitchen and laundry, it creates a long, narrow wing which gives privacy to the garden and permits supervision of the childrens' play. An additional second-story bedroom and bath are planned for this wing complete with private entrance for the Moore's young son. The exterior of the house is rough-sawn cedar bevel siding stained a light reddish beige. Trim is painted white.

OVERHANG PLUS TRELLIS EXTENSION SHELTER REAR TERRACE

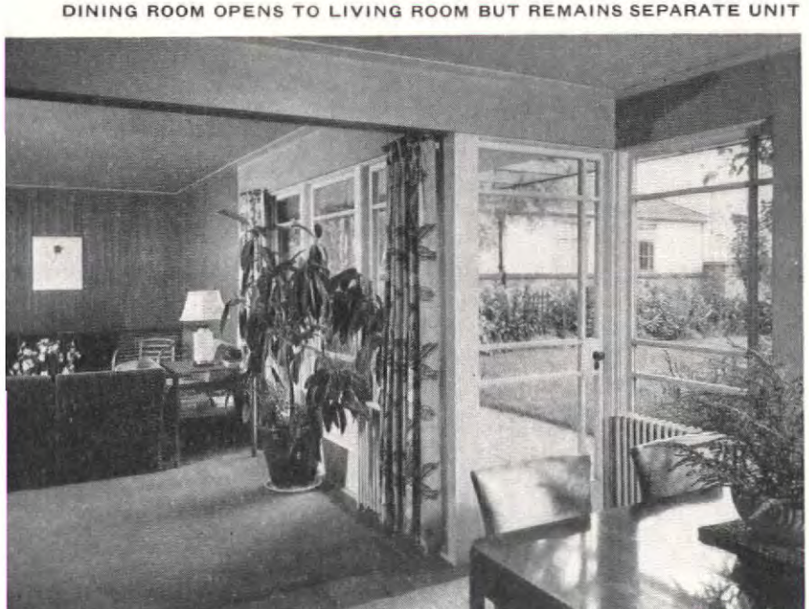


Leonard Delano

LIVING ROOM WINDOW COMMANDS EXCELLENT VIEW OF MOUNT RAINIER

P. A. Dearborn

DINING ROOM OPENS TO LIVING ROOM BUT REMAINS SEPARATE UNIT



P. A. Dearborn

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—beveled cedar, 15 lb. felt, fir shiplap; inside—studs, gypsum lath and plaster; living room—brick veneer and Weldtex, U. S. Gypsum Co. Floors—beech finish. ROOF—24-gauge galvanized iron or 3-ply built-up. INSULATION: Roof—mineral wool, Eagle-Picher Sales Co. FIREPLACE: Damper—The Majestic Co. WINDOWS: Sash—casement, Fentron Steel Works. Glass—Libbey-Owens-Ford Glass Co. Weatherstripping—Chamberlin Metal Weather Strip Co. FOOR COVERINGS: Kitchen and bathrooms—sheet rubber or linoleum, Armstrong Cork Co. PAINTS—Pittsburgh Plate Glass Co. HARDWARE—Russell & Erwin Mfg. Co. ELECTRICAL INSTALLATION: Wiring system—knob and tube. Switches—Harvey-Hubbell, Inc. KITCHEN EQUIPMENT: Range—Universal gas, Cribben & Sexton Stove Co. Refrigerator—Servel, Inc. Fan—Ventair, Fried Air-Kool Co. LAUNDRY EQUIPMENT: Washing machine—Bendix Home Appliances, Inc. BATHROOM EQUIPMENT—American Radiator-Standard Sanitary Corp. Cabinets—Hall-Mack, Hallenscheid & McDonald. HEATING—forced hot water system. Boiler and radiators—U. S. Radiator Co. Valves—Bell & Gosset Co. Water heater—Continental Water Heater Co.

Photo: F. S. Lincoln

Skillful additions expand a country cottage for year-round living

HOUSE IN IPSWICH, MASS.

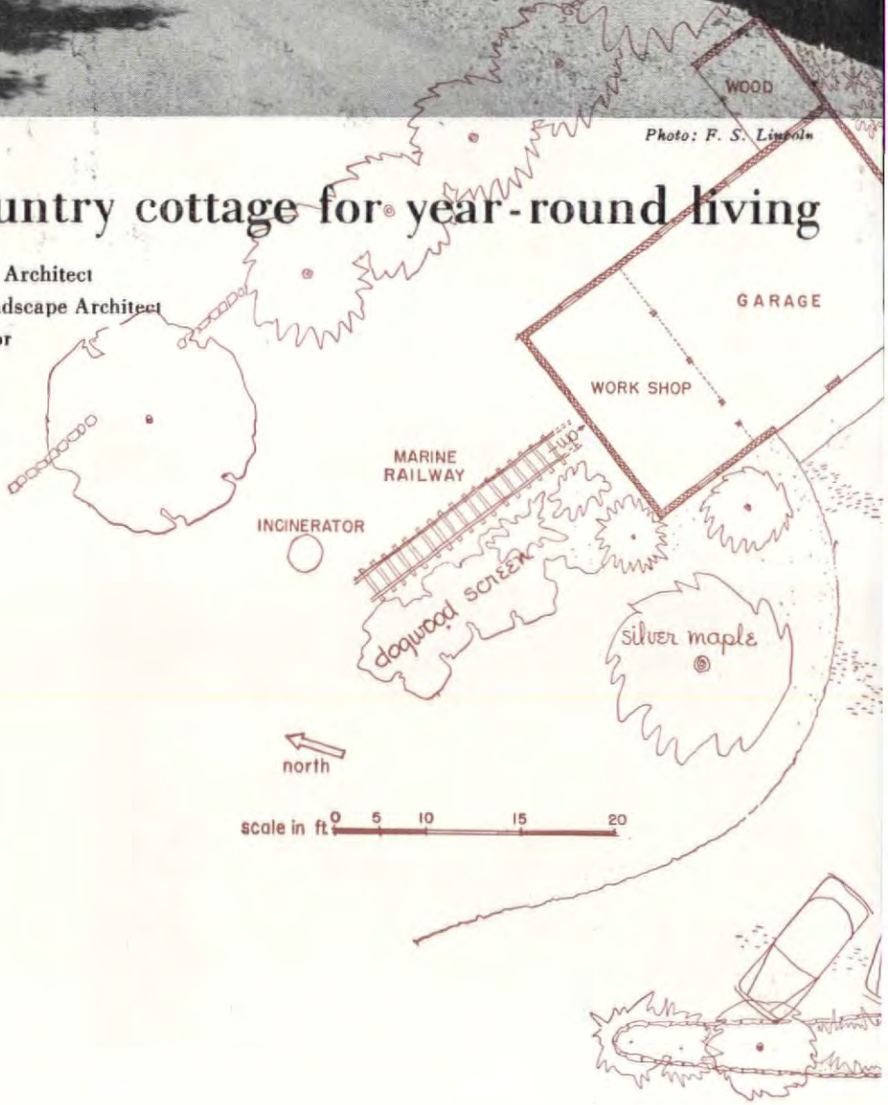
SIDNEY N. SHURCLIFF, Owner

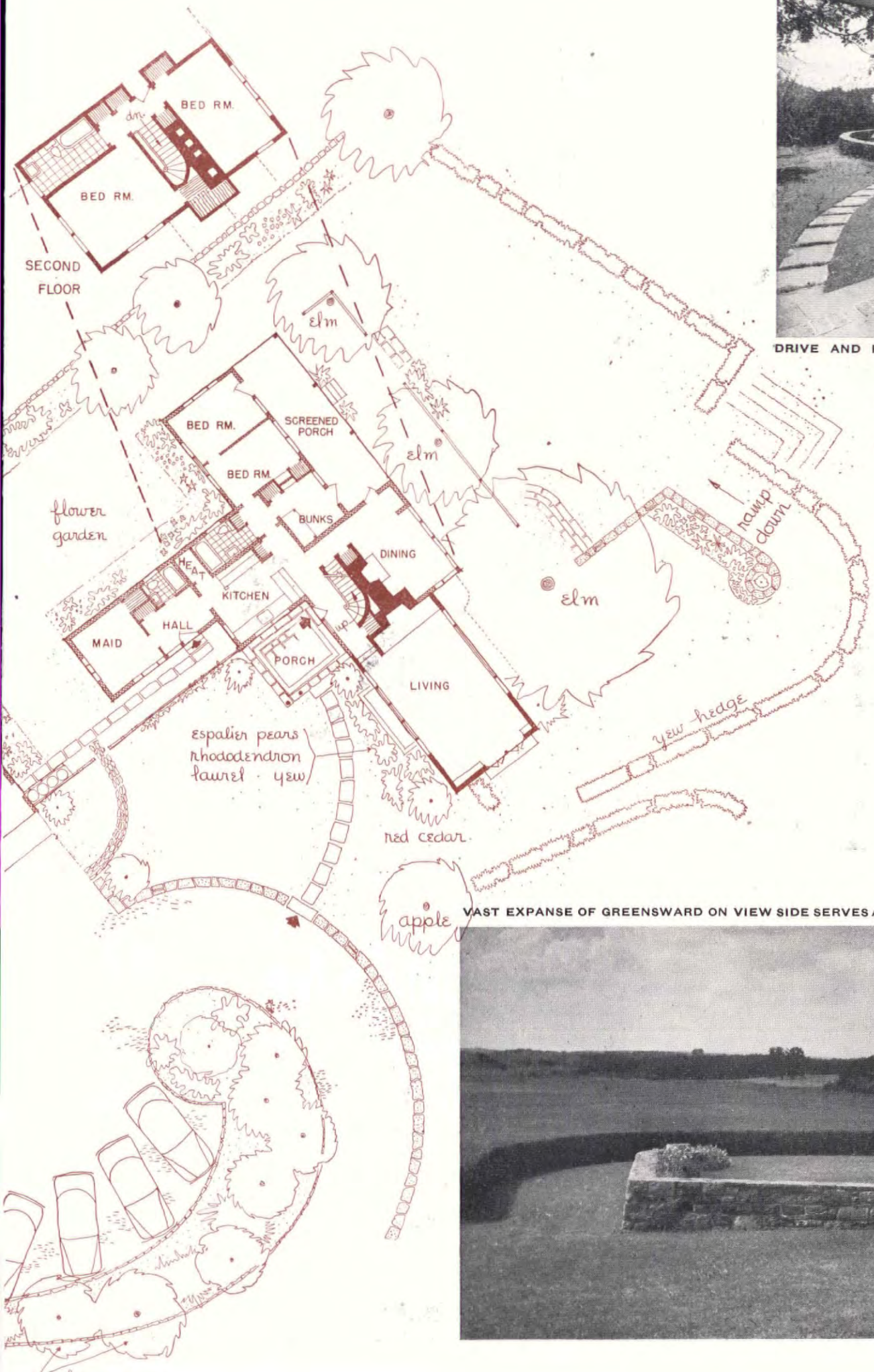
GEORGE W. W. BREWSTER, Architect
SIDNEY N. SHURCLIFF, Landscape Architect
CONNOLLY BROS., Contractor

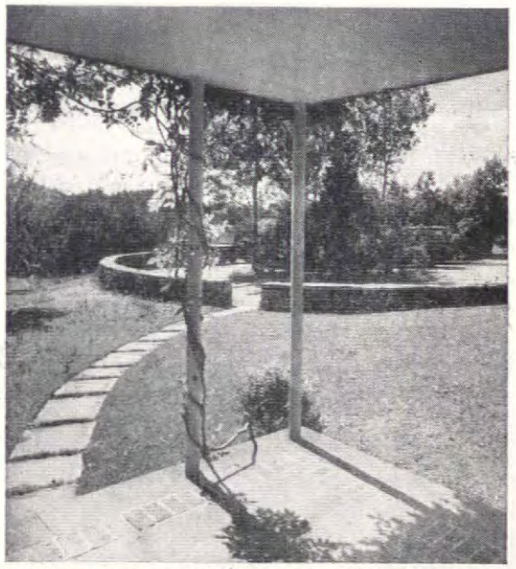
Despite the talk of closer integration of architecture and landscaping, start-to-finish professional teamwork is still somewhat unusual. In this case, such collaboration was inevitable since client and landscape architect were one and the same person.

The architect's starting point was an existing summer camp which, from a design viewpoint, had little in common with the owner's desires. Nevertheless, its entire cubage and all exterior wall surface (except where the living room was added) were retained. The living room wing, a new fireplace in the dinning room and the addition of the second story constituted the bulk of the remodeling. Aside from some streamlining of passageways and storage space, the core of the house remained virtually unchanged. The new living room has generous glazing overlooking the marshes and the dining room is embellished by a corner window facing in the same direction.

For a property of seven acres, the grounds are laid out in a rather expansive manner. Aside from broad, formal terracing on the view side, they boast a sweeping drive and turnaround with parking space for a half dozen cars, a service yard and cut-flower garden.

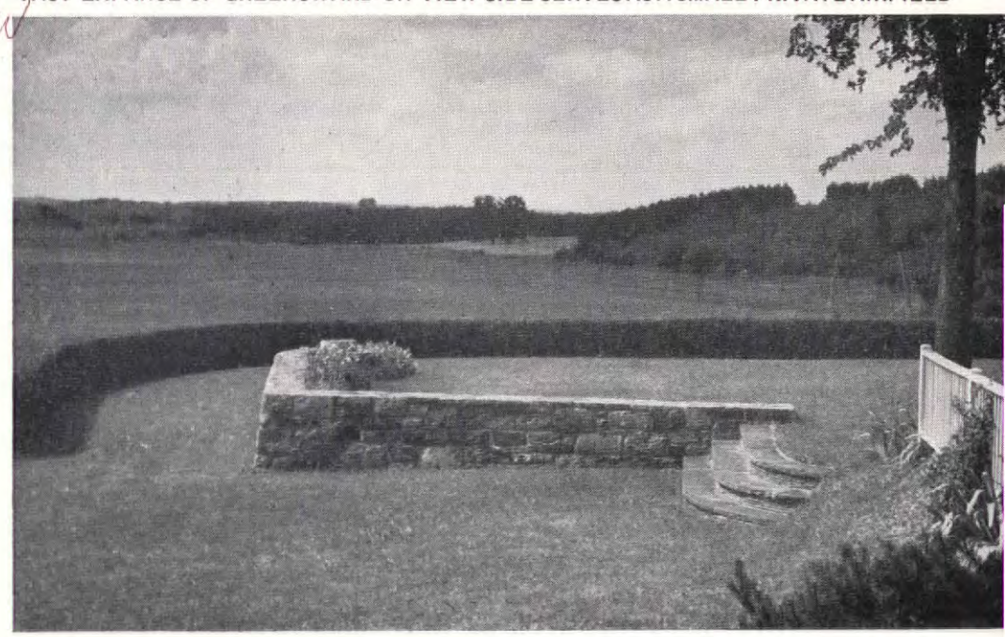


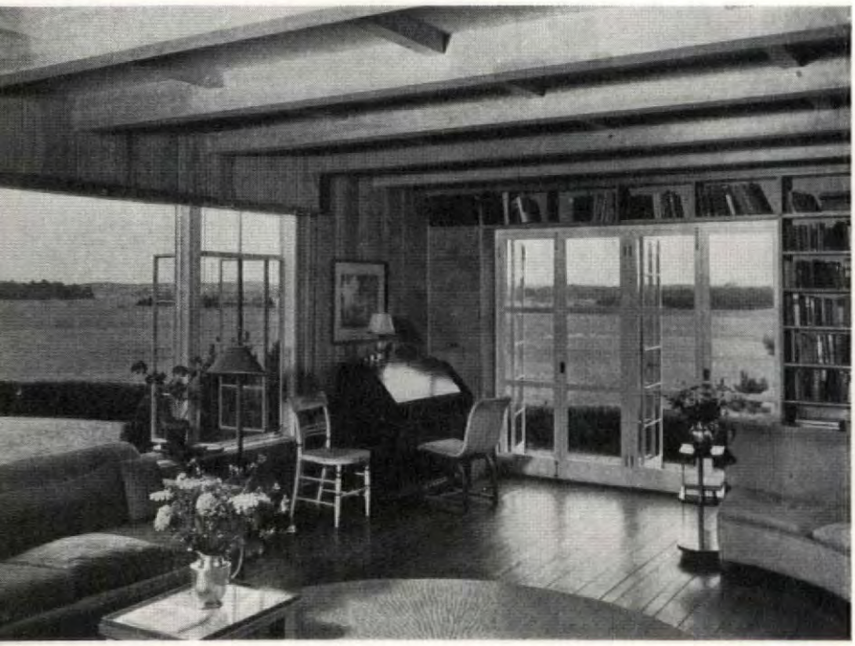




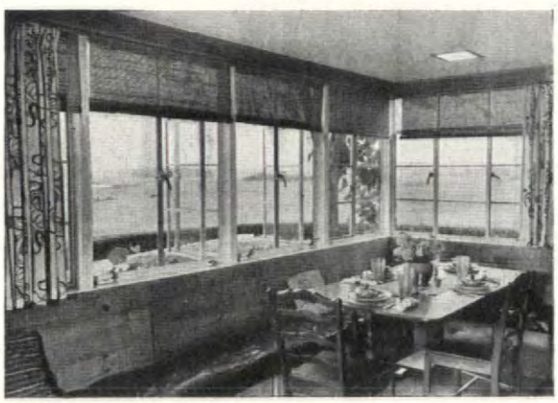
DRIVE AND PARKING AREA FROM ENTRY

VAST EXPANSE OF GREENSWARD ON VIEW SIDE SERVES AS A SMALL PRIVATE AIRFIELD

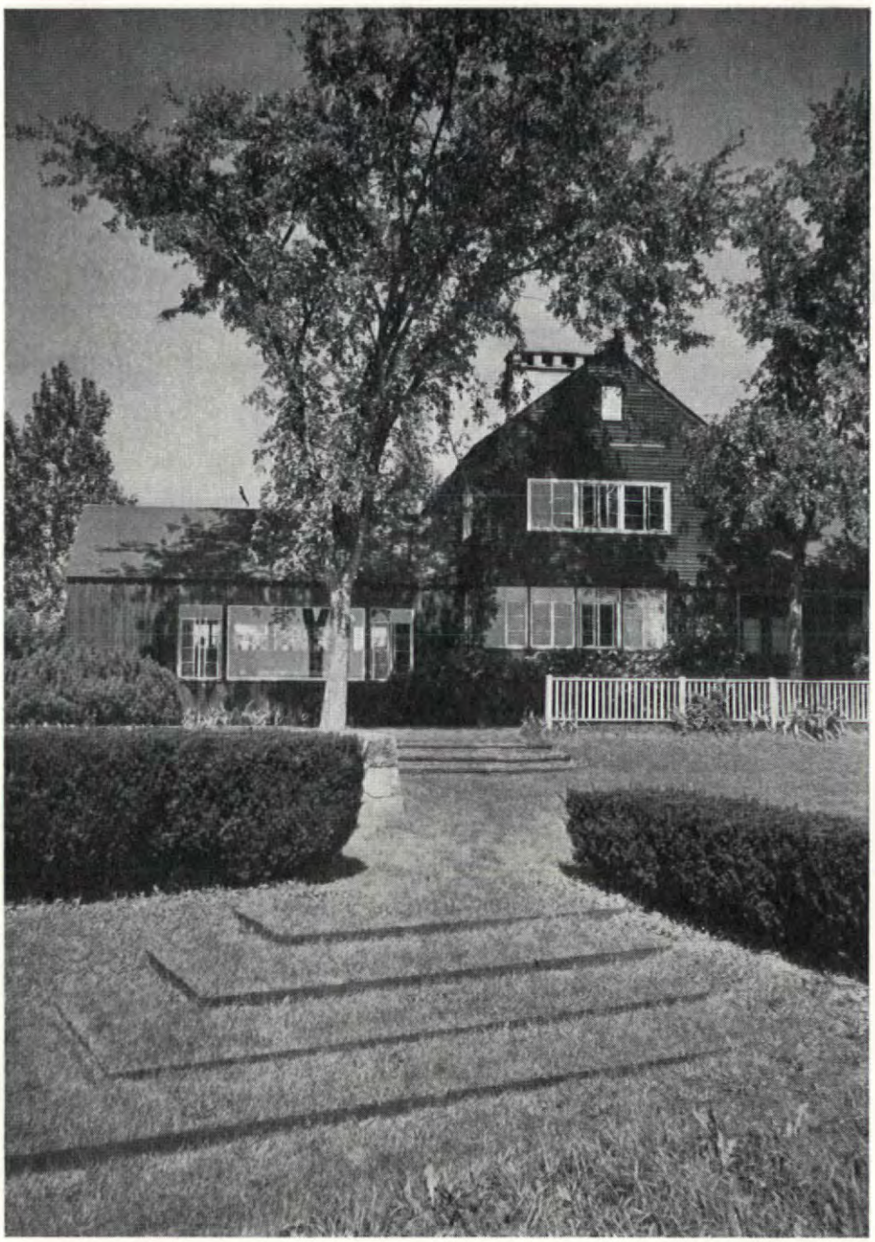




LARGE SOUTH WINDOW IN NEW LIVING ROOM WING COMMANDS A WIDE VIEW OF AIRFIELD AND MARSHES AS DOES DINING ROOM'S CORNER WINDOW (BELOW)



LANDSCAPING RETAINS FLAT, OPEN CHARACTER OF REGION WITH MINIMUM DIFFERENCES IN GRADE. LANDSCAPED PORTION IS BOUNDED BY LOW YEW HEDGES. LONE ELM OUTSIDE LIVING ROOM IS ONLY LARGE TREE ON VIEW SIDE.



CONSTRUCTION OUTLINE

FOUNDATION—cinder block. STRUCTURE: Exterior walls—post and horizontal 2 x 4's, white pine boards and battens; interiors—wood sheathing and plasterboard. Ceiling—plasterboard with taped joints. ROOF—asphalt or oak shingles, Bird & Son. INSULATION—glass wool. FIREPLACE—H. W. Covert Co. SHEET METAL WORK: Flashing—copper. Ducts—galvanized iron. WINDOWS: Sash—Fenestra, Detroit Steel Products Co. Glass—quality A or plate. STAIRS: Treads and risers—oak. Floors: Living room—teakwood. Bedrooms—maple. Halls—maple and fir. Kitchen and bathrooms—linoleum. WALL COVERINGS: Living room—birch sheathing. Bedrooms and bathrooms—wallpaper and pine sheathing. Halls and kitchen—pine. HARDWARE—Vaughan & Co. ELECTRICAL INSTALLATION: Wiring—bx. Switches—Mercury, Hart Mfg. Co. KITCHEN EQUIPMENT: Range—Magic Chef, American Stove Co. Refrigerator—Frigidaire Sales Corp. BATHROOM EQUIPMENT—Crane Co. PLUMBING PIPES—cast iron. HEATING—forced warm air system, humidifying and filtering, Anchor Post Fence Products, Inc.

Staggered levels allow important savings in this small house

HOUSE IN HIGHLAND PARK, ILL.

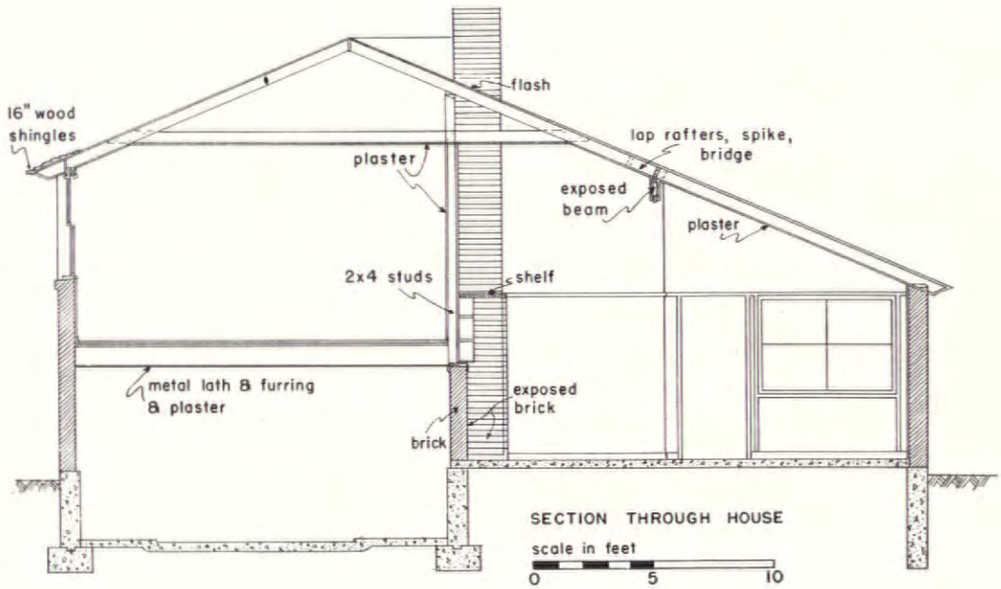
MR. HENRY H. ERSKINE, Owner

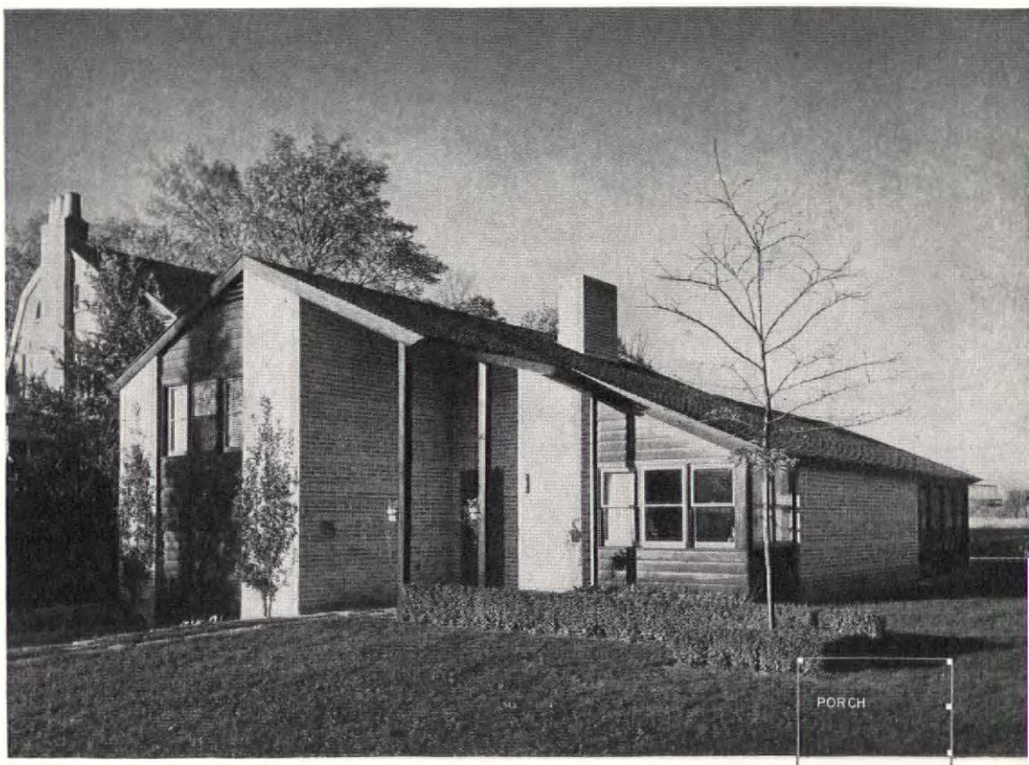
L. MORGAN YOST, Architect

Appropriate for any small suburban lot, the design of this house nevertheless posed a special consideration: dense planting and a rise in terrain to the left eliminated any southerly view. By using the basement for a garage and utility room, split-level planning accounted for essential saving in construction costs, but in this case it also had the advantage of raising the bedroom windows above the offending shrubbery next door and sufficiently above street level to ensure privacy. Also, the front-to-rear arrangement of the bedrooms gives the living-dining area east and west light plus north view.

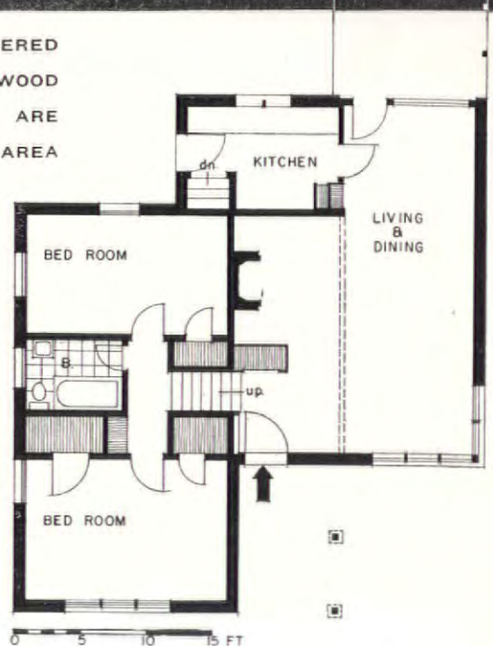
On entering so small a house, the visitor is invariably impressed by the feeling of interior spaciousness which results from the living room ceiling following the roof line. However, a continuous molding at the line of door and windowhead maintains the scale. Interior walls are plastered.

Compact and practical, the house has proved a source of consistent pleasure and satisfaction to its owners. Their only criticism is that the doors of the service entrance and basement stair occasionally tangle, a minor fault that could easily be avoided by adding about three feet to the length of the kitchen.





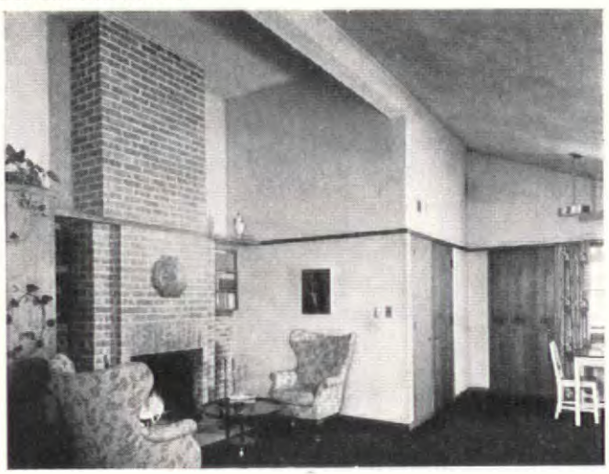
FACING EAST, ENTRANCE IS SHELTERED BY ROOF EXTENSION SUPPORTED ON WOOD POSTS. DRIVEWAY AND GARAGE ARE LOCATED AT LEFT UNDER BEDROOM AREA



CONSTRUCTION OUTLINE

FOUNDATION—concrete, Marquette Cement Co. STRUCTURE: Exterior walls—8 in. common brick, Illinois Brick Co., wood stripping, Insulite lath, Insulite Co.; inside—3 coats plaster, U. S. Gypsum Co. Floors—asphalt tile, Moulding Floor Co., or oak strip finish. Ceilings—plaster. ROOF—cedar shingles. Deck—Armco iron, American Rolling Mill Co. INSULATION—Kimsul blanket, Kimberly-Clark Corp. or Rockwool, Johns-Manville. SHEET METAL WORK—American Rolling Mill Co. WINDOWS: Sash—zinc interlocking Chamberlin Metal Weather Strip Co. Glass—double strength, quality A, Libby-Owens-Ford Glass Co. FLOOR COVERINGS: Kitchen and bathrooms—linoleum. WALL COVERINGS: BATHROOM—Veos, Youngstown Pressed Steel Co. PAINTS—Minwax Co. and Samuel Cabot, Inc. DOORS—Mengel Co. HARDWARE—P. & F. Corbin. ELECTRICAL INSTALLATION: Wiring system—Thinwall conduit. Switches—Pass & Seymour. BATHROOM EQUIPMENT—Kohler Co. Cabinets—steel, Hess Warming & Ventilating Co. HEATING—gas fired, forced warm air, filtering and humidifying, Dowagiac Furnace Co. Regulator—Minneapolis-Honeywell Regulator Co.

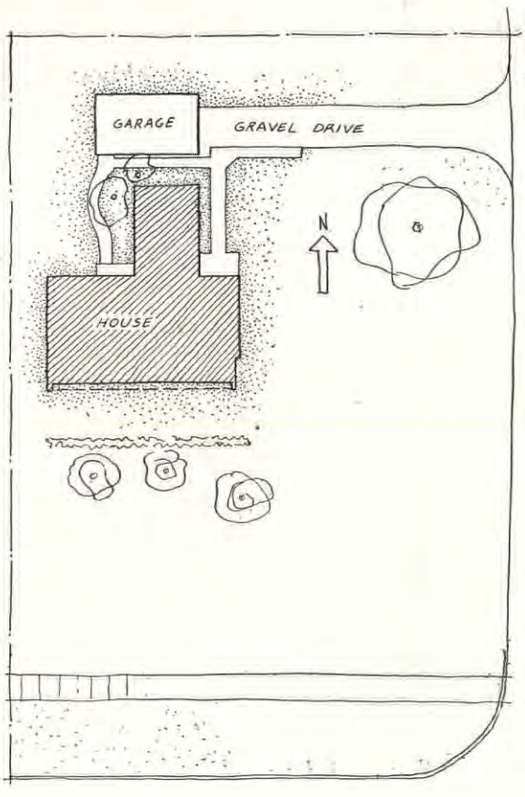
Hedrich Blessing Photos

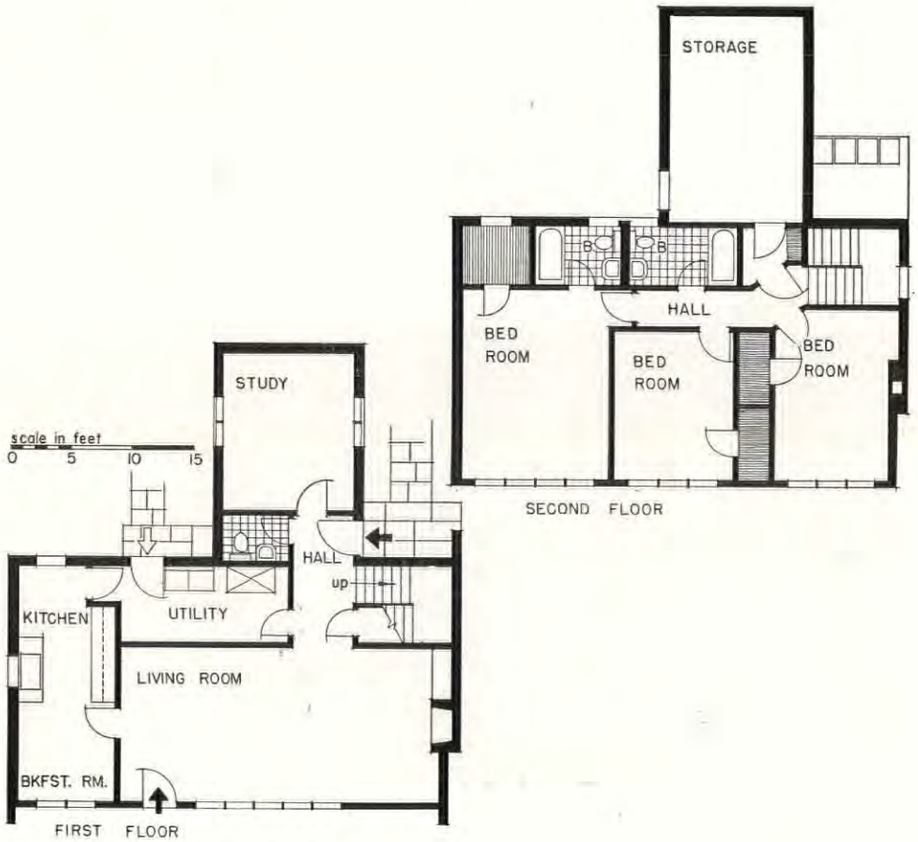


Solar house achieves privacy on a plot facing south

Hedrich Blessing Photos

FRONT YARD ACCOUNTS FOR LARGEST PORTION OF SITE. DOOR FROM LIVING ROOM ON STREET SIDE PROVIDES DIRECT ACCESS TO GARDEN





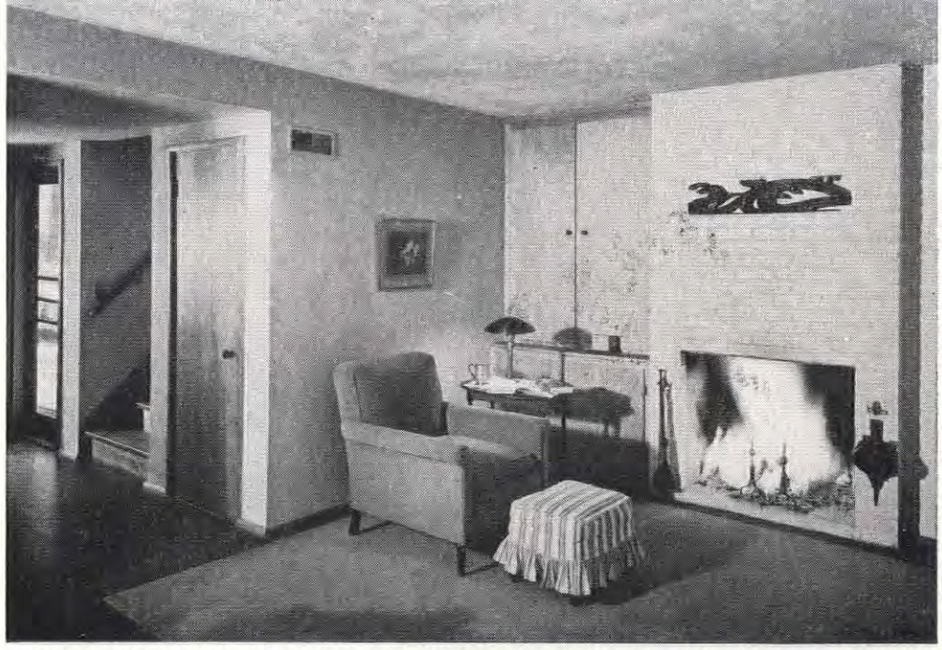
HOUSE IN WINNETKA, ILL.

MR. & MRS. EDGAR W. WILCOX, Owners
L. MORGAN YOST, Architect

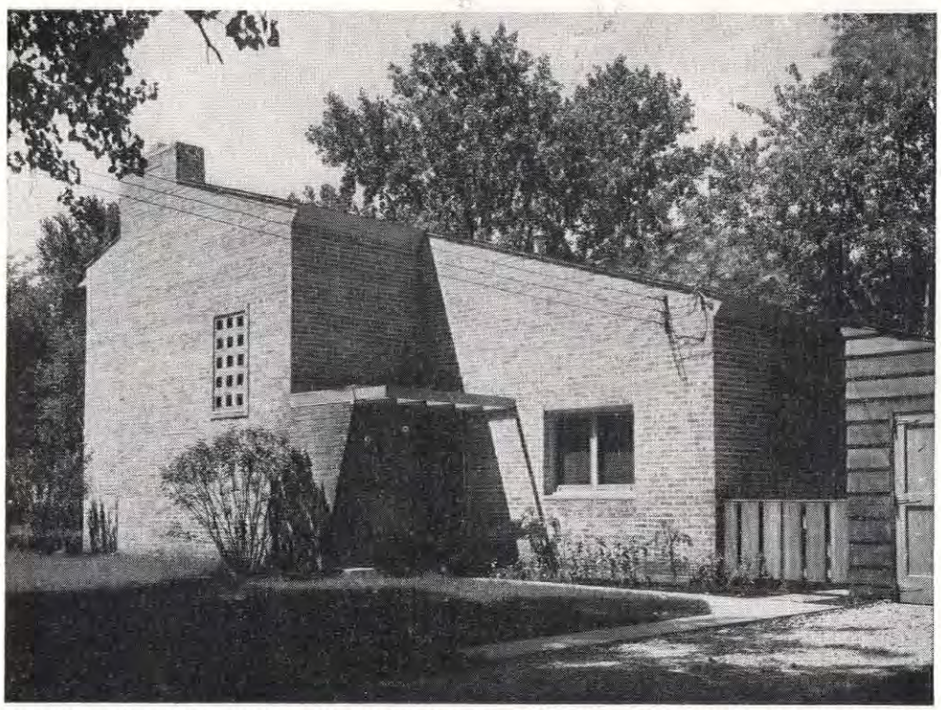
This simple, inexpensive house represents one solution to the problem of orienting a building to the south when the street is also located on this side of the property. The fact that the lot is a corner one—permitting access from the side street—simplified matters considerably. Landscaping was essential to provide privacy. A hedge screen (newly planted at the time the photos were made), was placed directly in front of the house but at sufficient distance to create an intimate outdoor living space hidden from the street. For the benefit of the passerby, a few fruit trees scattered casually outside the hedge break its rigid lines and austere appearance. The location of the house at the rear of the lot appears to leave an excessive amount of useless land adjoining the street, but this breach is valuable in reducing traffic and pedestrian noises.

Comparable to a man with his coat collar turned up and his back to the north wind, the house is warmly enveloped on three sides by solid masonry walls containing few windows. By contrast, the south side, with its many openings, is of frame.

Since the owner is a teacher, one of the first planning requirements was to provide a convenient but secluded study adjacent to the front door for the convenience of students and peace of the household. The study wing was carried up two stories to provide a generous storage room which, in this basementless house, has proved invaluable. The owners like especially the large, sunny living room and, being servantless, the dining space adjoining the kitchen where they take all their meals. The living room, however, is large enough to accommodate a dining table should they wish to use it this way.



FOYER LOCATION IN RELATION TO LIVING ROOM DEMANDS TWO FURNITURE GROUPS



THANKS TO SIDE STREET, ENTRY COULD BE SHIFTED AWAY FROM FRONT FACADE

LOWER FLOOR IS SLIGHTLY SET BACK, EAVE PROJECTION SHADES SECOND STORY

CONSTRUCTION OUTLINE

FOUNDATIONS—concrete, Marquette Cement Co. STRUCTURE: Exterior walls—8 in. common brick, Illinois Brick Co., wood stripping, Insulite lath, Insulite Co., plaster, U. S. Gypsum Co. Floors—oak strip finish. ROOF—asphalt shingles. Deck—26 gauge Armco iron, American Rolling Mill Co. INSULATION: Outside walls—blanket insulation, Kimberly-Clark Corp. Attic floor—4 in. rockwool, Johns-Manville. SHEET METAL WORK—Armco iron, American Rolling Mill Co. WINDOWS: Sash and screens—Rolscreens, Inc. Glass—double strength, quality A, Libbey-Owens-Ford Glass Co. STAIRS: Treads—oak. Risers—birch. FLOOR COVERINGS: Living room—asphalt tile, Moulding Floor Co. Kitchen and bathrooms—linoleum, Armstrong Cork Co. WALL COVERINGS: Bathrooms—Veos enameled metal wall tile, Youngstown Pressed Steel Co. WOODWORK: Doors—Mengel Door Co. HARDWARE—Russell & Erwin Mfg. Co. ELECTRICAL INSTALLATION: Wiring system—Thinwall conduit. Switches—Pass & Seymour. BATHROOM EQUIPMENT—Kohler Co. Cabinets—Hess Warming & Ventilating Co. PLUMBING PIPES—cast iron. HEATING—forced warm air, filtering and humidifying, gas-fired, Mueller Furnace Co. Regulator—Minneapolis-Honeywell Regulator Co.

Hillside house is a dramatic complex of varied levels and roofs

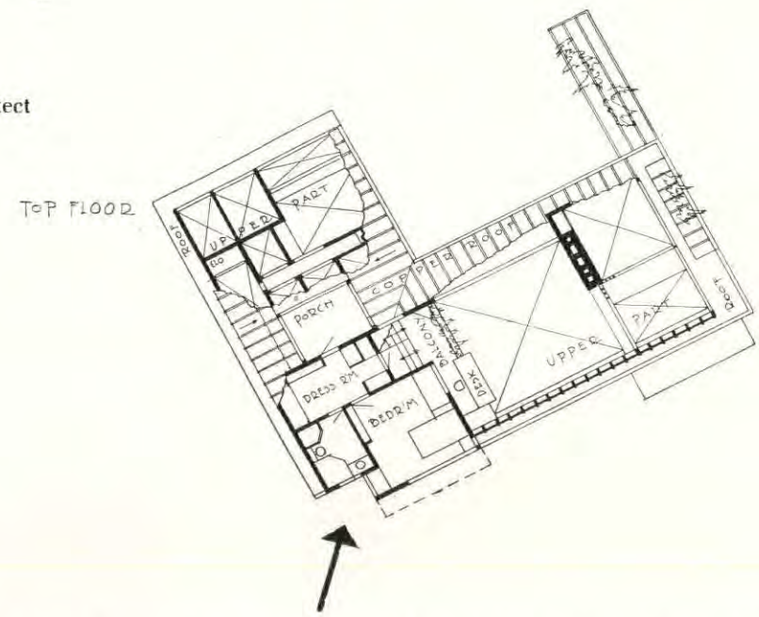
HOUSE NEAR LOS ANGELES

MR. & MRS. ALBERT DEKKER, Owners R. M. SCHINDLER, Architect

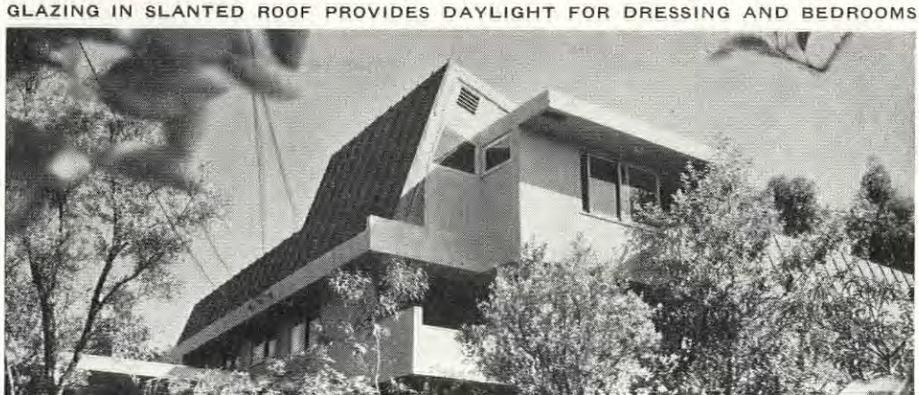
Years of existence in New York apartments and hotels "on the road" instilled in the owners an urgent desire for their own house once they had settled in California. They selected Schindler as architect simply because they had admired several houses by him.

Anything but conventional, the plan nevertheless incorporates a patio—favorite feature of California houses. Despite the rather complex exterior appearance of the roof, its construction is relatively simple. The living room gains its high ceiling from the mild pitch of the main roof which slopes in to the patio from both wings. This roof is intersected by a more steeply slanted segment over the owners' bedroom and dressing room. A smaller roof, pitched in the opposite direction merely shelters a small porch off the master bedroom, but adds enormously to the composition.

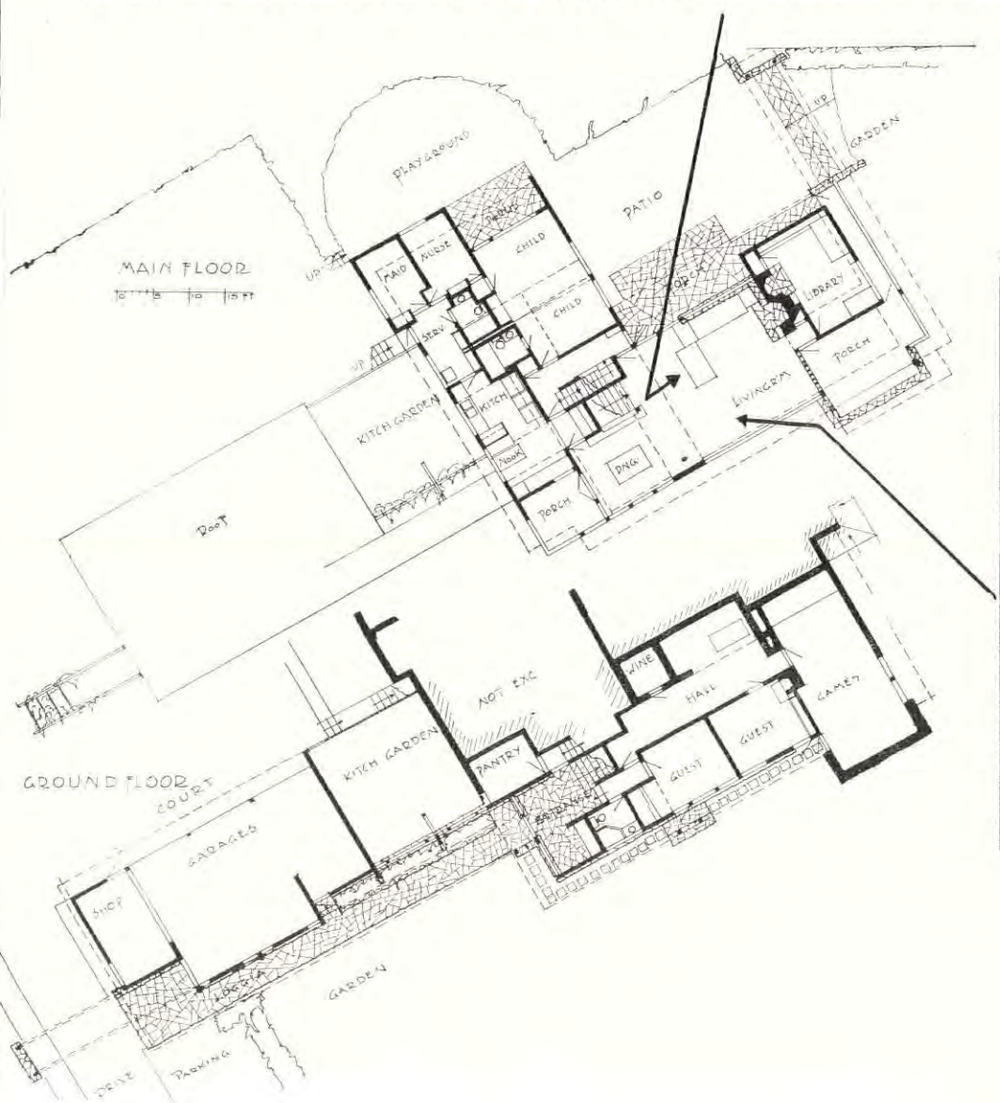
Overzealous excavating with a team of mules resulted in the two guest rooms at ground level, never empty since the war. At the outset the owners insisted on an upstairs bedroom, hence the balcony arrangement. This is a feature they would never again request, having learned the fewer steps up, the easier to get down. The childrens' bedrooms are located in a separate wing, parental supervision being provided by a radio communication system and glass panels looking down from the master bedroom.



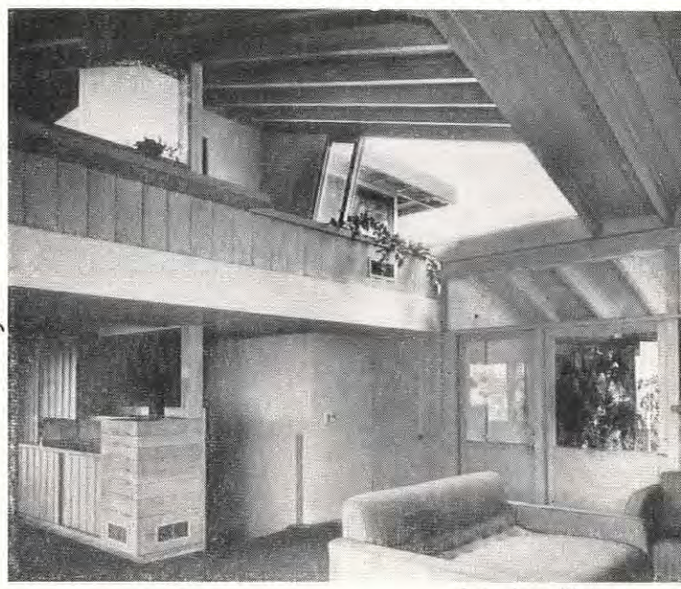
GLAZING IN SLANTED ROOF PROVIDES DAYLIGHT FOR DRESSING AND BEDROOMS



MASONRY FORMS DADO AT REAR OF LIVING ROOM. CEILING EXTENSION SHELTERS OUTDOOR PORCH SEEN THROUGH VERTICAL BATTENS



SLIDING SASH OPEN THE BALCONY AND LIVING ROOM



Jerry Anson Photos

Angles and rectangles characterize plan of small studio-home

LIVING ROOM PROJECTS TOWARD VIEW. HIGH WINDOW LIGHTS DESK

Maynard L. Parker Photos

ROOM-TO-ROOM INTERIOR VISTAS ADD GREATLY TO SPACIOUSNESS

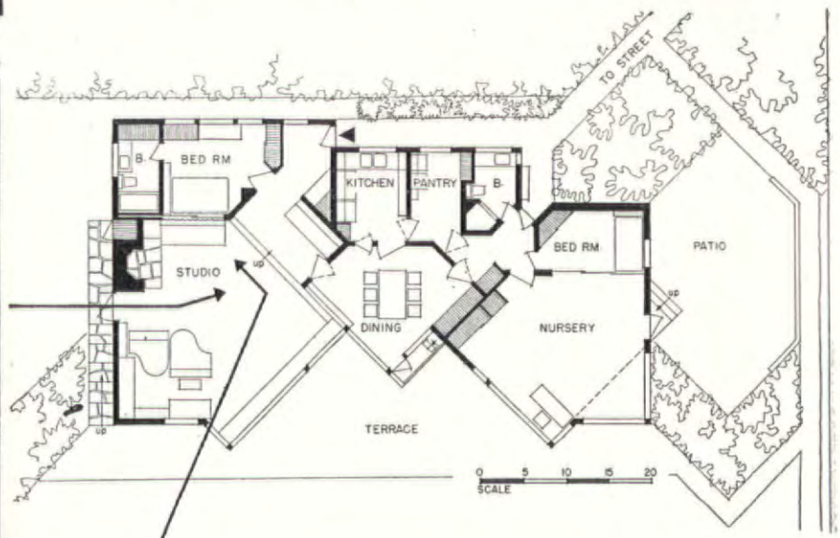
HOUSE IN LOS ANGELES

MRS. MILDRED M. SOUTHALL, Owner

R. M. SCHINDLER, Architect

Designed for a musician-teacher and her family, this house is a busy place combining music, art, parent education classes and teacher training. The architect's problem was to produce a combined dwelling-workshop (the latter requiring two grand pianos, blackboards, music racks and tables for visual music teaching that could be easily transformed into an intimate living room on brief notice. His solution was to pool as much of the main living space as possible, keeping bedrooms and kitchen to minimum dimensions. For most efficient utilization of space, the furniture was designed as an integral part of the house, much of it built-in. Other pieces, such as the tables, benches and stools, are collapsible and designed to take up a minimum amount of storage space.

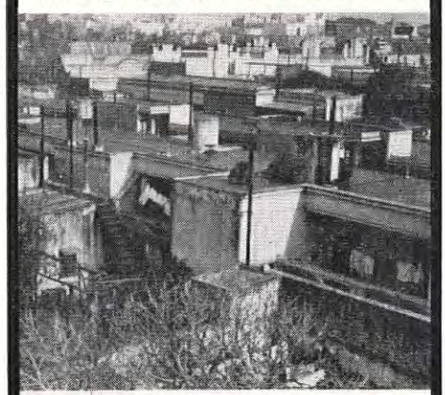
Access is from a path at the rear. The plan's most obvious shortcoming is the fact that the entrance hall separates the bath and nursery. Even though the former must serve guests and pupils, it would seem more practical if the entire nursery area could be closed off from the rest of the house.



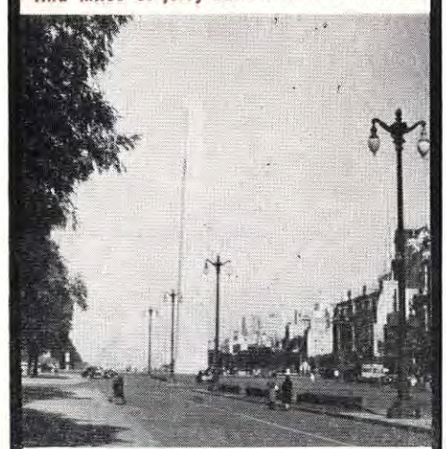
A steeply sloping wooded site overlooking the city of Los Angeles made possible a ground level workshop at the front of the house without major grading. By placing the main rooms at a 45 degree angle to the lot line, both the studio and nursery enjoy a fine view.

Buenos Aires today looks much like Chicago

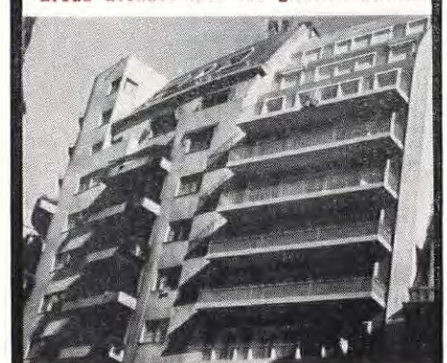
It has a group of skyscrapers downtown . . .



And miles of jerry-built suburban houses

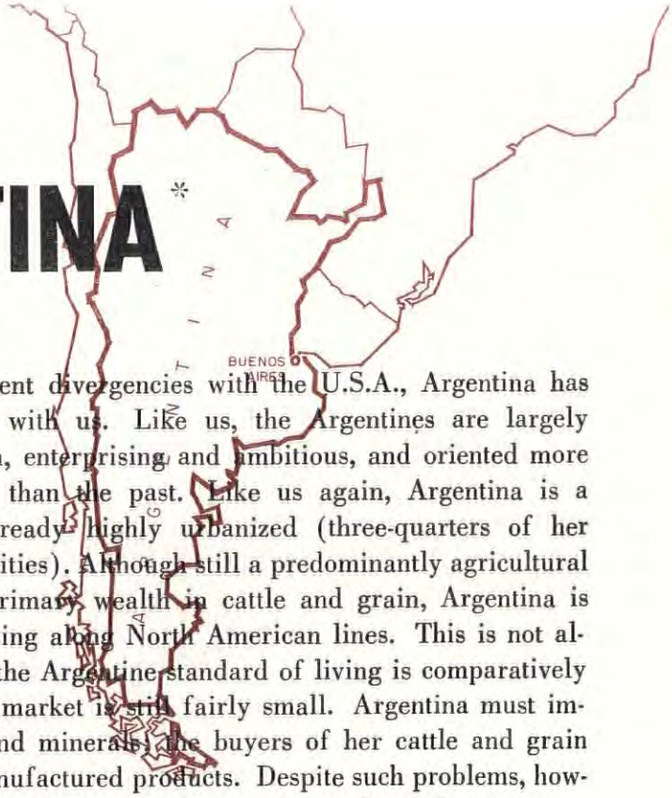


Broad avenues lace the gridiron streets



"Modern" facades mask old fashioned plans

ARGENTINA*



Whatever her present divergencies with the U.S.A., Argentina has much in common with us. Like us, the Argentines are largely European in origin, enterprising and ambitious, and oriented more toward the future than the past. Like us again, Argentina is a young country, already highly urbanized (three-quarters of her population live in cities). Although still a predominantly agricultural nation, with her primary wealth in cattle and grain, Argentina is rapidly industrializing along North American lines. This is not always easy. While the Argentine standard of living is comparatively high, her domestic market is still fairly small. Argentina must import many fuels and minerals; the buyers of her cattle and grain want to sell her manufactured products. Despite such problems, however, Argentina is rapidly becoming a modern industrial nation.

In spite of her sixteenth century foundation, Argentina is a new country. Remote from the rich colonies of the West Coast and with no great native populations or mineral wealth to exploit, Argentina had no place of importance in the extractive economy of the Spanish empire. Her greatest wealth—the fantastically deep, rich soil of the central plains—was not really tapped until the nineteenth century. Then the rapid expansion of cattle and grain exports to Europe catapulted her into nationhood. A network of new railroads radiated from Buenos Aires into the pampas. Along them moved a tide of immigrants, largely Spanish and Italian, to settle the country. (As in the U.S.A., the primitive Indian tribes had long since been largely exterminated.) Argentine expansion thus closely parallels that of the United States and Canada—with one notable exception. In Argentina the land did *not* go to large numbers of small freeholders; it was, and is still, largely held by the great *estancias* on which the immigrants became tenant farmers. A paradox resulted whereby most Argentine wealth—whatever its present investments in commerce and industry—has its origins in the feudal aristocracy of the provinces. This fact, perhaps more than anything else, explains the turbulence of contemporary Argentine politics.

Argentina is today the most technically mature country in Latin America. This is especially apparent in Buenos Aires, which is the metropolis of a large part of the continent. Unlike many of its neighbors, with their poor materials and workmanship, Buenos Aires building expresses this maturity. Here are well-trained architects and engineers, skilled labor and workmanship and generally high standards of construction. Since both the general patterns of life and the temperate climate resemble those of this country, her buildings have a special significance for us. Some of the most outstanding are shown on the following pages.

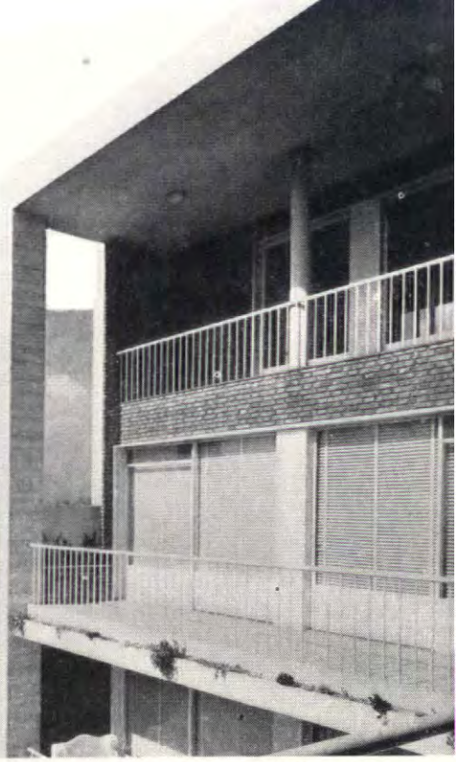
* Second in a series of surveys of contemporary architecture in the countries of South America, the material in this issue was assembled by Miss Chloethiel Woodard who, as Guggenheim Fellow in City Planning, toured South America for over a year. Special credit for assistance on this issue is due also to Sr. W. Hylton Scott, editor of the South American journal *Nuestra Arquitectura* and head of the publishing firm of *Editorial Contempora.*

Buenos Aires is not the place for those seeking the romance of Colonial Spain. For, though it was founded in 1535, it remained a small provincial town until the middle of the last century. Of this period little remains—the old Cabildo, some churches, a few houses: but today these are engulfed in what is essentially a modern metropolis.

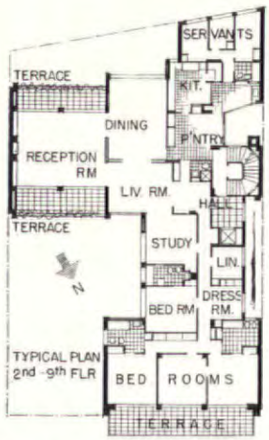
Dominant city of the southern hemisphere, the Argentine capital is the pace setter not only for the nation but for all its neighbors. They copy her fashions, read her slick magazines and buy her increasing flow of manufactured goods. Buenos Aires, in turn, has always taken her cultural direction from Europe. Architecturally, this is very

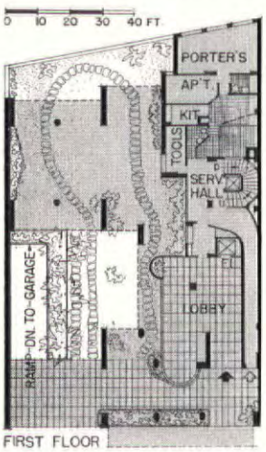
apparent in the miles of speculative building in every stylistic vernacular of the past fifty years. The majority of this work is not outstanding—in fact, it often closely resembles American cities in this respect.

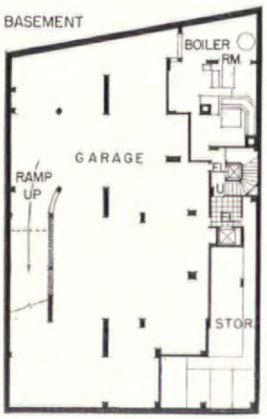
With a larger middle class population than any other Latin Ameri-



THROUGH BROAD, SUN-SHADED WINDOWS, MAGNIFICENT VIEWS OF ADJACENT PARKS ARE AVAILABLE FROM PRACTICALLY EVERY ROOM







Apartment House in Buenos Aires

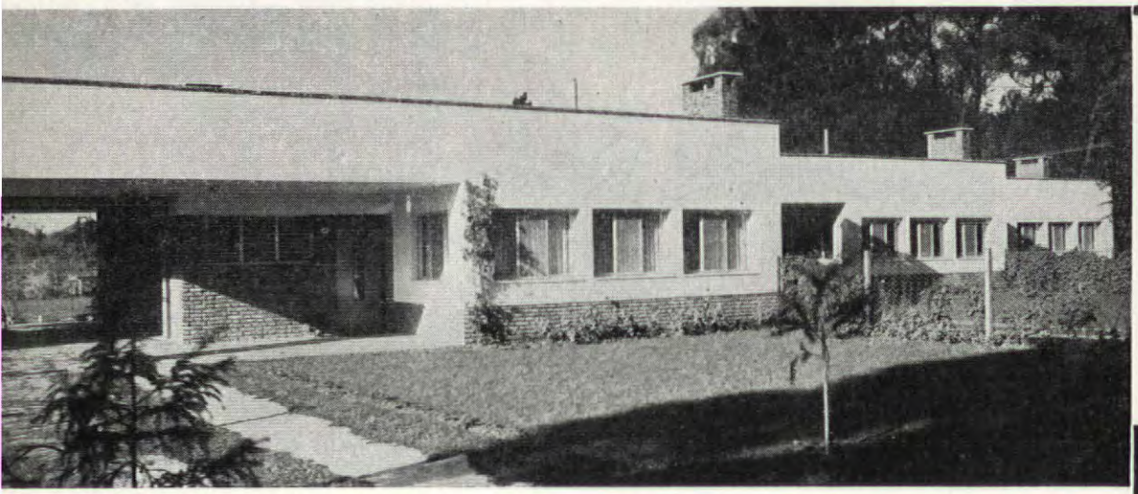
WLADIMIRO ACOSTA, Architect

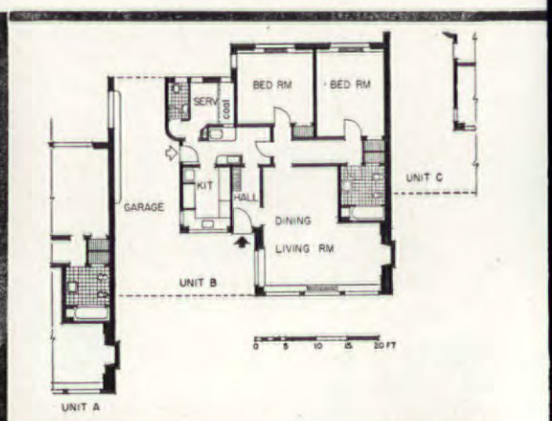
Few apartment dwellers in this country—regardless of the rent they pay—can boast of space as pleasantly organized as in this luxurious apartment house in close-in Buenos Aires. The architect has cleverly exploited the potentials of a plot which was fortunately situated to begin with: fronting on a broad avenue, backing on a public park and overlooking the famous Palermo Gardens. He aspired to "bright and luminous apartments which would permit the occupants to live in constant communication with the landscape": yet, he had the task of protecting them against the Argentine sun. The paradox was resolved by two methods: use of an asymmetric T-shaped plan which places the main rooms in the center of the plot, screened from the northwest by the bedroom and service areas; and by projecting wing-walls and cantilevered balconies which protect glass areas from the most extreme summer sun. To offset its fairly lavish use of ground space (less than two-thirds of the plot is covered) the building was run up to 11 stories—the maximum allowed by the zoning ordinance. Of reinforced concrete, the structure has eight apartments —one to a floor—and a duplex for the owner on floors ten and eleven; the street floor is largely garden, with a ramp leading down to a basement garage.

STRUCTURE IS STILTED OVER STREET-LEVEL GARDEN

Photos: Gomez

can capital, Buenos Aires has a large number of small houses and apartment buildings. Many of these are superficially "modern": with their thousands of cantilevered balconies they give (from the street) the impression that Buenos Aires is a very modern city. Actually, these facades reflect no important planning advances—they are single lot developments, with high land coverage, inadequate fenestration, etc. In plan, many of these houses and apartments seem as adaptable to a French classic facade as to a modern one. There is very little public housing in Argentina and no large scale developments or planned communities such as the few we have in the States.

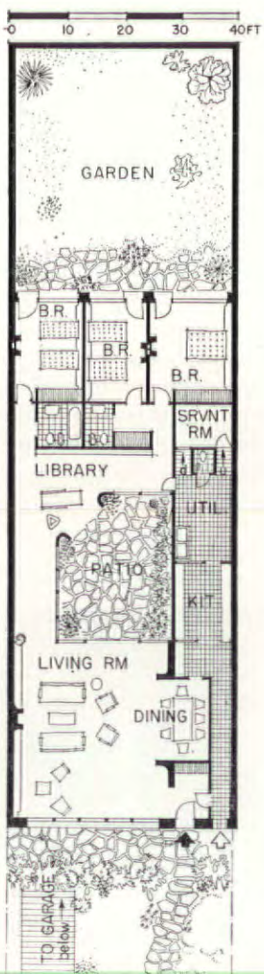




Row Houses, San Isidro

A. U. VILAR, Architect

Aside from the relationship between kitchen and dining areas (which, to North Americans unaccustomed to domestic help, seems awkward), this group of suburban row houses has much to commend it. Built across the center of a row of 45 ft. lots, the houses are separated by a combination porch and garage. Accordion doors close off garage and service area when desired.



Single Residence, Mar del Plata

WALTER LOOS, Architect

Built on a narrow lot, this house uses a glass-enclosed central patio to achieve an extraordinary sense of space. In its use of rough stone and natural wood it is highly reminiscent of a residential idiom now current in the States. Except for the inside servant's room, its plan is superior to the average North American suburban house built on a narrow lot.

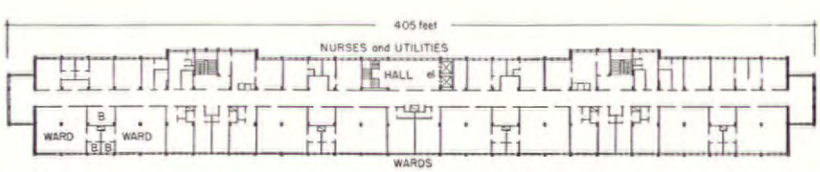
Official architecture has gone through a familiar stylistic metamorphosis—from the end of the century Beaux Arts, through the simplified classic to today's monumental modern vernacular. In its best examples, the latter is strongly reminiscent of French and Italian work during the thirties. The resemblance is not accidental, for the

TYPICAL OF THE BEST OF ARGENTINA'S PUBLIC BUILDINGS, THE CHURRUCA HOSPITAL IS RATIONAL, UNADORNED, WELL-BUILT

Bartolomé Churruca Hospital, Buenos Aires

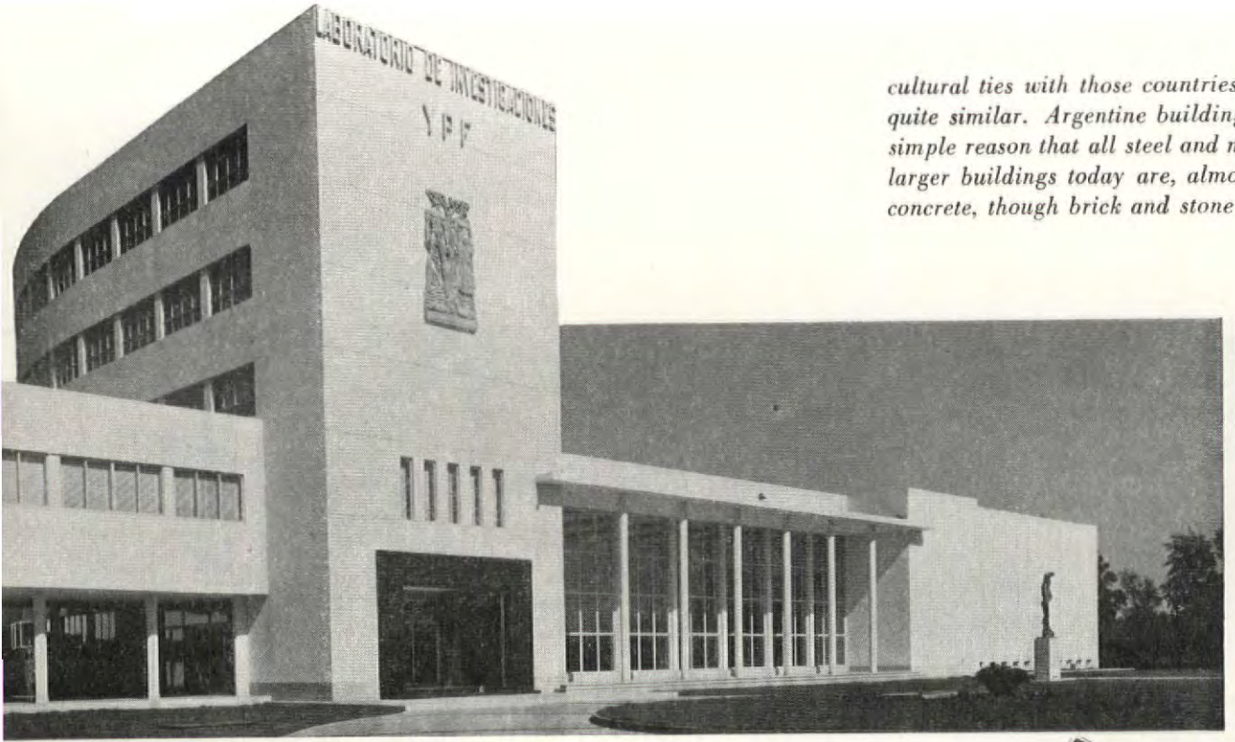
A. U. VILAR; CARLOS VILAR; NOEL & ESCASANY; PEDRO FERNANDEZ SORALEGUI: Associated Architects and Engineers

A general hospital with outpatient facilities, the Bartolome Churruca has a typical layout throughout its ten floors. Since the north is the desirable exposure from the standpoint of illumination, winter sunshine and prevailing breezes, the building faces northeast. All principal patients' areas and living quarters for the staff are located on this facade. An off-center lateral corridor traverses each floor and connects the three vertical circulation systems—fire stairs and elevators at either end, stairways at the center. Ambulance driveways are cut through the ends of the ground floor, alongside the elevators. Thus, direct access to all floors is provided for all patients. The various related departments are organized floor by floor, with surgery on the seventh, maternity on the eighth. Ninth floor living quarters for staff, internes and nurses have extensive terraces, while the tenth is given over exclusively to sun-bathing and recreation. Of reinforced concrete, the structure is framed three bays deep, with equal column spacing throughout.



TYPICAL FLOORPLAN

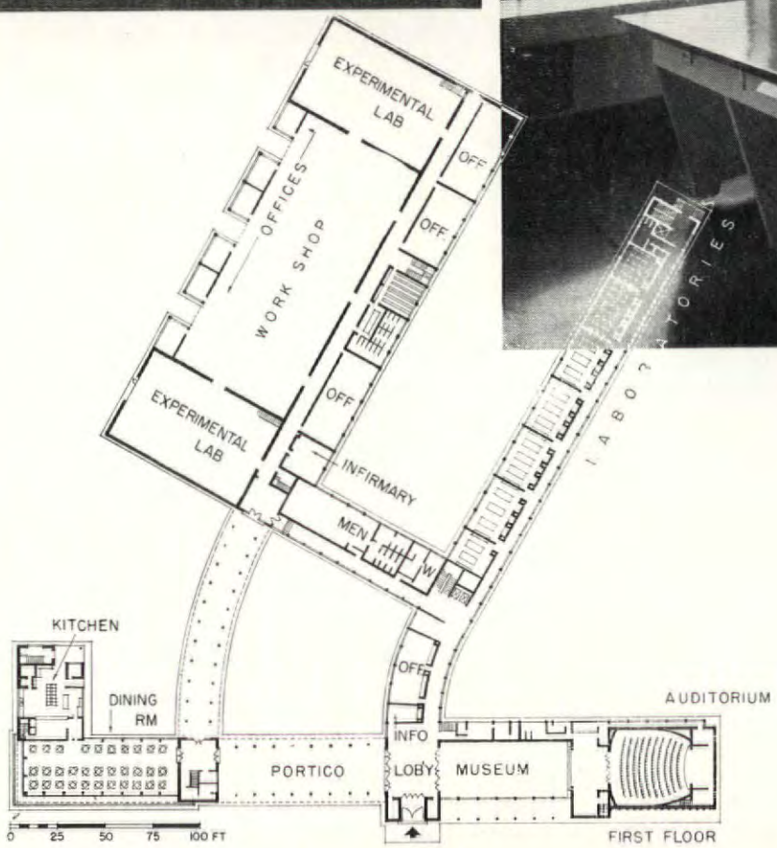
cultural ties with those countries are close and objective conditions quite similar. Argentine building is predominantly masonry for the simple reason that all steel and most lumber must be imported. The larger buildings today are, almost without exception, of reinforced concrete, though brick and stone masonry and adobe—especially in

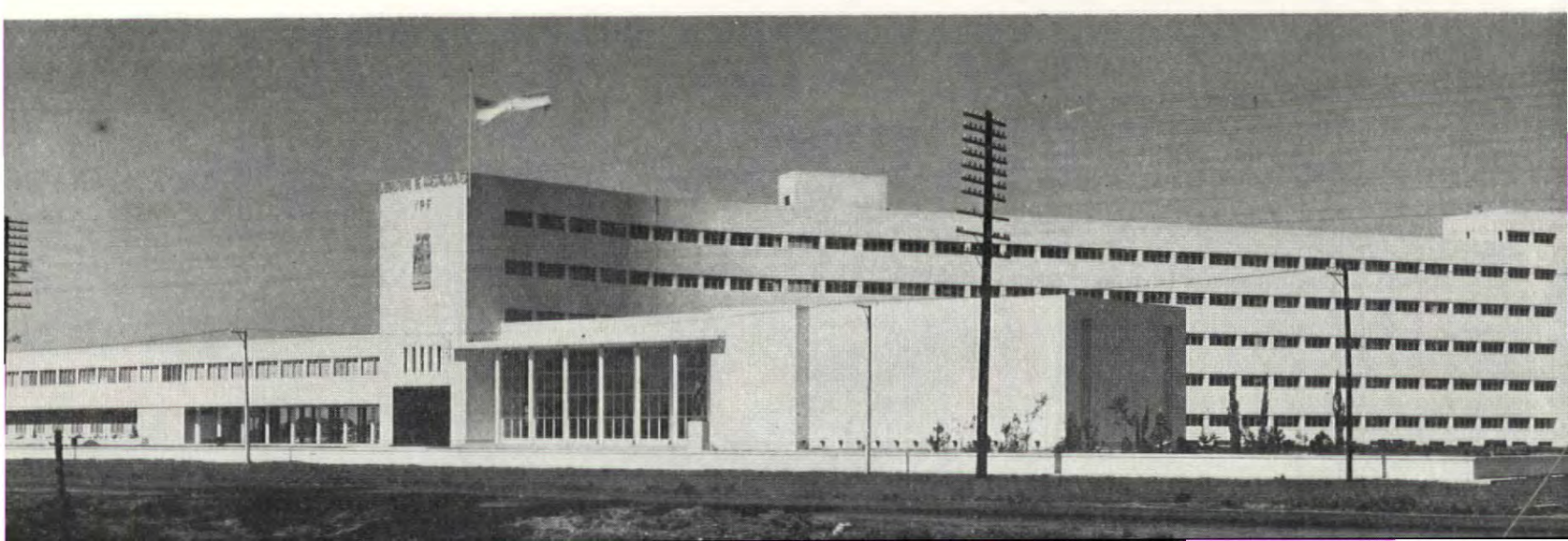


Research Laboratories, Florencio Varela

Y. P. F. TECHNICAL DEPARTMENT, Architects

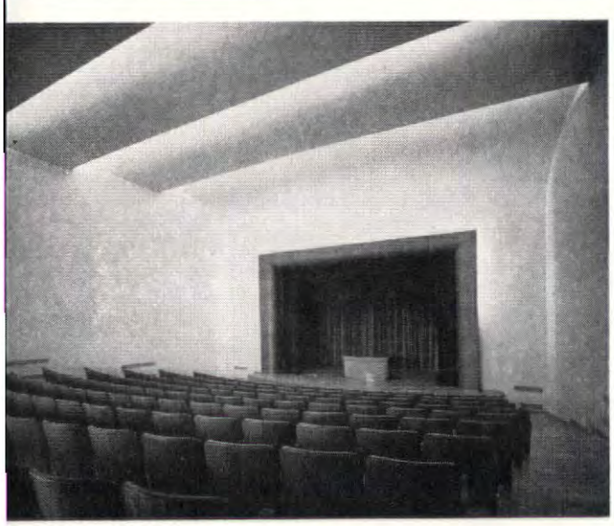
Yacimientos Petroliferos Fiscales is a government-owned corporation entrusted with the development of Argentina's scanty fuel resources. YPF's handsome new research laboratory, located on the main highway connecting La Plata and Buenos Aires, will house all the corporation's research and experimental work. Its location in the open country was largely determined by a need to escape the physico-electrical disturbances of industrial centers. The building consists essentially of three parts—the two-story administrative block (including museum, theater and dining room) across the front; a single story workshop; and the five-story laboratory. The configuration of the plan was determined by problems of circulation and exposure.





the provinces—are still popular. Until recently, Latin America's favorite surfacing material, stucco, was used everywhere. However, cut stone, especially marble, is gaining in popularity in official architecture. Brick manufacture has so improved the weathering qualities of domestic brick that it is beginning to be used exposed on the outside. These new textures introduce a note of welcome relief to the ever-present stucco.

Argentine experience with masonry and concrete forms has thus produced both a masonry technique of great facility and a masonry esthetic which, at its best, reaches a high level of competence.

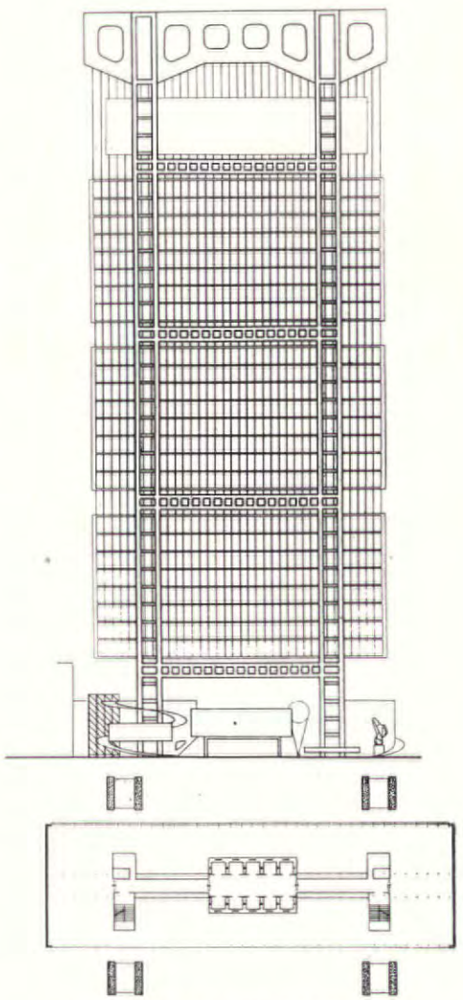


PROJECTS SHOW ARGENTINA PRODUCING CAPABLE YOUNG PROFESSIONALS

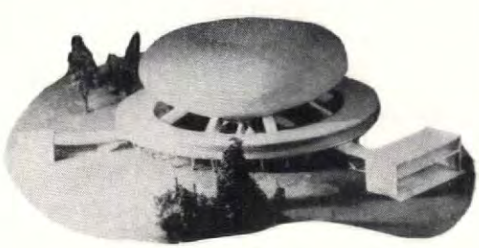
It is an index of Argentina's maturity that architects like Amancio Williams are now appearing on her architectural scene. For Williams is first and foremost a theoretician, more concerned with the solution of abstract than of immediately practical problems. He has built few buildings (one of them, a spectacular country house, will appear in a future issue of the FORUM) but his work to date is mostly in project form. In this respect he somewhat resembles LeCorbusier and promises to fill the same function. Two of these projects (right) show both the direction and scale of his imagination.

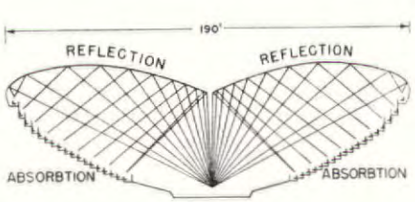
That Williams has much more than a daring intuition at his disposal, however, is established by his turnip-shaped design for a concert hall. Far from a whimsical device, the form of this auditorium springs from the strictest mathematical analysis of an acoustical problem—that of producing "an equilibrium between the reflection and absorption of sound" in an enclosed space. As Williams sees it, architectural acoustics today is too often reduced to merely fighting echoes in buildings which are basically ill-suited to the purpose in the first place.

To demonstrate his thesis, he evolved a ceiling profile which is designed to eliminate echoes and yield the maximum uniformity of sound intensity to all listeners. The curve is merely the loci of all points from which the quantity of reflected sound is directly proportional to the distance between listener and focus (or stage). The profile of the seating is determined by sight lines. And by revolving these two curves around a vertical axis, Williams gets a form which yields an ideal acoustical and optical relationship between audience and performers. Moreover, he treats the ceiling as an exclusively reflective surface and—by means of specially-designed chairs which have the same response whether occupied or empty—converts the seating into an exclusively absorptive surface. The resulting design, according to Williams, yields optimum conditions for an audience of up to 4,000 in only 16 rows, close enough to performers for intimacy, far enough away to hear and see perfectly. By placing all services in a ring around the outside, connected to the auditorium and the ground by ramps, Williams, as he puts it, "achieves economy and neatness in construction, clarity and order in plan, purity in the finished design."

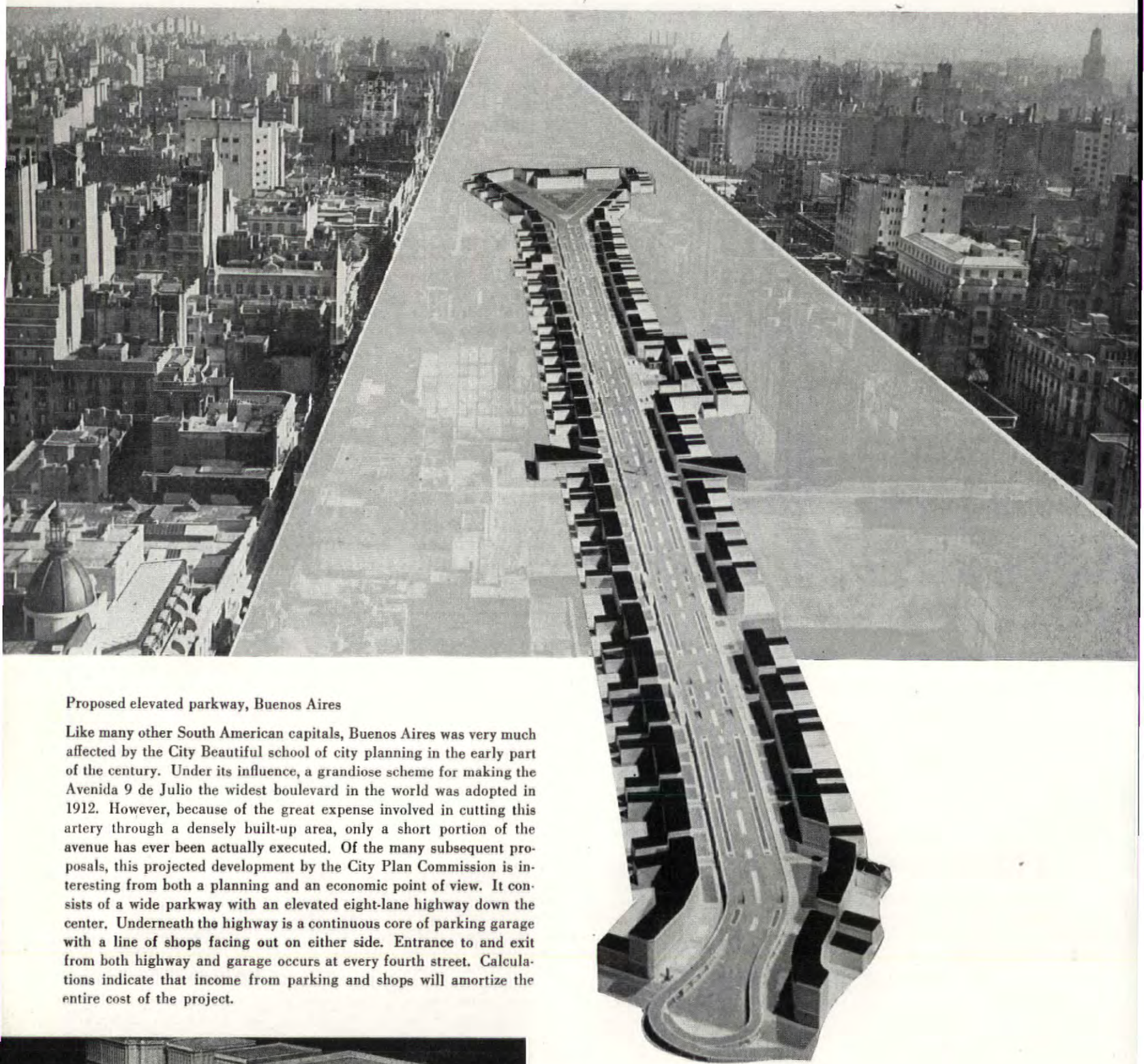


SUSPENSION—FRAME OFFICE BUILDING



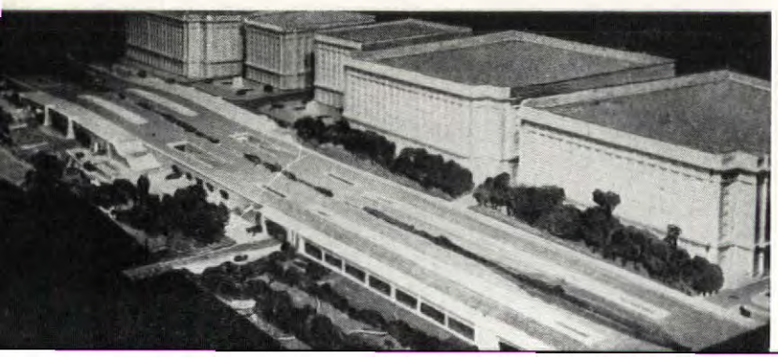


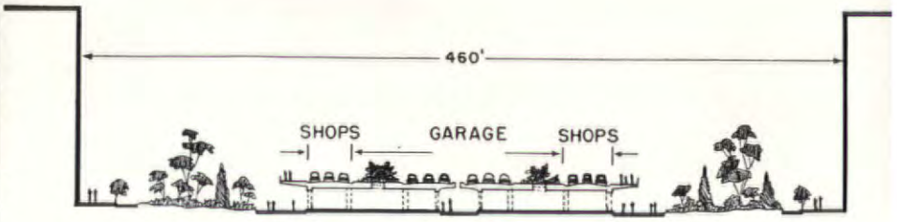
Buenos Aires is a great, sprawling metropolis which grew too fast and without effective control. Unlike so many South American capitals with their magnificent sites, Buenos Aires started on a flat plain beside a broad muddy river. Its great straight avenues and gridiron blocks have fanned out endlessly from the old center around the Plaza de Mayo near the river. With a few skyscrapers and a mass of 8- and 10-story buildings at the center, the great majority of the city is one-or two-story—low, flat and rather dull. Because of this and because of its cattle and grain economy, it is inevitably compared to Chicago. Like Chicago, it has some fine parks and plazas, some great Hauss-



Proposed elevated parkway, Buenos Aires

Like many other South American capitals, Buenos Aires was very much affected by the City Beautiful school of city planning in the early part of the century. Under its influence, a grandiose scheme for making the Avenida 9 de Julio the widest boulevard in the world was adopted in 1912. However, because of the great expense involved in cutting this artery through a densely built-up area, only a short portion of the avenue has ever been actually executed. Of the many subsequent proposals, this projected development by the City Plan Commission is interesting from both a planning and an economic point of view. It consists of a wide parkway with an elevated eight-lane highway down the center. Underneath the highway is a continuous core of parking garage with a line of shops facing out on either side. Entrance to and exit from both highway and garage occurs at every fourth street. Calculations indicate that income from parking and shops will amortize the entire cost of the project.





mannesque avenues and a perennial traffic problem.

As the most motorized nation in the southern hemisphere, Argentina's capital has all the traffic problems of Los Angeles and her highways are not unlike those of Iowa. In Buenos Aires, a grandiose system of wide avenues begun 30 years ago, is not yet complete; but already the city is girdled with a great circumferential parkway, complete with cloverleaf over-and under-passes. Together with the comparative backwardness of the thinly-populated countryside, this creates paradoxical traffic conditions similar to those in some parts of the U. S. A.

ACA Headquarters Building, Buenos Aires

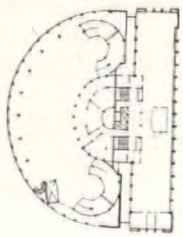
ANTONIO U. VILAR; HECTOR C. MORIXE; JACOBS, GIMEEZ & FALORMIR; SANCHEZ, LAGOS & DE LA TORRE; JORGE BUNGE, Engineers and Architects

Judging by the facilities of their nation-wide Automobile Club, wealthy Argentines take their motoring more seriously than their colleagues in other lands. In any event, the ACA operates a network of luxurious club houses which has no parallel in the States, and the new headquarters building in Buenos Aires tops them all. Overlooking the baroque flower beds of the Palermo Gardens, the main block has a coolly imperious facade which is strongly reminiscent of the work of Auguste Perret. In addition to public rooms of staggering scale and luxury, this section houses all the administrative apparatus of the national club. Attached to the rear of this eleven-story block is a semicircular six-story garage which, in its design and equipment, will have few peers anywhere (see next page).

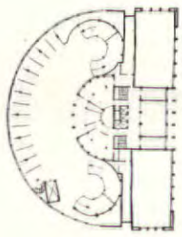
The entire project exemplifies the present level of Argentine architecture — its great technical polish, its neutral good taste. The effort to assimilate and adapt to local conditions the varied esthetic impulses from abroad is still in process. But, from their present work, it is apparent that Argentine architects are well along the road to resolving this problem satisfactorily.

However, new currents are appearing among Argentine architects and planners. The world-wide effort to break away from the "park-and-street" planning of the early part of the century is making itself felt here as elsewhere. And regional planning—especially in a nation so dominated by its capital—is recognized as increasingly important.

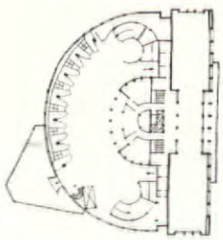
Whatever the future direction of Argentine life, it is certain to have great influence on surrounding countries. This is as true of its architecture as of its politics and this leadership is expressed in its architectural profession, its schools, and its press—all of them strong and expanding.



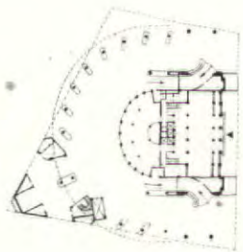
FOURTH FLOOR
REPAIRS



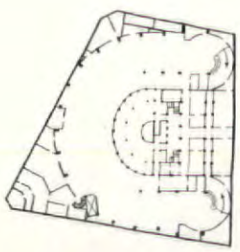
THIRD FLOOR
CAR WASHING



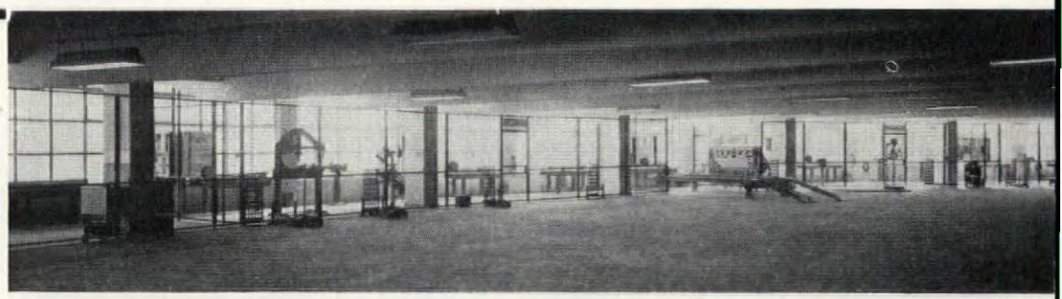
SECOND FLOOR
LUBRICATION

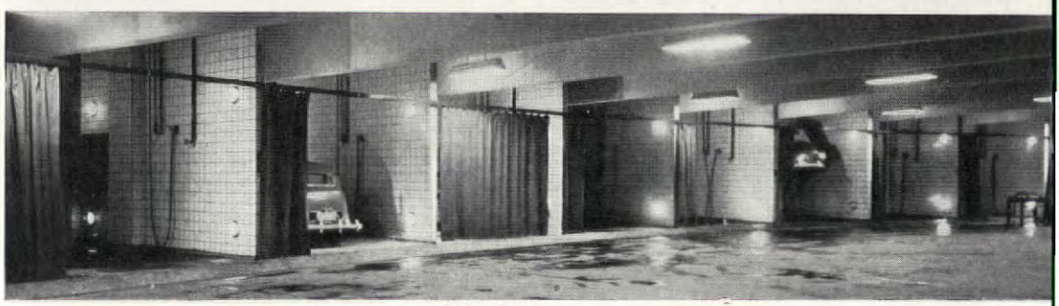


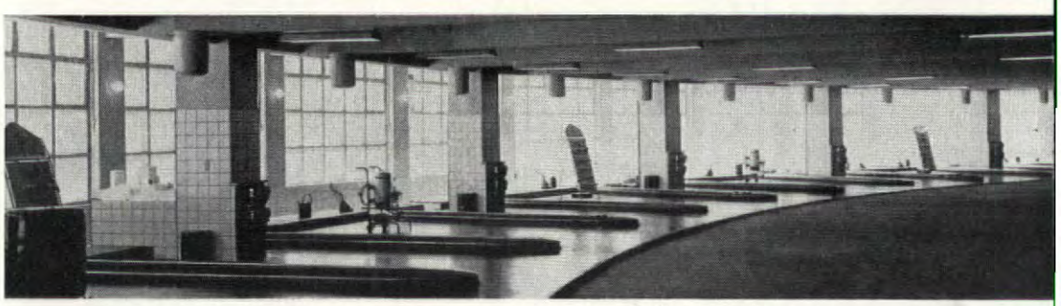
FIRST FLOOR
FILLING STATION

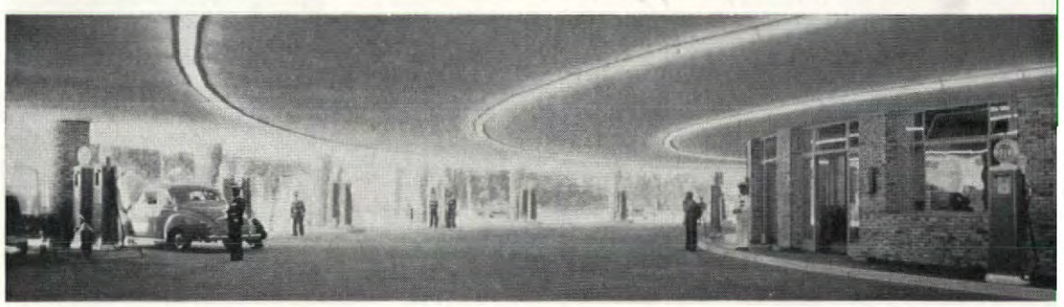


BASEMENT
PARKING





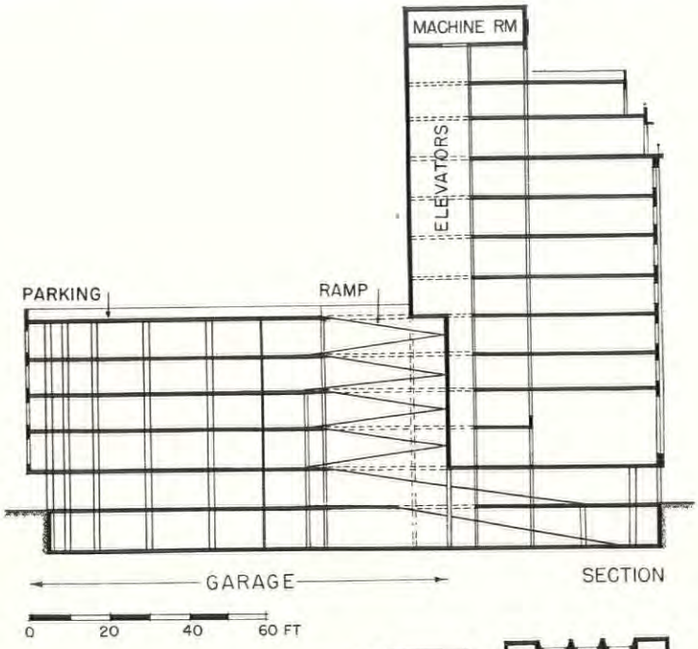


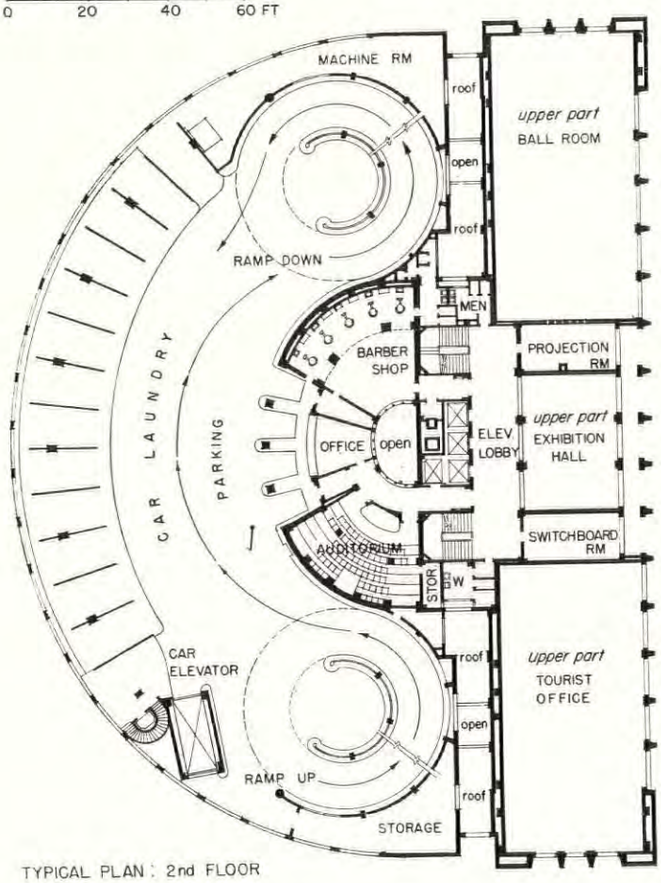


ACA HEADQUARTERS BUILDING, BUENOS AIRES

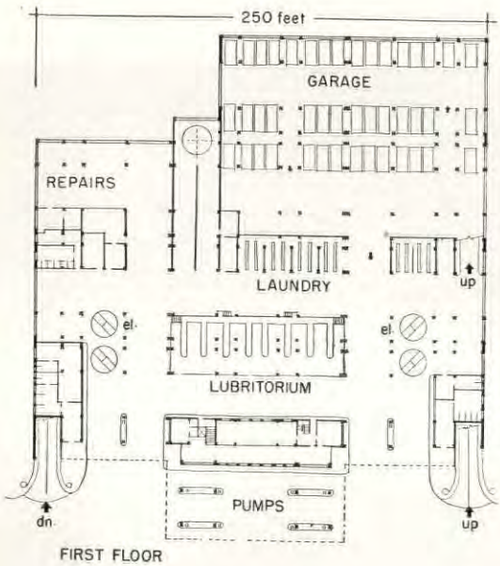
The semi-circular garage of the club is, in many respects, the handsomest portion of the headquarters. Connected by two continuous one-way spiral ramps, as well as by passenger and freight elevators, the various departments are organized floor-by-floor: the basement is used for parking, a service station occurs at street level, lubrication on the second floor, washing on the third, workshop on the fourth and mechanical repairs on the fifth, while the sixth is given over to parking. Equipment throughout is on a lavish scale.

The garage, like the main building, is framed entirely of reinforced concrete. Two concentric rings of columns, connected by radial beams, yield unobstructed floor space.

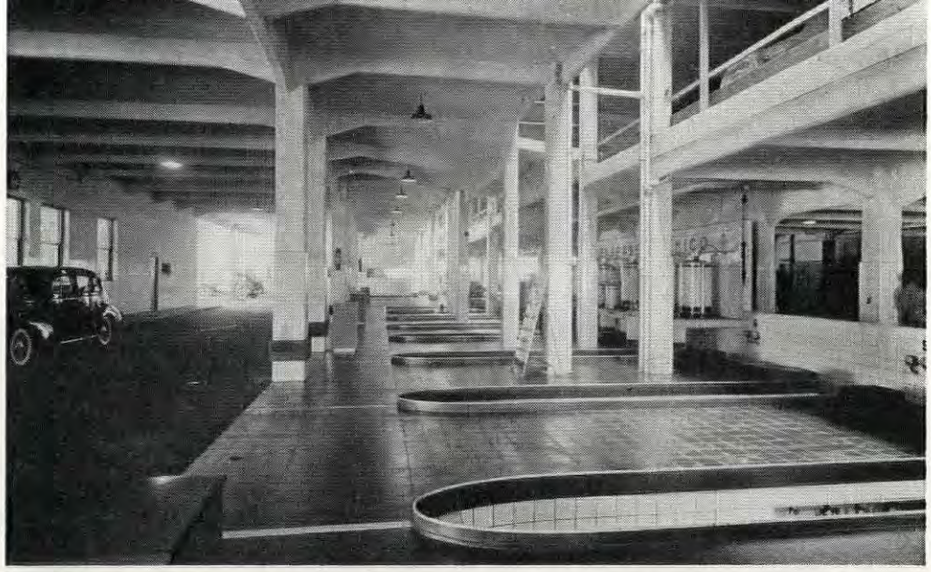


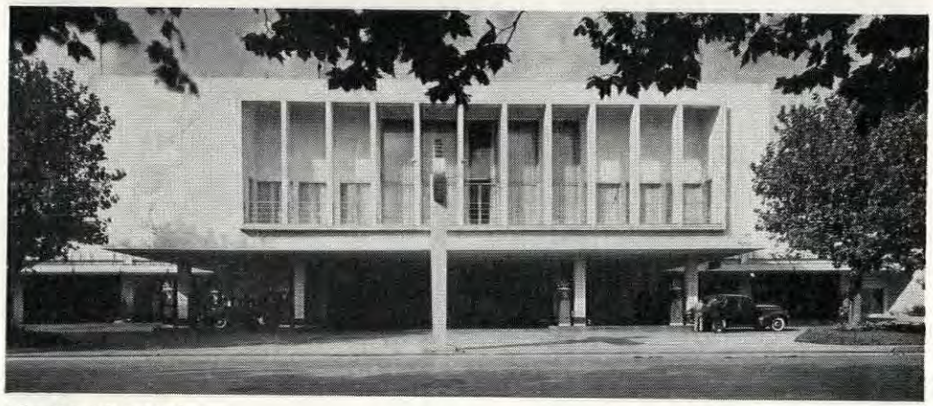


TYPICAL PLAN : 2nd FLOOR

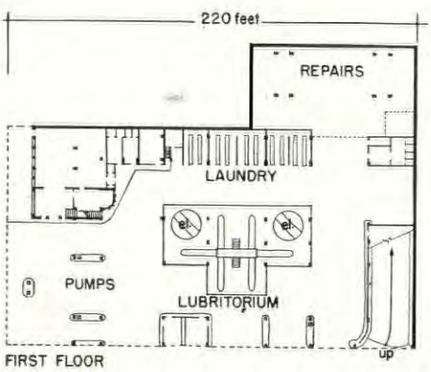


FIRST FLOOR





Mar Del Plata Club



FIRST FLOOR

Rosario Club

La Plata Club

Provincial Clubs for A.C.A.

A. U. VILAR, Architect and Engineer

Part of the Automobile Club's nationwide system of facilities, these three provincial clubhouses have no exact equivalent in the States. They include those fueling, repair and storage facilities which would be provided by private enterprise here: but they also include luxurious lounges, club rooms and bars for members, apartments for regional managers and—at least at Mar del Plata—dormitories for the personnel. Eventually, they will permit wealthy Argentines to drive from one end of the country to the other without stopping anywhere but at A.C.A. installations.

THE INDUSTRIALIZED HOUSE:

Whatever else Wilson Wyatt accomplished as National Housing Administrator, he succeeded in raising the industrialized house to a new level of national significance. Largely as a result of his efforts, many new producers have entered the field. Last month FORUM surveyed four of these newcomers whose plans and products merit attention. Herewith is another. The series will continue in March with surveys of the operations of two ex-shipbuilders—Higgins of New Orleans and Kaiser-Burns of Los Angeles.

GENERAL PANEL CORPORATION, using a panel system developed by Konrad Wachsmann and Walter Gropius, can fabricate a house in 20 minutes, erect it in 38 man hours.

One hundred and fifty dollars will pay for all the factory labor which goes into the four room house shown at left: 13¾ man hours have been spent on site erection and 25 more will see the structural shell complete. These are the claims of General Panel's president, Konrad Wachsmann: and if anybody questions their validity, it is certainly not the Federal Government. For General Panel is the only one of the industrial house manufacturers actually to receive everything which the late Wyatt program had to offer: An RFC loan of $1,500,000; a guaranteed purchase contract for 8,500 four-room houses; a shiny new surplus war plant in which to make them (FORUM, Jan. '47); and structural acceptance from FHA after a demonstration before that agency's cautious engineers.

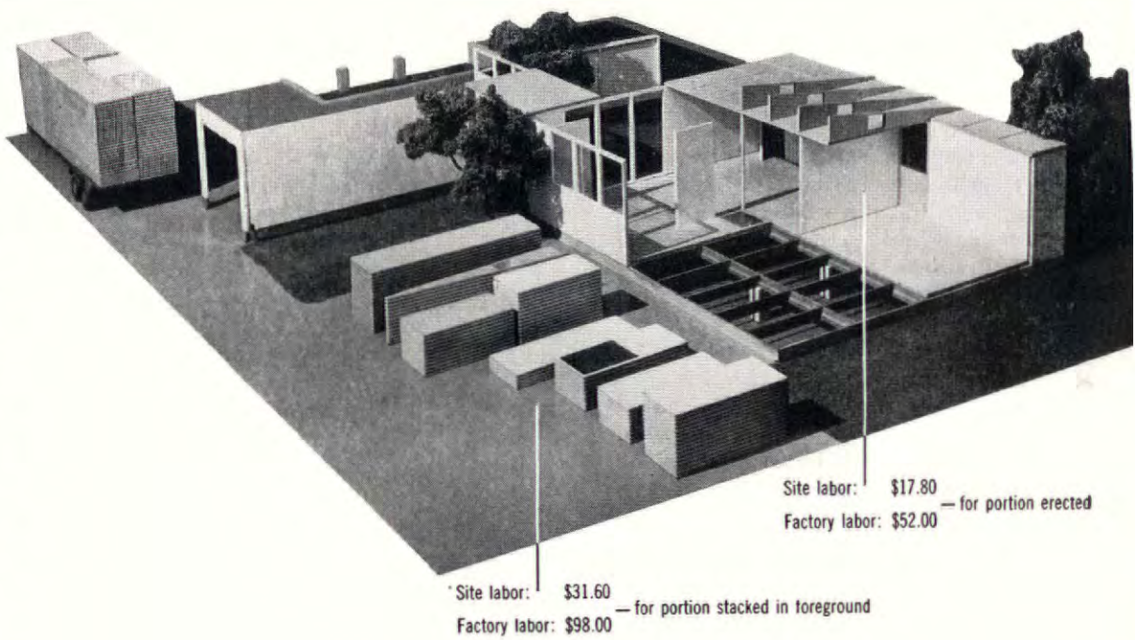
It is a mere chance—even if a happy one—that Konrad Wachsmann is today a house manufacturer.* His primary interest is not in houses per se nor even in prefabrication—a term, incidentally, which he detests. Rather, he is interested in a completely industrialized structural system which will be as universal in its application as was the log cabin or the brick wall in its day. Like many another aspirant in the building field, Wachsmann had already evolved his system when Wyatt's program came along. For General Panel, Federal aid has acted like a rocket booster on an ordinary plane—it ensured a quick take-off with a heavy load. Ultimately, General Panel hopes to become simply the producer of a flexible, moderately priced structural system out of which almost any type of single or two-story building might be erected.

A successful exporter of prefabricated buildings in pre-Hitler Germany, Wachsmann begins where many prefabers leave off. That is, he has applied the concept of a modular panel not only to the walls but to the entire enclosure. The result is like a brick in that it has always the same proportions and profile at the joint: vastly different in that it is larger, lighter and—most important—highly specialized. Thanks to variations in strength, surfacing and insulation, the system can meet almost any condition raised by an ordinary building. There is one variation for floors, one for ceilings and one for roofs; and a whole wall series which provides for any arrangement of doors, windows and solid panels. Any of these units interlocks with any other in either a horizontal or a vertical plane. Thus, Wachsmann's system is truly modular because it requires no dimensional adjustment for the thickness of intersecting partitions.

Sharp advantages at both factory and site accrue to any system with characteristics such as these. It permits the manufacturer to tool up for straight line production of a single product. (Wachsmann estimates that California General Panel will produce a whole four room house in twenty minutes.) It wrings all of the guesswork out of site erection, cuts out the need for any tools but a hammer, and reduces site labor to a well-nigh incredible extent.

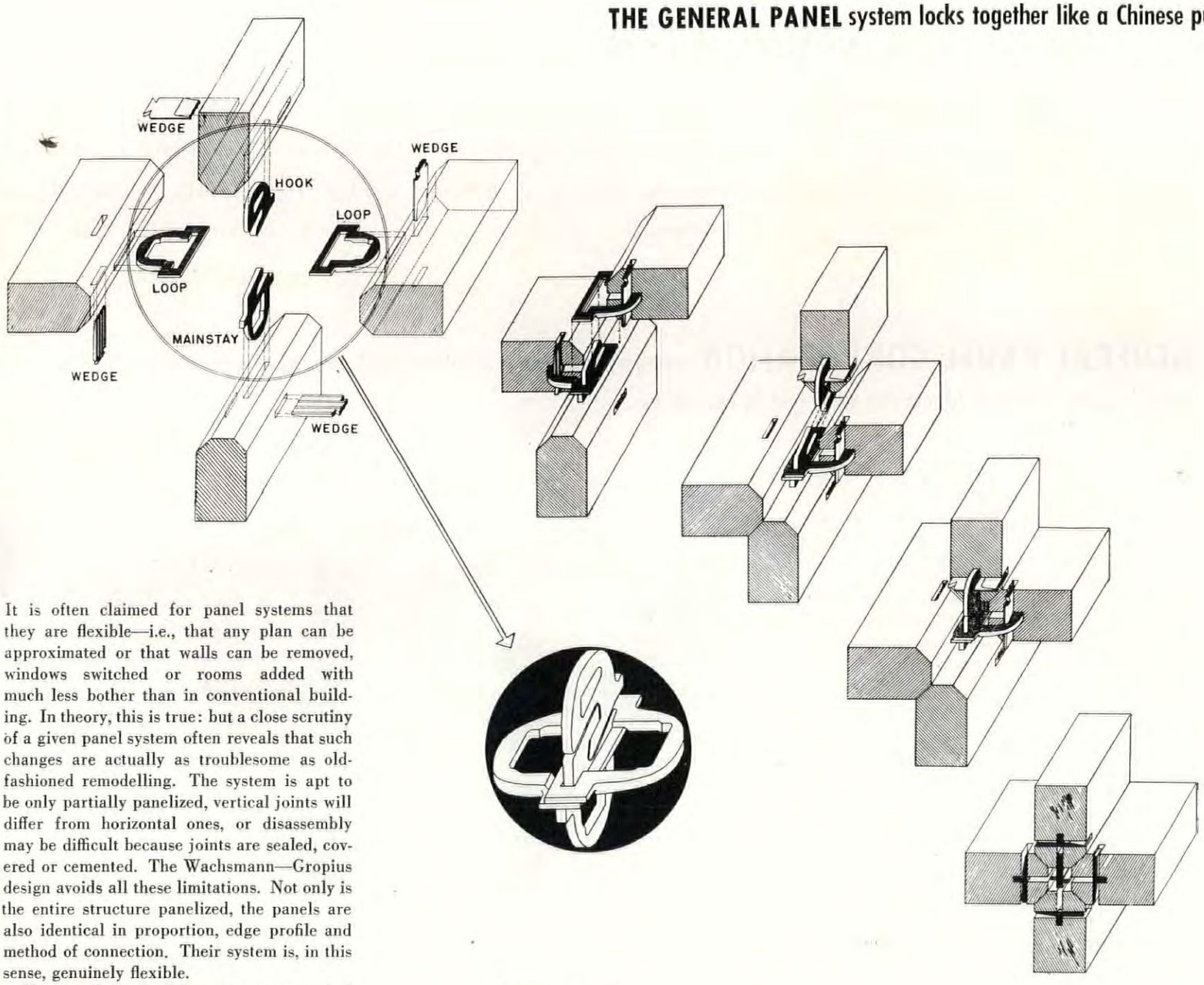
At its Burbank, Cal. plant, General Panel is set to begin operations by March first. Laid out with the same painstaking precision which seems to characterize all of Wachmann's work, the entire house-fabrication process is mechanized. From the moment the kiln-dried raw materials enter the air conditioned assembly area to the time when the hermetically-sealed panel emerges at the other end, it is (like Borden's milk) scarcely touched by human hands. Skilled labor has been eliminated and all hand work greatly reduced by special Wachsmann-designed machinery; jig tables are mechanized, electronic gluers tack all elements together in 5-second operations while a still-secret electronic press glues the final panel together in one operation.

On a single shift basis, the Burbank plant can annually produce 10,000 houses like the one shown above. Without land they will sell for $4,585 in California, Nevada and Arizona. The Celotex Corp.—despite the fact that there is not so far an ounce of Celotex products in the house—will distribute, retail and erect it. The following pages show how this house is erected and what it looks like.



* Actually, General Panel itself does not manufacture or sell prefabricated houses nor does it plan to. It is a research and design outfit which licenses its developments—in this case to the newly formed General Panel Corp. of California, of which Carl Dahlberg is president and Wachsmann is vice president.

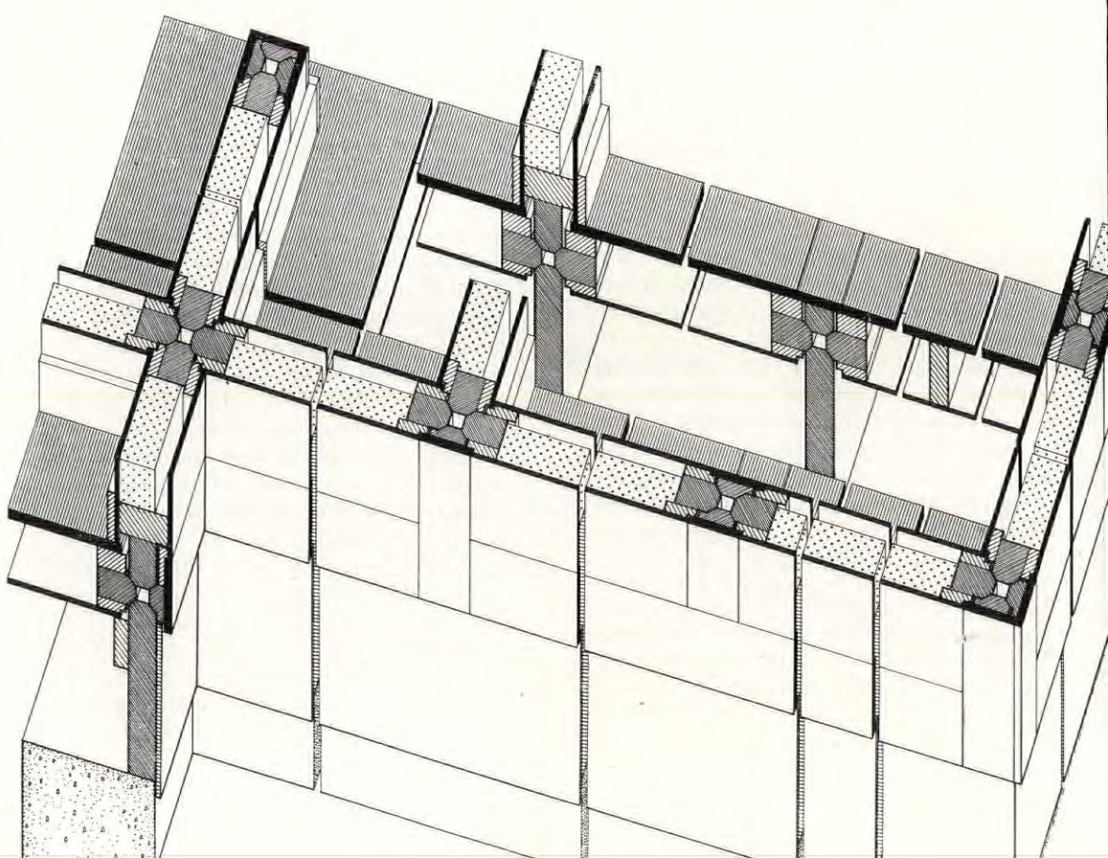
THE GENERAL PANEL system locks together like a Chinese puzz



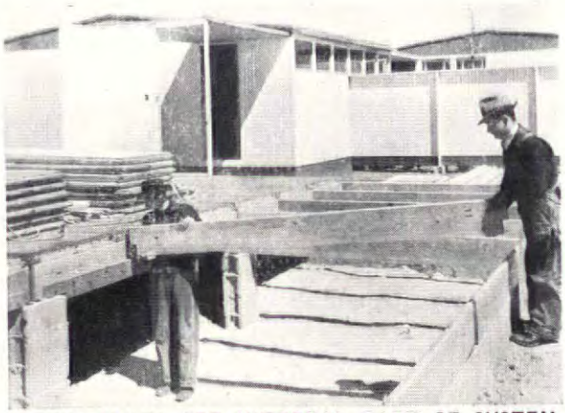
It is often claimed for panel systems that they are flexible—i.e., that any plan can be approximated or that walls can be removed, windows switched or rooms added with much less bother than in conventional building. In theory, this is true: but a close scrutiny of a given panel system often reveals that such changes are actually as troublesome as old-fashioned remodelling. The system is apt to be only partially panelized, vertical joints will differ from horizontal ones, or disassembly may be difficult because joints are sealed, covered or cemented. The Wachsmann—Gropius design avoids all these limitations. Not only is the entire structure panelized, the panels are also identical in proportion, edge profile and method of connection. Their system is, in this sense, genuinely flexible.

They employ a steel connector composed of four elements which lock together like a Chinese puzzle to form a rigid cruciform. Despite the fact that the connector assembles easily and comes apart even easier it yields an astonishingly strong joint: in recent laboratory tests, the panels always broke before the connector gave away. Each of the connector's elements are factory-installed in the edge of the panel: this in turn determines the *sequence* in which the four structural elements are assembled.

However, this connector's strength is a function of the close and continuous bearing surface of the system's "universal" joint. This is achieved by having every intersection, edge or corner composed always of four complementary structural members: even square columns are assembled in this way. These elements always fit together in the same sequence and are not effective structurally until the fourth is slipped into place. This is what determines the erection sequence of a General Panel building. The last element placed constitutes a sort of keystone and—working backward from it—the entire building can be quickly and easily dismantled.



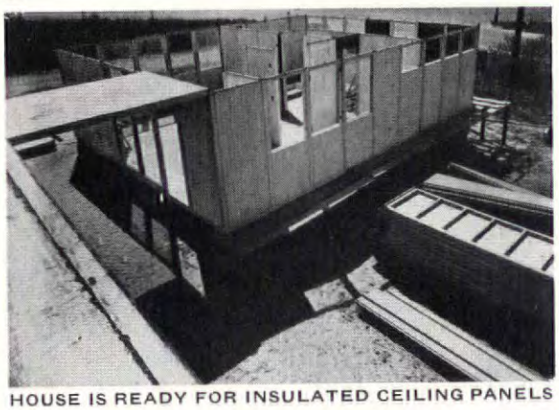
form a strong and rigid structure, every part of which carries its share of the load.



FLOOR JOISTS ARE INTEGRAL PART OF SYSTEM

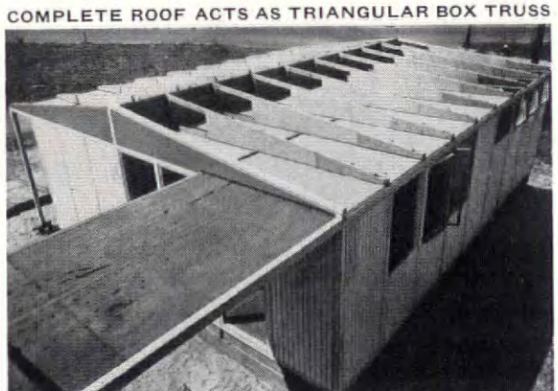
PANELS, BATTENS COMPLETE FLOOR ASSEMBLY

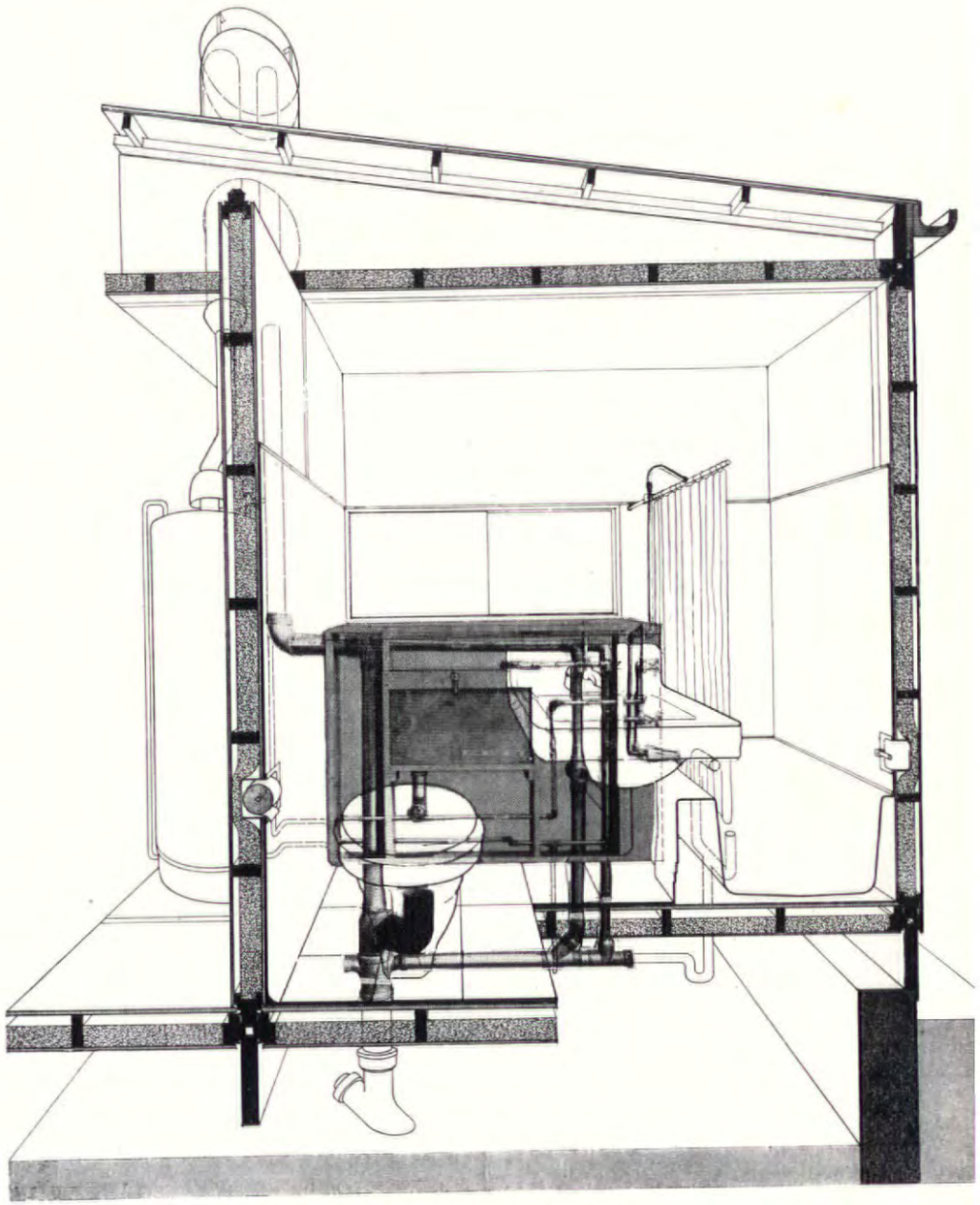
WALL PANEL IS RAISED WITH WIRING IN PLACE



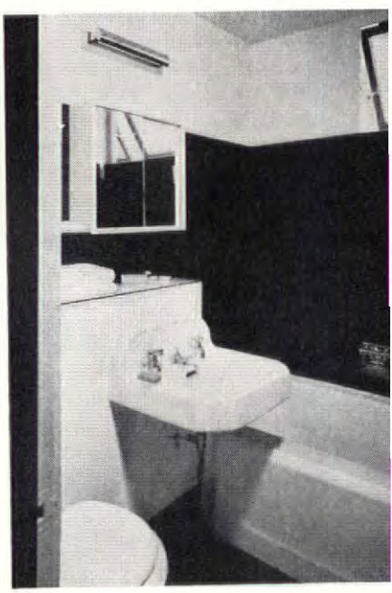
HOUSE IS READY FOR INSULATED CEILING PANELS

COMPLETE ROOF ACTS AS TRIANGULAR BOX TRUSS





PREFABRICATED PLUMBING STACK comes with house in factory-built case, ready for connection with bath and kitchen fixtures, water heater, water and sewer mains. Fixtures and waterproof surfacing in bath are conventional, site-installed by retailer.

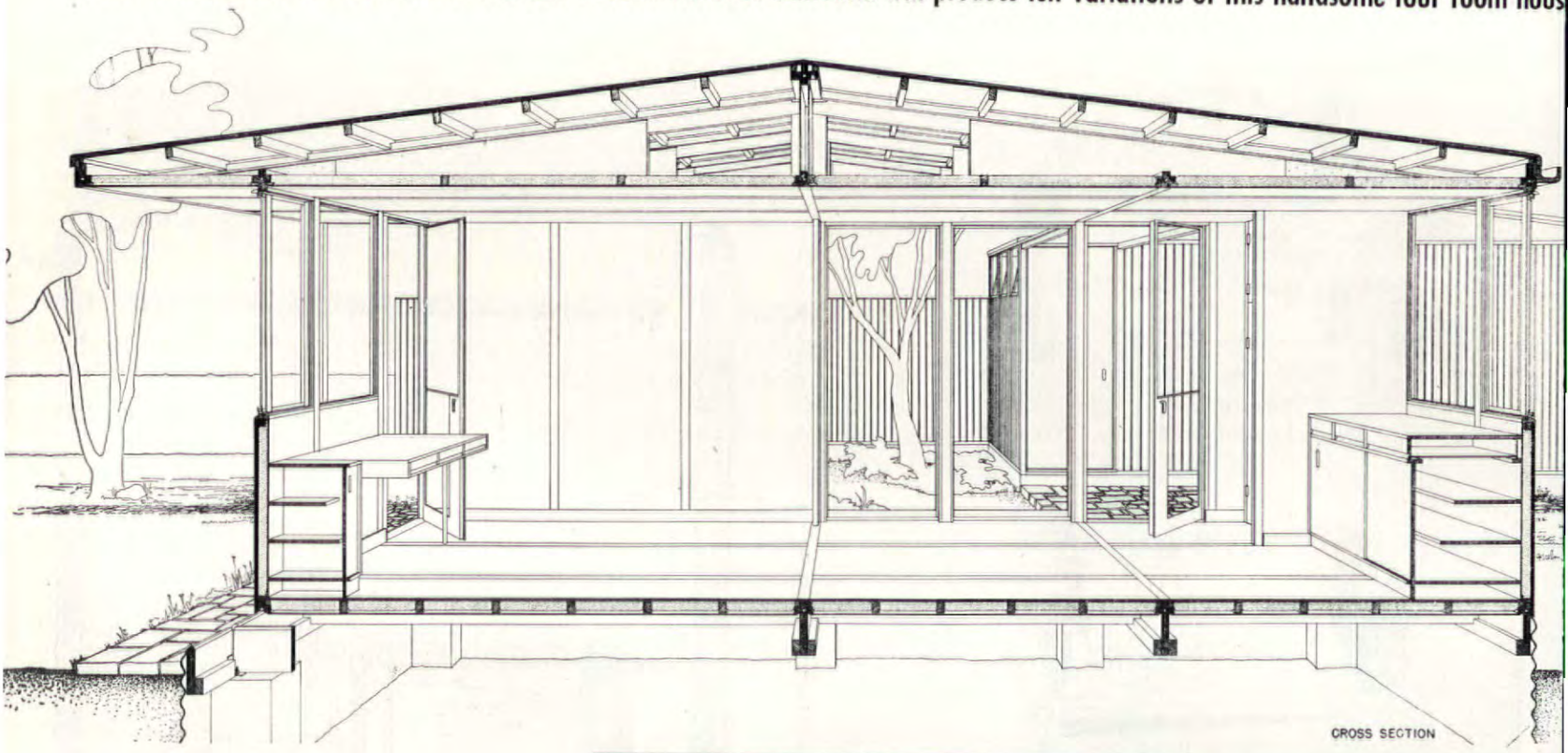


Ezra Stoller

UNDER RECENT LABORATORY tests employing all types of loading-compression, impact, racking—the system came out with flying colors. The floor panel carried a uniform live load of 125 lbs. per sq. ft. and a concentrated load of 550 lbs. A straight wall carried a maximum compressive load of 4,960 lbs. per lin. ft.: under the more severe racking test, failure came at 558 lbs. per lin. ft. The roof ridge truss carried 4.3 times the required load.

Anna Wachsmann

FOR VETERANS IN THE SOUTHWEST General Panel of California will produce ten variations of this handsome four room hous



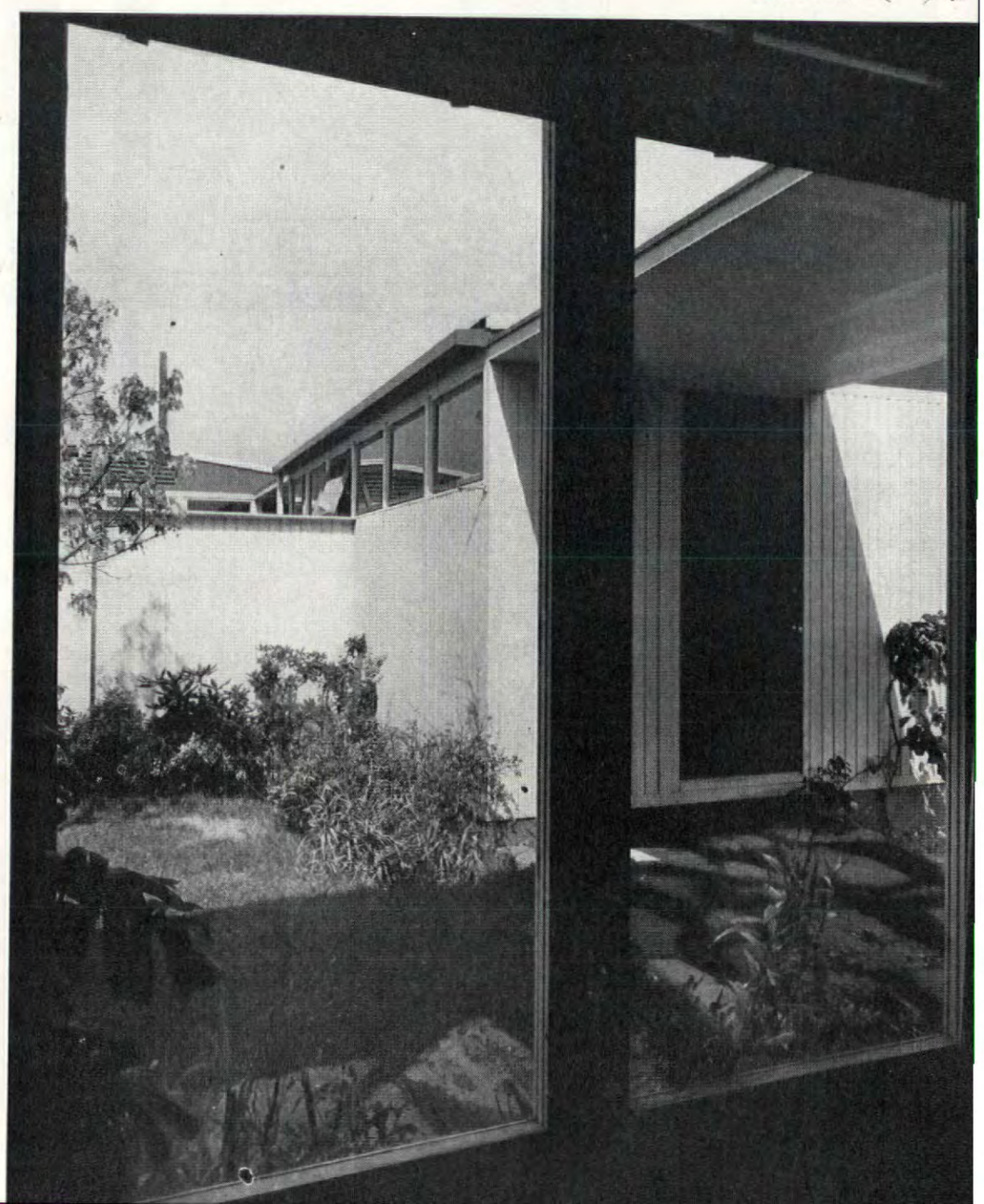
CROSS SECTION

Eighty-five hundred houses similar to the one shown on these pages will be produced by General Panel of California. Veterans in Arizona, California and Nevada will get first crack at them, at $4,585 exclusive of land. Most house hunters will be envious, judging from the reaction to this house since its erection last summer. Although built to field-test the system against last-minute flaws and not for display, the house created a minor sensation. Despite its lack of all the features allegedly necessary to prefab success—clapboards, dormers, shutters, etc.—thousands of house-hungry people tried to buy it.

This newfound popularity for straightforward contemporary design pleases Konrad Wachsmann—even though he does not take it too seriously. Public opinion, as he wryly observes, is "pretty fluid. Four years ago people said my design was too complicated. Three years ago it was all too precise—tolerances too close. A year ago they said you couldn't build a house out of such materials. Today they say it's wonderful."

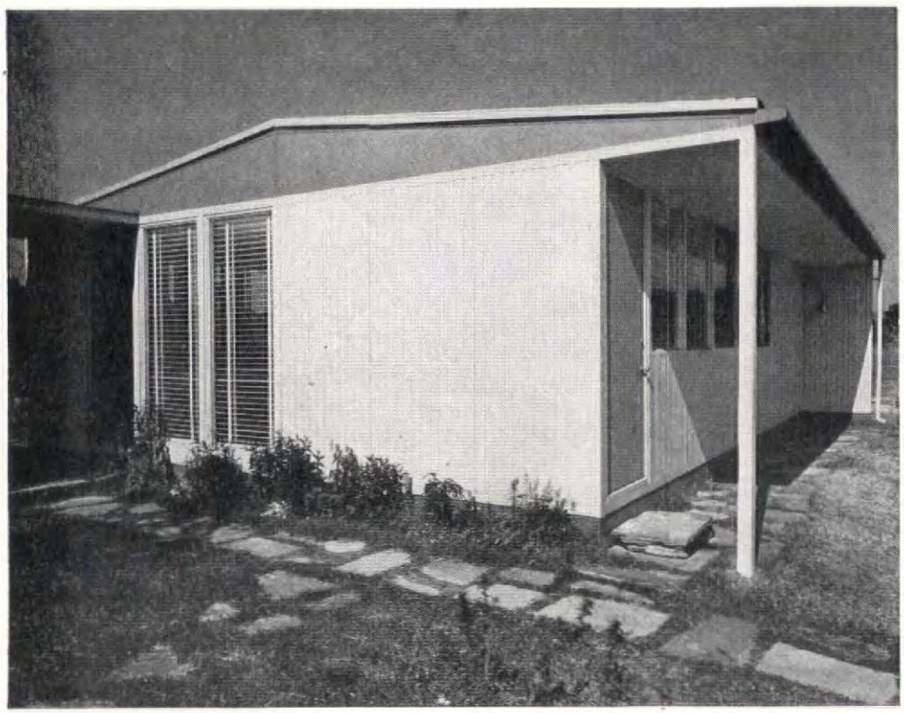
Wachsmann's estimate of the present level of consumer taste is perhaps too low. In any event, few small houses—whether prefab or conventional—are more likely to produce satisfied customers than his. Not only quick and easy to build, it is easy to look at. It should be easy to maintain, for its various elements assemble into a strong and permanent structure as neatly as the parts of a watch.

Some ten variations of the plan shown at right, averaging the same cubage, will be offered by the California company. Only major change in appearance will be the substitution of waterproof plywood for T & G siding on the exterior. Although bath, kitchen and heating equipment are not supplied by General Panel, each house will be completely finished and ready to move into when sold.



Ezra Stoller

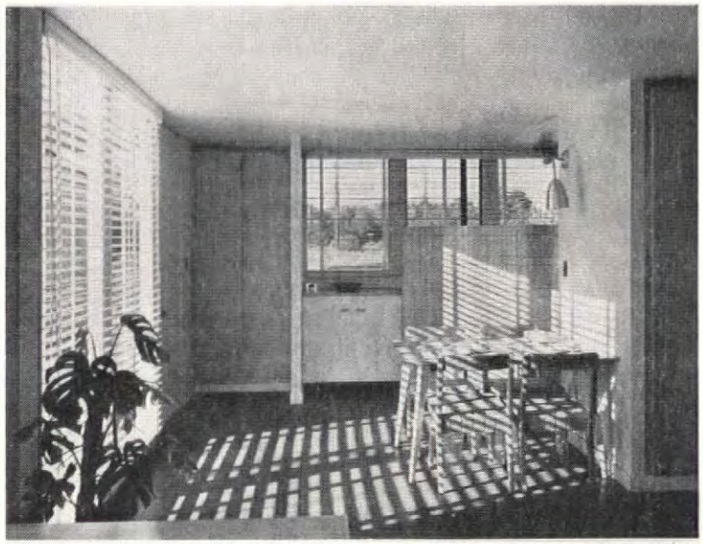
Ezra Stoller



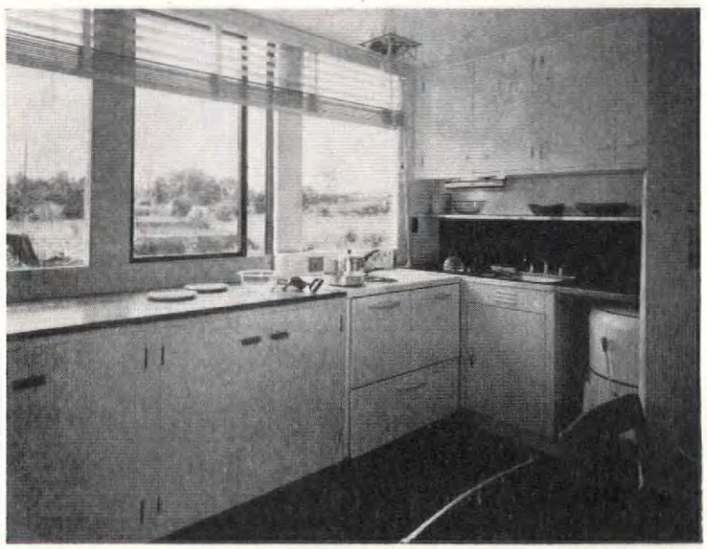
NEW MODELS WILL USE PLYWOOD INSTEAD OF SIDING ON WALLS

Anna Wachsmann

LIVING ROOM IS AIRY, SPACIOUS. NOTE COMPOSITE COLUMNS

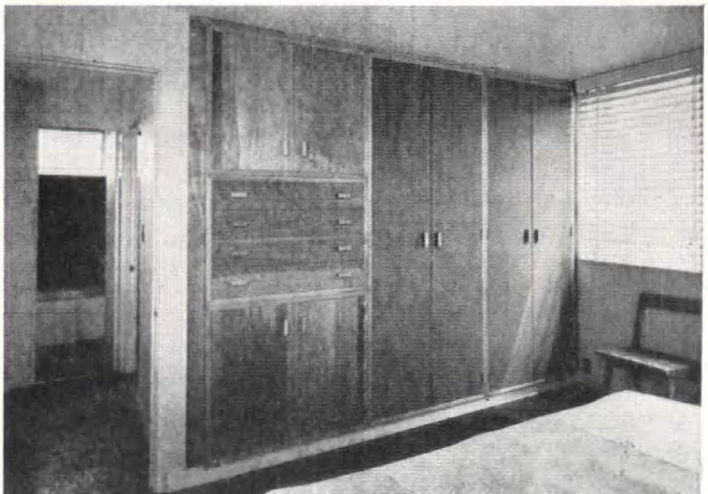


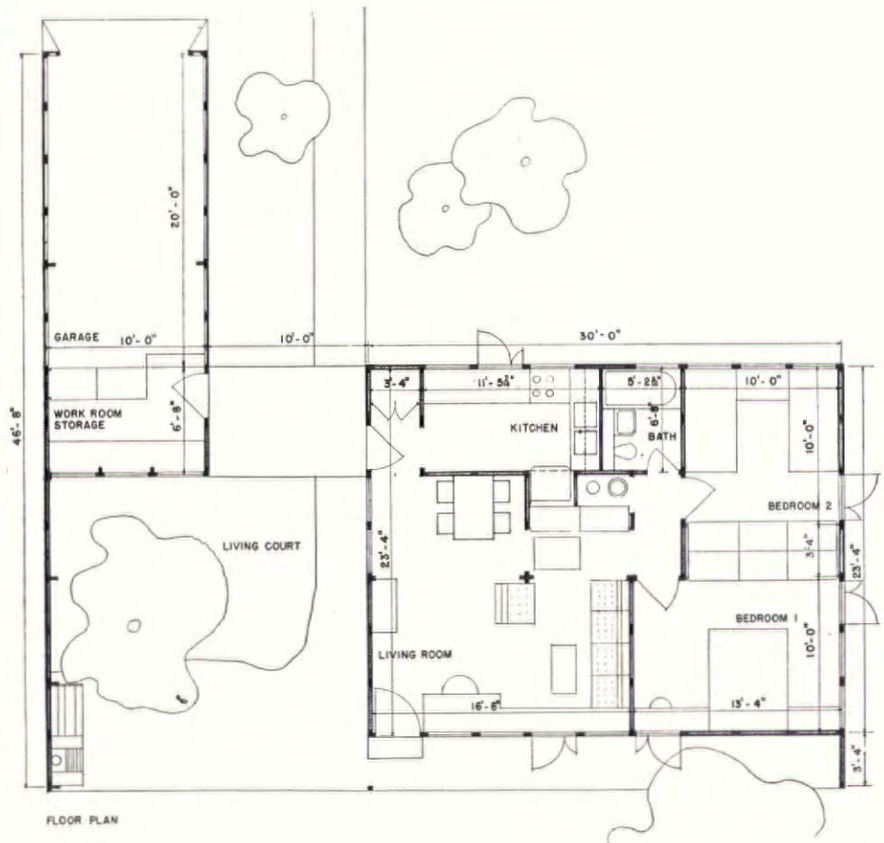
ENTRY AND DINING AREA ARE LIT BY 8 FT. GLASS PANELS



KITCHEN HAS GOOD BUILT-IN STORAGE, SPACE FOR WASHER

BOTH BEDROOMS HAVE 10 LINEAR FT. OF TRAYS, WARDROBES





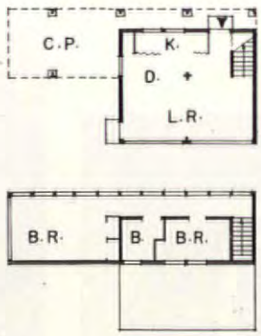
FLOOR PLAN

Ezra Stoller

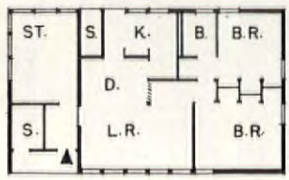
ADAPTABILITY of General Panel's system to a wide range of plan problems is demonstrated by designs of well known architects.

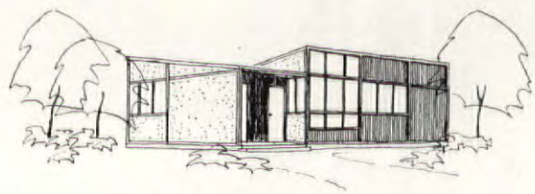
The designs on this page illustrate one of the most important characteristics of the General Panel line—what Wachsmann terms its "universality." Any architect or consumer who is willing to use a 3 ft. 4 in. module as the basic unit of measurement can easily build any sort of house he chooses from the system. In reality, this is no great limitation for it easily provides for such minimum dimensions as doors, passages, built-in storage, etc. Clear spans of up to 13 ft. 4 in. are possible, ceiling heights may be varied and—by an ingenious detailing of the roof framing—any desired slope may be had without modification of the panel. Nor is the system restricted to residential work: on the contrary, Wachsmann sees a wide application for it in nurseries, schools, hospitals—in fact, almost any single or two-story building type.

As presently manufactured by the California company, the system has, of course, certain limitations. Curves are impossible in it, as are wall intersections at any angle other than 90°. Heating must necessarily be by hot air (although General Panel engineers are already at work on a system of built-in radiant coils). Like any system fabricated of wood, the system is not 100 per cent fire- or termite-proof. However, in the real context of America's present housing shortage, these are rather far-fetched considerations. As of today, no manufacturer of industrial houses can lay a better claim to a "universal" system than General Panel's Konrad Wachsmann.

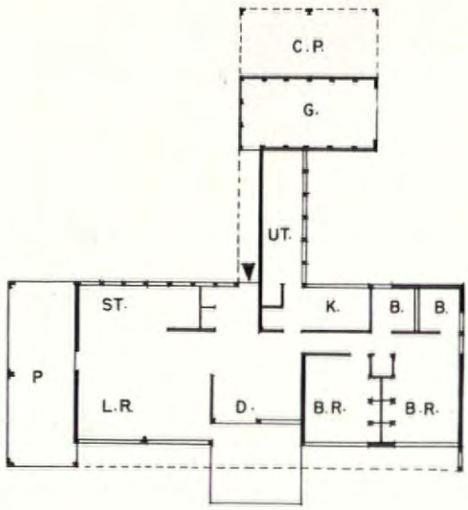


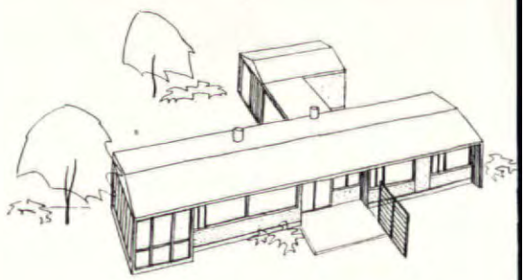
ELSA GIDONI, architect



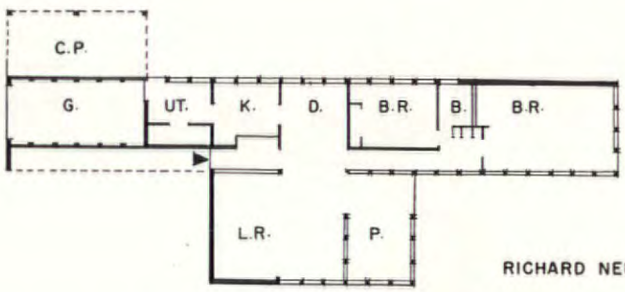


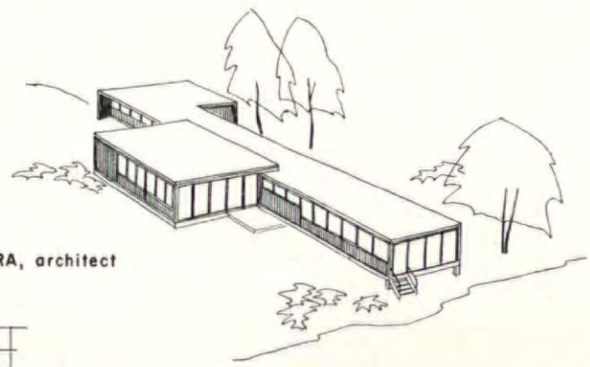
PAUL BROMBERG, architect



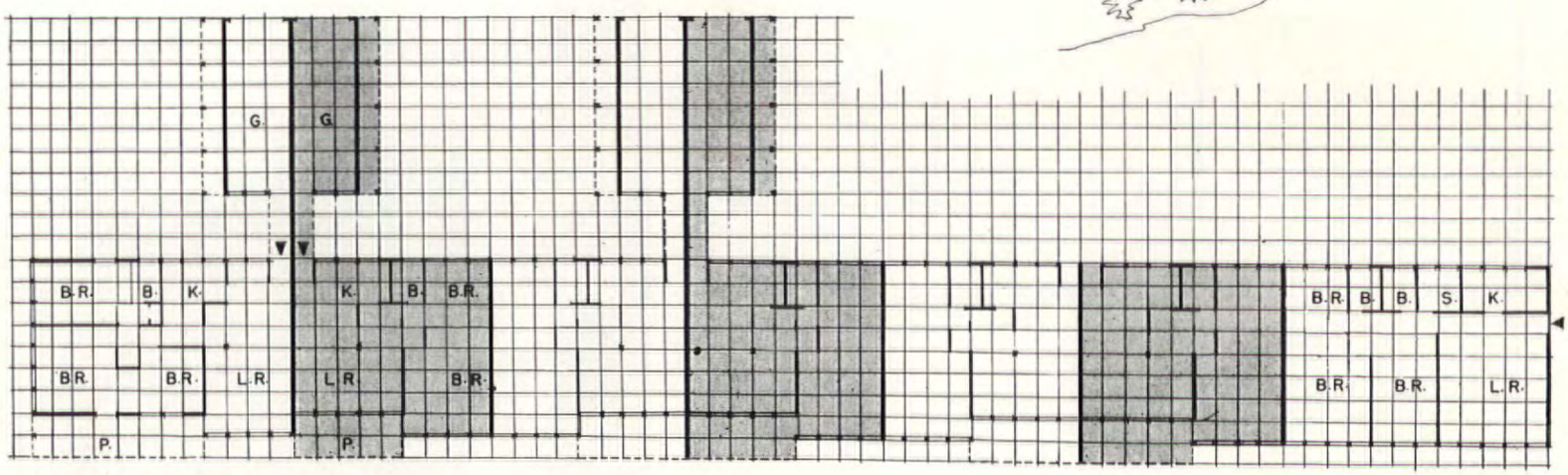


WALTER GROPIUS, architect





RICHARD NEUTRA, architect



ROW HOUSE LAYOUT

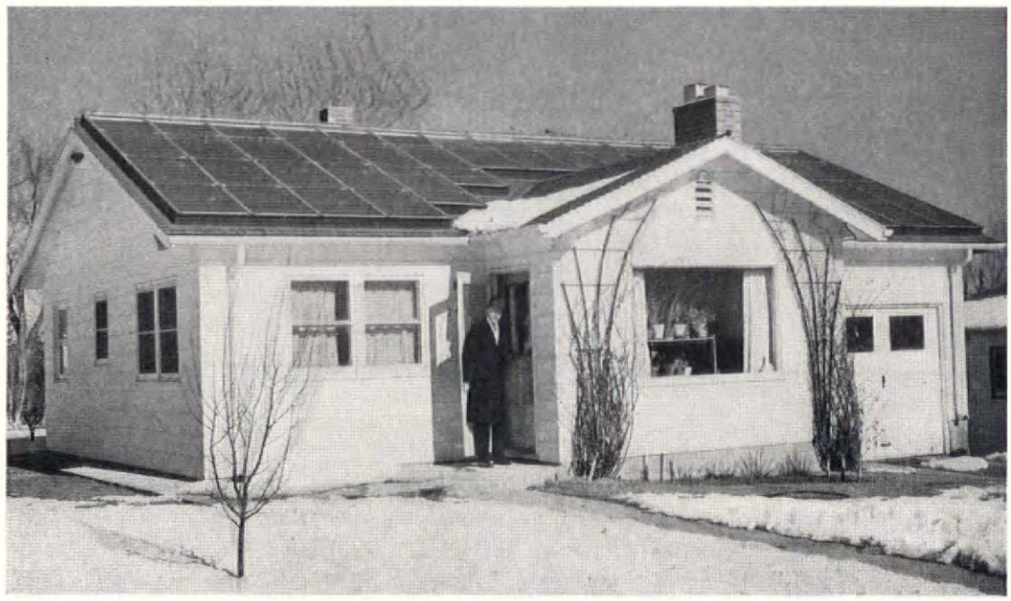
SOLAR HOUSE HEATER yields 20% fuel saving, promises much more, in University of Colorado experimental installation.

Use of solar energy for house heating—a subject of interest for the last 70 years—is close to practical realization as the result of a recent research project of the Research and Development Division, Department of Commerce and the University of Colorado. A solar heat trap installed on an experimental house at Boulder, Col. has achieved a 20 per cent fuel saving for an entire winter heating season. And, with further development of the equipment, theoretical calculations indicate that the solar heater might yield fuel savings of as much as 50 to 60 per cent in climates having considerable winter sunshine.

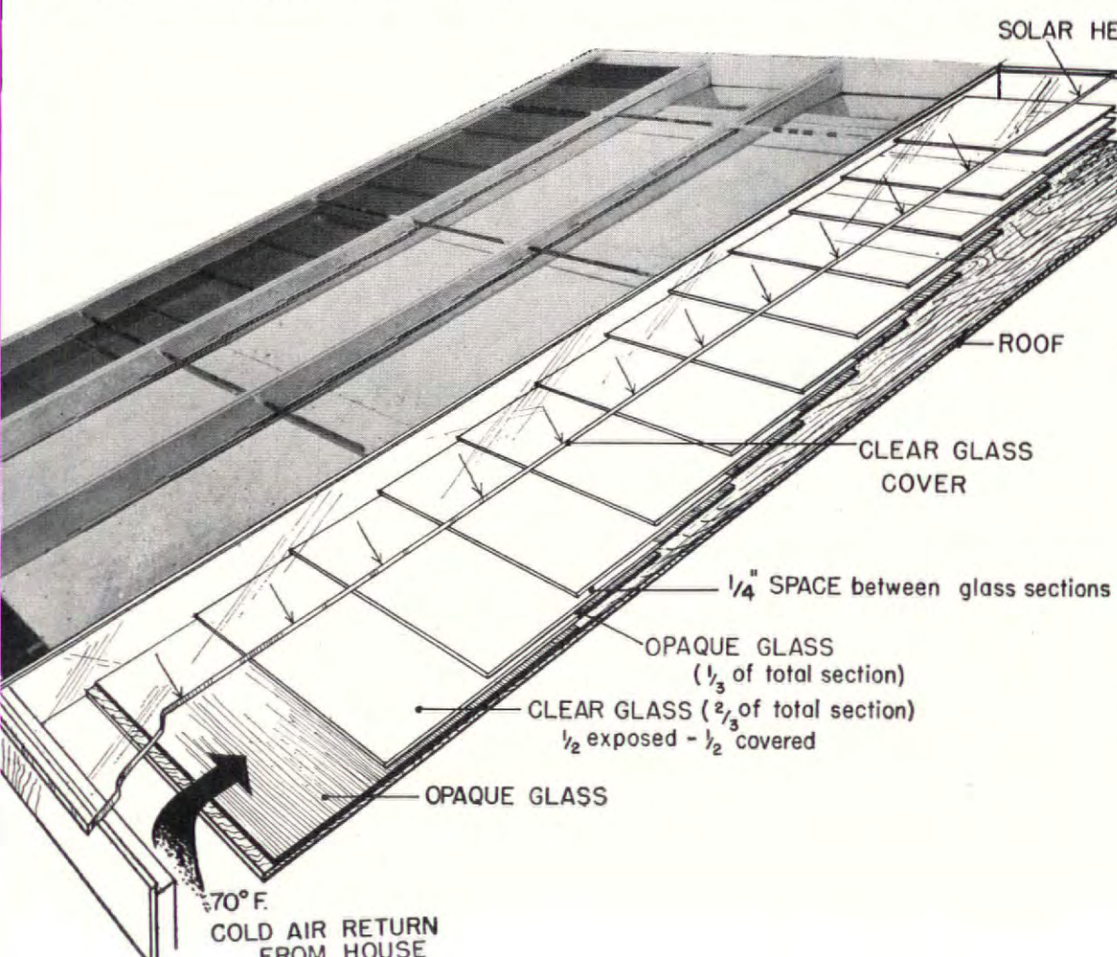
The Boulder experiment is interesting on two counts: it proved the efficiency of the sun trap and demonstrated its complete practicality. Constructed on the roof of a typical small house, the unit operated automatically and successfully as an auxiliary to a conventional heating system. Somewhat resembling the solar water heaters used in Florida, the Boulder unit is a glass-faced, insulated box placed on the south slope of the roof and covering 463 sq. ft. (or about ⅓ of the entire roof area). The actual heating element is a series of partially-blackened overlapping glass plates, completely enclosed within the box. The optimum arrangement of the 29 in. by 36 in. glass plates was found to be a ¼ in. spacing, with a ⅔ overlap: 12 in. of each plate is painted with a radiation-absorbing medium. Since glass is transparent to the short heat waves of solar radiation and opaque to long wave thermal radiation, the overlapping black and clear glass surfaces convert the sun's heat to a form which can less easily escape from the unit. Air passing between these plates is heated—its temperature increasing by as much as 110°. This hot air can then be used either for house heating or pre-heating domestic hot water.

Since the house needs heat most when the sun is not shining at all and least at noon on a clear day, the unit has been cleverly hooked into the thermostatic controls of the regular heating system. By this means, as the heating load drops, the sun-heated air is by-passed from the heating ducts to a water heater in the attic.

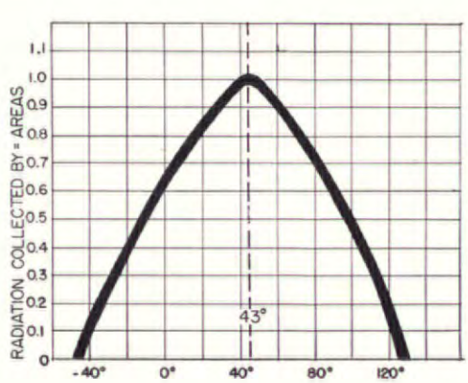
Air from the house cold air return (see cut below) enters the sun trap by an inlet cut through the roof at the bottom edge of the unit.

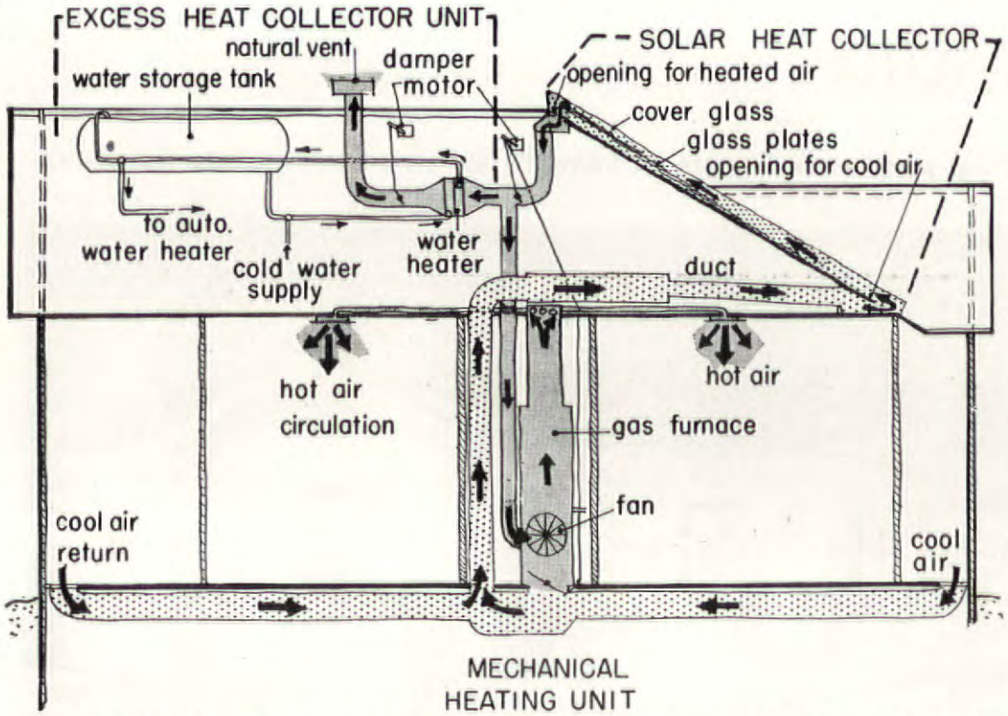


SUN TRAP COVERING ONE-THIRD OF ROOF FURNISHED 20% OF HEAT NEEDED BY HOUSE



SUN'S HEAT on roof trap (left) sets up convection which pulls cold air from house. This air gains heat from sunwarmed plates, is exhausted back into heating system. Graph (below) shows relative efficiency of various roof slopes for 40° latitude.





SOLAR UNIT IS GEARED TO HEATING SYSTEM, MAY BE BY-PASSED TO WATER HEATER

This air is heated as it moves up between the glass plates and is drawn from the top of the unit through similar slots cut in the roof. The solar heater is served by a large duct leading from the unit to the center of the attic where it forks. One branch leads down to the bottom of the furnace where the fan picks it up and sends it into the house hot air circulation system. The other branch in the attic leads, through a finned tube water heater, to a vent in the roof, the top of which is higher than the top of the solar unit. Solar heat is by-passed through this water heater when not needed for the house. Water thus preheated is stored in a 120-gal. tank installed in the attic which is connected directly to the inlet of the automatic water heater.

Suitable controls in the form of thermostats, dampers, damper motors, and relays are installed in the hot air duct system. These permit the unit to be operated automatically in the following manner:

House is cold, solar unit is cold. The automatic gas furnace heats the house in normal manner.

House is cold, solar unit is hot. Hot air from the solar unit goes directly to the furnace inlet and is forced by furnace fan through house-heating ducts. Cold air return is routed back to the bottom of the solar unit.

House is hot, solar unit is cold. Heating is not necessary, therefore dampers are closed and furnace is not operating.

House is hot, solar unit is hot. Hot air from the unit is passed through the finned tube water heater and exhausted to out-of-doors.

Unit performance carefully checked.

Results of the entire investigation proved that the principle of solar utilization for house heating has good future possibilities. Of primary significance, however, is the fact that the system, provided with completely automatic controls, operated satisfactorily in conjunction with a conventional house heating system for the winter heating period with an approximate 20 per cent fuel saving. All performance figures were checked against an identical house nearby with the same gas-fired hot air system. Gas meters in both were read and compared each month to determine the fuel saving. Gas consumptions in the test house were also compared on a degree day basis before and after installation of the solar unit. Although experimental heat recovery efficiencies and exit air temperatures were not as high as predicted theoretically, results indicate that solar energy can be used to raise air temperatures in excess of 200°F. and that overall heat recovery efficiencies of at least 35 per cent of total input can be secured.

Sun trap best for temperate zones.

Obviously the efficiency of the system is dependent upon certain factors—primarily those of size of unit, latitude and roof slope. Conditions for utilizing solar energy are satisfactory at Boulder, which is at the 40th parallel: north of this, however, it is felt that the climate would be too severe to permit economical use of the system. The roof slope of the experimental house at Boulder was only 27°: although the unit worked successfully at this angle, its efficiency would obviously be increased as its slope approached 90° with the sun's rays. Optimum efficiency at the latitude of Boulder would be achieved at a roof slope of 43° with the horizontal.

As a protection against hail, it was found necessary to cover the solar unit with a wire mesh screen to prevent breakage. No protection from snow was found necessary as the roof slope and smoothness of the glass allowed it to slide off readily.

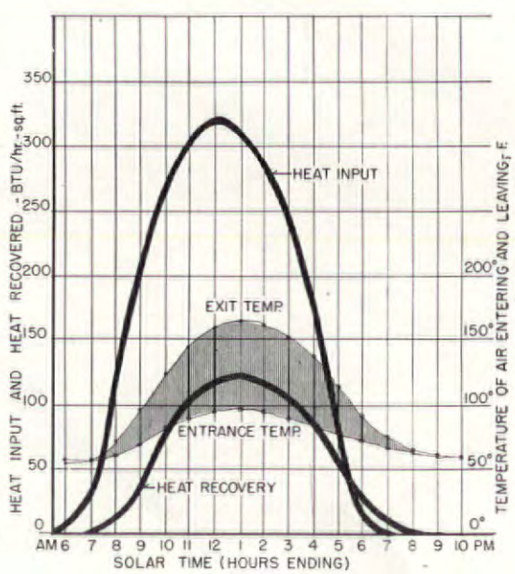
Aside from data obtained in the experimental installation, other computations were made. These included principally problems of heat storage, air conditioning and cost. Preliminary calculations and observations made on the Boulder installation indicated that the system would furnish approximately 33 per cent of the heating load for a winter season if no storage facilities were available. Most of the projected uses for the solar energy thus recovered, however, are based on the assumption that storage of heat for at least 24 hrs. can be successfully and economically provided. Thus, the Boulder researchers calculated that storage of heat in a bed of crushed solids for overnight only will more than double the heating load carryable by the solar unit without making the size of the storage unit impractical. Further calculations were made to show the advantage of a suitable heat storage unit for one, two and three day periods. These were based on heat required during the previous year per degree-day of heating load.

Commercial production planned.

Results further indicated that work to develop the apparatus into commercially marketable units was justified. As relatively low cost and simple construction of the equipment are outstanding advantages, wide application of the system is envisioned, particularly in climates having considerable winter sunshine. With these possibilities in view further research is now being conducted under the sponsorship of the American Window Glass Co. These development activities include testing and improving the heat collecting equipment, design and testing of heat storage facilities, and application of the equipment to modern house construction. Present hopes are that commercial utilization of the system will be made within the next 12 to 18 months. Indications are, that for an expenditure in the general range of $500, the owner of a moderate size house could have solar equipment installed which would save ⅔ of his winter fuel bill.

(For further details on experiment, see p. 124)

HEAT RECOVERY data shows need for practical method of storing midday heat for night-time use.

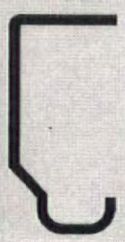


To Give More IN OVERHEAD TYPE DOORS

- *More Service*
- *More Convenience*
- *More Dependability*
- *Lasting "Good Looks"*

All these Rō-Way gives... all are made possible by these 5 exclusive features

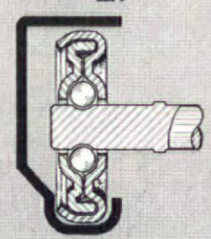
1.



FRICTION-REDUCING TRACK

Makes rollers ride away from the track sidewall. Provides extra clearance... gives greater strength ... assures easy, operation.

2.



"DOUBLE-THICK TREAD" TRACK ROLLERS

Each rolling smoothly on seven ball bearings.

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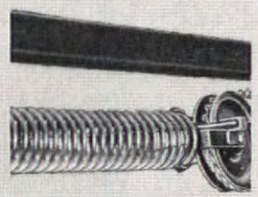

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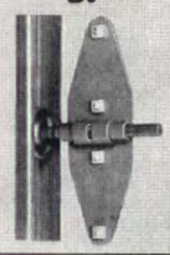
4.

"CROW'S FOOT" OUTER BEARING SUPPORT

Holds sheave wheel in permanent alignment... no twist or sag to cause friction or binding.

5.



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SOLAR HEATING

(Excerpts from research report "Solar Energy Utilization For House Heating", by University of Colorado's Engineering Experiment Station.)

Certain considerations of other uses of the collected solar energy have also been made. The first of these involves the possibility of using the heated air to operate an absorption type of refrigerating air conditioner. Such a unit is available commercially, and the application of solar energy to its operation is considered to have excellent possibilities. It is apparent that the period in which the greatest energy is received corresponds exactly to the period in which the greatest cooling is required. The apparatus would therefore be able to provide the most cooling at the time it is needed.

Other possible uses for solar energy might be to provide a continuous supply of clean, heated air or other gas to certain industrial processes, such as drying or crystallizing.

An important practical problem not yet solved, because of lack of time, is the discovery of the fundamental cause of, and the method of eliminating, the excessive breakage of glass in the collecting unit. The frequent breakage of plates exposed to sunlight is no doubt caused by thermal stresses set up in the glass, but the way in which these stresses cause breakage is not definitely known.

Another subject meriting study is the possible use of glass which has been surface-treated to reduce reflection. It would perhaps be possible, at comparatively low cost, to reduce materially the amount of energy reflected back to the sky from the unit, and thereby increase the efficiency.

The black coating used on plates in all the tests was very satisfactory. It had a high absorptivity for solar radiation and reasonably good adherence. Future work, however, will be directed toward the development of a coating with extremely permanent characteristics and one which could be easily applied at the glass factory.

Roof slope adjusted to latitudes

At 40 degrees latitude, a tilt of 30 degrees is 94 per cent as effective as one tilted at the optimum 43 degrees, and a unit tilted at 40 degrees is only about 1 per cent less effective than the optimum . . . If a horizontal position were used at the 40 degree latitude, the energy collected during October through May would be less than 70 per cent of that collected by a unit of equal area tilted at 43 degrees . . . Thus, a collector tilted at 27 degrees should be 8 per cent (100-92) larger than one tilted at 40 degrees, if the same total radiation is to be collected.

A tilt of 43 degrees is the optimum for heat *collection*, but not necessarily for heat *use* in a house. In the fall and spring, a large portion of the collected heat would be discarded, because the heating load is light in those seasons. Hence, the optimum tilt would be somewhat steeper than 43 degrees in order to favor heat collection in the winter months when essentially all the collected heat is needed in the house. In order to calculate such an optimum, the fraction of the collected heat which would actually be used in the experimental house each month was obtained. Values for a 40 degree tilt and one day storage were employed. By using these fractions as multipliers in the previously mentioned radiation equation, integration of the function for various tilts could be performed. It was found that with collector size and heating requirements analogous to those in the experimental house, a collector tilted at 47 degrees would carry a greater portion of the annual heating load than would a collector at any other tilt, provided that heat could be stored for a one *(Continued on page 126)*

ALBA-LITE* gives you unusual design flexibility

Lighting engineers like ALBA-LITE for many reasons. One of them is its almost unlimited design flexibility. The various bends illustrated above indicate some of the possibilities.

There are others, too, because ALBA-LITE is available in rolled sheet form—flat or bent—straight-edged or flanged—plain or patterned to comply with your specifications. This, combined with its attractive appearance (lighted or unlighted) and high lighting efficiency, is making ALBA-LITE the first choice for fluorescent lighting applications.

Let us send you a free sample for comparison with the glass you are now using. You will readily see why this new Corning product will help make your next fluorescent installation outstanding.

Specify ALBA-LITE for your next lighting job.

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ALBA-LITE OFFERS THESE SPECIAL FEATURES

Color Selectivity—ALBALITE is a light opal glass transmitting the full color spectrum.

Light Diffusion—is secured through the special composition of ALBA-LITE rather than through surface treatment. The result is a smooth, easy-to-clean surface.

High Light Efficiency—This translucent glass provides high light transmission and low light absorption.

*Lighting glassware for use with fluorescent lamps. Corning Glass Works does not manufacture or sell lighting fixtures.

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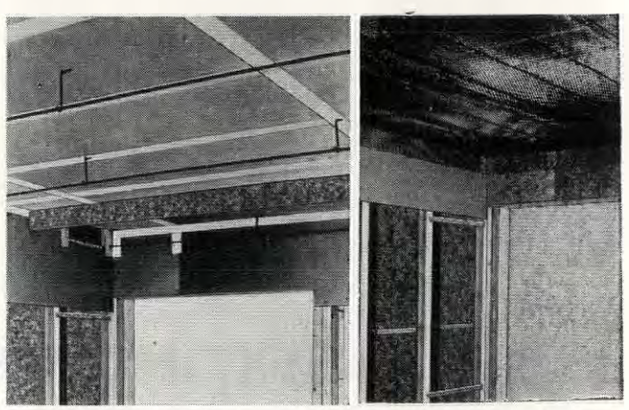
day period. Theoretically, the values for monthly fraction of collected heat used by the house should be recalculated for a 47 degree tilt rather than 40 degrees, but the effect on the final result would be negligible. The variation in solar radiation caused by clouds has not been considered, but the effect of such variation is relatively small. The use of collectors larger than the one on the experimental house, relative to the heating requirements would require tilts somewhat greater than 47 degrees if the optimum were to be maintained. Smaller collectors, or larger heating requirements, would entail the use of an angle of optimum tilt less than 47 degrees, but not less than 43 degrees. In general, therefore, a house at 40 degree latitude, in which approximately the same monthly fractions of collected energy are actually used as in the experimental house, should be provided with a collector tilted at 47 degrees if the collector area is to be at a minimum.

At latitudes other than 40 degrees . . . the optimum tilt for heat *collection* during this winter period could be found by adding approximately 3 degrees to the latitude. Thus at latitude 30 degrees, the collector should be tilted about 33 degrees from the horizontal to receive the maximum radiation in this period. The 3 degree figure is the approximate mean declination of the sun during this period, that is, its average position is 3 degrees below the equator. To collect and *utilize* the solar heat in a house having a heating requirement and collector area similar to the experimental house and having one-day heat storage capacity, the collector should ideally be tilted at an angle equal to the latitude plus approximately seven degrees.

If the collector were used primarily to supply energy to an air cooling unit operating in the summer, it should, of course, be oriented more favorably for summer exposure. Tilts of 20 degrees to 25 degrees would probably be near the optimum during this season.

WARM AIR RADIANT HEATING SYSTEM installed in ceiling provides uniform horizontal temperature gradient.

A radiant heating system which circulates warm air instead of hot water is yielding midwest homeowners a new degree of uniformity between floor and ceiling temperature. Through a comparatively simple and inexpensive introduction of warm air into a space above a suspended ceiling, the ceiling becomes the heating panel, radiating warmth downward to the occupants, floor, furnishings and walls. The system has been thoroughly tested for 8 years by its developer, International Heater Co., and has proved successful in temperatures as low as 15° to 20° below zero. *(Continued on page 128)*



To construct ceiling heat panel, insulation board is applied over joists. Baffles are attached and 3¼ in. hangers and rods placed. Metal lath is fastened to rods for plastering.

The Patter of Little Feet... is TOUGH on School Floors!

Active youngsters! Whole armies of them—sliding, running, scuffling and marching over school floors the country over. What an unfailing test this is of any floor's ability to withstand a consistently heavy flood of traffic over the years—without showing visible signs of wear!

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Furthermore, Tile-Tex is available in bright, clean, permanent colors, (both plain and marbleized), plus a wide range of accessories, including feature strips and custom-made inserts—assuring architects complete freedom of floor design in classrooms or corridors, cafeteria, auditorium or any special room.

Tile-Tex is easy to clean and resistant to stains and scars. Its resilient slip-safe surface reduces floor noise and provides firm footing. And it stays down when installed over concrete floors at or below grade.

Ask us to have an experienced Tile-Tex field man call on you with the approved Tile-Tex Contractor in your city. They will be glad to help you with any of your floor problems. The Tile-Tex Company, Inc., Chicago Heights, Illinois.

A typical Tile-Tex Asphalt Tile installation in a school corridor.

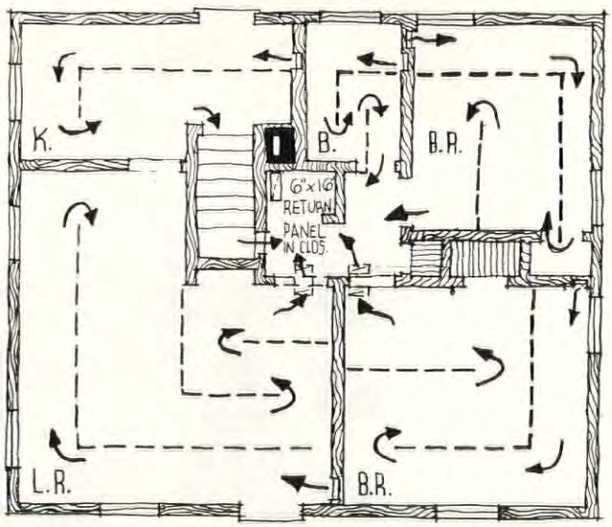
ASPHALT TILE-TEX TILE

TILE • TEX ASPHALT TILE

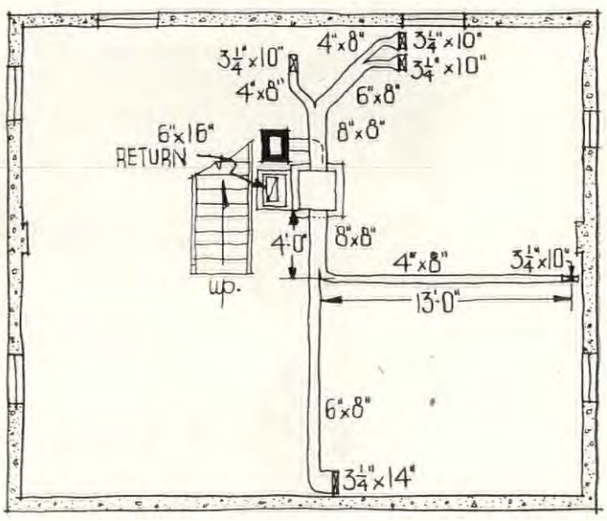
Used exclusively in the ceiling, warm air rising in the wall stack is mechanically circulated through an air space provided between the ceiling and the bottom of the joist above. Baffles create a maze to guarantee orderly air circulation over the entire ceiling surface. Strategically-located outlets carry return air to the gas-fired forced air furnace for reheating and recirculating. A conventional room thermostat is used to regulate temperature, and response of the system is said to be as rapid as that of conventional heating systems.

To install the system (see p. 126), ceilings on the first and second floor are suspended a few inches below the bottom of the joists. Insulation board is nailed to bottom of joists and joints taped. Galvanized iron baffles, to direct air travel, are nailed to joists. Hangers, approximately 3¼ in. long are attached—one to every other joist, alternating joists for alternate rows. Steel rods, room length, are laid and wired to hangers. Metal lath is fastened to rods and ceiling plastered.

Panelaire systems have been installed in properties insured by the Federal Housing Administration and, when installed in accordance with specifications, meet the requirements of the National Board of Fire Underwriters.



BASEMENT and first floor ceiling plans of recent installation show how system works. Hot air flow is controlled by system of baffles above suspended first-floor ceiling. Arrows indicate path of flow (above). Supply and return risers are grouped in central hall, directly over gas-fired heater in basement (below).



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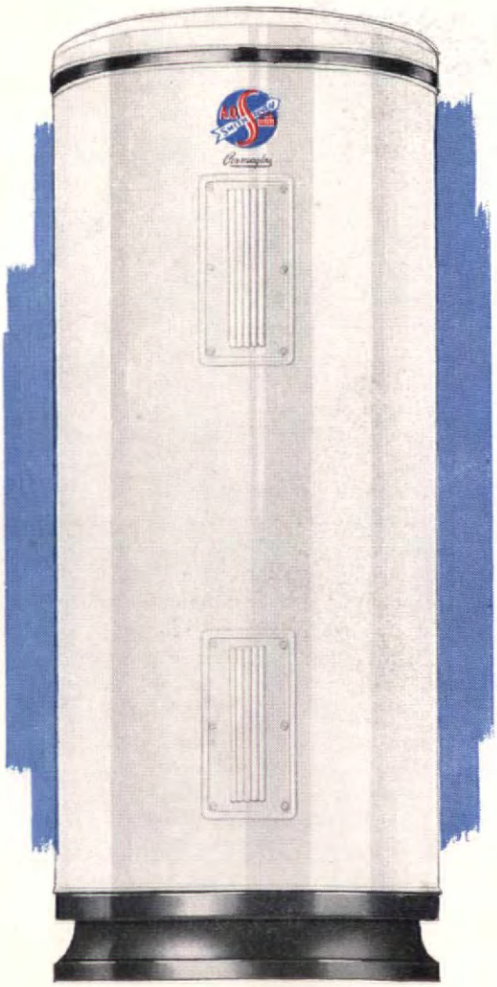
This new discovery spells the end of tank rust that ruins clean laundry, of corrosion dirt that soils the bath and stains the fixtures. Your clients will feel like cheering the



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Yet this is only *one* feature of many—including a smooth, beautiful design that has set the new postwar style.

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THAT MEETS ALL MODERN DEMANDS

The *Permaglas* Water Heater has a rust-resistant tank of mirror-smooth glass-fused-to-steel. And only the "*Permaglas*" gives you *all* the features every homeowner wants in an all-modern water heater. Gas or electric. Capacities to fit all home needs.

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Square form, executed in green Hornton stone, 16 in., 1936

Mother and Child, concrete, 7 in., 1930

Soichi Sunami photos

HENRY MOORE, sculpture and drawings

It has been a long time since an English artist has evoked widespread popular acclaim in the U. S., but few artists, regardless of nationality, have managed so rapid and sweeping a conquest of this country as Yorkshire-born sculptor Henry Moore. Currently on view at New York's Museum of Modern Art (through March 16th) is the first American retrospective exhibition of his work. From there it will travel to the Art Institute of Chicago and, later, to the San Francisco Museum of Art. In addition to 58 pieces of sculpture in stone, wood, lead, bronze and carved concrete, the exhibition includes about 50 drawings, half of them from the artist's famous "shelter" series, sketched in London tubes and air-raid refuges during the worst of the blitz, and two of his "shelter" notebooks. Although most of the work is on loan from England, four museums and a number of private collectors have contributed examples.

The spontaneity of Moore's acceptance by Americans has puzzled artists and critics alike. It may well be due to the fact that his work embodies some of our most fundamental national traits. As the artist analyzes it: "For me a work must first have a vitality of its own. I do not mean a reflection of the vitality of life—of movement, physical action, frisking, dancing figures, etc.—but a work can have in it a pent-up energy, an intense life of its own, independent of the object it may represent. When a work has this powerful vitality we do not connect the word Beauty with it.

"Beauty, in the later Greek or Renaissance sense, is not the aim of my sculpture.

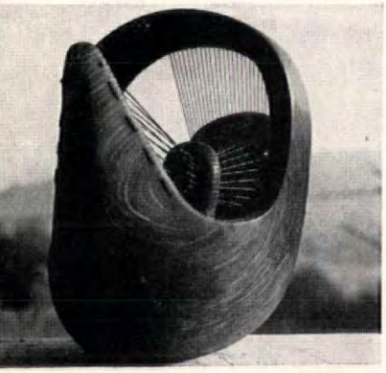
"Between beauty of expression and power there is a difference of function. The first aims at pleasing the senses, the second has a spiritual vitality which for me is more moving and goes deeper than the senses." The reclining figure (left center), characterized by a restrained massiveness peculiar to Moore's art, gives a clear meaning to his statement. James Johnson Sweeney, who has written a book on Moore which the Modern Museum will publish in connection with the exhibition, says that this particular statue incorporates all the "sense of 'movement' and 'growth' which the artist considers proper to wood sculpture. Each part flows, or grows, into the next, following the branching structure of a tree. The grain of the wood favors, even underscores, the compositional movements without in any way influencing the forms."

Like his sculpture, Moore's painting reveals a profound kinship and reverence for nature undoubtedly nurtured by his academic training at Leeds School and the Royal College of Art, unfettered though his present technique may be. Many of his paintings, particularly those in the "shelter" series (lower right), reveal a gentleness and dignity that hints at mysticism, yet they remain warmly human. In most sketches Moore's color appears secondary to form with soft autumnal tones predominating. However, the subtlety with which it is used leads one to conclude that never in our time have sculpture and painting been as harmoniously integrated as in the work of Henry Moore.

(Continued on page 132)

Among artist's most recent work is reclining figure in elm, 75 in. long, lent by Bucholz Gallery

Sculptor Moore and feminine figure



Bird basket (above), lignum vitae, 1939 Shelter scene (right), watercolor, crayon, pen and ink, 1942

Did you see this ad in House Beautiful? Many of your most important clients, prospects and tenants did see it. Or they will see equally impressive ads in The Saturday Evening Post or American Home. Yes, a great advertising campaign is now telling your public about the flooring preferred by a majority of you building professionals—Kentile.

"Bring the gang down for fun!"

"Come on down to the basement playroom. It's warm, cheerful, and ready for rough house, too. Allow me, also, to brag a bit about the new Kentile floor."

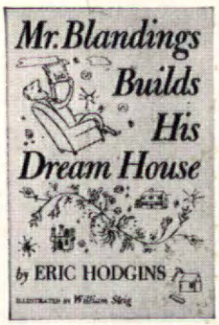
That Kentile floor is a find. It's just about the lowest cost floor known—yet will wear for decades. You can't scratch it, scuff it or mar it any way. Even cigarettes leave no scar. It doesn't stain and the gay, fresh colors never fade or change—and can't be rubbed off because they're in right through the entire thickness. Neither moisture nor alkali affect it. Indeed, it's the only type of floor that's really right on basement concrete. And it's a cinch to clean —just wipe with mild soap-water (dirt never penetrates Kentile), or wax occasionally if you wish.

But, best of all, Kentile's a winner for beauty and decorating assistance. You see, it's laid tile by tile (not in sheets) so you combine colors as you wish—in patterns meeting *your* ideas—or a game (as shown above) can be set right in, and you'll have a floor for fun for life.

Kentile, of course, is the *modern* floor wherever practicality and beauty are both wanted—playrooms, kitchens, foyers. Discover it for yourself. Kentile is made exclusively by David E. Kennedy, Inc., fine flooring since 1899.

KENTILE
Asphalt Tile
Trade Mark Reg.

Bloomingdale Bros., great New York department store, in the playroom above, shows a Kentile floor of Cippolino (C-214) with a shuffleboard of Toledo Red (C-109) and White (D-132) strips and numerals.

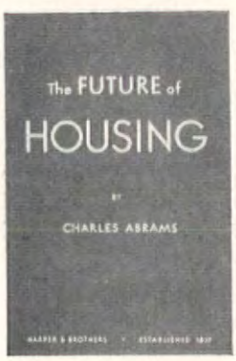


MR. BLANDINGS BUILDS HIS DREAM HOUSE. By Eric Hodgins. Simon & Schuster, 1230 Sixth Ave., New York. Illustrated by William Steig. 237 pp. 5½ in. by 8½ in. $2.75

From the veiled but acute distress of the hero at the end of Eric Hodgins' waggish short story, *Mr. Blandings Builds His Castle* (FORUM, May, '46), it is hard to believe that enough worry, frustration and overexpansion could still be left in store for the poor man to fill a book. Actually, the slight modification in title is but a mere insinuation of Mr. Blandings' ensuing pain, mental, physical and financial. Amplifying a terse little tale of this type often tends to dilute its saltiness, but author Hodgins has managed to sustain his original wit and pace throughout the whole ghastly series of mishaps. These befall a mild and sedentary junior executive of the advertising field who, in a moment of misguided ecstasy decides that a country house would afford him "the peace and security that only the fair land itself could provide." This turns out to be a termite-ridden farmhouse that finally has to be demolished and replaced by the "dream house" with all its personalized amenities and headaches. Starting off with a $10,000 remodeling fund, Mr. Blandings is duped, swindled and bled for about five times as much by real estate men, financiers, contractors, subcontractors and, inadvertantly, by the estimable Mrs. Blandings. Mr. Hodgins' style is deft and effervescent. He unmercifully dissects Mr. Blandings to reveal a city-softened fool let loose on a Connecticut hillside but despite the fun he pokes, the reader cannot help but sympathize with the hapless hero—if only because Mr. Blandings is so like himself. William Steig's drawings are top-notch. If the book points a moral, it is: Never build. M.S.

THE FUTURE OF HOUSING. By Charles Abrams. Harper & Bros., 49 E. 33rd St., New York. 414 pp. Illustrated. 9½ in. by 6 in. $5.

Years of loyal and intensive work in the cause of public housing have admirably qualified Charles Abrams as author of this recent study of the national housing picture. It is as sane and thorough an examination as one could hope for. Undoubtedly the popular protest of critics will be that anyone who has gone on record as so ardent an advocate of federal participation in low cost housing is incapable of genuinely objective analysis. However, it cannot be denied that Abrams' grasp of economy, in general and in specifics, is assured and realistic. The fact that he is, in his own right, a skilled large-scale investor in urban real estate probably accounts for much of his level-headedness, but the refreshing absence of confusion and emotional crusading in his book is traceable to another aspect of his career. Because Abrams has never held an administrative post, but has served only in advisory capacity to federal and local housing authorities, he has, fortunately, neither axe to grind nor past action to defend.



While *The Future of Housing* is not so radical as to be termed a bombshell, its proposals are sufficiently consequential to evoke painful squeals from certain professional, commercial and investment groups who shall remain nameless until they yell "ouch". He advocates that the public housing program, as it is now administered under FPHA, be greatly expanded, but that operation and ownership pass as rapidly as is feasible and possible into private hands. In other words, the government's role would be solely that of builder. Experts dote on pointing out that under an economically sound democratic system there must be a point where private interest intervenes to offset the power of the state. Abrams' proposal is unique in envisaging a large scale federal building program which incorporates such a curb. Noting that with almost 60 per cent of all home mortgages federally underwritten today and the way already paved for insuring most of the rest, he maintains that today's segregation of private and public effort is more wishful thinking than fact. The elaborate piece-meal structure of federal welfare power, as it has been built up, can only be maintained at the next downswing of the cycle by government grace and credit. Frankly admitting that the program he outlines virtually eliminates the role of the small en-

(Continued on page 134)

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Alcoa Aluminum Window Sills . . . and Thresholds

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trepreneur, Abrams says: "The aim should be to yield the greatest measure of participation in building to private enterprise consonant with the greatest security of private possession and ownership. If, by limiting or, where necessary, eliminating the speculative builder's function, a greater role can be played by private enterprise on the whole, then effecting such a step would be no violation of the private enterprise formula.

"Spending of government funds under a comprehensive plan and utilizing the rich untapped resources of the construction industry, would be vastly different from the present piecemeal spending through petty and inefficient builders. Government policy would be calculated to raise the standards of private operations, thus checking the blight that leads to bankruptcy and premature government intervention. It would aim at minimizing the role of government by more firmly establishing ownership, the main support of our capitalist society, an ownership now threatened by planlessness, debt and insecurity. Investment of powers in cities to buy land (for which, with the eminent domain power, they are better equipped) and provision of funds to carry out the planning and the building of houses by utilizing and paying for private land, labor materials and loan funds would not only be consistent with our social and economic patterns but would also more fully utilize the capacity of private industries to rectify one of the most glaring defaults of the capitalist economy."

Before anyone starts yelling "Red!", Abrams deserves a few words on socialization: "Public housing policy cannot escape modification under such a program. It uses private materials, private labor, private contractors, draws upon private funds. In this sense, public housing aids private enterprise and rejects socialization. But in the sense that it is set up to own and control rather than divest itself of ownership and control, it accepts socialization.

"We should not aim to shrink the sphere of private ownership by extending public ownership. Rather, we should seek to 'desocialize' public ownership, when practical, by conveying title or at least conferring the greatest measure of control and responsibility upon the tenants. Government ownership and control is not necessarily part of the public purpose in subsidized housing. Housing differs from education, public utilities, and similar public services in which public operation is indispensable to fulfilling the public purpose. The main end is to clear slums and have an adequate number of good homes in well-planned neighborhoods within the means of the people. It is in building the projects that public enterprise finds its main justification. If the public purpose has been achieved by building and if operation can thereafter be handled privately, it should be the aim of the public agency to convey its buildings into private hands . . . For the democratic planning of housing, these therefore seem essential principles:

▸1. Public ownership should be reduced to a minimum. The government should own only where the mechanisms of private ownership cannot be otherwise made to function.

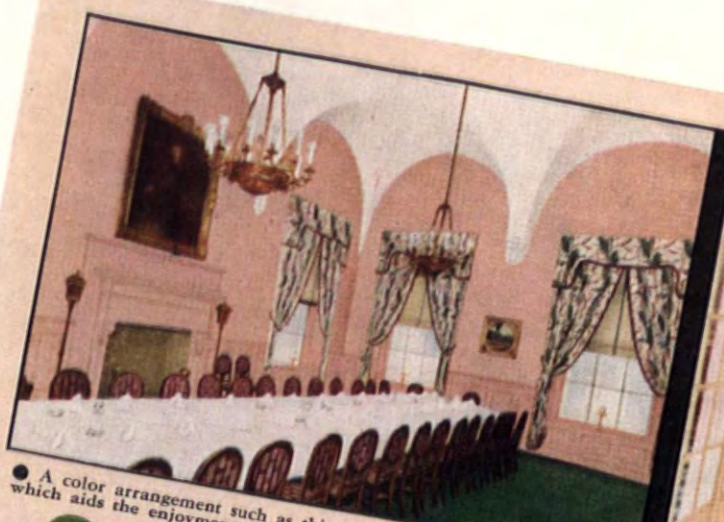
▸2. The public should build if private enterprise does not function or if better planning and more secure ownership can be thereby attained.

▸3. Where the public builds it should employ all private mechanisms possible—private contractors, labor and materials and endeavor to expand the range of their opportunities.

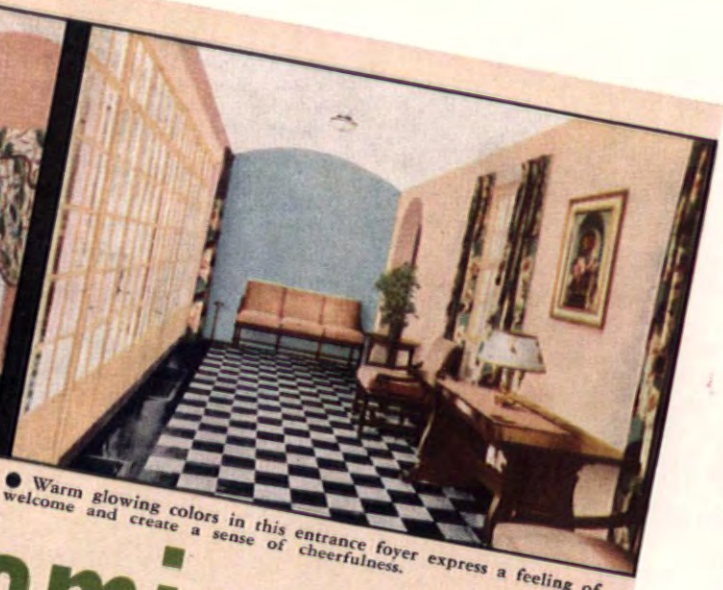
▸4. Public building and public owning should be reorganized as separate functions, the one not necessarily following upon the other. Completed property should be sold where feasible to facilitate and encourage private ownership and more secure tenure."

The brief of "Abrams versus the housing crisis" names five culprits. Four—the slum, home ownership, housing investment, and the role of the government—are arraigned on the charge of accessories. Direst shame rests squarely on the shoulders of the building industry. Its trouble, the prosecutor maintains, is not immaturity, but senility. Winding up a sharp peroration with familiar but ever blacker background data (documented by even more familiar pictures) he pursues his attack, all guns blazing: "The home-building industry is the largest single segment of the construction industry. An industry in name only, it is actually a group of diverse handicrafts, hamstrung by disorganization, waste, undercapitalization, and unfair competition. It has failed

(Continued on page 136)



● A color arrangement such as this induces a feeling of well-being which aids the enjoyment of good food, well served.



● Warm glowing colors in this entrance foyer express a feeling of welcome and create a sense of cheerfulness.

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to meet the needs of the bulk of the population. Its inability to function properly has become a major factor responsible for precipitating economic depressions as well as retarding recovery. It shares the blame for shoddy construction, poor planning and poor workmanship in the building of our homes, and the absence of sound and integrated communities. Proper maintenance of the country's houses has been discouraged; disrepair invited. It is one of the factors responsible for an unsound home ownership structure. Most families find it too costly to buy homes or rent them. The building industry may be blamed for recurring shelter shortages for all income levels of the population, tenants as well as owners." To back up his final recommendation he adds: "In an era when hundreds of products were brought within the reach of millions through low-cost quantity production, building costs rose—more than half our families being unable to buy its product."

Perfectly correlated with a nationwide planning scheme, the specific aims of Abrams' proposed housing program are tenfold:

1. A democratic framework
2. A revitalized building industry
3. Housing for low-income families
4. Urban reconstruction
5. Rural slum clearance
6. Sound home ownership
7. Adequate rental Housing
8. Homes for veterans
9. A sound mortgage system
10. Stabilization of the real estate pattern

Naturally most of these points are interrelated and overlapping but each is dealt with exhaustively and skillfully located in the overall picture. The first, which includes the more revolutionary proposals will undoubtedly arouse most controversy. This section covers legislation, administration, and financing and is in reality the skeleton on which the other points hang. If, at first glance, the program appears to vest undue authority in the federal government, regardless of the reader's political, sentimental or humanitarian convictions, it deserves closer scrutiny. Ten years ago author Abrams proposals might have been accepted as a hard-boiled policy which could go into effect immediately and produce large-scale results in the shortest possible time. In the present political climate it stands about as much chance as a pedestrian on Times Square at theater hour. Nevertheless the hiatus of private enterprise in low cost building must be realistically filled and the job may still fall to the government. Abrams' plan has the merit of utilizing federal authority in a truly democratic manner—as a constructive implement of the greatest number of people.

In view of Wilson Wyatt's resignation and its obvious implications, the author's recommendations for a National Housing Agency are of particular timeliness. Believing national housing policies to involve too many ever-changing factors and fields for one man to cope with, he advocates that the authority be delegated to a board such as the one that controls TVA. These men, he maintains, must necessarily be of national prestige and recognized ability—men who "can afford to buck the established special interest groups." However, he sees no need for them to be experts in the housing field. Labor and industry should be represented. In short, it must add up to a group whose ability and competence will command the respect of Congress.

Undoubtedly the author's academic experience as lecturer at the New School for Research has enhanced the clarity with which he is able to present a subject, but then his legal training is no hindrance. *The Future of Housing* was written by a specialist for specialists but it is nevertheless a highly lucid and articulate work than can and should be read by as many people as possible. M.S.

BERMUDIANA. By Ronald J. Williams. Rinehart & Co., 232 Madison Ave., New York. 256 pp. Ill. 9 in. by 12 in. $5.

A glorified vacation brochure written in the best Fitzpatrick Travelogue manner. A section on local architecture which goes so far as to touch on building practices might, however, be of value as reference to architects. Productionwise, the book's weakest point is its engraving. L.M.

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Marking the first step of the Columbia-Presbyterian Medical Center's post-war development program, are the additions consisting of two ten-story wings shown above. In Maxwell Hall the entire student body and faculty of the Presbyterian Hospital's School of Nursing is now housed, freeing vitally-needed space in the hospital for additional patient beds. One hundred and twenty student and faculty rooms, as well as increased infirmary, library and service facilities, are included in the wings.

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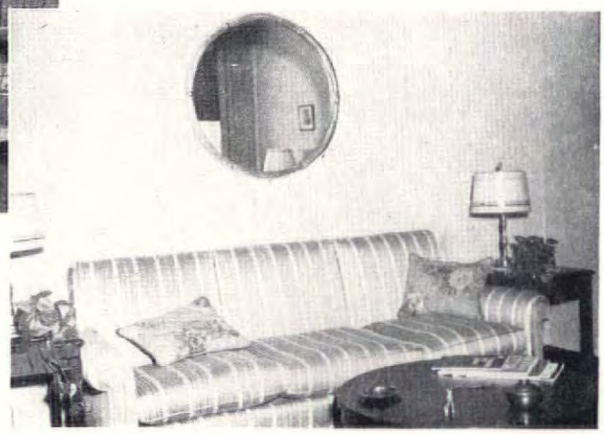
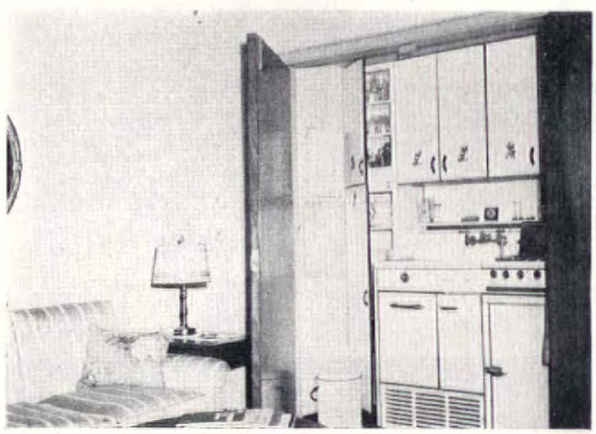
Photos: (Left): General exterior view of Maxwell Hall. (Below): Living room of Senior Staff Member's apartment in new wing of Maxwell Hall. (Center): Student's room. (Bottom): Kitchenette of a Senior Staff Member's apartment.





PRATT & LAMBERT PAINT AND VARNISH

2:30, being much too fond of ballet, concerts and the numerous parties he and Steffi are invited to. At a recent blowout given by an architect friend he spotted a giantess in a bare-midriff dress, walked boldly up to the stranger and kissed her on the stomach without, of course, having to stoop down. A devoted slave to Steffi, he is fond of going into rhapsodies over lush blondes whom he wickedly but verbally worships from afar. He is also given to philosophizing with any and all comers on the profound problems of Life and Art.

KIESLER'S theories of design (which have variously earned him the epithets of screwball and genius) actually constitute a coherent philosophy which governs his every piece of work, from set design to cities. But as Kiesler expounds them, both in magazine articles and conversation, they are apt to give the average person nothing more constructive than a raging headache. His literary efforts are sprinkled with abstruse concepts and coined words (samples: co-realism; biotechnique; time-space-continuity) which to Kiesler with his multilingual mind and limitless imagination are quite simple and lucid. His terminology stems from the fact that Kiesler sees life whole, for he is not content with a merely structural understanding of design. Like a dog surveying a strange bone, he approaches a problem from myriad angles before biting into it. He includes the psychological, the historical, the philosophical and the technological in his design dish, adding a bit of indefinable Kiesler imagination for seasoning. The word "continuous" pops up consistently in his work: "continuous tension"; "continuous suspension"; the continuous theater" etc. His design concepts are not far removed from the chain reactions of atomic physics. Reduced to their simplest form, however, they mean simply this: the continuous interaction between human beings and their environment.

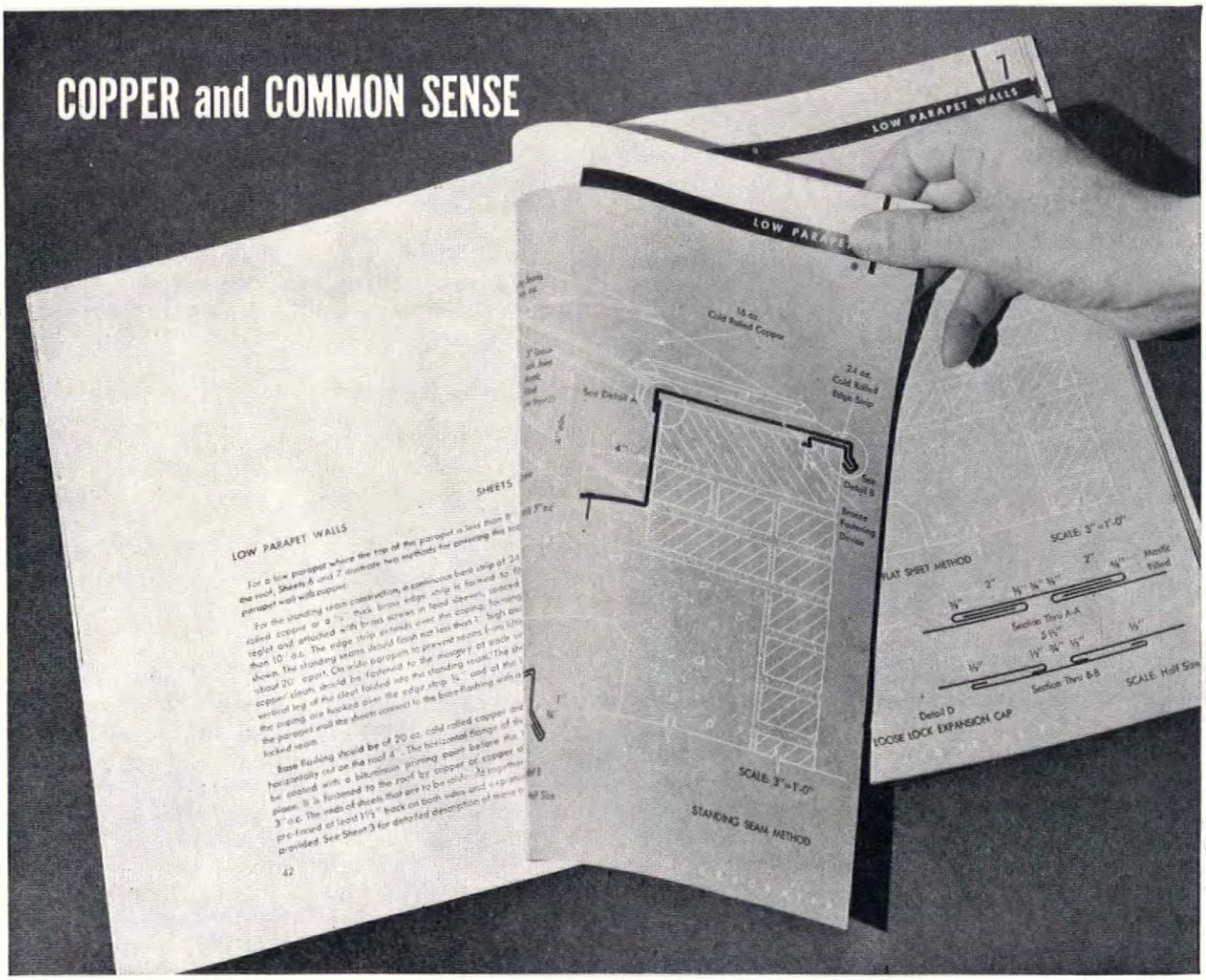
In set design, this approach can be seen in Kiesler's "continuous motion of scenery coordinated to acting, speech and lighting." For instance, in the Julliard production of the *Magic Flute*, a tremendously complicated opera involving eleven scene changes, Kiesler painted all his backgrounds on a long cloth panel which was fed into a late 18th century romantic frame as the scenes changed. Wrote music critic Virgil Thompson of the Herald Tribune: "Much has been said about the stupidity and the useless complexity of 'The Magic Flute's' libretto. . . . Last night's performance at the Julliard School made it seem as simple as a Sunday school pageant. . . ."

In the realm of actual theater design the results of Kiesler's theory are more complex, but the guiding idea remains the same. His proposed community playhouse for Woodstock, famed summer artists' colony, is a typical example. Its basic idea is flexibility: to meet the changing demands of a small permanent population and a larger transient one; to provide a suitable setting for all forms of dramatic art—plays, operas, revues, motion pictures, concerts and dances. To accomplish these ends, Kiesler has provided two auditoriums, one large, one small, on opposite sides of a double proscenium stage. Either auditorium can be closed off with sliding panels. The large auditorium (semi-circular in form) is composed of two tiers of seats divided by a peripheral runway which connects with the main stage and can be used for choral background etc. The lower section of the auditorium can either face the stage for conventional performances or split, pivot and roll back forming an arena, to suit the demands of a production. (This can even be done in the middle of a performance without disturbing the audience). Perhaps most ingenious of all, however, is Kiesler's separation of mechanical facilities and actors' dressing rooms to eliminate the usual between acts confusion of scenery and people colliding in mid-scramble. Dressing rooms are placed below the peripheral auditorium runway, thus allowing actors to leave the stage at the nearest proscenium exit and be out of the way of stage mechanics. Other features include acoustics so flexible that a singer or a full orchestra can be put in exact acoustical focus; an open terrace restaurant; an emergency hotel; under-theater parking.

In house building and city planning Kiesler's approach, as demonstrated in his Paris exhibit, "The City in Space", results in free movement of traffic both on the ground and at various above-street levels; in the maximum of light and air and green space without sacrificing convenience; in a new flexibility of interiors and furnishings. In all his designs it involves changes in construction methods.

"The ordinary wall or floor," explains Kiesler, "is a concentration camp. Different materials, each with different properties, and different coefficients of contraction and expansion, are fighting each other. They must be held together by force, but their natural reaction is to spring apart and so we have cracked ceilings, settled foundations, sticking doors." Kiesler's solution is a continuous shell of one material whose walls flow into ceilings without break, whose "continuous tension," like an egg's construction, needs no battery of studs, joists, trusses, screws, rivets and welds to hold it together. He was extremely critical

(Continued on page 140)



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of the perisphere at the New York World's Fair. "They could have built Philadelphia with the steel they used," he exclaims. "It was like telling a baby to make a ball out of matches."

Kiesler's principle of the interaction between things and people actually leads to two avenues of investigation which he has been busily following for the greater part of his life: how people act and how materials and structures act. These two elements were drawn dramatically into focus at the Columbia University design laboratory. Here Kiesler and his small band of students limited themselves to the relatively simple problem of furniture design in order to develop a method of thinking which could be applied to all architectural construction. The "mobile home library" an ingenious bookcase, is a sample of how the new approach worked. Students investigated the properties of proposed materials virtually from the test tube on up. They visited factories in order to know the technical possibilities of production. They studied existing bookcases to discover good and bad points of design. Most important of all, they observed their own actions in using books and bookcases. The result was a completely new set of standards. They had discovered that ordinary shelving involves too much reaching up and stooping down — so all their shelves were placed within arm's length. They found that titles of books on lower shelves were out of view — so they tilted the bottom shelf. They saw that books were dust-catchers — so they invented a foolproof transparent dustflap. They decided that books should follow people — so they mounted their case on rollers and pivoted it on a central axis.

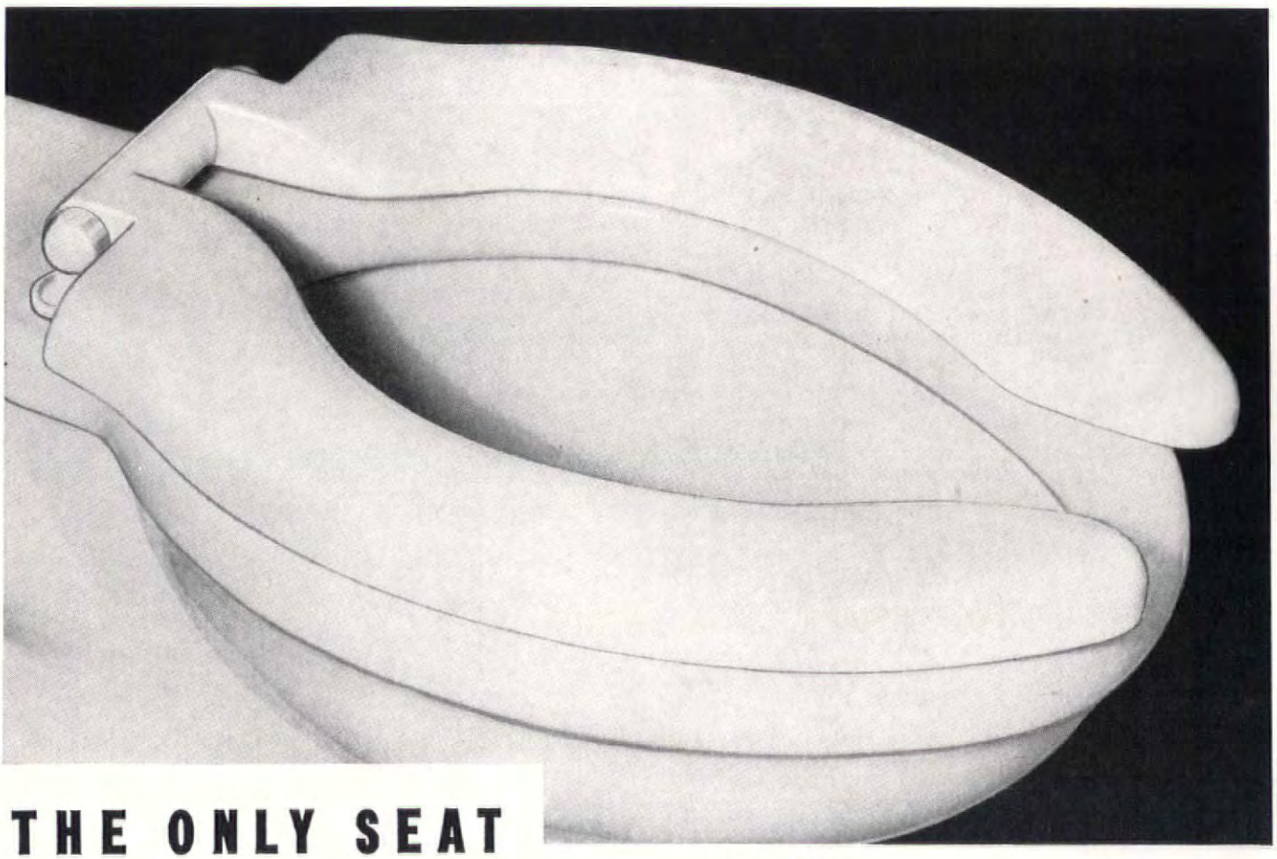
"But," explains Kiesler, "we did not investigate a bookcase. We investigated the relationship of an inhabitant to his house by way of a test bookcase." He feels that the importance of the laboratory was not its specific accomplishments, but its introduction of the scientific approach. "Architecture today is where the practice of medicine was 200 years ago," he explains, "and architects are like well-meaning country doctors. Neither the possibilities of construction with modern materials and methods, nor the requirements of the human body and its psyche have even begun to be explored."

Such blasphemous statements ricocheting among self-satisfied designers have not added to Kiesler's popularity. At Columbia the mysterious graphs and charts prepared as part of his lab course drew raucous laughter from students who were not among the initiated. His insistence on working behind locked doors (or, as one faculty member put it, behind a chromium curtain) aroused a certain amount of resentment among his colleagues. One co-instructor, describing the design lab's methods, explained: "If Kiesler wants to hold two pieces of wood together, he pretends he's never heard of nails or screws. He tests the tensile strengths of various metal alloys, experiments with different methods and shapes, and after six months comes up with a very expensive device that holds two pieces of wood together almost as well as a screw."

Such reflections on Kiesler's speed and economy are undoubtedly founded in fact. But when not experimenting in a laboratory he has been known to perform more like greased lightning than molasses. He turned out the sets for "No Exit" in a flat eleven days, a record in anybody's language. For Julliard productions he averages three weeks. Furthermore, expenses for these opera sets consistently run in the hundreds rather than thousands of dollars which for any kind of set design is absurdly cheap.

Probably what really annoys Kiesler's coworkers is his irritating habit of being right. From Kiesler's valiant efforts to maintain his design integrity has grown up a reputation that he is a difficult man to work with. Knut Lönberg-Holm, editor of *Sweet's Catalogue,* puts this down to the fact that Kiesler's clients usually appear with fists up ready for a battle. John Erskine adds that he may have some trouble but only with stuffy, opinionated people. The producers of "No Exit" found him "very sweet and very amusing" and were amazed at his unusual unwillingness to accept suggestions from anyone. Philip Johnson at the Museum of Modern Art has perhaps put his finger on the real key to the situation: "There are about five architects in America who are interested in architecture and not in money," he explains "and Kiesler is one of them."

Design in all its manifestations, undoubtedly means more to Kiesler than it does to the ordinary architect. He sees his every work as part of man's continuing struggle to free himself from his physical and psychological limitations. "All my work," he explains, "is really a kind of magic — a creating of life and a creating of freedom." Perhaps Kiesler's motivation for his "City in Space" and his free-floating constructions is really the desire of the little man, limited by his stature, to grow tall, to be free of the earth. Whatever the reason, his approach opens the avenue to a new freedom of thought and expression for those bold enough to take the cue. As an admirer of his once remarked: "Sometimes it takes an impractical man to be truly practical."



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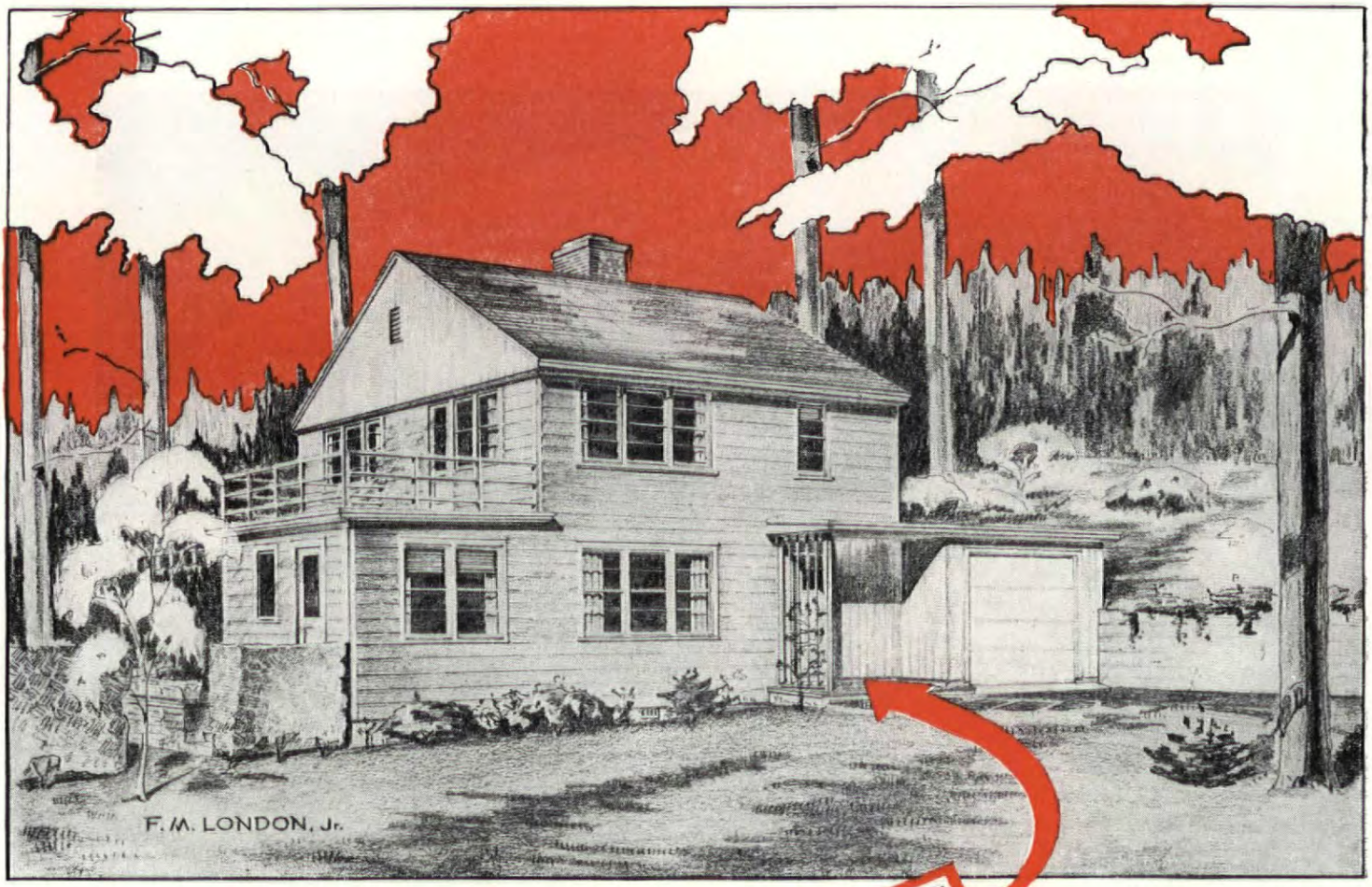

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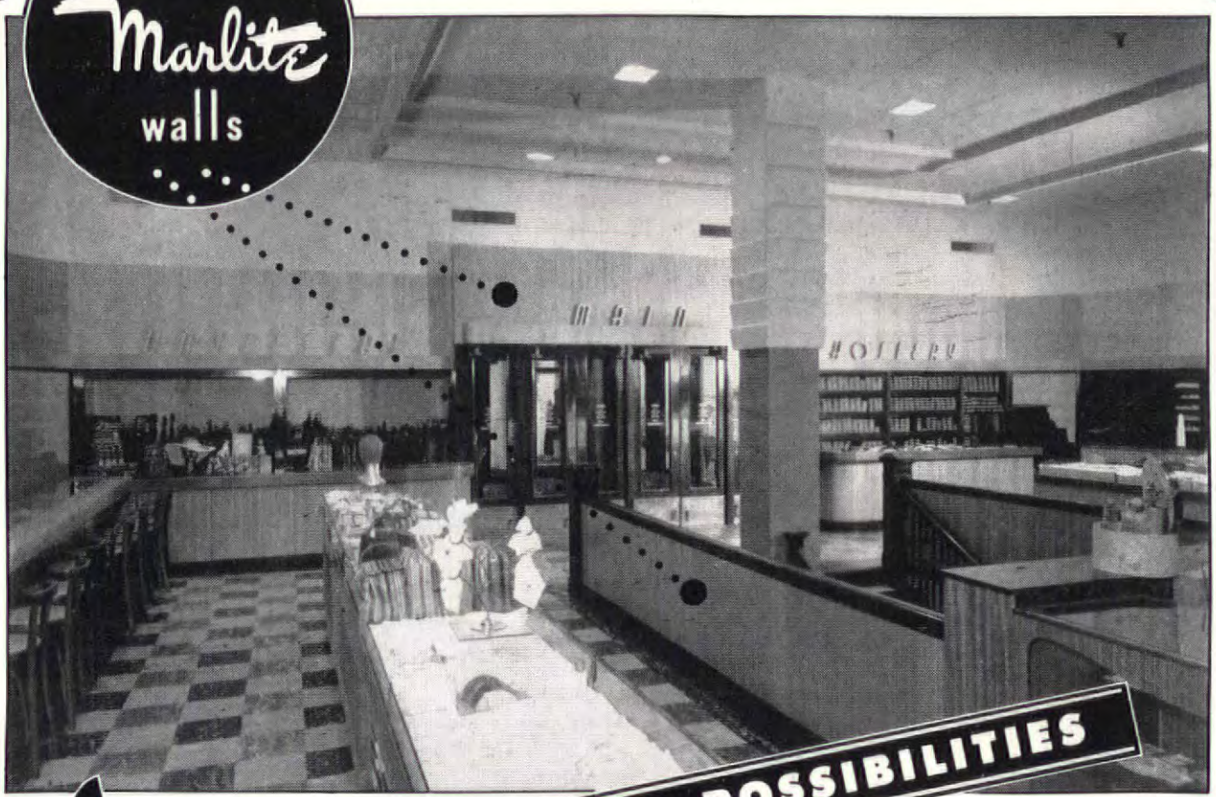

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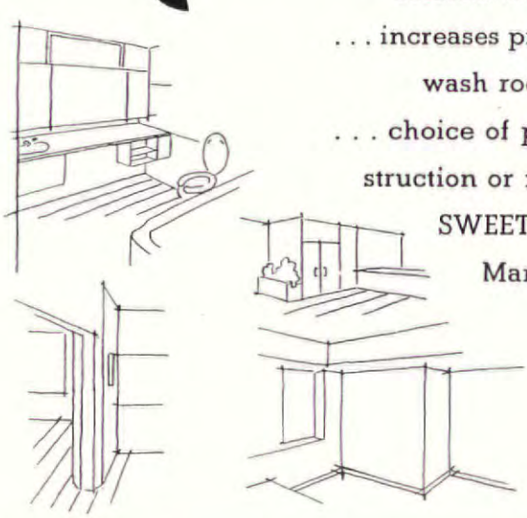

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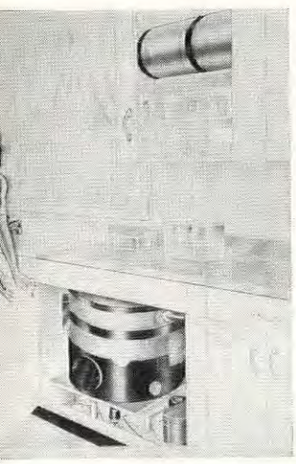
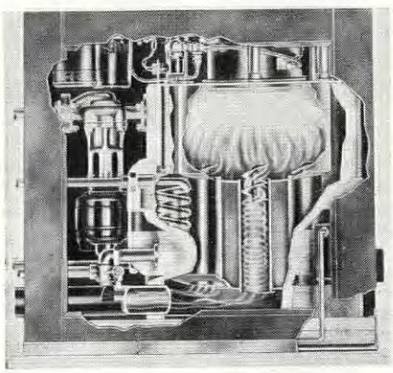


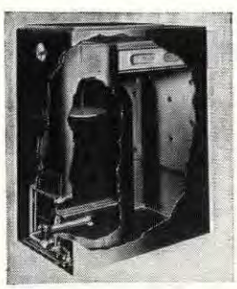
This oil-fired boiler-burner heating unit, small enough to fit into an ordinary kitchen cabinet, automatically provides sufficient hot water radiation to heat a 3- to 5-room house plus a year round supply of domestic hot water. To achieve compactness and heating efficiency, the unit employs a Miller-developed heat Spiralator, a new heating principle which builds up pressure instead of a draft in the firing zone. The boiler is a fire-tube type, having 9 vertical tubes. Into each tube is placed a Spiralator which, according to the manufacturer, gives the products of combustion a spinning motion that effectively scrubs the walls of the tube through their entire surface. The spiral motion of the gases is increased by firing the combustion chamber with a Miller vaporizing-type burner under a positive pressure instead of the usual negative draft. Equipped with constant level valve, high limit control, aquastat for summer-winter hot water, ignition control and water circulator control; a room thermostat and draft regulator are also supplied. Operating costs are said to be well within the small home owner's budget, as the unit burns 30 to 40 per cent less oil than the average burner—a maximum of only 8/10 of a gal. of No. 1, 2 or 3 oil per hr. at high fire. While the unit fits into a standard kitchen cabinet, it also comes in an attractively finished streamlined steel jacket, worktable height, for installation in the basement, utility or recreation room. Installation is relatively simple and the unit carries the stamp of approval of the American Society of Mechanical Engineers.



Manufacturer: Heating Products Div., The Miller Co., Meriden, Conn.

STEEL FURNACES for gravity or forced-air heating systems.

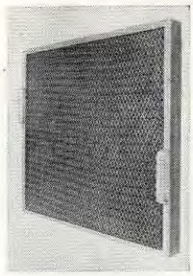
Available for gravity or forced-air systems with push button or automatic electrical ignition, these steel, gas-fired furnaces are rated at 70, 90, 120 and 140,000 BTU/hr. and meet the latest A.G.A. preheating element temperatures. Design includes features new to this type of furnace. Almost total elimination of flat surfaces has removed the rattling which occurs during warm-up and cooling off periods. The combustion chamber and heat exchanger have been arranged in updraft layout to avoid entrapment of condensate with resultant corrosion within the exchanger tubes. The burner unit is rectangular, resulting in improved and concentrated heat transfer without hot spots in the combustion chamber. Easy access to the heating elements makes the furnace thoroughly cleanable. The drum type combustion chamber is accessible through the door, while the heat exchanger tubes can be reached by removal of a portion of the draft diverter assembly. Completely packaged, the 70 and 90,000 BTU/hr. units are door size for ease in installation.



Manufacturer: The Bryant Heater Co., 17825 St. Clair Ave., Cleveland, Ohio.

PERMANENT AIR FILTER for heating, air conditioning and ventilating systems, provides high efficiency.

High velocity Agitair FM permanent, cleanable air filter is designed to perform efficiently at an approach velocity of 432 fpm, handling 1,200 cfm through a 20 x 20 in. filter panel. Operating with sustained peak volume of air for long periods of time, is assures high dust-arresting efficiency and maximum dust-holding capacity. Key to the filter's design is high turbulence of many finely divided air streams. The media, consisting of layers of expanded metal, induces turbulent cyclonic action of air within the filter, thereby creating a centrifugal wiping action against all viscous-coated surfaces of the media. According to the manufacturer, Agitair FM holds from 2 to 6 times as much dirt as ordinary 2-in. permanent, cleanable filters, thus affords less frequent servicing and lower maintenance cost. Ruggedly constructed and easily removed for cleaning and servicing, Agitair FM filter can be quickly reinstalled to peak efficiency.



Manufacturer: Air Devices, Inc., 17 E. 42nd St., New York, N. Y.

FORMS for speedy production of prefabricated sectional building units of any aggregate, design or size.

The Wilson System of Prefabrication for one and one-and-a-half story buildings, such as small homes, garages, motels, etc., can be used with concrete, pumice, adobe or any other aggregate. Basically a system of rails and extension units that can be bolted together into various shapes and sizes, it lends itself to any architectural design or engineering requirement. Forms are portable, interchangeable, reusable and collapsible, and are designed to effect economy, speed and efficiency in production of solid or recessed sections, floors, roofs, interior or exterior walls. Adaptable to either site construction or mass production, they are available in two designs and two wall thicknesses, 4½ in. and 6 in. Designs are interchangeable and can be used separately or together. Forms for the Wilson System are available under lease and royalty agreement.

Manufacturer: The Wilson System of Prefabrication, 253 South Hoover St., Los Angeles 4, Calif.

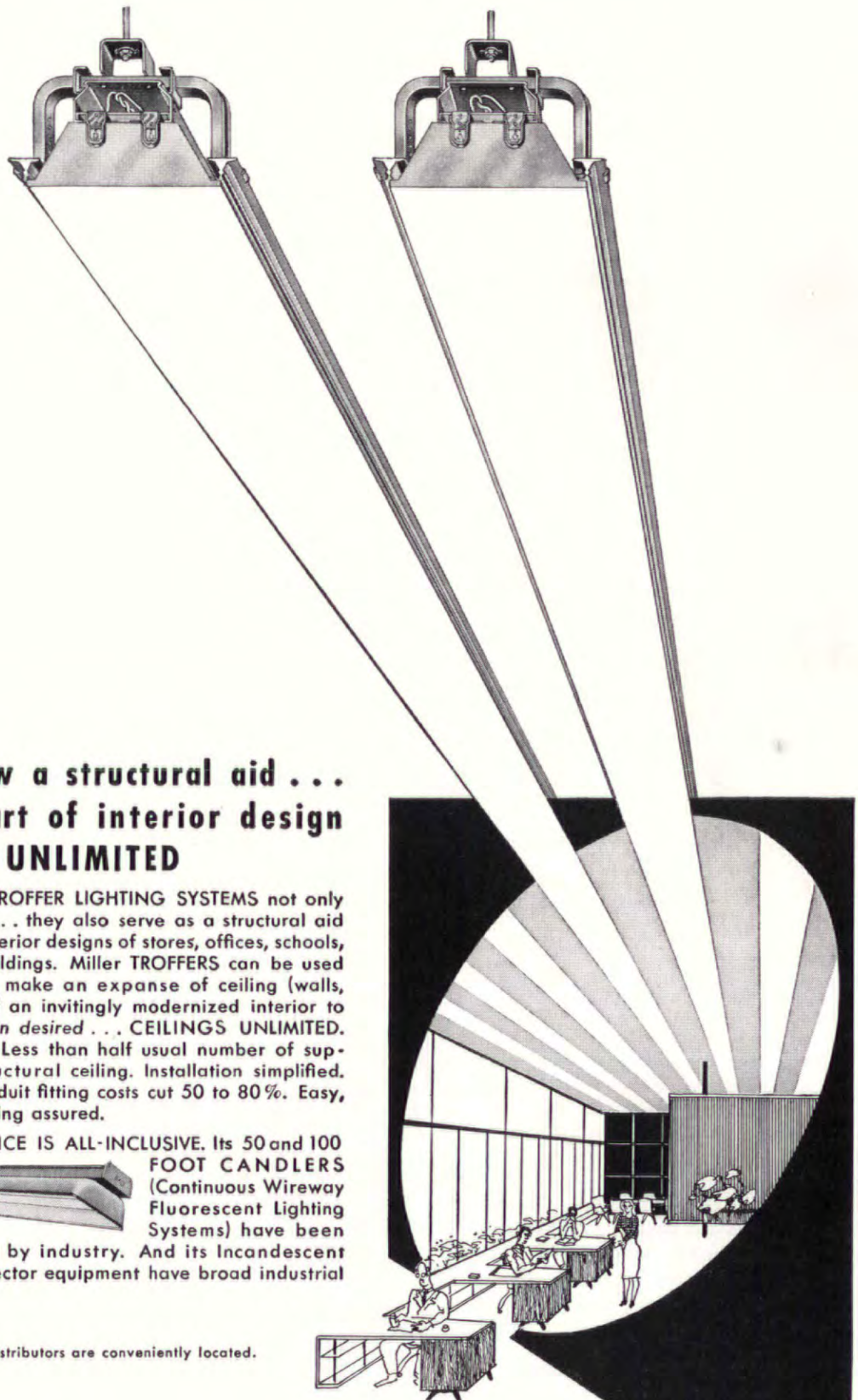
THRU-WALL FLASHING with saw-tooth corrugations bonds in every direction.

Chase Thru-Wall Flashing is designed to prevent the following conditions in masonry walls: leaks and seepage, disfiguring streaks, stains and efflorescence, and rusting of spandrel beams. The saw-tooth corrugation of the new ashing forms a mechanical key bond in the mortar, both vertically and laterally, and provides channels that drain the wall quickly. The design also takes care of expansion and contraction, and the interlocking saw-tooth overlap makes a watertight joint that requires no soldering. Other features include stiff counterflashing face that hugs the wall tightly after the base flashing has been installed, and easy bending and installing by the sheet metal worker. According to the manufacturer, Chase Thru-Wall Copper Flashing is reasonably priced, economical to use, and is available in standard width sheets up to 34 in. wide, in 6 ft. lengths.

Manufacturer: Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.

STEEL JOIST BRACES install easily, replace conventional wood bridging.

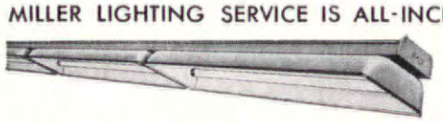
Sta-Tite Steel Joist Braces are steel members designed to replace conventional wood bridging. Single, rust-resistant units formed to provide maximum structural strength, they hold firmly in place, distribute *(Continued on page 146)*



Lighting is now a structural aid . . . an integral part of interior design . . . CEILINGS UNLIMITED

MILLER FLUORESCENT TROFFER LIGHTING SYSTEMS not only provide GOOD LIGHT . . . they also serve as a structural aid in the planning of the interior designs of stores, offices, schools, factories and public buildings. Miller TROFFERS can be used as "building blocks" to make an expanse of ceiling (walls, too) an integral part of an invitingly modernized interior to form *any ceiling pattern desired* . . . CEILINGS UNLIMITED. Additional advantages: Less than half usual number of supports needed from structural ceiling. Installation simplified. Wiring, conduit and conduit fitting costs cut 50 to 80%. Easy, accurate leveling of ceiling assured.

MILLER LIGHTING SERVICE IS ALL-INCLUSIVE. Its 50 and 100 FOOT CANDLERS (Continuous Wireway Fluorescent Lighting Systems) have been established as standard by industry. And its Incandescent and Mercury Vapor reflector equipment have broad industrial application.



MILLER field engineers and distributors are conveniently located.

THE MILLER COMPANY

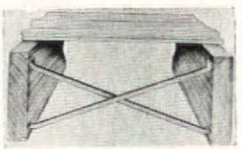
ILLUMINATING DIVISION, MERIDEN, CONNECTICUT

ILLUMINATING DIVISION
Fluorescent, Incandescent Mercury Lighting Equipment

HEATING PRODUCTS DIVISION
Domestic Oil Burners and Liquid Fuel Devices

ROLLING MILL DIVISION
Phosphor Bronze and Brass in sheets, strips and rolls

strain and weight evenly, and stop buckling and bulging. Patented flanged grip-ends hold braces firmly in place. One blow of a hammer drives the 7/8-in flanged ends deeply into the joists, and one nail in each end fastens the brace in place. Sta-Tite braces are lightweight, convenient to handle and easy to install. Cost is approximately nine cents each, with discounts on large orders.



Manufacturer: Carter Machine & Tool Co., 1233 Broadway Court, Rockford, Ill.

FACTORY-BUILT DOOR JAMB cuts installation time.

Completely built at the factory, Tru-Sized Door Jamb has only three precision-milled pieces to be handled on the job. Thus cutting, trimming or squaring is eliminated and installation time is cut from 1-1½ hrs. to 8-10 minutes. Jambs come complete with all necessary hardware and installation instructions and are packaged two to a bundle. Each set includes hinge jamb (with starter block glued in place), head jamb, lock strike jamb, stops glued in place on all three jambs, five rust-proof "shock-absorber" leaf springs, screws, washers and friction clips. According to the manufacturer, the entire plumbing and fitting process is accomplished by increasing or decreasing pressure of screws against tension of the leaf springs, a few turns of the screwdriver adjusting the jamb to the exact clearance and size of door. For most satisfactory installations the use of Tru-Sized or Factri-Fit Doors is recommended. Tru-Sized Jambs can be moved or salvaged in alteration jobs.

Manufacturer: Wheeler Osgood Co., Tacoma, Wash.

ALUMINUM SIDING offers rigidity, reduces denting and warping.

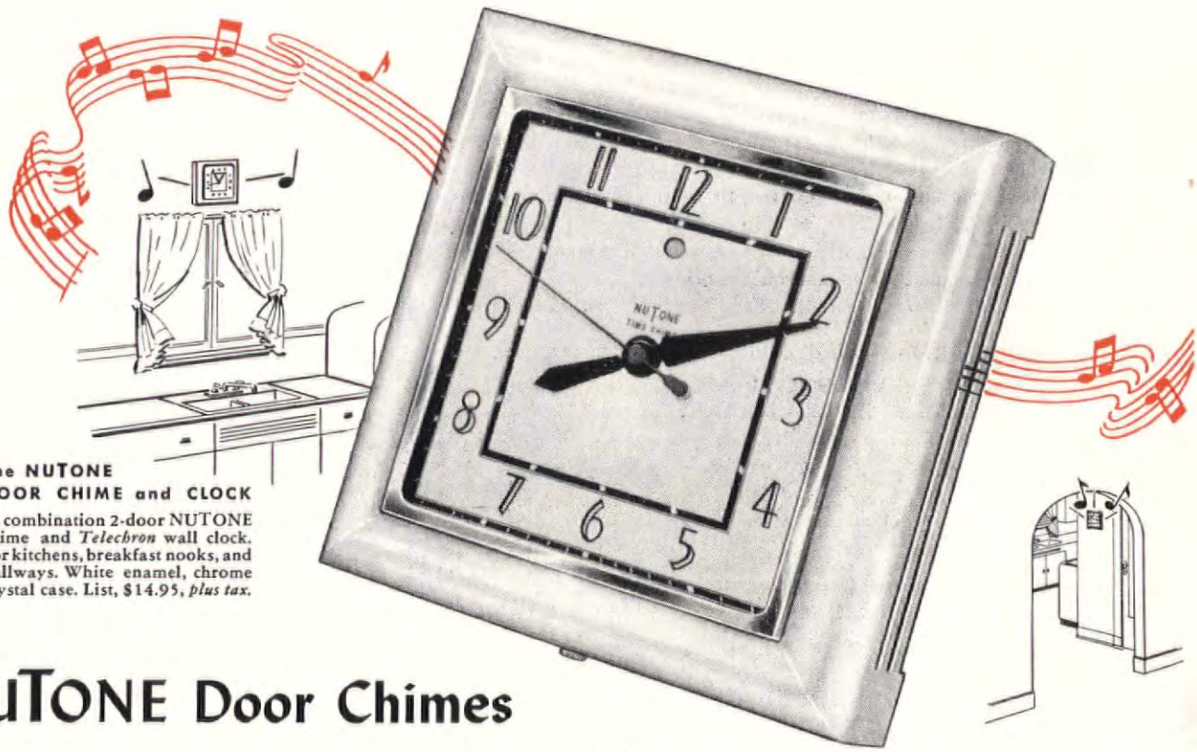
Designed to lay flat against the sheathing, Compo-Miracle Rigid Aluminum Siding reduces denting, warping and ladder marks to a minimum. Each length interlocks with the length below to form a rigid connection that will not warp or come apart, and joints are staggered and nailed to assure a tight butt. Corners butt tightly against wooden corner strips and are caulked, thus the completion of one wall at a time is possible. Starter strips are provided for the base, but caulking may be used if desired. Siding is manufactured in 4-ft. lengths, will not rust, rot or deteriorate. Painting is optional.

Manufacturer: Compo-Miracle Products Co., 15221 West Eleven Mile Road, Berkley, Mich.

STEEL BASEMENT WINDOW features full ventilation, easy removal of sash from frame.

Suitable for any type of home construction, H & R Aristocrat steel basement windows open from the top and project inward to provide full ventilation and maximum daylight. Featuring precision construction, sashes are interchangeable in frames, thus may be easily removed from the frame for reglazing or washing. Other features include a weatherproof double seal against moisture and vermin, positive-locking handle, aluminum prime coat, and a line of quality screens to fit the windows. Aristocrats are available in three standard, two-light sizes which conform to specifications of the Metal Window Institute: 15 x 12 in., 15 x 16 in., 15 x 20 in.

Manufacturer: H & R Machine & Tool Co., 20080 St. Clair Ave., Cleveland, Ohio. *(Continued on page 148)*



The NUTONE DOOR CHIME and CLOCK

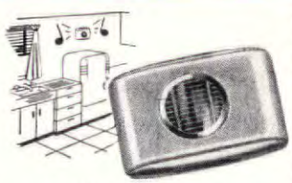
...combination 2-door NUTONE chime and *Telechron* wall clock. For kitchens, breakfast nooks, and hallways. White enamel, chrome crystal case. List, $14.95, *plus tax.*

NUTONE Door Chimes

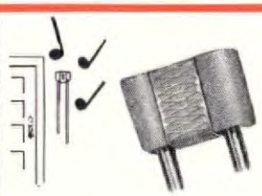
...make it easy for you to suit all tastes...all pocketbooks!

You'll find no "blind spots" in the NuTone line. You can specify chimes as low as $3.95 (list) on multiple-unit building projects. Others, up to $59.95 (list), let you fill the bill with luxury chimes for the finest homes. In between, is a wide range of chime styles, colors, and prices to suit all tastes, all pocketbooks. There are fourteen NuTone Door Chimes. But just *one* high quality standard for all.

All products bearing the NUTONE *trademark are fair-traded in all fair-trade states.*

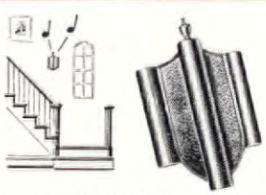


The LEADER . . . for kitchens or hallways. Chrome louvre on baked-enamel white cover, or satin brass on ivory. List, $3.95.

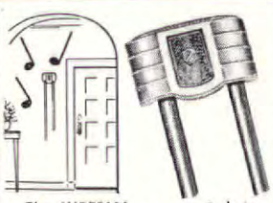


The SUPERTONE . . . two extra-long, super-sounding tubes. Ivory plastic cover with radio-type woven brass grille. A 2-door chime. List, $10.95.

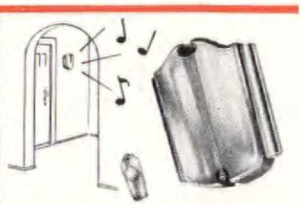
The DE LUXE . . . a short-tube, 2-door chime. Ivory with brass tubes and trim, or white with chrome. All metal. List, $6.95.



The MT. VERNON . . . a 2-door, all-brass Colonial chime. Handsome hammered brass design. List, $7.95.



The IMPERIAL . . . a 2-door, long-tube chime (38⅛" overall). Ivory plastic cover with hammered brass decoration. Brushed brass tubes. List, $8.95.



The JEWEL...all-brass, 2-door chime. Cover cast in one piece; satin-brass finish. With matching solid brass Push Button. List, $9.95.

NUTONE IS THE WORLD'S LARGEST MAKER OF DOOR CHIMES

NUTONE TRADE MARK DOOR CHIMES

...better living means better listening, too!

NUTONE INCORPORATED, MERCHANDISE MART, CHICAGO 54;
200 FIFTH AVE., NEW YORK 10; 931 EAST 31st ST., LOS ANGELES 11; TERMINAL SALES BLDG., SEATTLE 1

BUILDING REPORTER

INDUSTRIAL PAINT seals rusty surfaces, stops rust permanently.

Rustrem is a new type of industrial paint which can be applied directly over rusty surfaces without cleaning or scraping. Black in color, and used wherever metal must be protected—submerged in water or exposed in moist or fume laden atmosphere—it prevents further oxidation and provides a suitable base for decorative paints. In addition to sealing rusty surfaces, it is claimed to stop rust permanently. Many uses for Rustrem are anticipated in the building field, including gutters, metal windows, roofs, fences, etc.

Manufacturer: Speco, Inc., 3142 Superior Ave., Cleveland, O.

QUICK-DRYING FLOOR FINISH for wood floors.

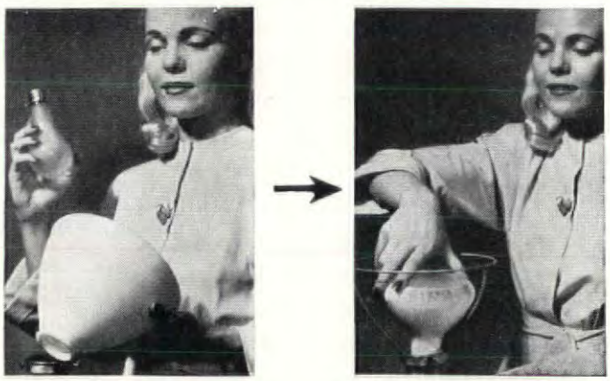
Lignophol Quick-Drying is a new wood preservative and finish which is said to penetrate, preserve, seal and finish all types of wood floors in one operation. A clear, neutral-colored liquid, it provides a satin gloss finish that highlights the wood's grain, preserves its resiliency, is highly resistant to abrasion and chipping. It will not lap or spot and is practically impervious to the action of water and alcohol. Lignophol Quick-Drying is applied directly from the container, requiring no thinner or special preparation, and can be rubbed down 15 minutes after application.

Manufacturer: L. Sonneborn Sons, Inc., 88 Lexington Ave., New York 16, N. Y.

SWITCH PLATE incorporating small electric light provides safety and convenience features.

A tiny electronic bulb built into the top of the Permalite plastic wall plate makes the switch easy to locate in the dark and serves as a safety pilot light at night. Automatically glowing when lights are off, Permalite offers safety and convenience advantages for hallway, stairway, bedroom, nursery and garage installations, as well as for a wide range of standard and special applications such as dark rooms, hotel rooms, etc. The wall plate, designed to fit standard single switch outlets, operates on standard 110 v., AC or DC. According to the manufacturer, it can be installed by anyone in a few minutes and operates at a cost of about 1 cent a year. Permalite is simple in design and comes in a soft ivory color.

Manufacturer: Universal Microphone Co., Inglewood· Calif.



INDIRECT LIGHT BULB converts any floor or table lamp into indirect fixture.

The 200 w. Indirect Bolite bulb, utilizing two distinct types of diffusing processes, provides both direct and indirect lighting without the use of supplementary equipment. The end of the reflector-shaped bulb is frosted to furnish highly diffused illumination without great loss of light. The lower portion has an opalescent coating to diffuse light falling on work or reading surfaces. Thus, screwed into the socket of any portable floor or table lamp facing upward, the new bulb converts the fixture into an indirect lighting unit. Other advantages claimed for the Indirect Bolite include elimination of twice as much useful light, and greater reading comfort. Several types of lampshade adaptors, wire supports which fit either to the socket or the bulb itself, are available to convert any type of existing lamp.

Manufacturer: Sylvania Electric Products, Inc., 500 Fifth Ave., New York, N. Y.

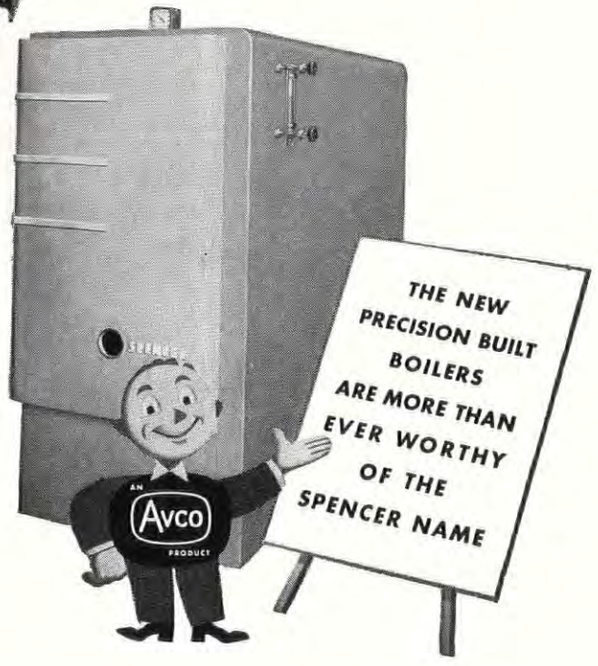
(Continued on page 150)

"Since 1890

Good people to do business with." That is a statement often made about Spencer. It's the best compliment we could ask for—and we promise to live up to it.

Spencer *knows* the heating business. Through the years our engineers have progressively modernized the Spencer line. Today's modern Spencer steel boiler is not just "another package" but a time-tested, *proven* product . . . a good reason why men who "live" heating problems recommend Spencer . . . why many of the most reliable distributors in the industry sell Spencer.

There's a precision-built Spencer unit for every individual heating job . . . every type of heat . . . every size of building . . . a premium boiler at no additional cost. Write or wire for a catalog of the complete Spencer line *now*.



SPENCER HEATER

Division—The Aviation Corp., Dept. AA-2, Williamsport, Penn.

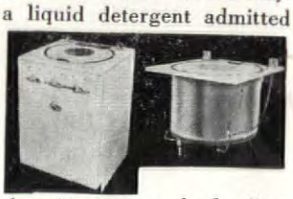
DOOR INTERVIEWER of transparent mirror affords tenant view of caller without being seen.

Magic Mirror Door Interviewer can be installed in steel or wood doors to insure privacy from intruders. Made of transparent mirror which transmits light as well as reflects it, (B.R. Jan., '47) the two-way glass affords the tenant a clear view of the caller while presenting only a mirror to the visitor. Surface of the mirror will not come off with normal wear and it may be cleaned with a soft dry cloth. Four styles of Interviewers, one combined with door knocker, are available in polished gold or silver finish.

Manufacturer: Magic Mirror Associates, Inc., 516 Fifth Ave., New York, N. Y.

ALUMINUM DISHWASHER operates on water pressure.

Operating on the normal water pressure of the average home, this motorless, aluminum jet-propelled dishwashing machine is capable of washing, rinsing and drying a complete service for four in less than 5 minutes. It requires only two simple connections, one to the hot water supply and the other to the drain, and is operated by three controls: (1) hydraulic lift for raising and lowering wire dish tray, (2) hot water flow control, (3) drain operator. Within the cylindrical washing chamber are 8 scientifically placed jets. These step up water volume, spin the tray itself and recirculate the washing solution by venturi action. Operation is simple. The dish tray is lowered, hinged rubber-sealed lid closed and a preliminary hot water spray admitted, starting the revolution of the tray. The drain is then closed and a liquid detergent admitted through a cup on top of the cabinet. After a three-minute washing, the drain is opened and hot water is permitted to rinse the dishes and clean the interior of the washer. Lid is raised and the hydraulic lever brings the tray to the loading level where it continues to spin for approximately two minutes, completing the drying. The first washer in volume production is the standard chassis model. It can be installed in nearly any present piece of kitchen equipment and is priced at $99 for the eastern states. Three other models, to follow shortly, will include a deluxe chassis, a standard and deluxe cabinet, priced at $135.70, $145.50 and $169.50, respectively, for eastern states. Action of both standard and deluxe models is identical, except that the standard model does not have the hydraulic lift feature. Cabinets are finished in white baked enamel. Special siphon breakers to prevent backflow into supply lines are an added sanitary safeguard.



Manufacturer: Kaiser Fleetwings, Inc., Bristol, Pa.

MEAL SERVICE CART for storing, transporting and dispensing 36 complete meals.

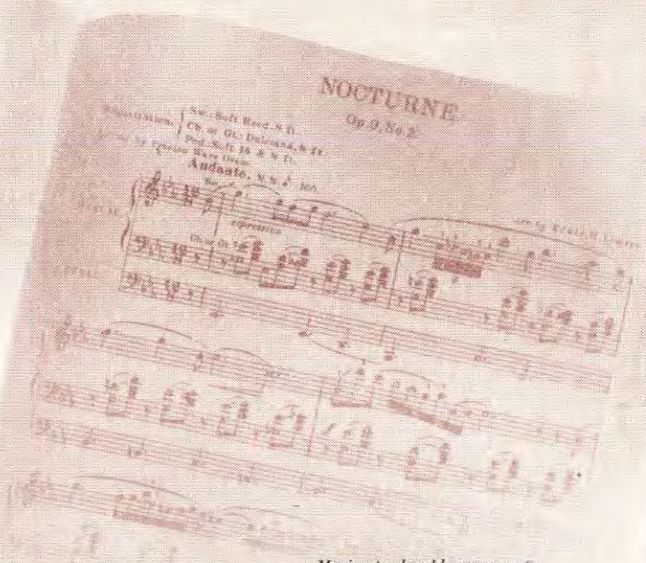
Mealpack Meal Service Cart, Model 36, for hospitals, sanitariums, hotels, restaurants, clubs, schools, in-plant and in-office feeding, provides 36 complete meals when and where they are wanted. Serving facilities are located for fast service by two or more operators, but one handler may roll the cart to the point of operation, dispense meals and make necessary collections with minimum effort. In typical operation the cart is loaded in the pantry or kitchen. Hot or chilled entrees, pre-packed in individual stainless steel containers, are easily placed on the cart by means of the level loading principle incorporated in all Mealpack mobile accessories. Two roomy compartments provide for appetizers, ice cream, and packaged beverages, while an insulated receptacle for standard 11-qt. serving tureen keeps soup hot. Salads and pastries are transported on conveniently located shelves and hot and cold beverages are dispensed from three easily accessible, insulated wells equipped with dripless spigots. Individual serving trays nest on railed shelf atop cart. Operation of the cart is quiet and easy. Framework is strong, lightweight, welded steel and external surfaces, food compartments and beverage wells are stainless steel.

Manufacturer: Mealpack Corporation of America, 152 W. 42d St., New York, N. Y. *(Technical Literature, page 154)*

There is no substitute for

TRUE CHURCH TONE

or for traditional organ literature played exactly as written



Music reproduced by courtesy of Theodore Presser Co. Philadelphia

A welcome convenience to any organist is the fact that he is instantly "at home" with the tonal qualities of the Wurlitzer Organ and the technique of producing them. No special registration is necessary. The stops, the Grand Crescendo variations and the ensemble of voices which the composer or arranger has suggested can be faithfully followed on this instrument.

Listeners, too, appreciate the value of this exclusive Wurlitzer advantage. The music they hear is *traditional* church music . . . with the superbly rich and vibrant tones which all pipe organ enthusiasts know and love and have found lacking in most electronic instruments.

All this, plus classically beautiful design and amazing economy of space, is yours for a moderate investment in the Wurlitzer Organ. For further details and the name of your nearest dealer, write Dept. FO-2, Organ Division, The Rudolph Wurlitzer Co., N. Tonawanda, N. Y.

The WURLITZER ORGAN

Series 20 Two-Manual

Since V-J Day
176 ESCALATORS
installed
in retail stores

●Thanks to the wholehearted, conscientious efforts of Otis factory and field workers, it was possible for us to reconvert very quickly.

The facts speak for themselves. In retail stores, alone, 176 Escalators have been installed since V-J Day.

Thus, the dependability and reliability of Otis equipment continues to be matched by the performance of the Otis men who design, manufacture, install and maintain that equipment. For the finest in vertical transportation, call Otis today.

Some of the retail establishments in which Otis Escalators have been installed since V-J Day:

The M. O'Neil Company, Akron, O.
Davison-Paxon Co., Atlanta, Ga.
The May Company, Baltimore, Md.
Sattler's Inc., Buffalo, N. Y.
Mandel Brothers, Inc., Chicago, Ill.
The Rollman & Sons Company, Cincinnati, O.
The Wm. Taylor Son & Co., Cleveland, O.
The J. L. Hudson Company, Detroit, Mich.
L. S. Ayres & Co., Indianapolis, Ind.
Burdine's Inc., Miami, Fla.
Harvey's, Inc., Nashville, Tenn.
Gimbel Brothers, Inc., New York, N. Y.
Strawbridge & Clothier, Philadelphia, Pa.
Thalhimer Brothers, Inc., Richmond, Va.
McCurdy Co., Rochester, N. Y.
Sibley, Lindsay & Curr Co., Rochester, N. Y.
The Emporium, St. Paul, Minn.
Z.C.M.I., Salt Lake City, Utah
Hale Brothers, Inc., San Jose, Calif.
Forbes & Wallace, Inc., Springfield, Mass.
The G. M. McKelvey Company, Youngstown, O.

Otis
ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

Firestone Velon*

Now in leather-like form!

Firestone *Velon*, magic material of a thousand forms and uses . . . now looks and feels like leather . . . *but wears even better!*

Fine for heavy traffic upholstering, *leather-like Velon* remains trim with years of use and abuse . . . won't scuff, crack or peel!

Fade-proof Velon, like woven *Velon* fabrics, makes light or bright upholstering practical! Even grime *wipes off with a flick of a damp cloth!*

Plan on *Velon* for practical, beautiful interiors . . . write to Firestone, Akron for list of suppliers and the *Velon* booklet.

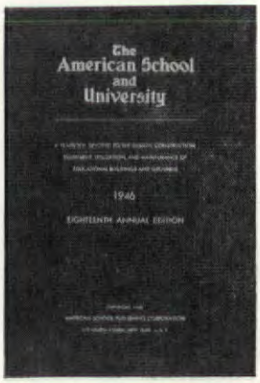
Worth while from all points of view

BEST TODAY··· STILL BETTER TOMORROW

LISTEN TO THE VOICE OF FIRESTONE MONDAY EVENINGS OVER NBC

*TRADE MARK

TECHNICAL LITERATURE



SCHOOLS. The American School and University, Eighteenth Annual Edition. American School Publishing Corp., 470 Fourth Ave., New York. 662 pp. 8¾ in. by 11¼ in. Price $4.

Eighteenth edition of this familiar annual contains recent and basic information on the design, construction, equipment, utilization and maintenance of educational buildings and grounds. Editorial section includes many illustrated articles pertaining to advanced school plant design by authorities in the field. Classified List of Manufacturers' Products and Manufacturers' Catalog section presents products, services, etc., available for the educational plant.

STRUCTURES. Theory of Structures, by S. Timoshenko and D. H. Young. McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York. 488 pp. 5¾ in. by 8¾ in. Price $5.

This reference manual for the practicing engineer touches on every aspect of statically determinate and indeterminate structures. Containing a wealth of detailed explanations, formulae, diagrams, tables and charts, each explanation is clear, concise and available for quick, easy reference. Text begins with an analysis of the elements of plane statics and continues to describe statically determinate plane trusses, influence lines, formation and analysis of space trusses with hinged joints and general theories relating to elastic systems. Chapters 6 and 7 deal with methods of calculating deflections of trusses and methods of computing redundant reactions and forces in redundant members of statically indeterminate trusses. The construction of influence diagrams for these trusses is also considered. Other sections are devoted to an analysis of bending of beams and frames, and a treatment of the theory of arches, including discussions of symmetrical arches, nonsymmetrical arches, and rings.

STABILIZED EARTH CONSTRUCTION. Cemadobe, An Answer to Your Building Problem, by E. McKinley Williams. Cem-Adobe Co., Box 81, West Los Angeles Station, Los Angeles, Calif. 32 pp. 8½ in. by 11 in. Price $1.

This booklet describes the making of Cemadobe bricks from stabilized earth, and their use and advantages in house construction. Sections discuss the selection of suitable soil, making test bricks, equipment needed for making bricks, and actual methods of mixing, molding and curing. Problems involved in planning the house and sample designs are also presented along with specific information on laying the bricks, walls, reinforcement, bonding, floors, roofs, finish, etc.

STEEL JOISTS. Clerespan Joists. Truscon Steel Co., Youngstown, Ohio. 16 pp. 8½ in. by 11 in.

The advantages of Truscon Clerespan Steel Joists for roof and floor construction to provide clear spans up to 64 ft. are exemplified in this brochure. Text discusses design, installation, construction economy and the use of wood nailing strips, steeldeck roofing and cement floor finish with the joists. Other sections are devoted to bridging, wall anchors, bolted connections, typical installations, types of joists, dimensions, load tables and specifications. Truscon "O-T" Open Truss Steel Joists are also briefly covered.

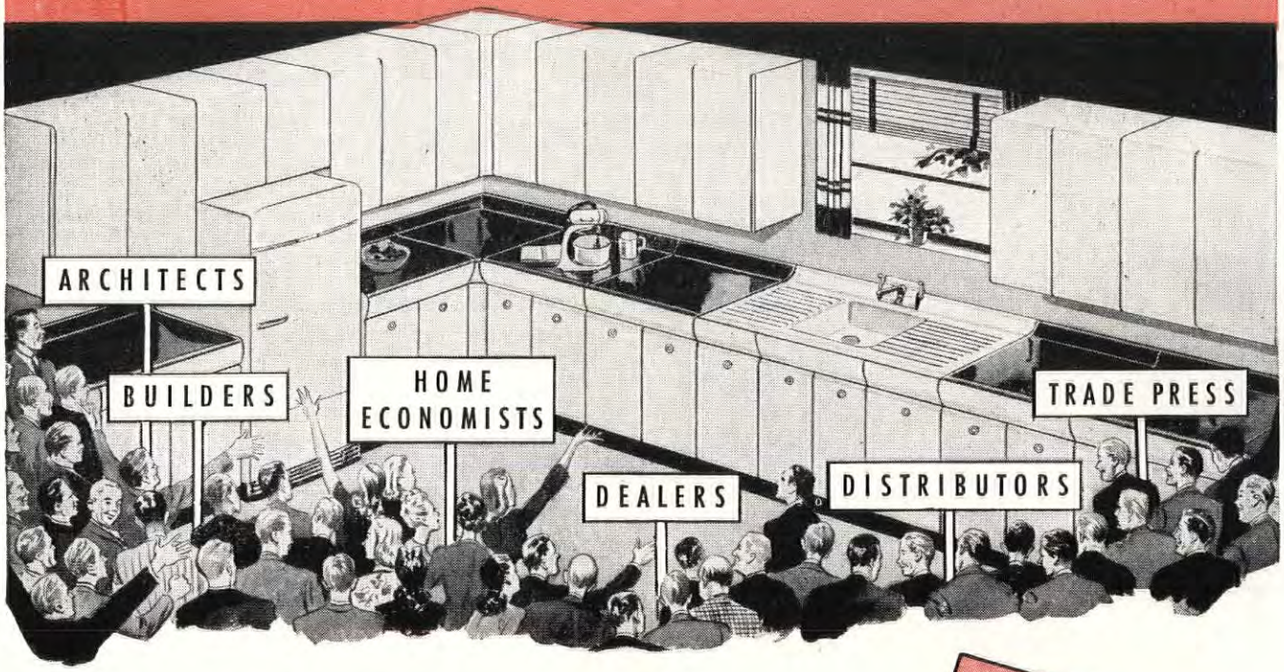
CONCRETE SHRINKAGE. The Action of Embeco in Concrete and Mortars, Second Edition. The Master Builders Co., 7016 Euclid Ave., Cleveland, Ohio. 34 pp. 8½ in. by 11 in.

Shrinkage of concrete and mortar, its influence on durability and serviceability, principle factors affecting it and its control and elimination are discussed in this booklet. Explaining the principle of Embeco, a specially prepared metallic aggregate for controlling shrinkage, it describes Embeco's use in machinery and heavy equipment grouting, cement gun work, patching and repairing concrete. Charts, graphs and useful technical data amplify the text.

METAL LATH. Metal Lath Specifications for Better Plastering and Concrete Stucco, Revised 1946. Metal Lath Manufacturers Assn., Engineers Bldg., Cleveland, Ohio. 32 pp. 8½ in. by 11 in.

Metal Lath Specifications gives the latest recommendations of the industry on usages and applications. Covering the quality of materials and methods of application for all types of Metal Lath—expanded, ribbed and sheet—the 21 specifications in the booklet cover practically every condition where metal lath products are used. *(Continued on page 158)*

THE SHOW VOTES American



First Choice Goes Spontaneously to American Kitchens *Styled in Steel!*

The show vote goes spontaneously to American Kitchens, styled in steel.

This is unmistakable not only to factory officials and attendants at the American exhibit. It is evident to everyone who observes the crowds that flock to the American display, and notes their interest and attentiveness.

It is the subject of wholesale comment among representatives of the trade press, exhibitors and visitors.

Perhaps most notable of all is the fact that the American display proves *equally* appealing to everyone concerned with new kitchen equipment—distributors, dealers, salesmen, architects, builders, home economists, domestic science instructors, etc.

They are soundly impressed—as they were bound to be—by the beauty, high quality, features, ease of installation and economy of American Kitchens.

Just as the housewives of America will be impressed when the news of these superb new kitchens is taken to them by American Kitchens dealers —and by the powerful new campaign of American Kitchens advertising.

First for maximum convenience!

First for beauty in design!

First for assured durability!

* * *

Now watch American Kitchens lead again . . . at the great Western States Market, San Francisco—and the Home Builders' Show, Chicago.

AMERICAN CENTRAL DIVISION—
THE AVIATION CORP.
Connersville, Indiana

American KITCHENS
STYLED IN STEEL

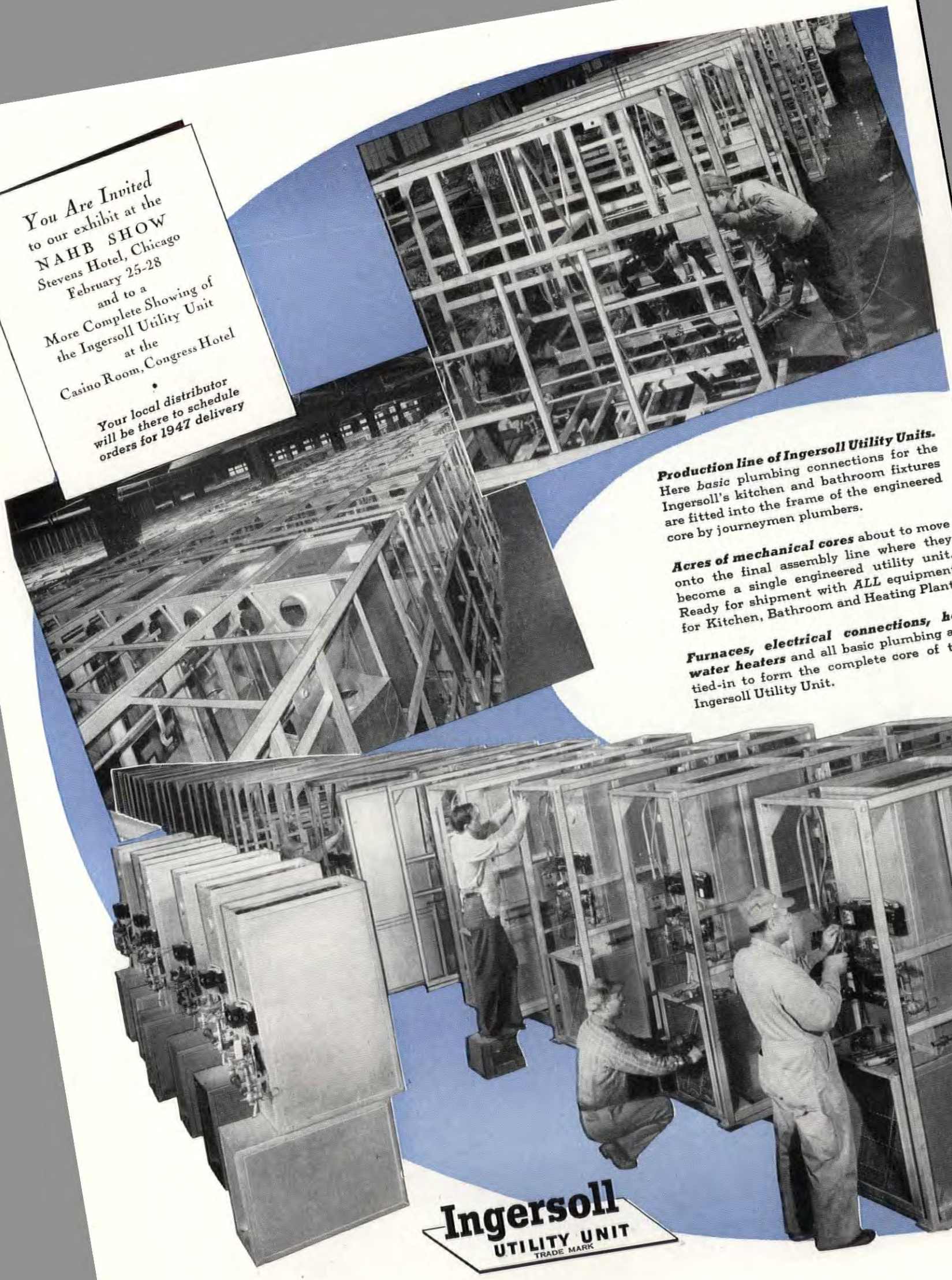
★ Sinks
★ Cabinets
★ Dishwasher
★ Kitchen Disposer
★ Home Freezer

One Unit . . . or a Complete Kitchen
•
New Homes or Remodeling

You Are Invited
to our exhibit at the
NAHB SHOW
Stevens Hotel, Chicago
February 25-28
and to a
More Complete Showing of
the Ingersoll Utility Unit
at the
Casino Room, Congress Hotel

•

Your local distributor will be there to schedule orders for 1947 delivery



Production line of Ingersoll Utility Units. Here *basic* plumbing connections for the Ingersoll's kitchen and bathroom fixtures are fitted into the frame of the engineered core by journeymen plumbers.

Acres of mechanical cores about to move onto the final assembly line where they become a single engineered utility unit. Ready for shipment with *ALL* equipment for Kitchen, Bathroom and Heating Plant.

Furnaces, electrical connections, hot water heaters and all basic plumbing are tied-in to form the complete core of the Ingersoll Utility Unit.

Ingersoll
UTILITY UNIT
TRADE MARK

PRODUCT OF
BORG-WARNER

ENGINEERING
B-W
PRODUCTION

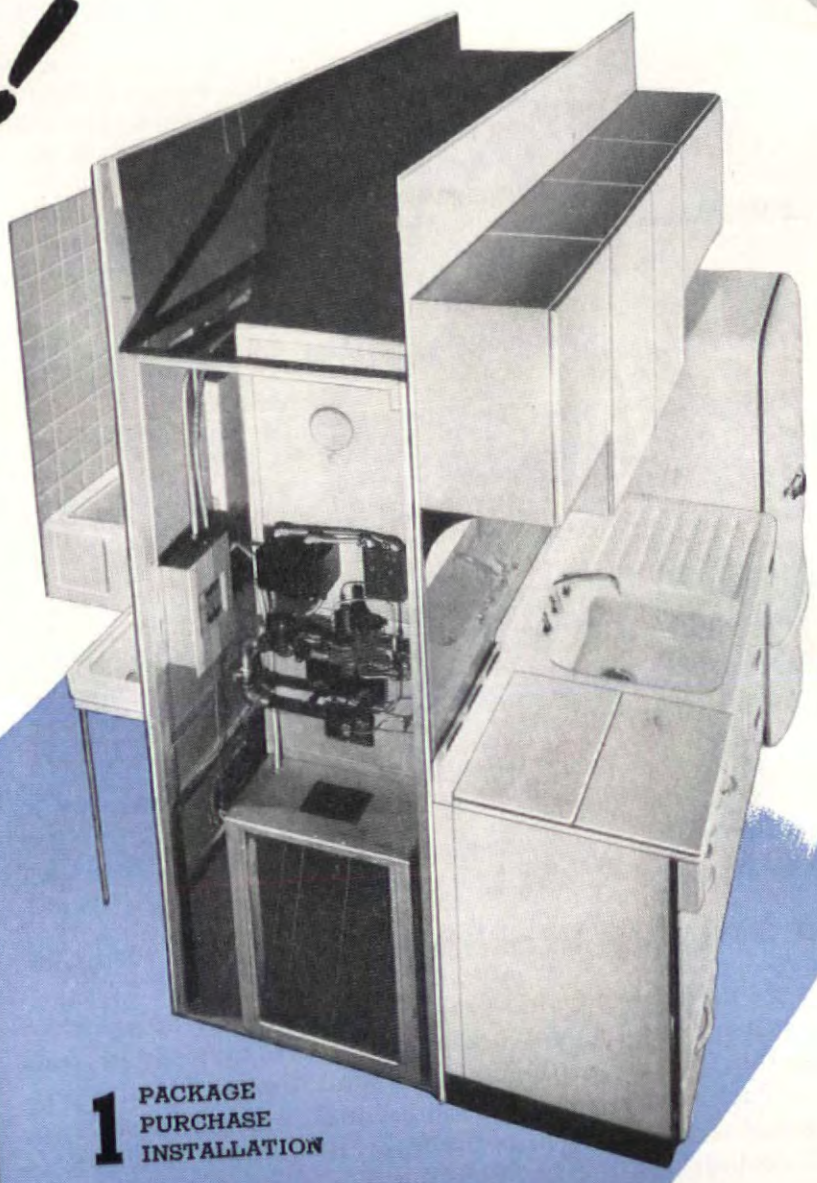
INGERSOLL UTILITY UNIT

NOW IN VOLUME PRODUCTION!

Shipments being made daily; hundreds of units already installed!

Builders in half a dozen states are rapidly piling up actual on-the-job experience in installing the Ingersoll Utility Unit. They and their sub-contractors agree that Ingersoll's accurately engineered, practically designed Utility Unit not only speeds construction, but gives them an excellent workmanlike installation that adds greatly to the utility and appearance of any home.

Here is the bathroom side of the Ingersoll Utility Unit installed and in use. Note also the recently installed unit at the right . . . see how neatly kitchen utilities and bath fixtures tie into the central mechanical core.



1 PACKAGE
PURCHASE
INSTALLATION

The Ingersoll Utility Unit can solve many of your 1947 building problems. Mail the coupon today for the Ingersoll book of house plans specially designed for the efficient use of this Unit.

Ingersoll
UTILITY UNIT
TRADE MARK

Ingersoll Steel Division
Borg-Warner Corp., Dept. F2
310 S. Michigan Ave., Chicago 4, Illinois

Please send me a free copy of the Ingersoll book of house plans.

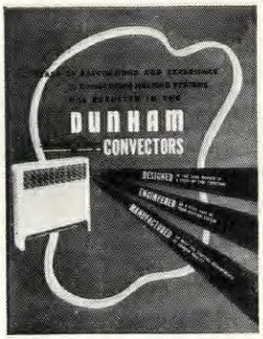
Name.....

Company.....

Address.....

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

TECHNICAL LITERATURE



PERFORATED METALS. Hendrick Perforated Metals, Screens, Fabricated Metals. Hendrick Manufacturing Co., Carbondale, Pa. 128 pp. 8¾ in. by 11 in.

This catalog fully illustrates and describes Hendrick's perforated metals, screens and fabricated metal products. Actual size illustrations show 390 shapes and sizes of openings in perforated metal, ranging from round perforations as small as .023 in. in diameter to those 8½ in. in diameter. Metal screens for a variety of industries, perforated metal grilles, and ornamental perforated metal for constructional and industrial uses are also covered. Flights, conveyor troughs and elevator buckets are described in other sections, as are Hendricks' Mitco products—open steel flooring, Armorgrids, Shur-Site stair treads—and products from the plate and machine tool departments. Catalog concludes with 19 pages of useful tables for workers in any metal industry line.

CONVECTORS. Dunham Advanced Design Convectors, Bulletin No. 637. C. A. Dunham Co., 450 E. Ohio St., Chicago, Ill. 16 pp. 8⅝ in. by 11 in.

Outstanding features of Dunham Advanced Design Convectors and data on their installation are presented in this booklet. The advanced type heating element, modulated heat delivery, attractive appearance, engineering and styling of the units are discussed and various types of convectors are illustrated and described. The section devoted to installation includes information on the selection of convectors for hot water heating systems, examples, diagrams of units and piping connections, tables of sizes and rating, etc.

AUTOMATIC CONTROLS. Control Equipment. White-Rogers Electric Co., 1209 Cass Ave., St. Louis 6, Mo. 90 pp. 9¼ in. by 11½ in.

Complete data on control equipment are contained in this collection of informative catalogs. The following types of controls are covered: hydraulic action; light and heavy duty thermostats; space thermostats; fan and limit controls; industrial oven, hot water, steam and refrigeration controls; gas valves and safety pilots, etc. Information includes features, specifications, dimensions, application, installation, setting and adjustment data and wiring diagrams. Many photographs, sketches and tables illustrate the data. Each type of control is fully described in an individual catalog, the collection being presented in an indexed loose-leaf binder.

SMOKE ABATEMENT. Application of Overfire Jets to Prevent Smoke in Stationary Plants, by Richard B. Engdahl. Technical Report No. VII. Bituminous Coal Research, Inc., 912 Oliver Bldg., Pittsburgh 22, Pa. 24 pp. 6 in. x 9 in. Price 25 cents.

This treatise on the elimination of smoke from coal-fired stationary plants such as are used in apartments, factories, hotels, schools and stores gives practical information on overfire jets and their installation. Principles set forth apply to both hand-fired and stoker-fired furnaces and the methods for installing jets are given in simple form. Based on research sponsored by Bituminous Coal Research, Inc., instructions tell how to choose a satisfactory size of tube for introducing air, how far apart these tubes should be, where they should be placed in the furnace wall and how to construct the jets for best results.

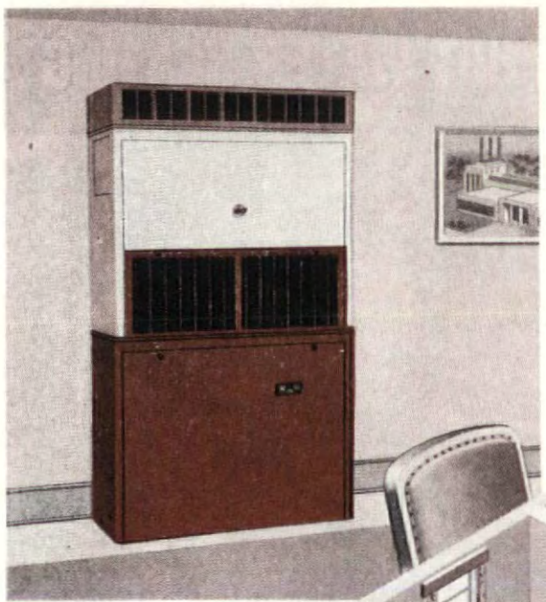
HOME FURNISHING. National Furniture Review, The NRFA Buyer. National Retail Furniture Assn., 666 Lake Shore Drive, Chicago, Ill. 536 pp. 9 in. by 12 in. Price $15.

The first complete home goods guide ever published, this helpful directory lists the products of more than 120,000 manufacturers and importers under 12,000 individual product headings. Designed to supply furniture retailers with ready sources of individual products, lines of merchandise or repair parts for branded items, all products and lines are indexed as to use, finish, material and style. A special section also identifies manufacturers of more than 4,000 "brand name" products. The home merchandise covered is extensive and includes such lines as furniture, floor coverings, sleep equipment, major and small appliances, cabinets and sinks, wheel goods, lamps, linens, china, housewares, fabrics, repair parts and supplies, store equipment and supplies, etc.

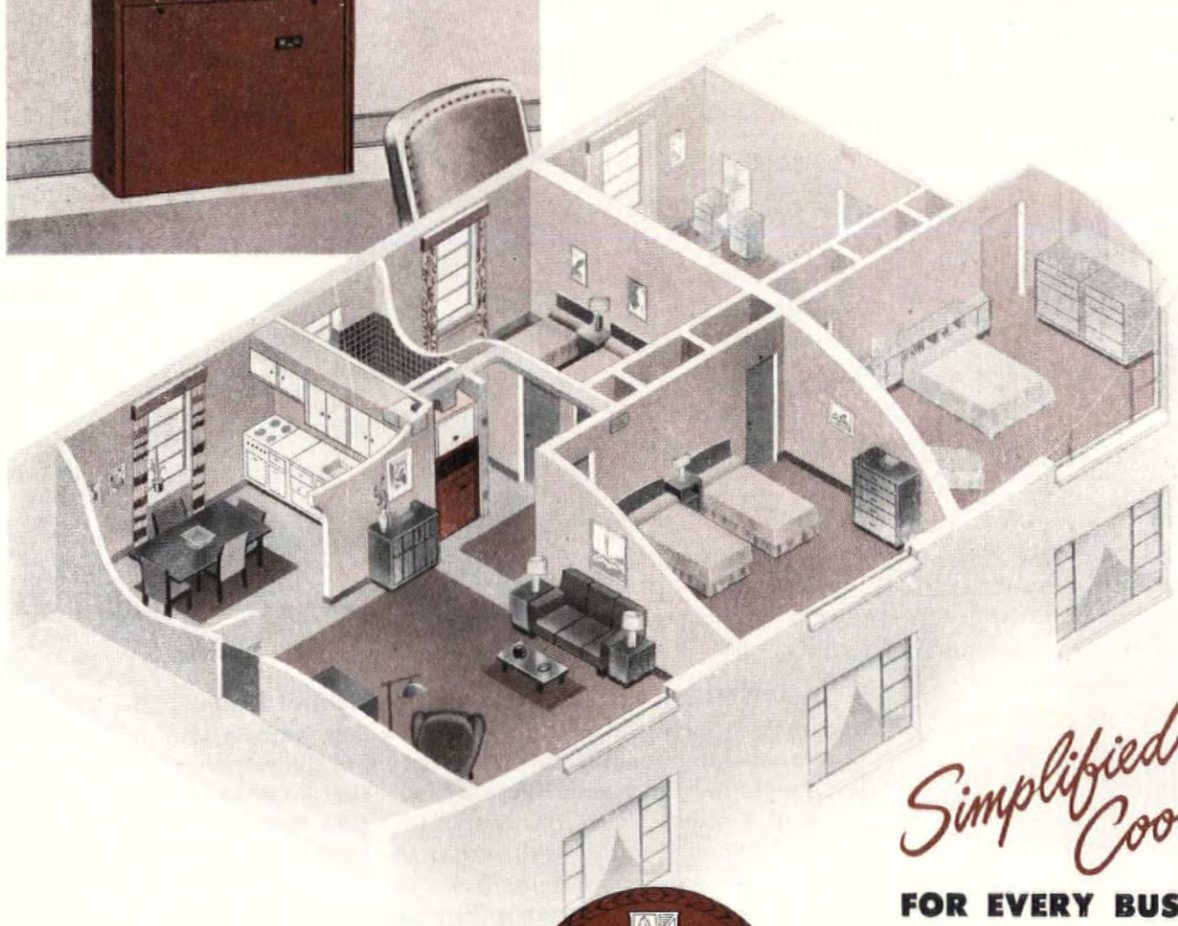
PACKAGING. Modern Packaging Encyclopedia, 1946-47 Catalog. Packaging Catalog Corp., 122 E. 42nd St., New York, N. Y. 1036 pp. 8½ in. by 11¼ in. Price $5.

Aimed specifically at today's competitive markets, 1946-47 *Modern Packaging Encyclopedia* *(Continued on page 162)*

★ The Modern, Economical Way to Air Condition Apartments ★



This isometric shows the simple manner in which apartments can be air conditioned with Chrysler Airtemp Packaged Air Conditioners. Here a single three horsepower unit cools, humidifies, filters and circulates the conditioned air to an entire suite—automatically. Packaged Air Conditioners take up little space, and single or multiple installations are easy to make. Backed by the famous engineering and quantity production skill of Chrysler Corporation, they are famous for long life and low operating cost. For details, write Airtemp Division of Chrysler Corporation, Dayton 1, Ohio; in Canada—Therm-O-Rite Products, Ltd., Toronto, Ontario.



Simplified Cooling

FOR EVERY BUSINESS

Automatically Yours

CHRYSLER AIRTEMP
DIVISION OF CHRYSLER CORPORATION

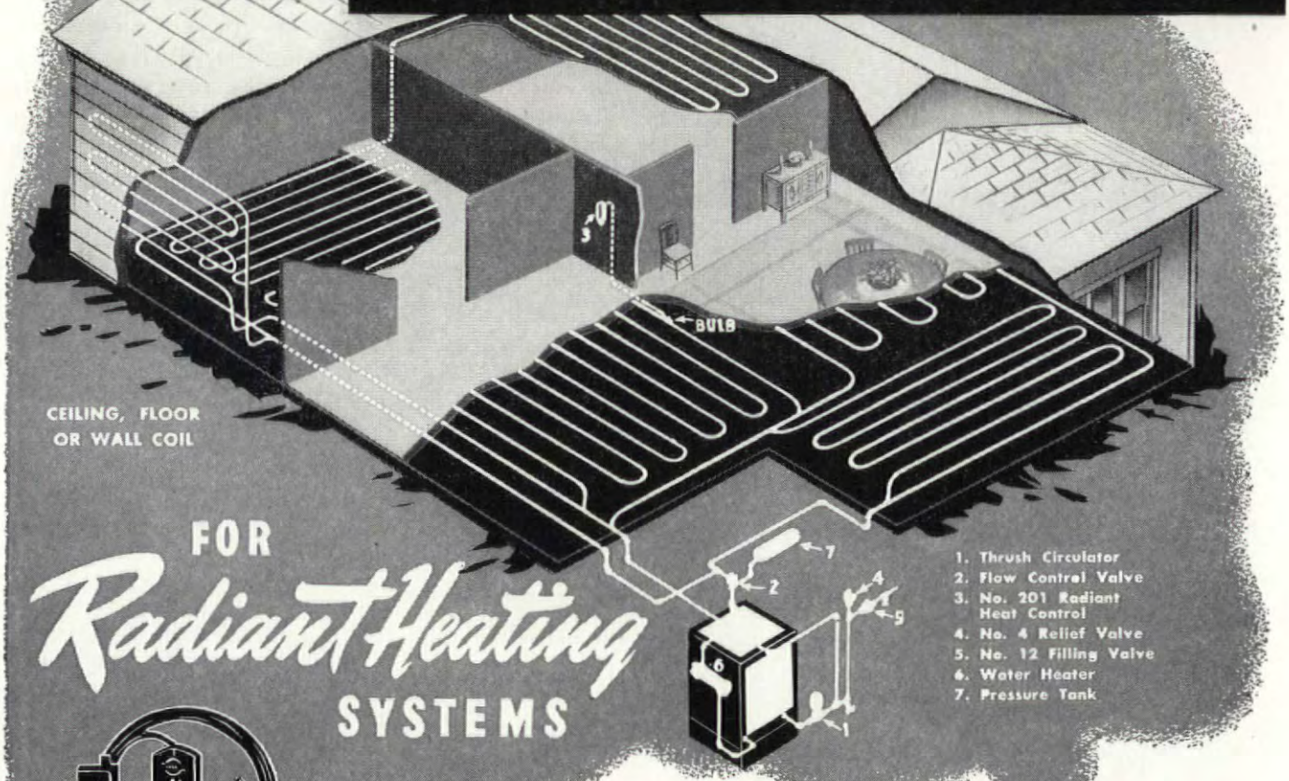
PACKAGED AIR CONDITIONING

HEATING • AIR CONDITIONING • COMMERCIAL REFRIGERATION

THRUSH

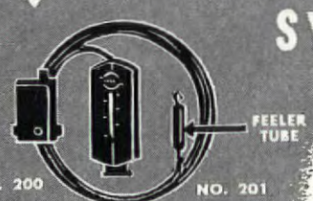
Forced Circulating

FLOW CONTROL HOT WATER HEATING



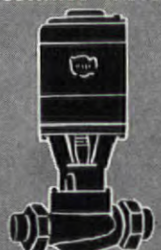
FOR *Radiant Heating* SYSTEMS

1. Thrush Circulator
2. Flow Control Valve
3. No. 201 Radiant Heat Control
4. No. 4 Relief Valve
5. No. 12 Filling Valve
6. Water Heater
7. Pressure Tank



THRUSH RADIANT HEAT CONTROL

THRUSH FLOW CONTROL VALVE



THRUSH WATER CIRCULATOR

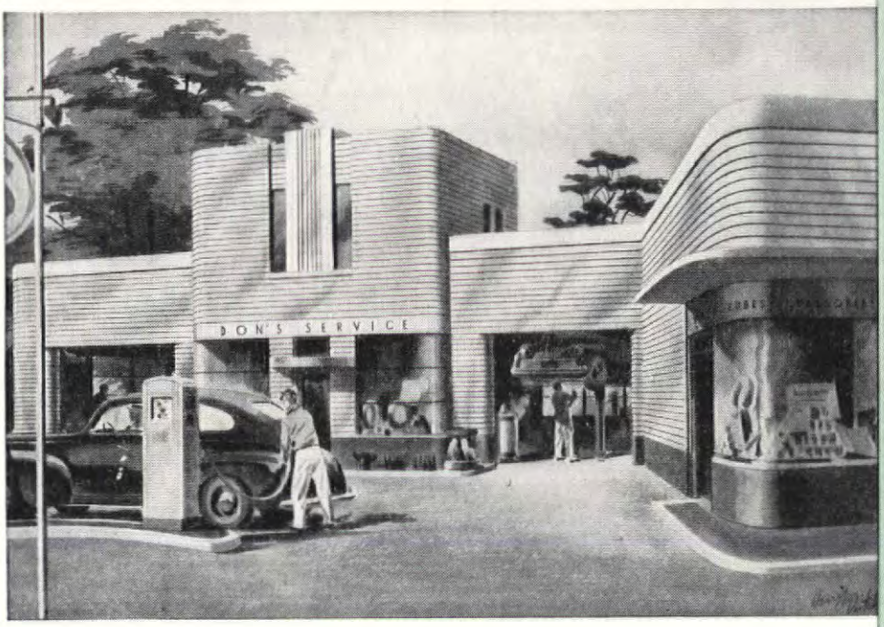
THRUSH Forced Circulating Flow Control System is the best and most economical method of controlling warm water heat. It regulates water temperature to maintain absolutely uniform comfort, night or day, regardless of outdoor weather. It provides constant Radiant Heat. The feeler tube, an integral part of the Thrush Radiant Heat Control, senses the slightest change in water temperature and acts automatically to restore room temperature before it can drop more than a fraction of a degree. Operating cost is low because continuous circulation is not required. The Thrush Circulator normally operates only a few minutes out of each hour and firing unit operating periods are shorter. For more information write Dept. H-2 or ask your Wholesaler.

H. A. THRUSH & COMPANY

PERU • INDIANA

Handsome "Clapboard" Lines for Versatile Design . . .

AND LIFETIME ECONOMY, TOO!



REYNOLDS *Lifetime* ALUMINUM WEATHERBOARD SIDING

YOU'LL find plenty of design possibilities in this economical sheet siding that simulates 4" clapboard... with ⅜" shadow line, attractive corner posts to finish off walls, inconspicuous nailing under the crimps. And it's available right now in any quantity...for new construction and remodeling work.

And your client will appreciate at once the further advantages of this sheet aluminum siding...the first-cost economy and fast erection, with 24" vertical coverage in 8', 10' and 12' lengths...plus the lifetime durability of a modern building material that is fire-proof, rust-proof, rot- and termite-proof.

What's more, this siding gives high insulation value—reflecting up to 95% of radiant heat, outward in summer, inward in winter. Painting is unnecessary for protection. Aluminum weathers to a beautiful dull-grey... or it takes paint well when desired.

Specify this siding for modest homes, garages, farm, commercial and industrial structures. Consider, too, the attractive contrast which natural aluminum will make with other surfaces when adding a porch, a wing or a garage.

Write for your A.I.A. File on Reynolds Lifetime Aluminum Weatherboard Siding.

REYNOLDS METALS COMPANY
Building Products Division Louisville 1, Kentucky

See the Reynolds exhibit at the National Association of Home Builders Convention in Chicago

REYNOLDS LIFETIME ALUMINUM

WEATHERBOARD SIDING

Sheet crimped in simulation of 4" clapboard. 8, 10 and 12 feet, 24" coverage.

CLAPBOARD SIDING

Individual clapboards fit together, covering all nails. 8" exposed surface, 12' lengths.

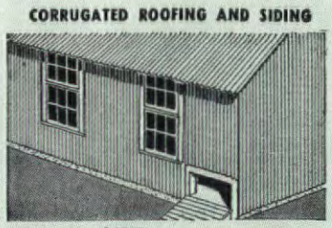
SHINGLES

Completely interlocking, covering nails. Coverage, 8" x 14½". Shadow line, ¼".

"SNAP-SEAL" ROOFING

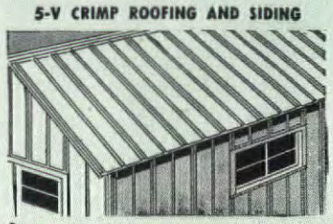
Sheets interlock, all nails covered, weathertight. 6, 8, 10 and 12 feet, 24" coverage.

CORRUGATED ROOFING AND SIDING



Extra thick (.024")—therefore sturdier, yet lighter. 6, 8, 10, 12 feet, 26" wide.

5-V CRIMP ROOFING AND SIDING



Same extra thickness means sturdier sheet yet lighter. 6, 8, 10, 12 feet, 24" coverage.

Also Aluminum Studs, Trusses, Window Frames, Garage Doors, Reflective Insulation and complete Aluminum Houses.

contains accurate, authoritative information on packaging, detailing the latest materials, methods and machinery. Formerly known as the Packaging Catalog, three-fourths of the issue represents entirely new material. The contents are fully illustrated with photographs, charts, diagrams, tabulations, etc., and are divided into 15 chapters: package development; legal and governmental considerations; cartons and boxes; bags, envelopes, packets; labels, seals, tags, marking pieces; cans and tubes; glass, closures, pottery; plastics in packaging; decorative packaging; adhesives and adhesive tapes; coatings; wrappings and laminations; machinery and equipment; packing for shipment; merchandising. Also included is a section devoted to directories and indexes for facilitating ready reference.

REQUESTS FOR LITERATURE

GEORGE F. BIDWELL, architect, 4139 Shafter Ave., Oakland 9, Calif.

E. J. CAPPELLO, architect, 164-01 Northern Blvd., Flushing, N. Y.

CHATHAM & JOHNSON, builders, 2636 White Settlement Rd., Rt. 8, Box 73A, Ft. Worth, Texas.

DEIGERT & YERKES, architects, 3211 O St., N.W., Washington, D. C.

ASHLEY DE WOLF, Hershey Chocolate Corp., Hershey, Pa.

COL. JOSEPH A. HICKEY, architect & engineer, 20 Edgewood Blvd., Providence 5, R. I.

STANLEY F. JONES, 32 Eastcote Grove, Southend-on-Sea, Essex, England.

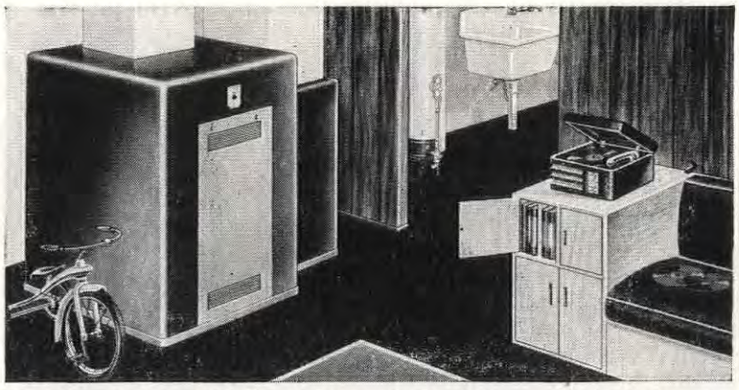
RENÉ MARROQUIN, architectural designer, 1153 Leavenworth St., San Francisco 9, Calif.

T. PAO, architect & consulting engineer, Bank of Communication, Hankow, China.

HENRY A. RIPPELMEYER, architect, 1422 Gladen St., Columbia, S. C.

SCHULMAN & SOLOWAY, architects & engineers, 4 Court Square, Brooklyn 2, N. Y. *(Continued on page 166)*

Performance that's Efficient and Economical...



The **WESTMORELAND** Oil Fired Winter Air Conditioner with its smart, trim lines, lends beauty and distinction to this basement game room. Available as a completely coordinated oil heating unit with American-Standard's own Arcoflame Burner, or for use with any other standard burner. Made in 7 sizes, with capacities at the register ranging from 95,000 to 330,000 Btu. For homes of practically any size.

Design that's Striking and Practical...

The trim, efficient **ROYAL HOSTESS** Sink is the center of interest in this modern kitchen. Designed for maximum cleanliness and convenience, this double-compartment, double-drainboard model is made in one piece—of rigid cast iron finished with a heavy coating of Acid-Resisting Enamel. A cabinet provides spacious drawers and storage compartments. Comes in white and a choice of many colors.

AMERICAN-Standard

HEATING PLUMBING

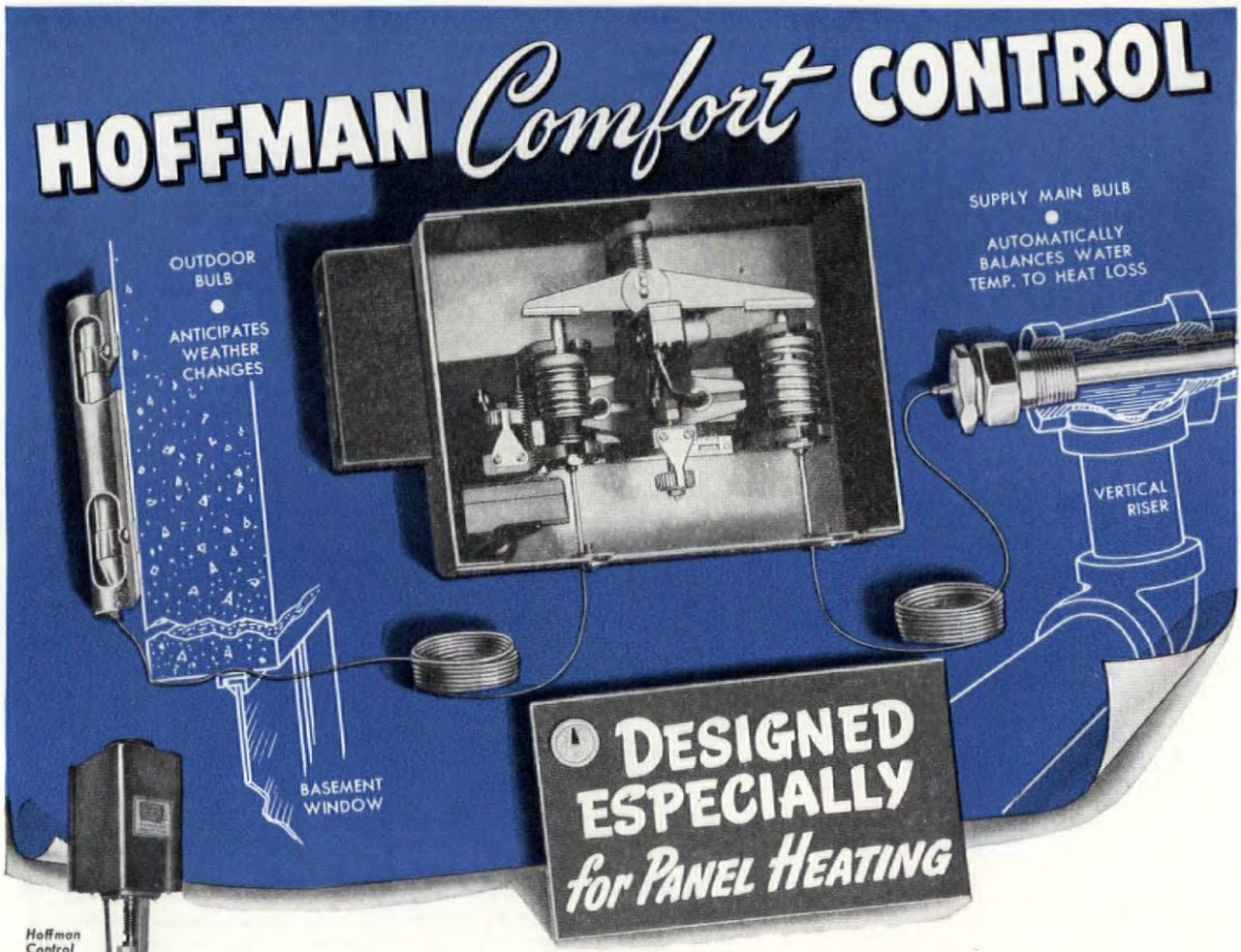
■ You're sure of lasting client satisfaction when you specify American-Standard Heating Equipment and Plumbing Fixtures. They're performance-proved—for efficiency and economy. They're sturdily constructed—for serviceability and long life. They're smartly styled—to harmonize with any interior . . . to fit any room arrangement. They're as fine as money can buy. Yet they cost no more than others . . . and for modernization, are available on a convenient Time Payment Plan. For details, see your Heating and Plumbing Contractor. **American Radiator & Standard Sanitary Corporation,** P. O. Box 1226, Pittsburgh 30, Pennsylvania.

AMERICAN-Standard HEATING · PLUMBING

Serving the Nations' Health and Comfort

LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, Water Heaters, for all fuels—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships, and Railroads.

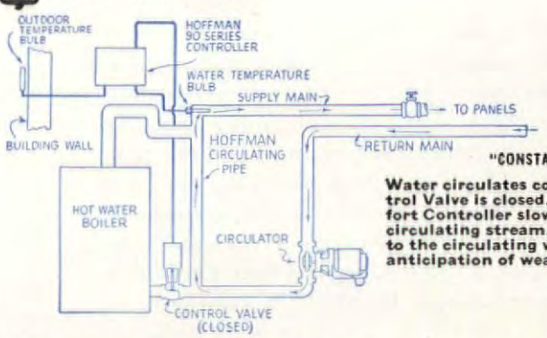
HOFFMAN *Comfort* CONTROL



Most Essential Factor in Precise Hot Water Control

The Hoffman Series 90 Hot Water System, with its automatic regulatory features, is the ultimate in precise control for *any* application of hot water heating—whether panels, radiators, convectors or radiant baseboards are employed. The Comfort Controller, or *brain* of the system, is activated by Outdoor and Water Temperature Bulbs which transmit temperature changes to its accurate balancing mechanism—automatically opening or closing the Hoffman Control Valve to maintain the desired temperature of *continuously circulating* water to meet the need for heat.

Zoning of apartments or sections of large residences to suit personal preference or functional activities of the building may be obtained with Series 90 Systems. The diagram below shows the basic operating principle of this system. Thousands of installations now in operation acclaim its merits.



"CONSTANT COMFORT" UNIFORMLY MAINTAINED BY CONTINUOUSLY CIRCULATED HOT WATER

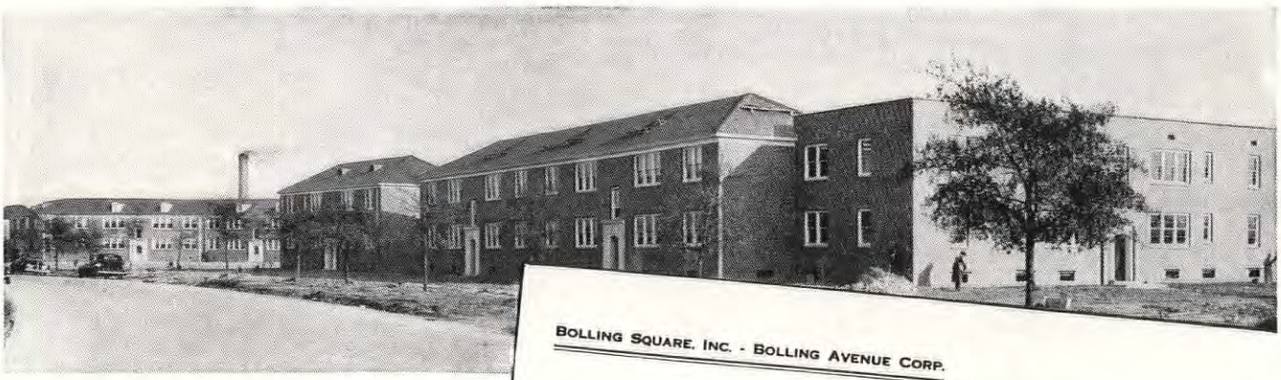
Water circulates continuously through the Hoffman Circulating Pipe and radiation when the Control Valve is closed. When water has lost heat, as noted by the Water Temperature Bulb, the Comfort Controller slowly opens the Control Valve, permitting hot water from the boiler to enter the circulating stream. When sufficient hot water has been admitted to restore the proper temperature to the circulating water, the Valve is closed by the Controller. This cycle repeats automatically in anticipation of weather changes.

Send for new Cat. HWC-846

HOFFMAN *Hot Water*

CONTROLLED HEAT

Hoffman Specialty Co., Dept. AF-2, 1001 York St., Indianapolis. Famous for Hoffman Valves, Traps, Vacuum and Condensation Pumps, Forced Hot Water Heating Systems.



A portion of the 300-apartment Bolling Square project for Naval officers at Norfolk, Va.

Why the builder of Bolling Square says, "We intend to use Kimsul* again"

BOLLING SQUARE, INC. - BOLLING AVENUE CORP.

Builders of "Bolling Square"
For Naval Officer Personnel

BOLLING AVENUE AND COLLEY AVENUE
NORFOLK 5, VIRGINIA
PHONE 25010

Kimberly-Clark Corporation
Neenah, Wisconsin

August 3, 1946

Gentlemen:

We have completed construction of our project in Norfolk, Virginia, consisting of twenty-three buildings, with a total of three hundred apartments. In the construction of these units we used approximately 125,000 square feet of double-thick Kimsul insulation.

This has been the first time we have used Kimsul insulation, therefore, have withheld comment until this date, which completes our first six months of occupancy. We are extremely satisfied with the very fine results we have obtained by using Kimsul and wish to congratulate you for manufacturing so fine a product.

At the present time we are constructing two additional projects in Richmond, Virginia, and we intend to use Kimsul again. We would like to thank you at this time for the cooperation and assistance you have offered us from time to time.

Very truly yours,

B. F. Bonner

B. F. Bonner, President

Simple method by which Double Thick KIMSUL, 16" wide blanket, was applied between ceiling joists in the attics of the 23 Bolling Square buildings. This illustration is from Page 6 of the KIMSUL Application Data File, a useful insulation manual, free on request to architects and builders.

Every day more planners and builders of important projects express preference for *many-layer* KIMSUL*. Tops in efficiency ("K" factor 0.27, J. C. Peebles) . . . extremely light (average density, including cover, 1.40 lbs. per cubic foot), KIMSUL is also one of the easiest of all insulations to apply. It's a prefabricated blanket, handily packaged and compressed to only 1/5th installed length. And it's clean—no irritating dust or splinters. KIMSUL provides permanent protection too—won't sag, sift or settle . . . resists fire, moisture, and fungi . . . is termite proof. Let us send you the 11-page Application Data File giving complete installation details for KIMSUL in any construction. Write Kimberly-Clark Corporation, KIMSUL Division, Neenah, Wisconsin.

We are producing all the KIMSUL Insulation we possibly can, but due to the great demand, your dealer may have some difficulty in supplying your requirements as promptly as usual.

KIMSUL
REG. U.S. & CAN. PAT. OFF.
INSULATION

A PRODUCT OF
Kimberly Clark
RESEARCH

*KIMSUL (trademark) means Kimberly-Clark Insulation

TECHNICAL LITERATURE

REQUESTS FOR INFORMATION

E. F. LYNCH, architectural designer, 2712 Rawson St., Oakland, Calif., desires information on radiant heating, private swimming pool and tennis court equipment.

NORTH CATERBURY HOSPITAL BOARD, Architect's Dept., Christchurch C. 1, New Zealand, requests information on hospitals.

FRANCIS B. SARJEANT, S. J., Baghdad College, Baghdad, Iraq, requests literature and information on materials and equipment for modern college buildings.

J. SOLOMON & SON, South African and Overseas Factory Representatives, Alliance House, 48 St. George's St., Capetown, South Africa, wishes to contact manufacturers of all types of glass with view to representing their products.

M. VALLETTE, engineer-reconstruction work, 41 Rue Mozart, Le Havre, France desires information on low-cost home planning and decoration, prefabrication, construction equipment.

ALVIN L. WEIDT & ASSOCIATES, store planning and designing, 1901 Foshay Tower, Minneapolis, Minn. would like literature pertaining to store designing, retail planning, decorating, floor covering, etc.

D. WHITE, Metro Studios, Ltd., First Floor, Edments Building, 68-70 Rundle St., Adelaide, South Australia would like information on remodeling of service stations and equipment for same.

SGT. W. G. WICKHAM, R.E. Garrison Engineer, Vacoas, Mauritius would like catalogs and literature from drawing instrument and slide rule manufacturers.

ROBERT L. WILLIAMS, JR., architectural student, Box 1366, Virginia Polytechnic Institute, Blacksburg, Va. requests literature, pertinent data, etc., on resort hotels.

how to add Character to Privacy . . .

More rooms . . . with more doors to close against intrusion! That's a big point with thousands of families who are tired of living in overcrowded homes. And you can add character—distinction—to privacy by choosing doors of Ponderosa Pine.

With their correct architectural proportions and shadow lines, Ponderosa Pine paneled doors increase your scope in planning because they give you a wide choice of design at moderate cost. Ponderosa Pine windows, too, make it possible for you to plan more beautiful windows without a cost penalty. Remember that Ponderosa Pine is easy to decorate—holds paint firmly and can take hard use with a smile.

You'll want a copy of "Today's Idea House"—the 32-page Ponderosa Pine booklet showing how doors, windows and frames of Ponderosa Pine can aid your planning. Mail the coupon for your copy.

These stock design doors of Ponderosa Pine add character to the hallway. Note the two closets flanking the entrance to the living room.

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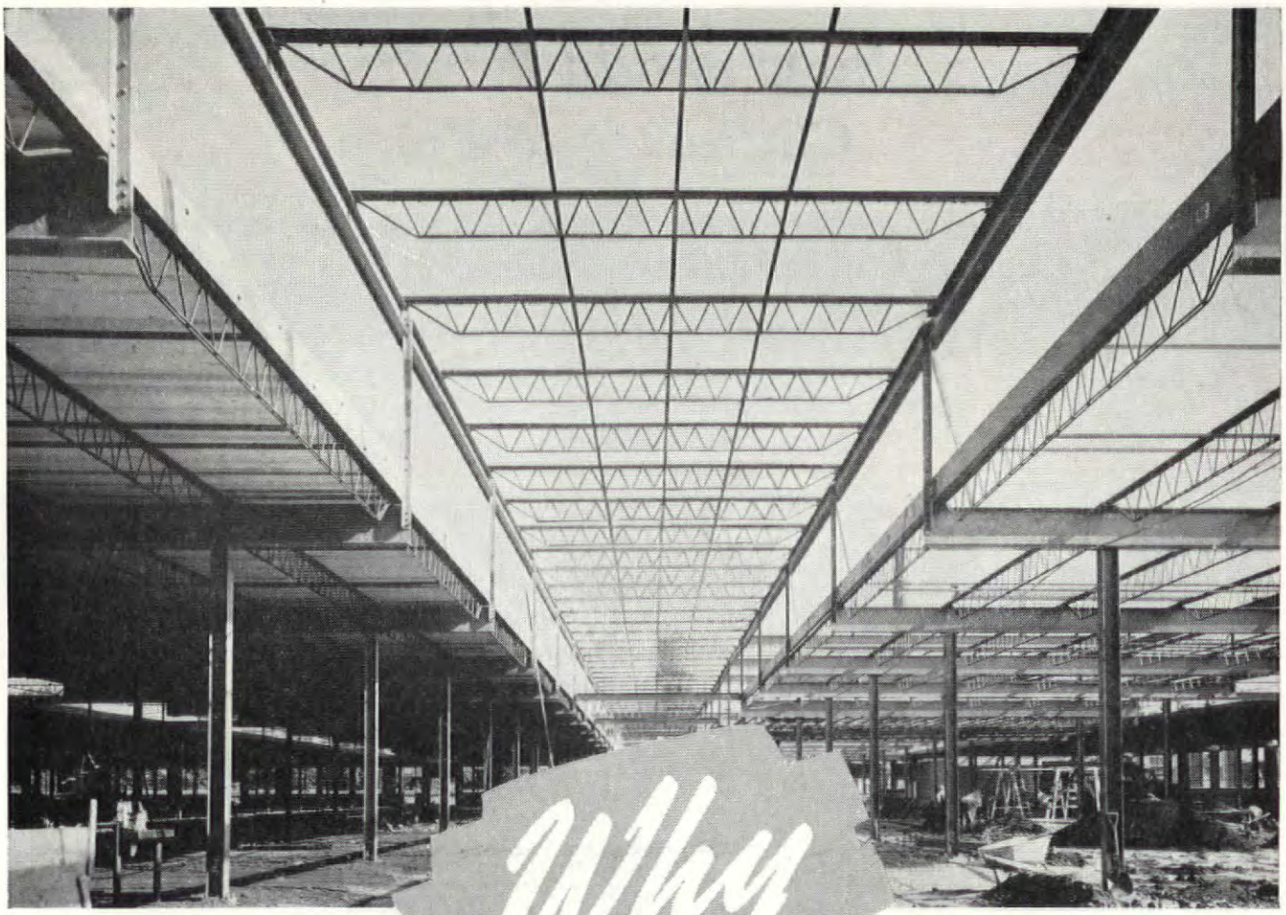

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4. Bearing plates are securely attached, thus eliminating loose parts.
5. Shielded arc welds withstand three times the designed stress.
6. Ceco steel joists are approved by the Steel Joist Institute.

Ceco catalogs are in Sweet's Architectural File

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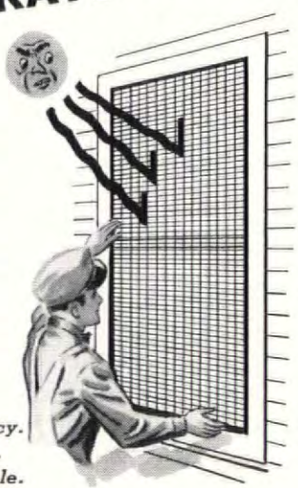
Comparative tests prove KoolShade gives more effective shade than awnings, venetian blinds or window shades. Up to 90% of sun heat rays are blocked and radiated *outside the window.* Vision from inside is not cut-off or blurred...every elusive breeze drifts through. Paper-thin slats, in effect, form a miniature outside venetian blind. Sun-exposed rooms stay as much as 15 degrees cooler.



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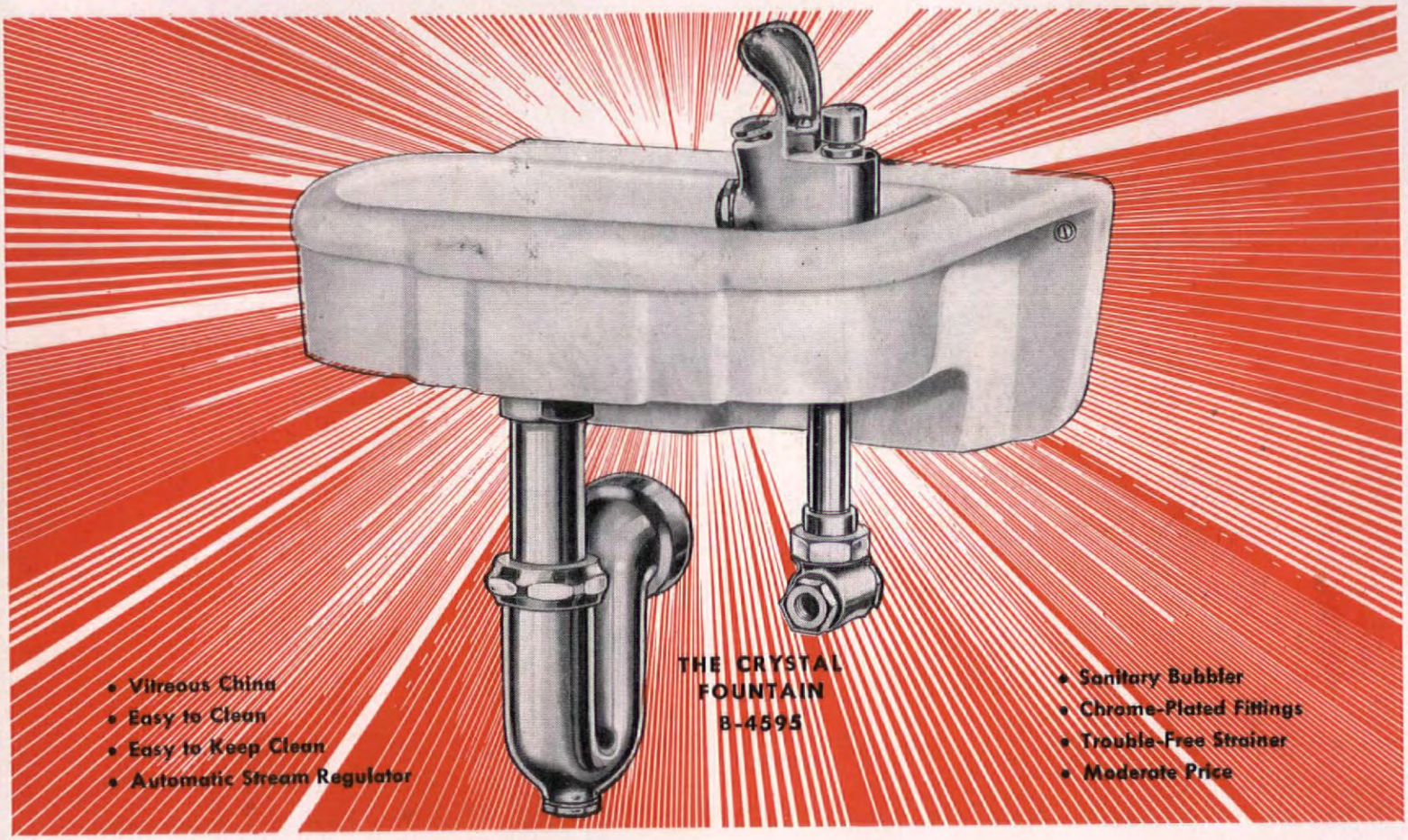

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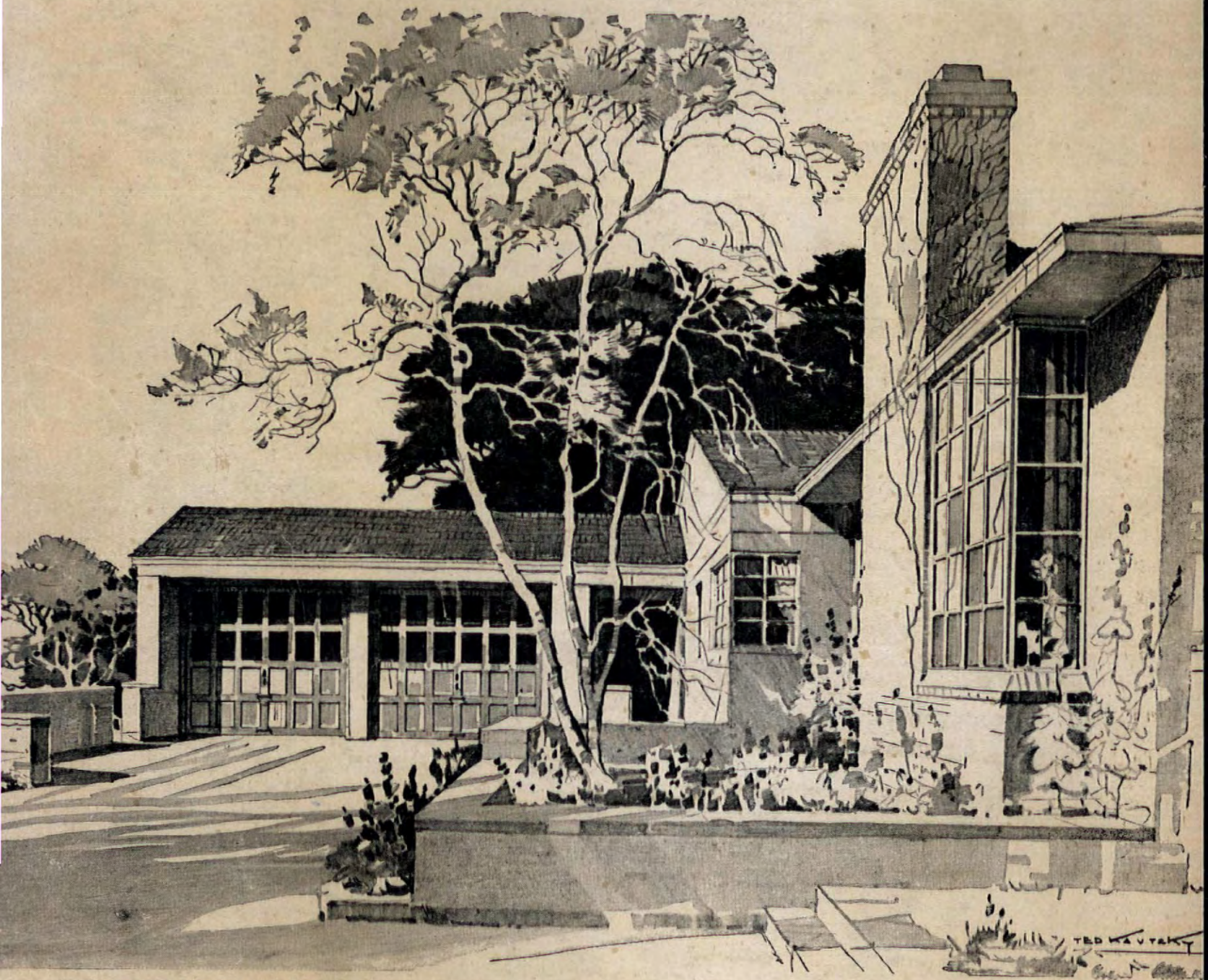

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