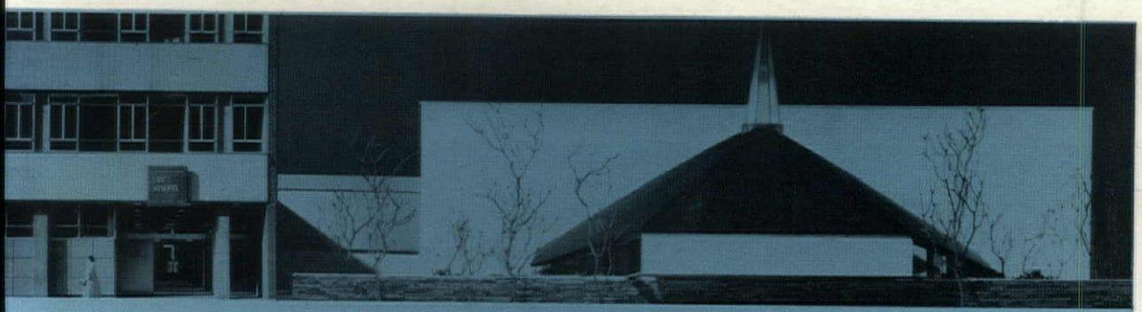
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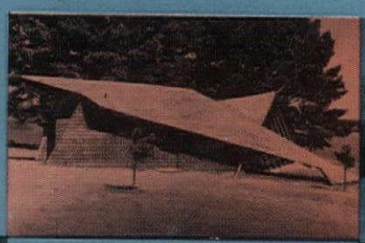
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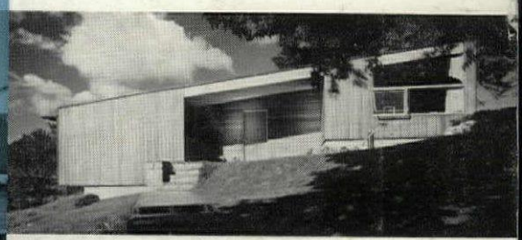
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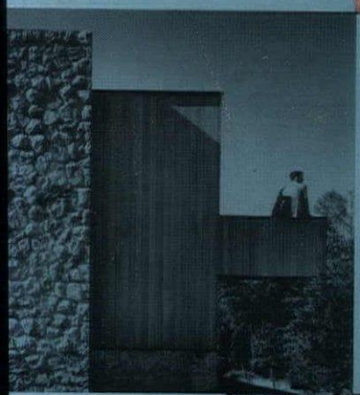
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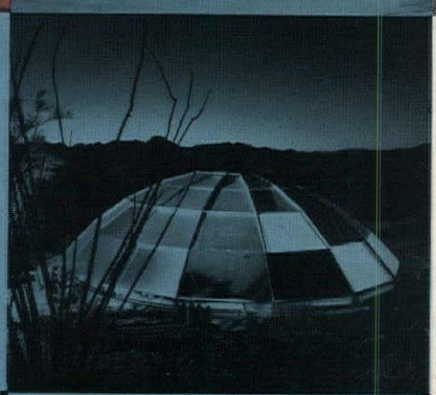


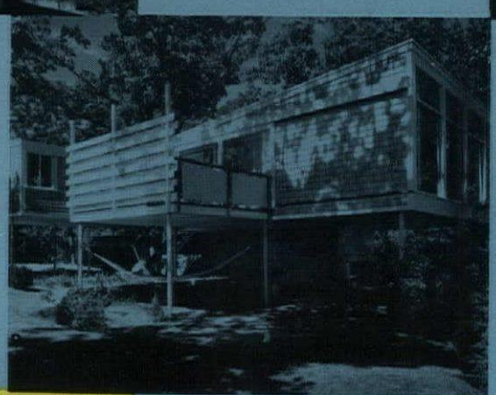


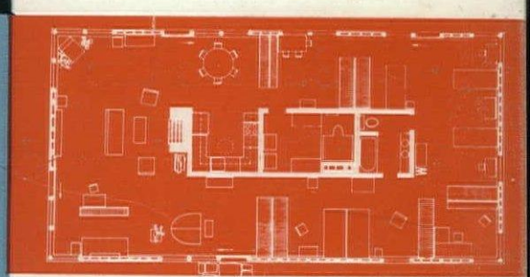


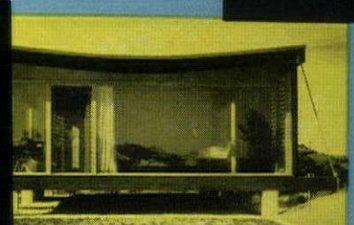


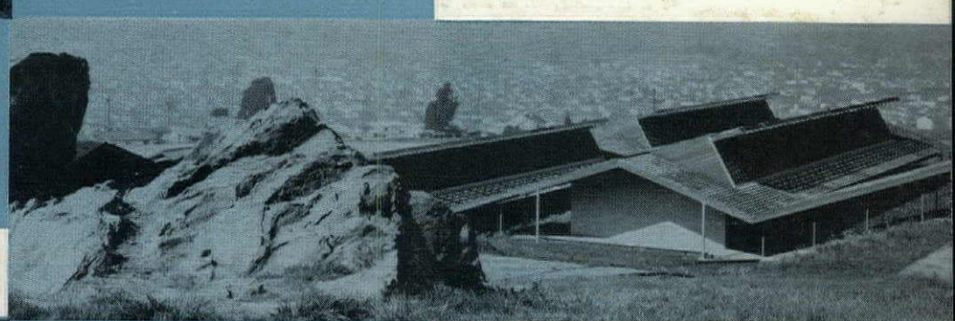




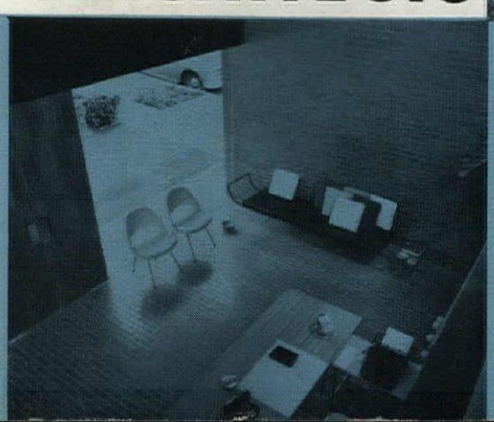








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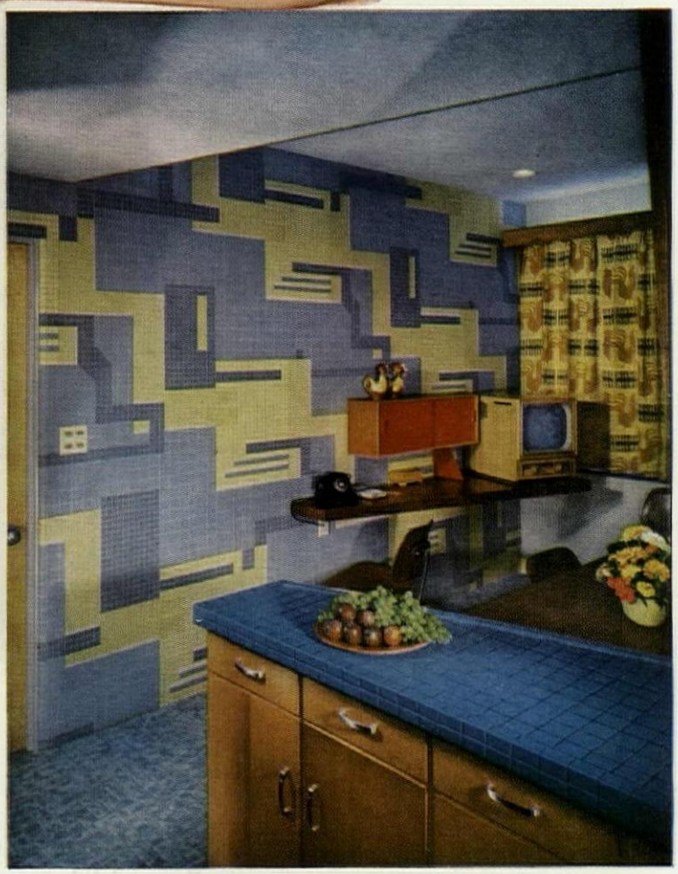
THE MORTGAGE CRISIS
—a Round Table Report (p. 102A)

Leaks in glass and metal buildings
—a Technical Report (p. 204)

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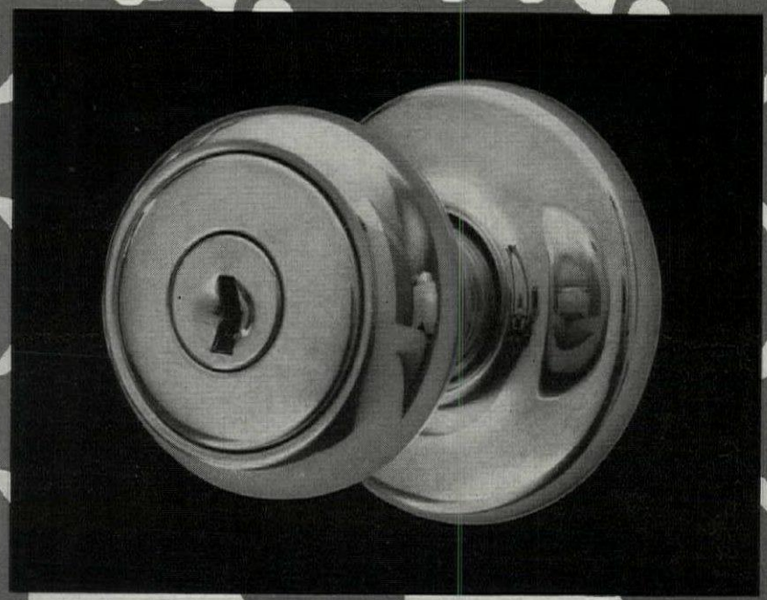
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THE MAGAZINE OF BUILDING

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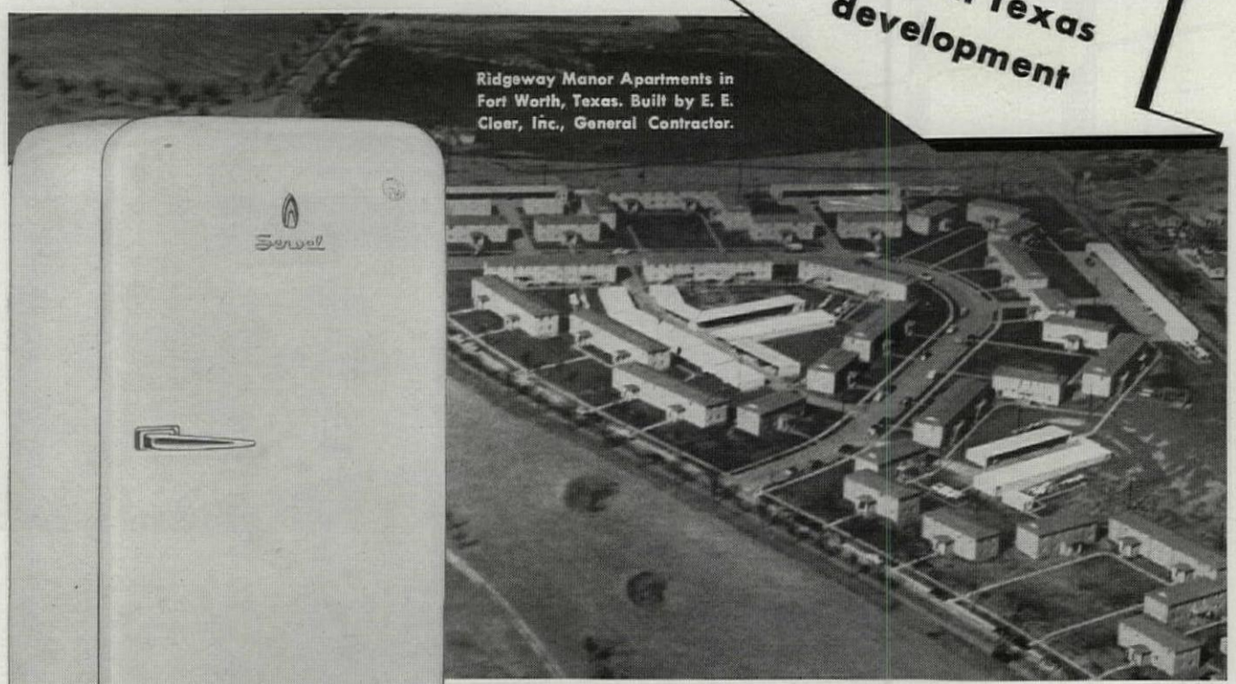
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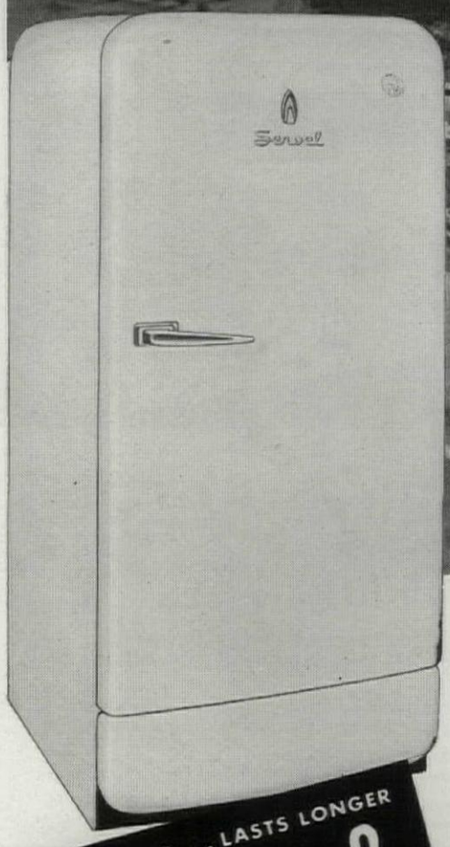
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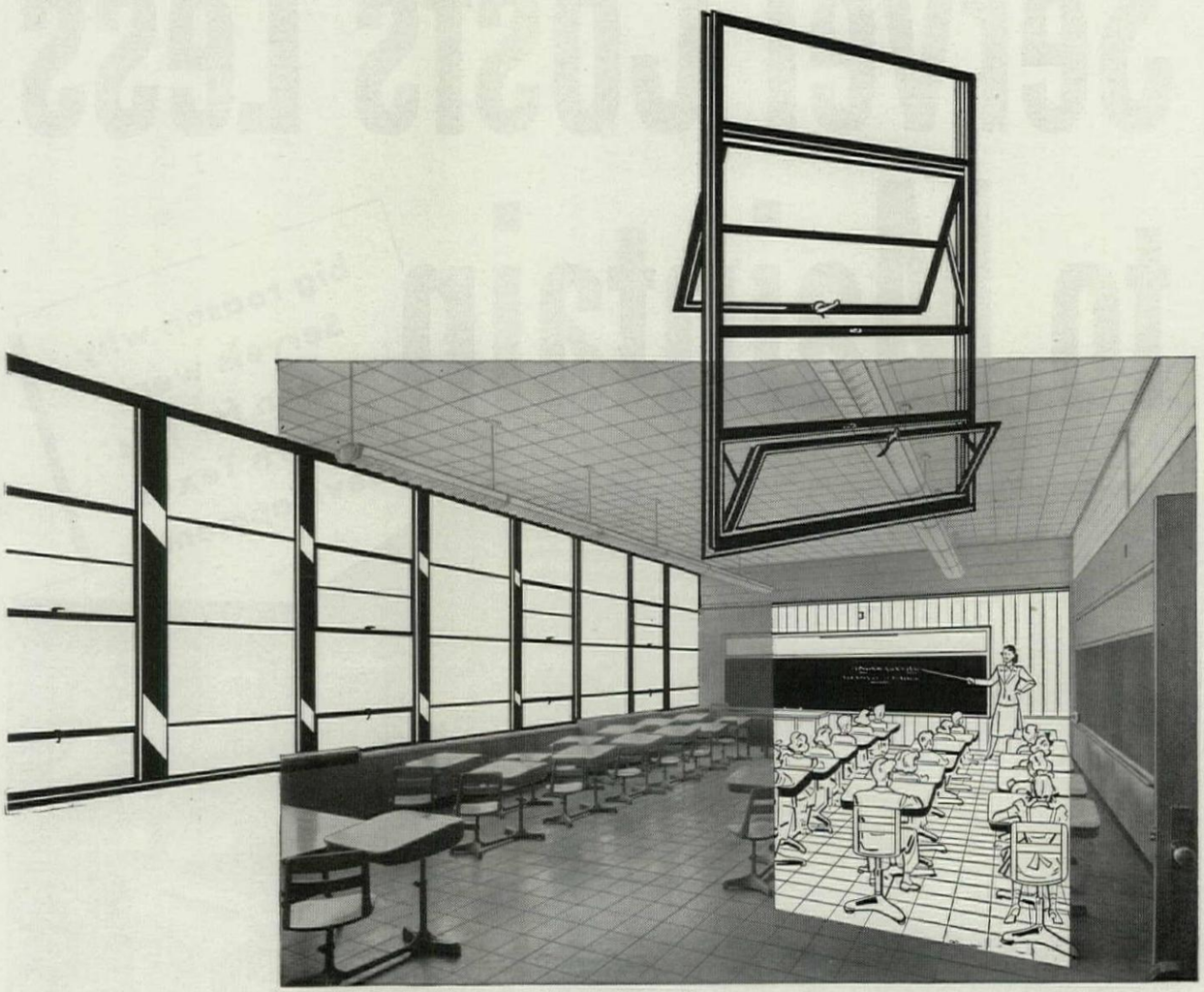


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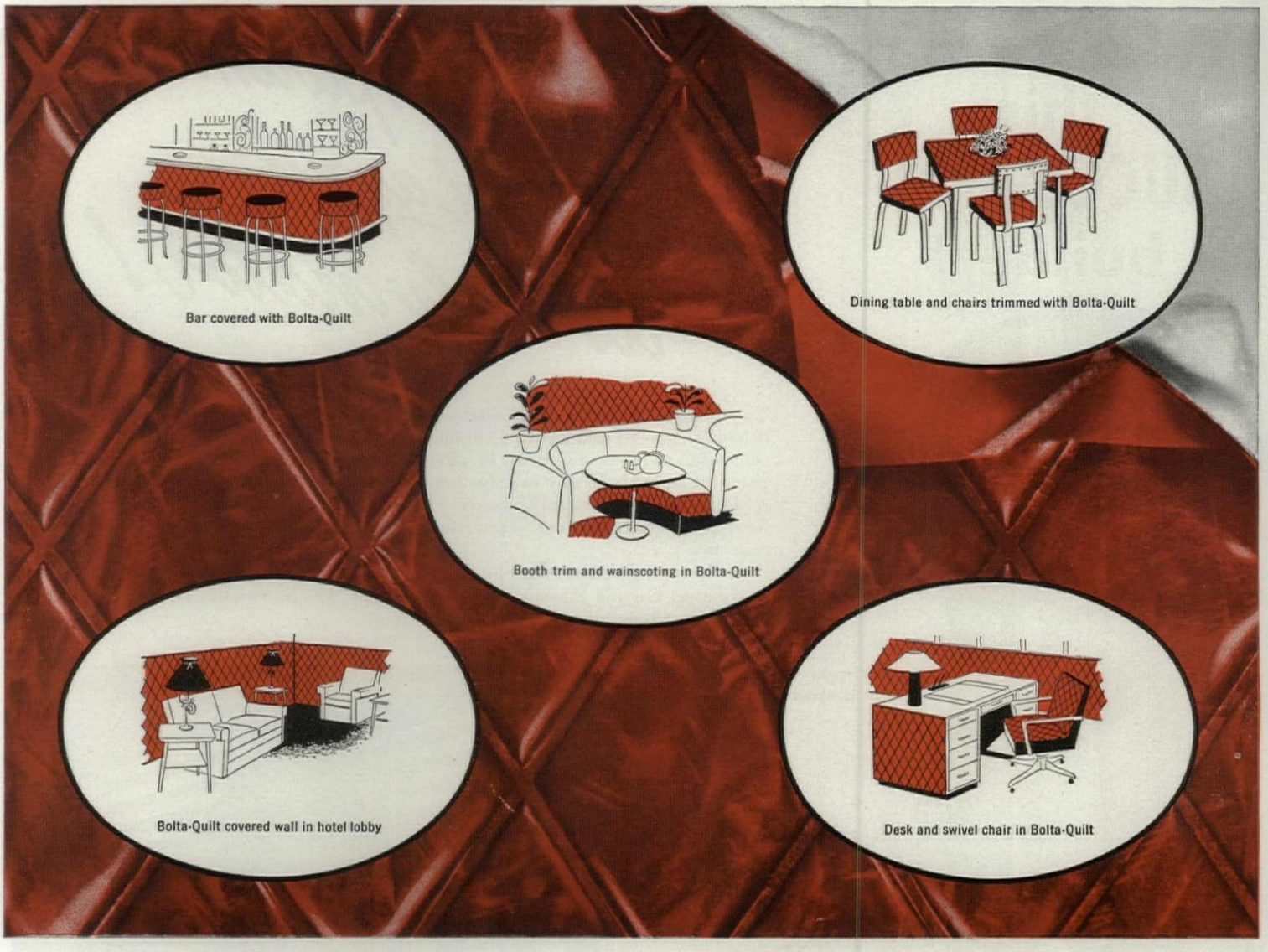
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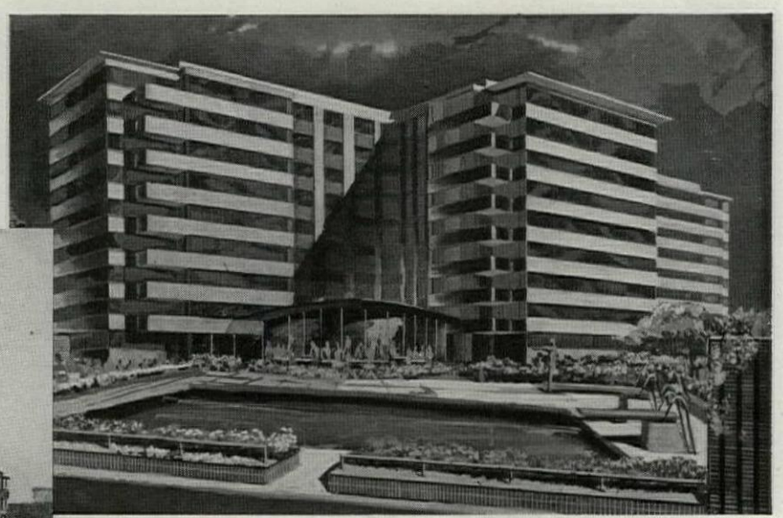
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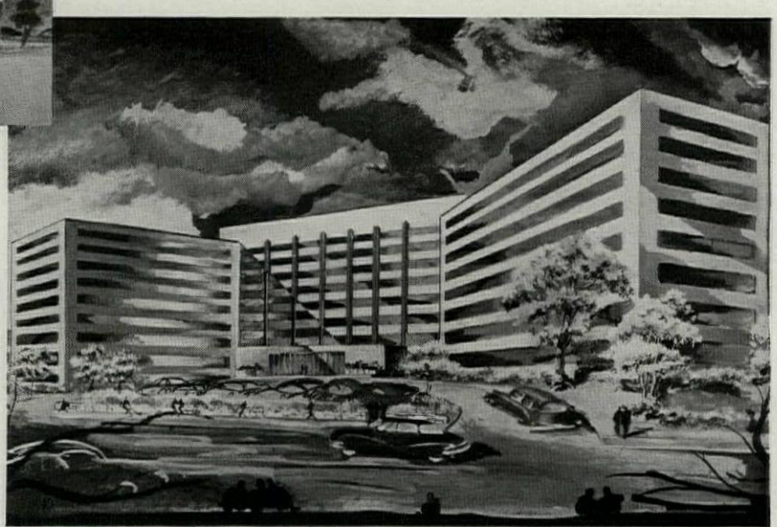
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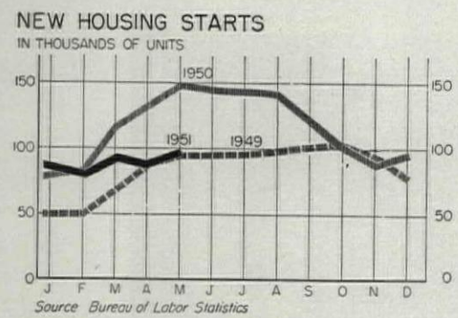
Credit Curbs Bite Housing Hard While Other Building Booms

Like a diver who comes *up* too fast from ocean's depths, the U. S. home-building industry developed pains in the chest last month. In housing's case, it was from going *down* too fast, but it was just as agonizing.

Instead of zooming with the advance of Spring, housing, despite the carry-over of last year's committments, marked time in May. Preliminary estimates put the number of nonfarm dwellings begun during the month at 97,000, a rise of only 9,000 from April, and 52,000 (or 35%) below May of last year.

At this, for the first time Government planners began to worry that perhaps home builders —long suspect by some segments of Congress as "wolf" criers—had been right in predicting that housing would suffer a dizzy crash unless restrictions were eased.

There was no doubt about it: The Federal Reserve Board's brakes on credit had pricked the housing bubble. Under Regulation X, buyers lacked cash to buy (see p. 13). With the mortgage pinch (see Round Table report, p. 102a), which was triggered by the FRB's decision to let Government bonds fall below par while the Treasury hiked interest rates, builders lacked the cash to build.



Source Bureau of Labor Statistics

Thoughtful observers conceded that some cutbacks on housing were vital. Much more than 1,000,000 starts a year would overtax the materials supply for housing, continue to inflate prices as did last year's 1,400,000 starts. But a lot of builders now argued that the screws were turned too tight, that housing—programmed by the HHFA for a 40% cutback to 850,000 starts —had become mobilization's whipping boy.

Faulty reasoning. On the optimistic side, FRB Chairman Robert McChesney Martin Jr. told the Senate Banking Committee he foresaw 1,200,000 starts. However, his prediction followed a report by FRB and HHFA technicians which naively assumed that the rate of the first three months would continue all year. Better informed economists were betting that 1951's home building peak was reached in May, that no succeeding month would be as high as April, that even the 850,000 goal set by Ray Foley's HHFA was improbable. More likely, they thought, builders would average about 58,000 starts a month for the rest of the year, wind up building 800,000 private homes or less.

Reinforcing this viewpoint, FHA reported applications for insurance on new home and project mortgages for the first four months of 1951 totaled only 35% of the 1950 volume for the same period.

A collapse of home building could swing a Sunday punch at other segments of the economy. President Frederick E. Gibson of the Long Island Home Builders Institute pointed to surveys made last fall by THE MAGAZINE OF BUILDING showing that the average buyer of a new home in this biggest and most competitive home market in the country spends $1,450 for furniture, hardware, appliances, dishes and autos during his first year of residence. On Long Island alone, such expenditures amounted to $92,000,000 last year. If housebuilding dropped 60% this year, Gibson forecast Long Island merchants would lose $55,000,000 in potential sales.

See-saw. What private housing lost, other segments of construction more than gained (see table), including public housing which was running 35% above last year's level, though its days of grace might be numbered (see p. 23).

On a national basis, the AFL and Office of Defense Mobilization agreed that booming commercial, industrial and public construction were absorbing the labor force private home builders were releasing. In April, national construction employment was 10% above that of April a year ago. In Atlanta, a Bureau of Labor Statistics survey showed April building employment was only 900 men below the all-time peak, 18,500. AFL reports showed labor shortages in such cities as Chicago, Detroit, Kansas City and San Diego. In spots like New York and Denver, relatively untouched by defense activity, there was unemployment. It was rising.

Some Washington seers saw in this a sign that defense conversion blues, expected in Spring but delayed by slow military buying, had now arrived. If so, Washington could be expected to stand pat on controls, except for minor juggling. So as one mortgage banker said: "In housing, somebody's going to get hurt."

IN THE NEWS

Among the next 25 pages, you'll find reports on these developments:

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Is there a steel shortage?	p. 12
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Builders gobble San Diego housing quota	p. 19

LAST MONTH'S WASHINGTON DIARY

- *5/1 NPA permits limited use of aluminum by certain manufacturers of prime aluminum windows and frames (M-7)*
- *5/3 NPA requires permits for construction of large apartment houses, luxury homes (over $35,000), and all other public and private building projects using more than 25 tons of steel (M-4)*
- *5/3 NPA defines rights and obligations under CMP (Reg. 1), establishes relative preference status of delivery orders (Reg. 3), also issues Class "B" list of 4,000 manufactured products with name of NPA industry division handling applications for each one*
- *5/10 NPA limits quantities of controlled materials that can be inventoried, ordered, received, or delivered (CMP Reg. 2 and 4)*
- *5/10 NPA announces all applications for permits to build projects in list "C" of M-4 order (amended 5/3) must be sent from field offices to Washington for processing*
- *5/11 NPA exempts from M-4 construction of industrial facilities for which Certificate of Necessity has been issued, also exempts additions and modernization of factories involving less than 25 tons of steel; makes unmistakable application of M-4 to gymnasia, printing establishments, and facilities for storage or sale of consumer goods*
- *5/14 DPA announces formal establishment of a Requirements Committee to review overall demands for critical materials under CMP*
- *5/16 NPA orders 20% set-aside of softwood plywood output for DO's*
- *5/22 NPA adjusts limitation on use of DO ratings for maintenance, repair and operating supplies (DO-97) to compensate for increased prices and accelerated programs*
- *5/24 NPA establishes set-aside of stainless steel for rated orders for third quarter of 1951 at 50-100% of shipments during base period*
- *5/31 NPA directs field offices to act on permit applications for construction under M-4 list "C" involving less than 50 tons of steel, or costing under $1 million, except residential building*

NEW CONSTRUCTION ACTIVITY
(millions of dollars)

Type	May '50	May '51	% Change	1st 5 Months '50	1st 5 Months '51	% Change
PRIVATE						
TOTAL* ..	1694	1705	+1	7049	8085	+15
Residential (non-farm)	1036	854	—18	4128	4317	+5
Industrial...	73	161	+121	351	717	+104
Commercial	92	130	+41	402	626	+56
PUBLIC						
TOTAL* ..	584	813	+39	2351	3064	+30
Industrial ..	17	66	+288	56	236	+321
Military ...	8	82	+925	43	239	+456
Residential .	27	44	+63	147	199	+35

* Minor components not shown in table; hence total exceeds sum of its parts. Data from Depts. of Commerce and Labor.

(NEWS Continued on page 12)

"My friends wish a G-E Kitchen

Mrs. Edwin B. Fisher of Hillsdale, N. J., tells her builder, Mr. Herbert M. Tandy, what she particularly likes about the house she bought from him last year!



"I dropped by to get your comments about the house," says Mr. Tandy.

"You've lived in your new house for almost a year now, and I feel that your reactions would be mighty helpful in planning additional houses in our development."

"Be glad to, Mr. Tandy," says Mrs. Fisher. "Matter of fact, *you* should have been here last evening when some of our friends—who just bought a house—told us they wished *they* had known more about this development before they bought elsewhere!"



"Not only were our friends impressed with the house, but their eyes popped when I told them that our wonderful General Electric Kitchen cost us only $3.80 a month extra—*because the cost of it was included as a part of our regular mortgage!*"

they had for $3.80 a month!"



"It just so happens that I'm doing a bit of baking, Mr. Tandy. Look at this . . . *baked evenly all around!* My, this General Electric Range heats up so *quickly*, and gives *such even heat!*"

"That looks like a mighty fine cake, Mrs. Fisher!" says Mr. Tandy.



"While you're here, let me show you how efficient my General Electric Dishwasher is! See, the cups and glasses are *perfectly* clean! I do my dishes—breakfast, lunch and supper—once a day now!"

"Yes, most people are enthusiastic about this time-saver," Mr. Tandy says.



"You know how it is with a small child in the family.

"Edwin can certainly *soil* clothes. But I don't mind, really. This General Electric Automatic Washer does get things *so nice and clean and dry*. I use my G-E almost *every* day!"



"... and another thing I like about my house, Mr. Tandy, is my spacious G-E Refrigerator."

"Well, I take it, Mrs. Fisher, that the thing you like most about your house is the G-E Kitchen-Laundry . . . and *you've got lots of neighbors who agree with you!*"

Mr. Herbert Tandy and his associates, Messrs. Norman Tandy and Alan D. Allen, are builders of the Saddle-Wood Hills Development in Hillsdale, N. J. Mr. Tandy says:

"We installed G-E appliances in our houses because we wanted *quality* equipment . . . *and the public knows that G-E stands for fine equipment!*"



Won national award

The National Association of Home Builders, in presenting a national award to Saddle-Wood Hills, stated:

"The projects presented . . . were a great credit to the home building industry. Sound planning, ingenuity, and knowledge of market appeal were all in evidence."

Home Bureau, General Electric Company, Bridgeport 2, Conn.

You can put your confidence in—

GENERAL ELECTRIC

MATERIALS: a great debate begins on steel supply

Had mobilization planners made needless cuts in industry use of steel, copper, aluminum? The possibility had the Defense Production Administration and the National Production Authority (which carries out its policies) worried by the end of May.

Steel supply was being debated loudest. NPAdministrator Manly Fleischmann, in announcing the amendments to the M-4 order imposing a permit system on nearly all construction (THE MAGAZINE OF BUILDING, May, '51, p. 9) had insisted the curbs "are required because of a growing critical shortage of structural steel and the overriding need of steel in our defense and defense-supporting programs."

Shortage denied. But he was disputed by the men who should know steel best—top executives of the nation's steel companies. Said Chairman Eugene Grace of Bethlehem: "I don't share the view that there is a great shortage of steel." U. S. Steel's Ben Fairless observed that the chance of a steel over supply "may be nearer than most people think."

Across the nation, there was support for both arguments. Dallas contractors said reinforcing steel was easier to buy. Builder Joseph Vatterott in St. Louis said he had no trouble at all finding all the steel and copper he needed. But F. C. Woermann, St. Louis' biggest church builder, said he had turned down several big jobs for lack of steel. In Cleveland, suppliers said structural steel (except I-beams) was easier to get. Furnaces were plentiful, but $8.50 cwt nails were bringing $11 to $14 on a flourishing black market. In Denver, Builder Frank Burns began selling off part of his inventory, after deciding to build fewer homes. In Los Angeles, manufacturers joked about the shortage—of warehouse space to store their goods.

Bureaucracy ahead. Under the Controlled Materials Plan, to start July 1, the Government grip on steel, copper and aluminum was scheduled to tighten. For construction, each prime contractor erecting a project under an authorized program —to be controlled by the M-4 order—would get an authorized construction schedule and an allotment. But housing seemed sure to be among the industries left to scramble for what's left although it uses a tiny fraction of the U. S. supply of critical metals.

Figures compiled by the HHFA estimated housing's comparative percentage take of national supplies:

	1950 (1,400,000 starts)	1951 (850 000 starts)
Steel	2.4%	1%
Copper	7½%	4%*

* By eliminating copper in rain drains, insect screens, etc.



GLASS WORKS OPENS with 100 social scientists in talkfast

Opening their new glass center at Corning, N. Y. by Harrison & Abramovitz, the Houghtons (Amory, right, chairman of the board, Corning Glass Works, and Arthur A. Houghton, Jr., left, president of Steuben Glass, with Governor Thomas Dewey in the middle) spared no expense. With the aid of the Council of Learned Societies they assembled some 100 industrialists and social scientists to discuss problems of "Living in Industrial Civilization." This included round tables on work, leisure, the individual's sense of community, and confidence in life in industrial civilization. (The members of the last named table, some of them clerics, were dubbed "the confidence men" by their colleagues.) Governor Dewey arrived Saturday, May 19, to dedicate the center formally, as here seen against Corning's own version of a glass bridge with tubing running vertically instead of horizontally as at the Johnson Wax labs by Frank Lloyd Wright. The new center includes a combination glass museum, hand glass blowing exhibition for the Steuben Co., community building and glass showroom.

Said one mobilization official: "If it weren't for the materials demands of the freight car and farm machinery industry, we wouldn't need CMP."

SHIFTING CONTROLS keep industry biting its nails

How was the building industry reacting to NPA's plethora of pyramiding restraints? Said Macgruder Myers of Atlanta's Mion Construction Co.: "we are all dizzy."

Most construction spokesmen seemed to agree with that view. But as for controls in general, the industry was divided. Home builders said they were victims of discrimination. Cried Chicago's Nate Manilow: "NPA has approved erection of millions of dollars worth of commercial buildings that aren't essential. Why is that necessary when housing is cut back?"

Contractors' gain. General contractors however, were working the other side of the street. Relatively, they stood to gain by cutbacks affecting the rest of the industry, because their slice of construction includes defense work. Most of them were saying NPA's liberal attitude toward approving projects was only fair. Sample: while the contract for a new 200-bed, $5,000,000 children's orthopedic hospital in Seattle had not been let until after the May 3 deadline requiring prior approval of such projects, NPA decided that moving a house off the site several months ago constituted a start of construction. The hospital probably would have been approved in Washington, but the local ruling saved two months time. Sample: The First National Bank of St. Louis got the green light for $5 million of modernization and expansion.

For all hands, the worst was that besides the stream of changes in the rules so far, more orders were known to be in the works, and the intricacies of CMP still had not been spelled out for building by June 1, although the plan was supposed to go into effect only a month later. NPA's high command hoped to be able to unfold the details by mid-month.

As nearly as any trend could be noted in official gyrations, NPA intended to let agencies which claim materials for the construction industry do the processing of applications for permission to proceed. Thus FHA would handle permits for "luxury" housing and apartments over three stories plus basement. Applicants would take their requests to the agency's field offices. In the same manner, the Federal Security Agency would deal with applications for schools and hospitals.

Farmed out powers. The theory was that the claimant agency was the logical choice to dispense permits and allocations of critical metals since its function was to act as general custodian of supplies for its particular category of construction. But there was no assurance that every project receiving the nod of approval would also receive an allotment of steel, copper and aluminum. Present NPA thinking is to reserve this privilege for building jobs contributing to the defense effort.

According to the NPA slant, the fact that CMP would be open-ended promised that there would be enough materials left over to take care of all deserving cases. There were indications, however, that some steps were contemplated to insure that defense housing in the slowly expanding critical area list would receive special attention. There was also talk of instituting a permit system for *all* builders. NPA swore this strait jacket was intended to help contractors get materials, not because the agency loved administering controls (NPA bureaucrats disclaimed trying to grab more

power). But actually, there was inconclusive evidence that builders were having trouble getting the things they needed.

Quicker answers. Meanwhile, NPA decentralized the clearance procedure for "C" list building that it will continue to handle on its own. For smaller jobs—those requiring less than 50 tons of steel or costing less than $1 million—it agreed to let applicants take their requests to its field offices. Another change in the works concerns the definition of a luxury house. Instead of making all jobs qualify which cost over $35,000, the planners would impose square footage limits. All houses of, say, more than 2,500 sq. ft. would have to get special dispensation. The sensible suggestion put forth by the builders that housing be limited on the basis of consumption of critical materials was snubbed.

Housing Joins the Spring Sales Slump; Builders Hastily Trim Their Plans

First it was retail stores, then autos. Last month the nation's Spring buying slowdown struck housing.

With the supply of pre-Regulation X homes on easy credit terms virtually gone, in city after city builders' cries were the same: "People just don't have the big down payments we have to get under Regulation X."

In a few areas, there was even evidence that the housing market was saturated. In the years 1948-50, more than 3,350,000 new nonfarm dwelling units were started —nearly 20% more than in the entire ten years before World War II. And prices were up—24% in 18 months, according to Dow Service Inc. which found that the typical city house which cost $6,000 in 1941 and $11,160 in 1949 now sold for $13,860.

On top of everything else, the scarcity of mortgage financing kept scores of builders from carrying out summer building plans. In consequence, firms which were at work on 100 units last year were more likely now to be finishing up 25, and planning to await developments in the Korean war or Washington politics before deciding what to do next.

Middle bracket worst. Hardest hit were builders selling in the $9,000 to $18,000 bracket. In Denver, Marcus Bogue, who planned in January to build 150 homes this year, had completed 65 by last month. Five more were underway in the $9,000 to $10,000 class. "That's all for this year," he announced. "We've got to shut down to the minimum."

Even though San Diego was a critical defense area, Builder Milton Brock canceled plans to build 116 more homes there at $11,800 under post-X terms. He was having too much trouble selling 73 already under construction.

In Baltimore, Joseph Meyerhoff reported that two small tracts of 120 homes on Regulation X terms were "moving very slowly: we've sold 32." He planned henceforward to build "only small projects in absolutely the best locaitons where we are sure to get the high X down payments." Added Meyerhoff: "I don't know of a single big job going ahead or planned in the last 3 months."

Builder Irving Rose of Detroit recalled that last winter with his model home surrounded by muddy streets and horrid weather he sold 15 houses before the framing lumber was up. Now, he said he needed a perfect day even to bring out window shoppers. In Seattle, Builder Don Hedlund built 200 homes last year. Said he: "In the next 90 days we'll decide whether to go beyond the 50 we've built this year."

Full stop. Los Angeles, county officials said not one subdivision map had been filed in two months. Remarked Builder Spyros Ponty: "With the excessive down payments under Regulation X, I have no plans for building. I've dispersed my work force."

On the suburban Marin County shore of San Francisco Bay, Builder Niels Schultz' sales were "much slower" than six months ago, even in his $30,000 to $35,000 bracket. Accordingly, Schultz laid off a quarter of his crew.

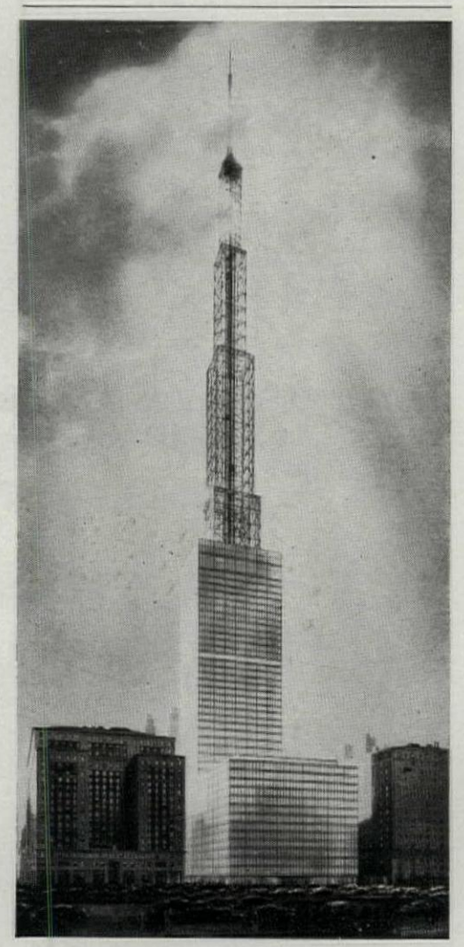
"We're seeing thousands of customers, without cash," sighed Maurice Fishman of Cleveland. Ward Bennett, vice president of Benton Lefton's Housemart, Inc. noted that where opening a model home last year would have sold out an entire project, now he can't sell homes until they are finished.

St. Louis builders were even gloomier than most. Snapped Builder Gene Vescova: "Regulation X is a blockbuster." Said Joseph H. Vatterott, president of the local builders association: "Last week, five carpenters approached us looking for work. That hasn't happened in four years."

Even booming Texas had its share of market woes. In Wichita Falls, where expansion of Sheppard Field is pressing the housing supply, Builder R. G. Hughes reported that while sales of his $5,500 homes under FHA Title I, Sec. 8 were clicking because of the $750 down payment, would-be buyers of his $7,200 to $9,000 houses were stymied for lack of $1,500 to $2,000 cash.

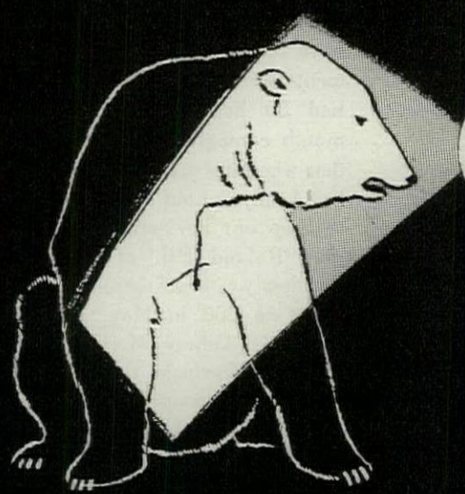
Overbuilt. Dallas builders claimed there were 3,000 new homes and 4,500 apartments standing empty. H. D. Lewis, who had 80 homes under construction last month compared with 125 in April, said that when his present project ends, he will build only "about 10 or 12 more—enough to keep our key personnel intact." President Roland Pelt of the Dallas Home Builders was erecting only 10 homes, compared to 200 in May, 1950. Explained President Aubrey M. Costa of Southern Trust & Mortgage Co.: "Home building

(Continued on page 19)

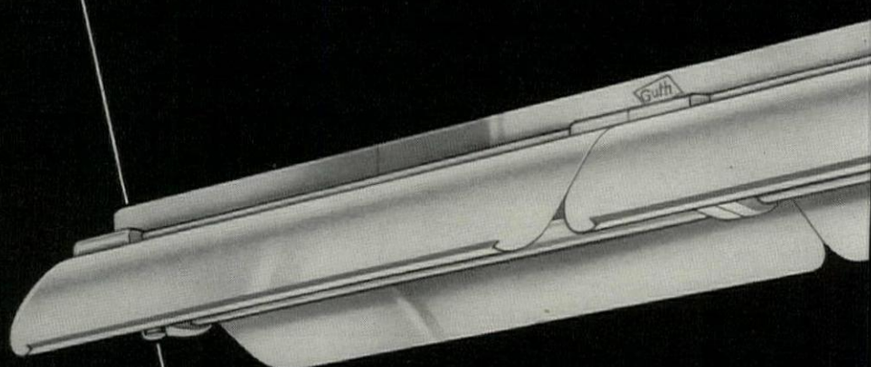


WORLD'S TALLEST skyscraper is proposed for Manhattan

Start of construction would have to await the end of mobilization's appetite for steel, but New York Realtor William Zeckendorf was in earnest last month when he heralded plans to build this 44-story office building, topped by a 1,000' open steelwork tower and TV mast. Resulting 1,580' building in midtown Manhattan (between Park and Madison Avenues, 47th and 48th Streets) would beat the Empire State Building for the title of world's tallest by 108'. The steel framework would be paid off by TV broadcast rent, which soon will bring Empire State Building $600,000 a year.



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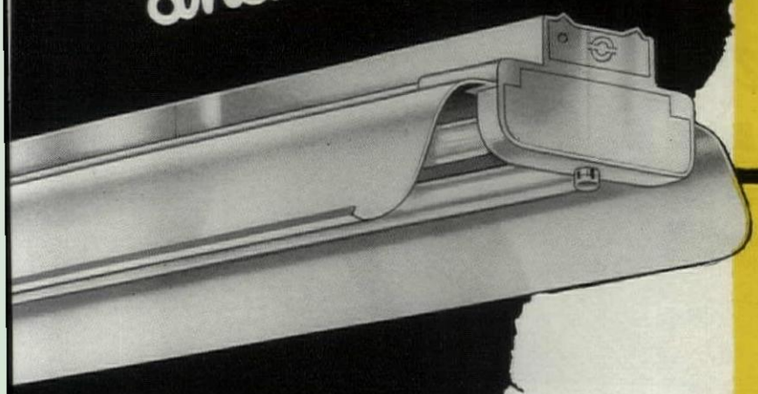
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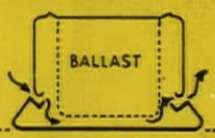
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Avoids gloomy, depressing ceilings with irritating, strong light and shadow contrast. Wyte-Liners spread brightness, cheerfulness, create better seeing and better working conditions.

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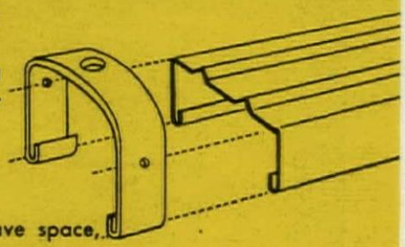


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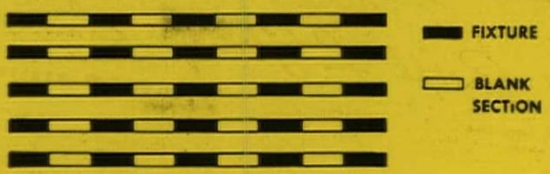
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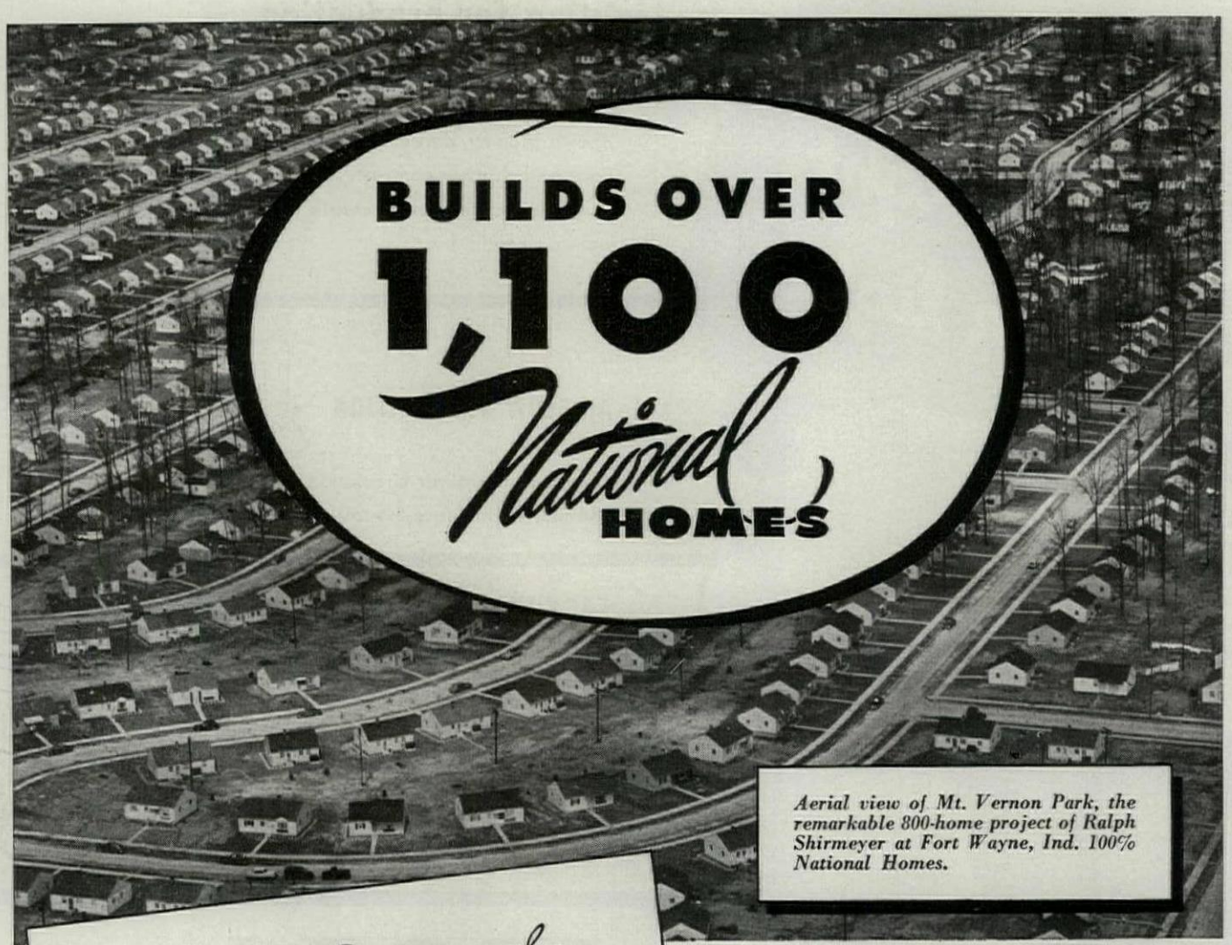
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***Have you seen our ads on "Your National Home Magazine"?** It's a big 64-page magazine devoted to helping dealers sell National Homes. Nothing like it in the industry. Send 25c for your copy—it will be a revelation!*

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has been geared for twice the population growth the city has had. Last year's 10,000 completions could only be justified by a population rising 30,000 to 35,000 a year. Actually, it's only an 18,000 to 20,000 gain."

Lenders like it. Many lenders said approvingly that the deflation was a good thing for housing. Cracked George Bliss, president of Century Federal Savings & Loan Association in New York: "Builders think nothing is normal unless they can get a 100% loan. They yell against Government interference in their business and complain about public housing, but at the same time they want the support of the Government to get big loans. The Government wants to curb inflation and conserve materials and labor, so it puts the mortgage business back to normal (i.e. 65 and 70% loans). We are faced with determining if housing will be succored by Government support of housing credit."

Lone optimist among some 50 builders interviewed in 12 cities was Seattle's Albert Balch, who said he was trying to build up his labor force. Reason: "There has been quite a slowdown in every class of home sales in the last weeks. Buyer credit and mortgage money are factors, but there is something creeping over buyers. Real estate goes in waves: everybody buys at the same time, sells at the same time, stops buying at the same time. There's an air of uncertainty which I think stems from a feeling there may be peace soon. There's been a feverish boom in real estate since the outbreak of the Korean war until a month ago. People have spent their savings. There is bound to be a slack while new savings accumulate. But I'm going ahead because I think it will pick up in the fall."

CRITICAL AREAS: the planners think about doubling them

With nondefense building dwindling, establishment of critical areas was becoming more and more important to builders looking for a way to maintain a big volume operation, even if it meant moving to another city. Up to the start of June, however, the Government's inter-agency critical areas committee had limited the rating to only eight spots (latest addition: region around Ft. Leonard Wood, Mo., 150 rental, 100 sales units).

Now, however, committee members had about decided to double the list. Probable additions; mostly towns beside military bases: Oceanside, Calif., 400 rent and 100 sale units; Escondido & Miramar, Calif., 120 rent and 80 sale units; Bremerton, Wash., 450 rent and 300 sale units; Valdosta, Ga., 300 rent units; Talahoma, Tenn., 220 units, breakdown undecided; Lompoc, Calif., 450 rent and 170 sale units; San Marcos, Tex. and Camp Cook area, Calif., quota undecided.

FAST TAX WRITE-OFF banned for company defense homes

A shortcut way to get defense housing built without waiting for the government to ready its elaborate plan was quietly torpedoed by NPA. The Aluminum Co. of America, seeking five year tax write-off of plants in remote places, asked to have employee housing included in the fast amortization. Alcoa would build the homes. Only explanation NPA offered of its rejection was a cryptic comment that the plan did not seem desirable. What really was the trouble, onlookers thought, was that Alcoa's plan would upset the zealously guarded right of Washington housing agencies to plan all housing.

NEW STEEL TOWN born with prefabs, cul de sac streets

On 1,500 acres of elm and poplar-dotted farmland in Falsington township, Bucks County, Pa., 30 miles north of Philadelphia, Realtor John W. Galbreath last month began building what seemed likely to be the nation's biggest new defense town of the mobilization.

Fairless, Pa., named for Galbreath's longtime personal friend, U. S. Steel's Ben Fairless, would house the 5,000 workers who would be needed by U. S. Steel's $400,000,000 Fairless Works, going up along the Delaware River 3½ miles away.

Except for a few custom-designed homes for executives, nearly all 2,500 houses to be built by Galbreath will be Gunnison prefabs, and thus neither better looking nor uglier than Gunnison homes elsewhere. But U. S. Steel and John Galbreath agreed they wanted a well-planned town, which might set an example for the defense housing program.

For this, Galbreath picked Seward H. Mott, famed Washington land planner, who thereupon resigned as director of the Urban Land Institute.

But erection of the first 150 homes, needed for construction workers on the steel mill, could not await long studies at a drawing board. Explained Mott:

"We haven't got the master plan in final shape yet because we're too busy with the details of sections where they're starting to put up homes."

The steel community may eventually grow to a town of 12,000 to 15,000 inhabitants. It will, promised Mott, be graced with such amenities as curving and cul de sac streets of 50′, 60′ and 70′ width, lots ranging from 60 x 120′ to half an acre, a high school, two elementary schools, churches, a town hall, shopping center, paved streets with curbs and sidewalks and a 15 acre lake to be formed by damming a stream. Along straight streets, varied setback of the Gunnison houses would avoid row housing monotony, said Mott. Most of the homes will be for sale. Plans call for FHA financing.

With customers growing scarcer in nondefense zones, other mid-Atlantic builders also were eyeing the land around Morrisville, Pa., the nearest town. One was Long Island's Levitt & Sons, which held an option to buy a large acreage of nearby land. Up to the start of June, however, Levitt kept mum about his plans.

SAN DIEGO BONANZA: 6,000 defense homes quota taken

In San Diego, largest city yet named a critical defense area this time, it looked as though many of the mistakes of World War II housing were going to be repeated.

Builders oversubscribed (except in one category) HHFA's quota of 6,000 housing units to be built under relaxed Regulation X terms. But they cried that the dollar ceilings set by the agency on sales and rental prices (see table) were so low that a flimsy product would result. Said Builder Nels Severin: "We'll be able to produce, but not what the public wants. We'll go to concrete slab floors, less closet space, less windows, smaller rooms. Ceiling prices should have been $1,000 higher. With the market the way it is here, it wouldn't have made any difference in selling."

If Severin was right, San Diego would get another 6,000 homes much like the 15,121 squat, ugly and crowded temporary, demountable and (a few) permanent Federal housing units built there during World War II. All 15,121 are still up and occupied.

Of 72 applicants for the 6,000 units, a quarter were out-of-town builders, some from as far away as Atlanta.

HOW THEY SIGNED UP

For Rent	Ceiling price	Quota	Applications
3 bedrm.	$75 mo.	750	715
2 bedrm.	$65 mo.	2,500	3,249
1 bedrm.	$55 mo.	750	1,331
For Sale			
3 bedrm.	$9,500	712	1,317
2 bedrm.	8,500	1,188	1,808
For builder occupants	—	100	5

(Continued on page 22)


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A properly planned distribution system maintains the right voltage to keep production at top level. The vital role of power in industrial plants makes it very important to select the proper system in the first stages of planning for new building or expansion. Adequate power is essential to the efficient operation of the finest engineered production line.

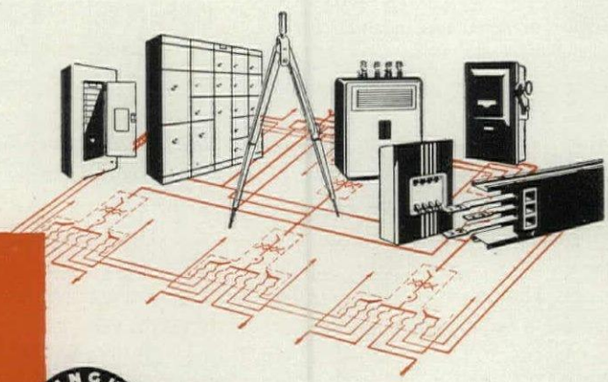
Planning for adequate plant power—present and future—must be a co-ordinated part of the whole planning job. Electrical distribution systems which are superimposed as an afterthought often are costly and inadequate.

Westinghouse engineers can assist you in the critical early stages of selecting an electrical distribution system for your plant. There is "one best" system for any given plant, and our engineers have the skill and experience to help you choose it. They can propose adequate, efficient electrical systems for present *and* future loads . . . at the lowest long-term cost to you.

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SYSTEM PLANNING

FEDERAL RESERVE improvises credit control on old houses

Overlooking few bets in its anti-inflation drive, the Federal Reserve Board has figured out how to do something expressly prohibited by the present Defense Production Act—impose restrictions on financing existing houses. Instead of imposing Regulation X on this important segment of the housing market by administrative fiat, the Board attacked via its Voluntary Credit Restraint Committee. Headed for approval at a June meeting of the committee was a plan whereby leaders would pledge themselves to observe substantially the same requirements for large down payments and shortened amortization periods in financing existing houses as those clamped down on new construction. Board member Oliver S. Powell, who is chairman of the committee, felt the results would be gratifying.

DEFENSE HOUSING BILL stalled by a legislative impasse

Hope began to fade last month for any early enactment of a Defense Housing Bill.

For 60 days the Senate-passed measure had been stalemated in the House Banking Committee. Administration forces clung to an all-or-nothing strategy. They insisted that some provision be made for direct Government construction where private industry was unable to tackle the job. They held out for a certain amount of federal financing of community facilities in areas thrown off balance by an influx of defense activities. They stood pat for retention in some form of a Senate amendment keeping builders from getting FHA mortgages in excess of 90% of costs.

On the other hand, Republican tacticians aided by a strong bloc of Southern Democrats were not disposed to reduce their demands for a bill much toned-down from the Senate version. They wanted little or no public housing. They did not propose to let the bureaucrats go wild on community facilities.

Chairman Brent Spence (D., Ky.) of the House banking committee would exert little effort to dislodge the bill. His reasoning: builders could turn the heat on the factions blocking action if they wanted to; they had the most to lose from delay because if a defense housing pinch developed, skeletonized public construction could well be the result.

For the moment, the strategy of the National Association of Home Builders was to give lukewarm support to the Senate version they abhor, hope to buttonhole enough Congressmen to get the 90% certification provisions of Title IX removed, or, failing that, to get single family homes exempted.

It was no help to the NAHB that building spoke with disunited voice. The National Association of Real Estate Boards and U. S. Savings & Loan League flatly opposed the Senate's bill. The AIA was neutral. Cold comfort, too, was the fact that had the NAHB followed the advice of retiring president Tom Coogan last fall, backed the bill's original draft by HHFAdministrator Ray Foley, a Defense Housing Bill might well have been law by last month.

Viewing the impasse, some Washington observers were betting the Defense Housing Bill might be stuck in Congress until fall.

MILITARY CONSTRUCTION: the Pentagon seeks huge plan

The Pentagon was about ready last month to ask Congress for authority to embark on a $7 to $8 billion military construction program—biggest in U. S. history according to members of the House Armed Services Committee who were given a preview peek at Defense Department plans. Included would be new installations and expansions of old ones in virtually every state as well as overseas bases. Funds would be sought in regular appropriation bills over the next two or three years. Military construction during 1951 is not expected to top $2 billion, even counting work under the new program that might begin before Dec. 31.

DEFENSE PRODUCTION ACT: Congress may cut controls

Obviously unable to meet the June 30 expiration date to extend the Defense Production Act, Congress was turning to the only feasible alternative: a short extension of the existing law. The only question was how long. Best guess: 90 days.

As Senate and House banking committees sweated over the new bill it was apparent even to administration stalwarts that Truman would be lucky to retain the controls granted by the present statute. Chairman Maybank of the Senate Banking Committee had testily waved aside the request for commercial rent control. His view was that the committee should "take more time and find out if there is any real need for such action." Also scheduled for the ash can was the bid for putting existing houses under credit Regulation X. In his appearance before the committee, Realtor Alexander Summer of Newark, N. J., NAREB's president, demanded that Congress do more than just reject the proposal. His suggestion: along with FHA and VA credit restrictions, Regulation X should be entirely removed—not just modified—in areas where military establishments or defense plants are likely to put heavy demands on local housing supply. Elsewhere, he wanted Regulation X eased.

Another big question mark concerned the President's insistence on an expanded rent control program. Almost certainly Congress would not vote any widespread power to recontrol rents. About the only thing the President seemed to have a chance of getting would be the right to reestablish ceilings in defense areas decontrolled by state or local action. Most observers thought he would have a hard time winning this much.

RENT CONTROL: two-thirds of last war's ceilings lifted

By last month, some two-thirds of the rental units covered by Federal rent control during World War II were decontrolled. Seven states—Texas, Virginia, Wisconsin, Utah, Arizona, Nebraska and Alabama—had no rent controls at all. In Mississippi, only Biloxi was under rent ceilings. In Florida, only three counties were covered, in Kansas, only two.

TAX WRITE-OFF: building materials get a nibble

Only a thin slice of the government's fast tax write-off cake was going to the building industry. Nearly all of that was for basic materials like cement, glass, glass fiber, lumber, steel and nonferrous metals, where expanded plant capacity might or might not make products that would actually wind up in construction. Up to May 7, this was DPA's box score for basic materials (which constitute half the total write-off program):

	Applications filed		Applications approved		
	No.	Am't (millions)	No.	Am't asked (millions)	Am't eligible (millions)
Iron & Steel	688	$3,718	154	$1,985	$1,429
Nonferrous metals	235	632	38	322	262
Refractories	115	87	68	60	50.9
Glass fiber	20	32	4	15	10.9
Cement	46	127	4	20	15
Lumber	110	65	3	1.8	1.1

Thus the lumber industry had been permitted to write off the cost of new facilities in 5 years instead of the usual 20-25 on only 1.7% of the amount it sought, while refractories were getting 58.1% of what they wanted. Other batting averages: iron & steel, 38.4%; nonferrous metals, 41.5%; glass fiber, 34%; cement, 11.8%.

Sizing the situation up, the House executive expenditures subcommittee joined with the Senate small business committee in tossing jumbo-sized brickbat at how tax write-offs have been handled. The Senate

committee thought too much preference had been shown big business. The House committee singled out Frank Creedon, NPA director of facilities and construction, for special criticism. The percentage of costs certified for each class of facility apparently depended solely on his judgment. Said the committee: Creedon's testimony showed "inconsistency and lack of understanding with respect to the fundamental elements of the determinations he had the responsibility for making."

Top level administrators, the committee charged, had failed to seek expert advice before making tax write-off decisions, leaving them instead to "a small clique with no special knowledge of any industry. . . ."

BLUE WALLS, COOL TEMPERS

A group of industrial psychologists sat down to talk about building interiors with government and private architects in Washington last month. Sample suggestions: use cool colors (e.g. blue) on conference rooms to keep tempers down, peach walls for cafeterias to aid digestion, light wood on executives desks to cut eye strain.

ATTACK ON WASTE inches on; NPA pushes standardization

The National Production Authority—real boss of U. S. building because it controlled metals—was beginning to act while others still talked about cutting construction's fabulous waste. The goal was mentioned quietly by Henry M. Heymann, counsel for NPA's construction controls division, in a May 7 talk in San Francisco. "NPA anticipates," said Heymann, "that it will eliminate the use of all critical materials which can be accomplished without affecting structural safety."

First target was builders' hardware. NPA presented an industry advisory committee with a proposal to standardize locks, knobs and hinges to save both manpower and scarce brass. Next came a plan to standardize steel windows. Others would follow.

Chairman Howard Coonley of the Defense Production Authority's conservation coordination committee was touring the country, preaching to manufacturers and local officials what he liked to call his "Four S's: simplification, standardization, substitution and salvage."

As Forest Products Research Society, the wood industry's 5-year-old technical association, met in Philadelphia, NPA Lumber Chief C. Arthur Bruce pleaded for research on use of steel to reinforce wood—still another field of attack on waste. Said Bruce: "I believe that structural members can be developed where wood is combined with steel which will save not only wood but also steel. When concrete became reinforced it ushered in a new day in that industry. Reinforced concrete was actually a new product. Reinforced lumber may be a dream but if it is to come true you men of research are the ones who will develop it."

Saving critical materials drew attention at the mid-Atlantic regional conference of the National Association of Housing Officials in New York. The New York City Housing Authority, reported its Executive Director Gerald J. Carey, has rewritten specifications for all new projects to save 1½ tons of steel per apartment, or 1,500 tons in a typical development.

This was progress by inches, where industry leaders knew progress was needed by miles. But it *was* progress.

OPS SEEKS PRICE LID ON BUILDING

How to apply price control in the building field was still causing a lot of head scratching in the Office of Price Stabilization. Some of the bright ideas being mulled over would make the industry break out in a cold sweat.

For materials and products the problem was not too difficult. The interim order taking lumber and building material dealers out from under the general ceiling price was generally called as workable as the industry could expect. It permits dealers to stick to their historic mark-up over cost of goods delivered at their yards. More important it allows them elbow room to apply these margins to increases passed on to them by producers. Thus a retailer or wholesaler buying from a manufacturer who has increased his price under CPR-22 (OPS order covering manufacturers) can recompute his ceiling upward—something he was not allowed to do under the general price regulation. OPS optimistically thinks that there will also be cases where the margin will be applied to declining prices from the producers.

The prefabricated house industry, too, was to come under price control at month's end. But, said John C. Taylor, Jr., new president of the Prefabricated Home Manufacturers Institute, most prefabers think "if they have to have controls, these are fair. Enforcing it is going to be a whale of a job, however."

Unit price. Construction services would be harder to regulate. One OPS brainstorm is a proposal that contractors and subcontractors be put on a "unit cost bases." This might mean a unit price per square yard in some instances and a measured cost of installation in others—for example, the charge by plumbing subcontractors for installing a certain number of feet of piping.

In any case, industry men say the whole theory is completely haywire. They complain that if OPS carries the plan to its logical conclusion it will be evading Congress' stern injunction against putting a price tag on the cost of a house. Obviously it would be comparatively easy under such an approach to add up the prices of the general contractor and all the subs, arrive at a fairly firm figure of how much the OPS believes a standard two bedroom brick or frame house ought to cost.

Disregard the rules. If contractors took the freeze invoked by the general ceiling price regulation of Jan. 26 very seriously they would already be on an impossible spot. According to the book they are not supposed to pass along any increases in material or labor costs. To keep from going broke they have been obliged to pay no more than lip service to the regulation.

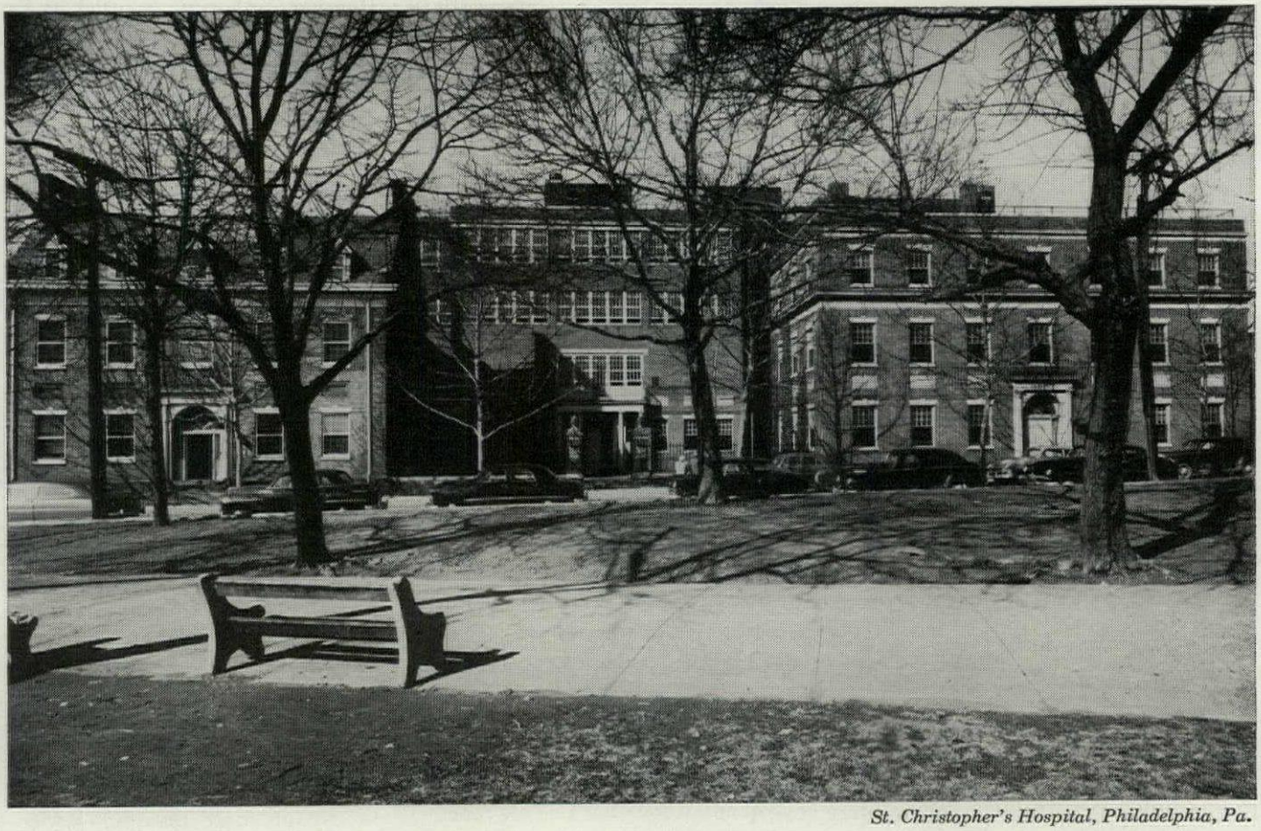
Another OPS suggestion that appears to make more sense is that contractors be put under a separate regulation that allows them to reflect higher costs but limits them to their profit margin or mark-up as of a stipulated base period. OPS was toying with the idea of confining this regulation to the small house field under the theory that competition would take care of the bidding on large commercial jobs and public construction.

PUBLIC HOUSING goal restored to 50,000 by Senate unit

Public housing won a stay of execution from the death sentence voted by the House of Representatives. The House sliced public housing to an authorization of 5,000 units for the next fiscal year. Immediately, public housers set up a chorus of wails, topped by a protest caravan of 30 mayors who descended on Washington early this month. President Truman assailed the House limit as "crippling, unwise, unjust." So the Senate banking committee restored public housing to 50,000 units.

Nevertheless, the Public Housing Administration has no illusions that when the matter is finally adjusted in conference between the House and Senate that it will come out with anything like that much.

(NEWS Continued on page 26)



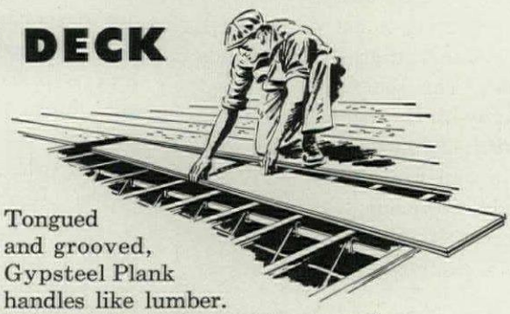
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1A47

BOCA CONVENTION

Industry Begs For Faster Code Reform

Building materials manufacturers last month tried to light a fire under the gray-haired members of the Building Officials Conference of America.

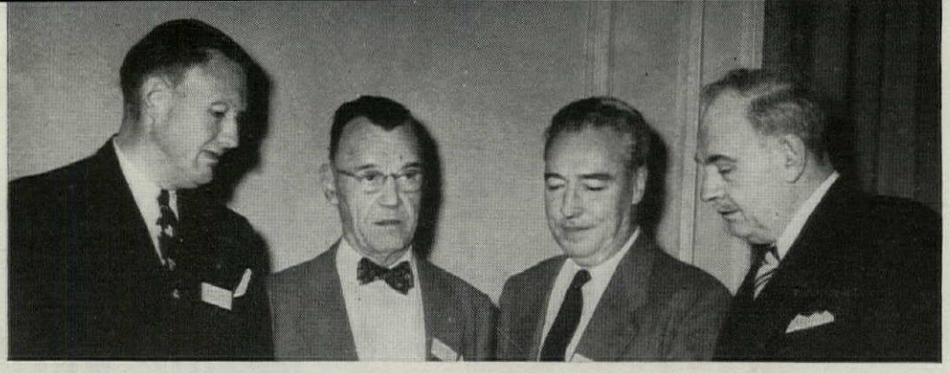
They begged the BOCA men, holding their 36th annual convention in Toronto, to get busy as individuals, persuade their home towns to adopt BOCA's Abridged or Basic Building Code.

This was part of a two-pronged attack on the fabulous problem of how to simplify the conflicting complexity of the 2,500-odd local building codes in U. S. cities. The other half was up to industry itself: provide more money to make the administrative wheels of BOCA work better.

Long pull. Since 1945, a handful of materials firms have poured some $135,000 into BOCA through its fund-raising arm, the Building Officials Foundation. Most of this was spent to write the two codes. The Abridged is aimed at small towns; the Basic Code is pointed to the needs of big cities. Most materials makers consider the $135,000 money well spent. Trouble is that although the Abridged Code was issued in June a year ago, only 38 towns had adopted it at last count. The Basic Code, published only this January, has won adoption in only five U. S. communities. Another score or more are considering one of the two BOCA codes. Biggest city to embrace the Basic Code so far is Montreal, Canada (pop. 1,225,000). But in the U. S., no city over 60,000 population has adopted either.

Even in the home towns of some BOCA leaders, including retiring President Albert H. Baum of St. Louis,* old and archaic codes remain in force. To such inertia, industry has lately responded in kind. Contributions have sagged until its treasury permits BOCA to hire full time only Code Consultant George Strehan of New York, and his wife, who acts as secretary. Strehan says he is barely able to keep abreast of his mountain of mail.

Fight team, fight. Realizing BOCA's problems, urbane, youthful William Gillett, chief industry spokesman to BOCA, tactfully talked more like a football coach than executive vice president of Detroit Steel Products Co. when he strode before BOCA delegates in the King Edward Hotel's garish sea green Sheraton room. Said Gillett:



KEY FIGURES AT BOCA CONVENTION were (l. to r.) William Gillett, upped from chairman of the Building Officials Foundation Industry advisory board to Foundation chairman; Retiring BOCA President Albert G. Baum of St. Louis; BOF Treasurer James J. Dunne; and new BOCA President Joseph Wolff, Detroit building commissioner. *Photo: Norman Fricke*

"Industry wants its money's worth . . . Building officials have to *move* to make this thing work. You can't sit back and say 'this code is OK for George, but I have a code of my own.' Only when a BOCA approval of new materials is good in, say, 500 or more communities (because they have previously adopted a BOCA code) will industry give you full (financial) support."

Unmentioned, but implied, was the possibility industry leaders might withdraw all-important financial backing unless BOCA gathered more steam in the next year or two. But for the present, the materials men who finance the Building Officials Foundation would set their sights on a policy BOF's new treasurer, Vice President James J. Dunne of U. S. Plywood Corp. put this way:

"We've got to get behind this. We're going to *push* this year. After all, BOCA spent only $130,000 and got a good code. We want to see it widely adopted. That would let all of us simplify our production, our organization, our sales. The New York Code Commission spent $300,000 and all they have is a first draft."

Snail pace. Despite pep talks, the 195 BOCA delegates took only sluggish action on plans aimed at speeding up code reform to save critical materials (i.e. reduce waste) in building. On the convention's second day, they shouted down a recommendation to let the two BOCA codes be amended "for the duration" by a majority vote of BOCA's executive committee. In its final hours, the convention went only half-way to support a behind-the scenes appeal by wiry Robinson Newcomb, housing economist for the Defense Production Administration, who asked BOCA to write a model ordinance enabling local inspectors to waive local code requirements for the emergency. From the Government's viewpoint, enlisting support of local inspectors in saving materials made good sense: it would provide a matchless enforcement brigade—free. But instead of drafting a model law, BOCA merely voted to form a committee to write one—in conference with the nation's two other major code organizations, the Pacific Coast Building Officials Conference and the Southern Building Code Congress.

Such joint consultations were becoming more and more frequent between leaders of the three code groups. Already top officers of the BOCA and the Pacific Coast Building Officials Conference cross the country to attend each others' executive committee meetings. Both groups use the same publication to present proposed code changes. And with the National Board of Fire Underwriters, all three are slogging slowly toward national uniformity with a joint committee on code unification.

Union now. To the harmony act, new BOCA President Joseph Wolff suggested another addition. From the convention floor, he asked Gilbert H. Morris of Los Angeles, second vice president of the PCBOC if the two groups couldn't set up a joint organization to approve new building materials. This would save manufacturers the expense of winning two approvals.

"I don't see why not," replied Morris. "Let's try."

Wolff, 60, a husky, hulking (6′ 1″) ex-home builder whose Detroit building department is among the nation's biggest and best, also gave the delegates some plain-spoken advice:

"There's a popular idea that the building official, as a downtrodden public servant is too busy doing his job to have time to get out and plug for code reform. That is no excuse . . . We don't want to flounder around another year and make excuses."

Only time would tell if building inspectors could be needled into plugging for code reform in their own cities. But having Joe Wolff doing some of the jabbing would help.

HOLC QUITS AT PROFIT

The Home Owners Loan Corp., founded in depression's dark June 1933 to bail out banks and other holders of $3,498,900,000 worth of defaulting mortgages, last month shut up shop for good. Inflating real estate prices let HOLC hand the Treasury a check for $14,000,000 profit, instead of a bill for the $200 to $500 million deficit foreseen when the agency was created. To speed liquidation, HOLC sold its last $319,000,000 worth of mortgages to private lenders.

* Well aware of the deficiencies of St. Louis' code, grizzled, hard-working Building Commissioner Baum has five committees studying how to revise it for greater conformity (he hopes) with BOCA standards. The process may take two years, however.

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Adaptable to any kind of architecture, RED TOP Acoustical Plaster provides a bond strength of over 500 lbs. per sq. ft. when applied ½-inch thick to a gypsum basecoat. It goes over existing plaster, concrete ceilings, or monolithic concrete when used with a special bonding emulsion.

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1 **BEGIN APPLICATION** by nailing first layer of SHEETROCK to ceiling, parallel to joists if ceiling is 12′ or less in length, and perpendicular to joists on longer ceilings. The few nails used in second layer are countersunk and the holes filled.

3 **CORNER CONSTRUCTION** is simple. Nail overlapping edge of first layer panels to inside corner support, as shown. A strong "floating-type" corner results after later reinforcement with PERF-A-TAPE.



2 **BEGIN SIDEWALL APPLICATION** by nailing first layer vertically if ceiling height is 8′ 3″ or less. Mix PERF-A-TAPE Cement and apply to second layer panels as shown. Apply second layer horizontally, starting at ceiling level, for strong cross-lamination.

4 **PERF-A-TAPE*** Joint System, with new spark-perforated tape, gives strong, smooth walls and ceilings that take any form of decoration. Use it to treat all joints and nail head areas, for better dry-wall results then ever.

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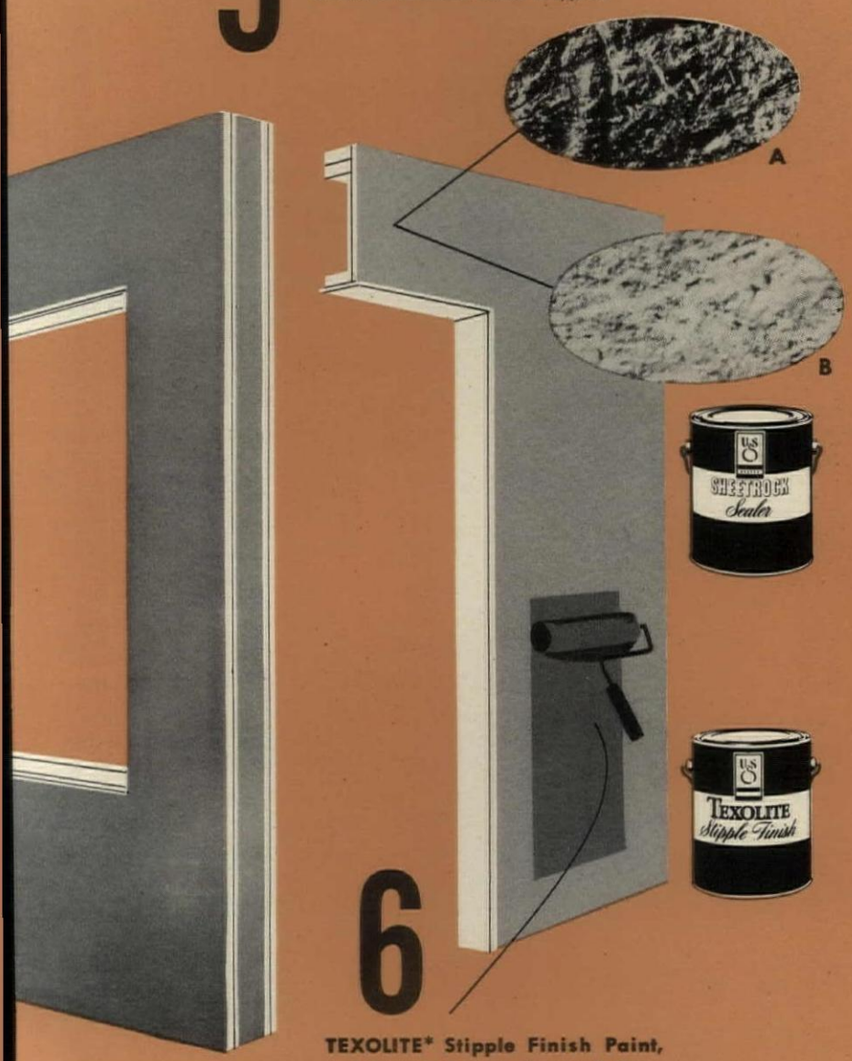
It's a new double-wall lamination that steps up all the advantages of SHEETROCK Gypsum Wallboard to create stronger, more fire-resistant walls and ceilings—with reduced sound transmission, no surface nails, and increased resistance to wall cracking caused by structural movement.

Two ⅜-inch panels are literally *welded* together; cross-laminated and treated on the job with PERF-A-TAPE*, the joint system that conceals and strengthens joints, giving smooth surfaces for snug trimming, easy decoration. Minimum waste (see modular planning, right); fast erection; no drying period.

SHEETROCK takes any decoration. For best results with any spirit-thinned paint, use SHEETROCK Sealer. Achieve beautiful effects with TEXOLITE* Stipple Finish paint.

See in accompanying illustrations the many advantages of this new dry-wall system.

5 **New SHEETROCK Sealer** lays the nap on any gypsum wallboard (as these magnified photos show). It makes an ideal undercoat for any spirit-thinned paint, enamel; or provides excellent size under wallpaper.
A. Before SHEETROCK Sealer is applied.
B. After SHEETROCK Sealer is applied.



6 **TEXOLITE* Stipple Finish Paint,** ready to use as it comes, gives a soft, attractive effect; is easily applied over any sealed surface; may be tinted with colors in oil.

USG UNITED STATES GYPSUM

What's New in Building . . .
From United States Gypsum

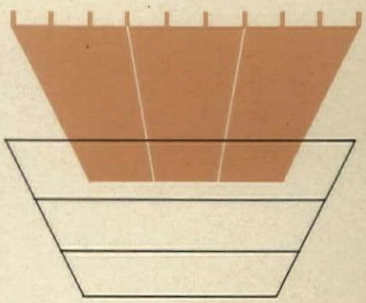
*T. M. Reg. U. S. Pat Off.

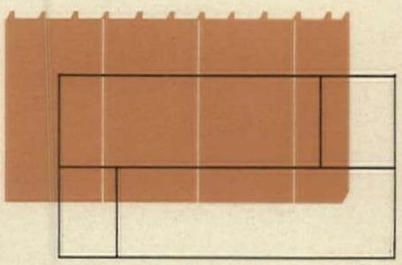
MODULAR LAYOUTS

Here's how easy it is to save materials and speed the job with the Double-Wall System using SHEETROCK Wallboard, with these modular layouts:

For ceilings not over 12′ in either dimension, use full length SHEETROCK (up to 12′) to span ceiling. First layer runs parallel to ceiling joists, as shown.

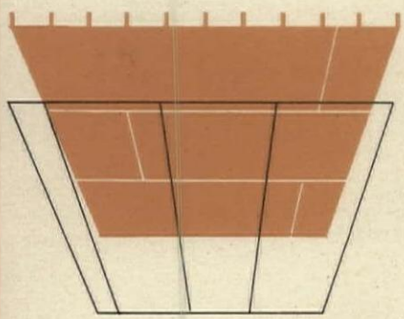
For walls not over 8′ 3″ high, apply first layer of SHEETROCK Wallboard vertically and face layer horizontally to studs. Only one horizontal joint results, plus one or more vertical joints, which must fall between studs.

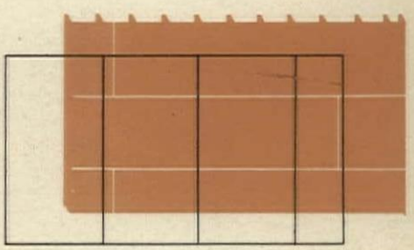


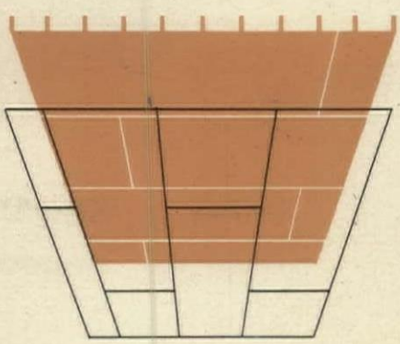


For ceilings not more than 12′ wide, but longer than 12′, apply the first layer parallel to length of the room, with end joints staggered. Using full-length SHEETROCK Wallboard for face layer, span the width of the room, eliminating end joints.

For walls higher than 8′ 3″, apply first layer of SHEETROCK Wallboard horizontally. This permits vertical face layer panels to span from floor to ceiling. If walls are over 12′ long, stagger end joints, with ends occurring between studs.







For ceilings longer and wider than 12′, apply first layer across the joists, with joints falling between joists. Apply the face layer perpendicular to the first layer, with joints overlapping first layer joints at least 10″

new

AUDITONE

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acoustical tile

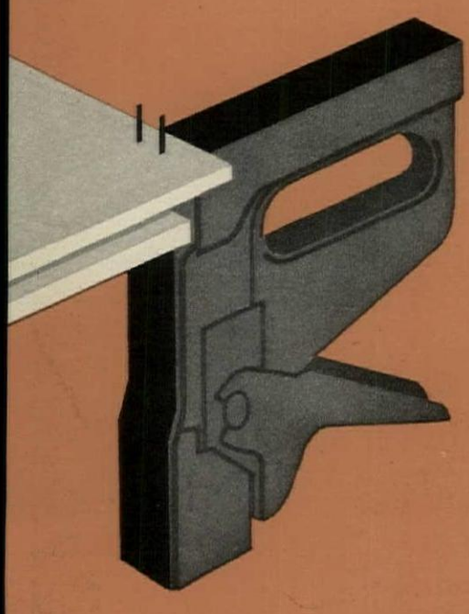


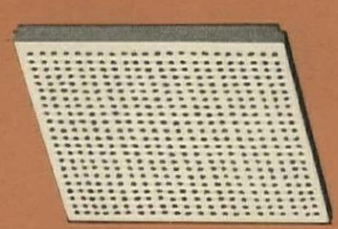
AUDITONE Twin-Tile, with Kwik-Lok Joint

Now you can install acoustical tile in *half the time;* get high sound absorption, high light reflection, and easy maintenance—all with AUDITONE Fiber Acoustical Tile.

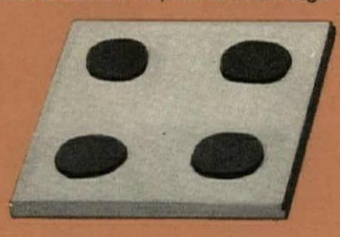
It's the new Twin-Tile design with the Kwik-Lok Tongue and Groove Joint that assures quick, even alignment and easy stapling or nailing. Size 12″ x 24″—in ½″, ¾″ and 1″ thicknesses.

AUDITONE applied on 1″ x 3″ furring strips, gives up to .70 N.R.C. ratings. And it's easy to maintain—can be cleaned repeatedly; brush or spray painted without loss of sound absorption efficiency. AUDITONE is also available in 12″ x 12″ size, for fast adhesive application.





AUDITONE Standard Tile, with butt bevel edges

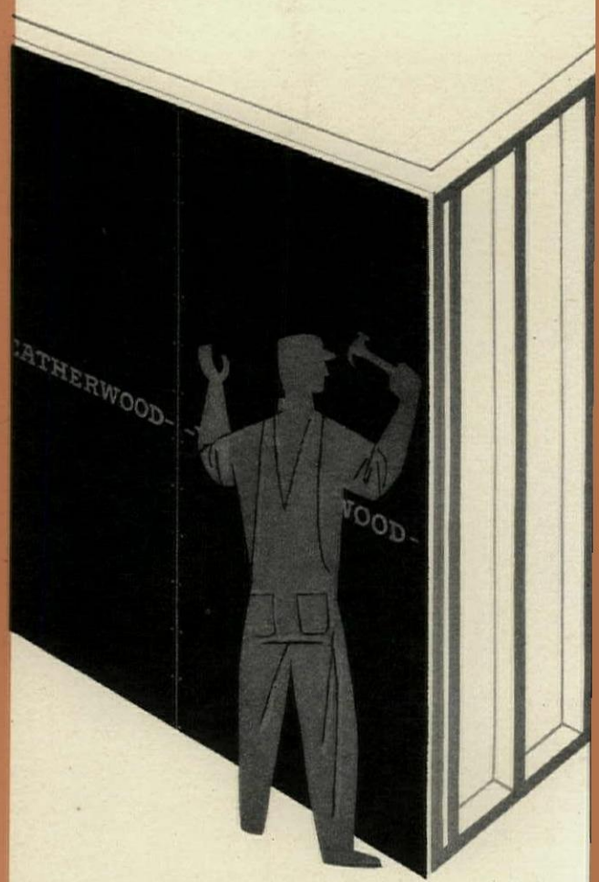


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FHA in Miami: Architects Beef On Design, but Builders Don't

This is the second in a series arising from complaint by many architects and builders that the Federal Housing Administration has slipped behind times in accepting modern design and construction practices. From Los Angeles, subject of the first close-up of one of FHA's 72 virtually autonomous district offices (April, p. 20), The Magazine of Building jumps across the country to Miami, where architects account for design of a higher proportion of homes than in most other parts of the U. S.

A composite picture of the FHA, if painted by Greater Miami architects and builders, would probably show a creature half-devil, half-saint, holding aloft a jagged stump and ready to fling it at a sketch marked "contemporary design."

The men who guide the Miami district office of the Federal Housing Administration are either Satan or angel to many of the architects and builders in booming southeast Florida. The cleavage is pretty much along occupational lines.

Says Frank E. Watson, president of the South Florida chapter of the American Institute of Architects:

"We find the FHA here quite backward in accepting fresh ideas and good housing practice based on conditions in this area. Their minimum standards aren't too tough to meet, but they won't permit much flexibility. . . . What the FHA seems to have in mind down here is the old defense house—the square, cracker box dwelling. You can see thousands of them in FHA approved projects in the Miami area."

Another view. Says Miami Builder Thomas P. Coogan, former president of the National Association of Home Builders:

"I have no complaint. They're a very agreeable bunch to do business with if you don't get arbitrary. Sure, I've had my little troubles, but you have to expect that with any lender. There are a lot of architects with very advanced ideas in Miami. FHA won't go along on a design until it has proved to be marketable. I don't blame them. FHA is reluctant to go ahead on tracts in undeveloped areas. I think that's not bad practice. But they're always willing to sit down and discuss a problem. We never had any trouble with the flat roof, or exposed beam ceilings, for instance. If all the FHA offices were as good as the Miami one, there wouldn't be much to complain about."

Adds Julius Gaines, one of Miami's biggest builders of low-priced subdivisions: "We have very little difficulty. . . ." As for design, Gaines feels "that's for architects, the FHA people and those who are going to live in the houses."

No more for good design. It is on design that architects focus their complaint that FHA is dragging its feet. Principal gripes include: 1) the agency in its valuations of homes allows little more for good design than for $25 stock plans, 2) FHA makes no allowance at all for the minute planning of detail that goes into contemporary homes compared to conventional styled dwellings and 3) it is maddeningly tedious to cope with the red tape.

A few architects, frustrated and disgusted, have even quit trying to do business with FHA at all. One is Igor Polevitzky, whose associate, Verner Johnson, explains:

"It was just too trying. . . . We found the FHA ultraconservative. They will yield here and there on minor matters, but essentially, they are reluctant to approve any design which isn't covered by the rule book. They're thinking in terms of immediate resale of houses. We feel that houses of today that appear unusual are really pace setters in design and will become the standards of tomorrow. As we understand FHA, it was originally created to meet the requirements of home builders. But that policy seems to have been twisted to where it now meets only the specifications of investors. We think this has so standardized housing, especially in the large developments, that FHA is contributing to the creation of tomorrow's slums."

Reports Architect Wahl Snyder: "We don't handle any more work that involves FHA financing: too much detail and red tape. With the building and loan associations and banks, our clients can get a decision on financing in one to three days. Sometimes it takes weeks to get an individual design through FHA."

Rear end front. As another sample of antiquated FHA thinking, Frank Watson cites the case of the $5,000,000 University of Miami dormitory project which he helped design. All the buildings were oriented in the same direction so living rooms and bedrooms would face east or south to catch prevailing winds. This caused the backs of some dorms to face the streets.

"We had a hell of a row that lasted weeks before FHA would approve," reports Watson. At that, the green light came only after higher echelon officials from Atlanta and Washington got in the scrimmage.

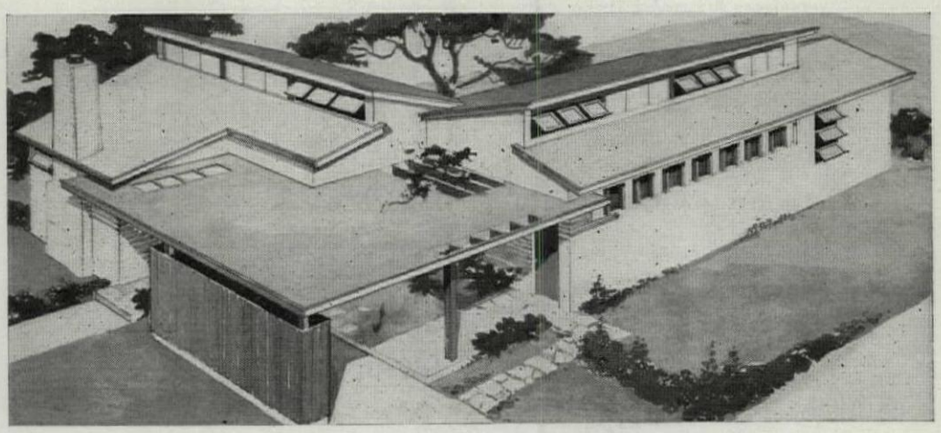
Architect Alfred B. Parker can lay claim to one of the best publicized controversies of his area involving FHA. He drew plans for a home for Luther Voltz, a reporter for the *Miami Herald* (see cut). "I didn't consider it too radical for Miami (only subtropical climate zone in the U. S.)," Parker recalls, "but the FHA wrote across my plans: 'This house too highly individualistic for marketability.'

The *Herald* promptly published a sketch and floor plan with a caption: 'Would you buy this house? The FHA says you wouldn't.' A dozen phone calls asking for the name of the architect testified to public interest in the house, reports the *Herald*. This, of course, sent bureaucratic circles into a tizzy. FHA sent an investigator from Atlanta, and another one from Washington.

"I was called into conference," Parker remembers, "I was told that in the future FHA would give more liberal attention to plans for individual houses."

But the Miami district office still refused to underwrite financing of the Voltz house.

(Continued on page 30)



"TOO INDIVIDUALISTIC FOR MARKETABILITY," said FHA's Miami office of this house planned by Al Parker. Result: an uproar.

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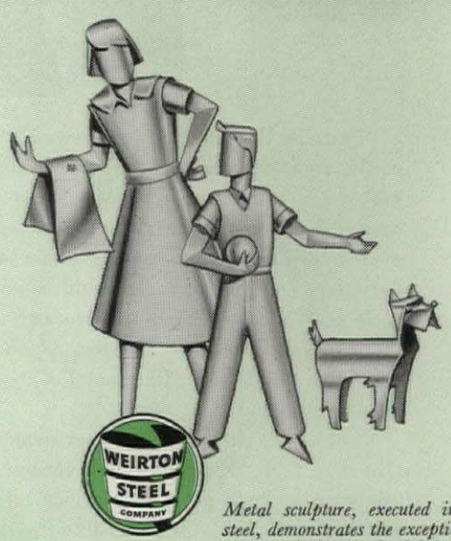
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Two years later, it still hasn't been built. Washington rarely overrules chief architects of its district offices.

Nerves in sportswear. In Miami, this authority is Thomas A. Bruno, a chunky, nervous mannered little man of 65 whose shock of gray hair is enhanced by leathery, sunburned face and arms. His deep brown eyes, behind horn-rimmed glasses, look harrassed by many problems. He wears the conventional dress of the outdoor man in southeast Florida: casual slacks, short-sleeve sports jacket or shirt without tie, two-tone sport shoes, fancy socks but never a hat. He smokes incessantly, mostly cigarettes. Now and then he fires up a big pipe. Not college trained, Bruno served his architectural apprenticeship in New York during the early 1900's with Carrere & Hastings and with Warren & Wetmore. The 1925 land boom wooed him to Miami Beach, where he practiced until he joined FHA five years ago. Tom Bruno is no man to take lightly insinuations that his office is rough on modern design. To an acquaintance recently he snorted:

"Anybody who says I'm blocking the design and erection of contemporary housing in southeast Florida is off his trolley." His boss, District Director James A. Adkisson, who was listening, sucked on a fancy streamlined and lacquered corn cob pipe and nodded aproval. Bruno continued:

"I was building contemporary houses before a lot of people in the building game down here were born. In the four years I've been on this job I've turned a flat thumbs down on exactly five designs because I thought they were impractical. Not one of those houses has been built yet."

Pace: slow. Bruno and Chief Underwriter Otto P. Ream Jr. concede that applications for a mortgage do indeed take longer in public hands than in private.

A district FHA office is a three-legged process. The architectural branch studies plans and specifications to establish replacement costs of a proposed house. The evaluation branch checks the property against plans to determine the house's market value. The mortgage risk branch checks the credit standing of the buyer. The chief underwriter collates the figures of architectural branch and evaluation boys to set the final commitment figure.

The result, says Adkisson, is that while 12% of applications for mortgage insurance are processed within 7 days (compared to the one to three in private firms), it takes 14 days to handle 95% of the cases.

Runners up. Bruno puts his theories about design in plain language. "It isn't FHA's function to pioneer design or prove a market for any type of house," he says. "A good example is the ranch type house that has become so popular here. Frankly, we looked askance at it when it was first submitted. But we finally approved it. The architects, builders and developers have proved it. Now, we okay ranch style plans as a matter of course."

That leaves the hurdle of the underwriter to clear. But Otto Ream is frank to say he has, in effect rejected many a house by the subterfuge of cutting down its appraised value, which would require the buyer to produce more cash before the home could be built.

"If Bruno and his men or me and mine can't reconcile differences with the architect or owner and if Bruno can't find justifiable professional reasons for rejecting the plans, I assume the role of stump chunker," Ream smilingly told a caller recently.

He is a personable six-footer who has spent 16 years with FHA, though he is still under 40. He admits frankly that he's not going to let any designer make him stick his neck out where somebody could chop his official head off. "We can understand why some people go away cussing mad. . . . We try to apply our rules as broadly as we can, but we can't bend them out of shape."

The big hassel. On one point, Miami's architects and FHA officials fully agree. Relations have been better since Adkisson called a meeting of some 250 architects and builders 18 months ago in the hope of drumming up economy housing.

"It was like knocking the keystone out of a dam," the district director admits now. "We had it hammer and tong for several hours. But it cleared the air. . . ."

Best result, from FHA's view, was an upsurge of economy homes (under $5,700). In five years, some 8,000 of the 45,251 homes the Miami FHA has approved fall into that bracket.

One neutral Miami observer summarizes the impact of FHA on Miami in these words: "There's evidence that FHA has suppressed, or made financing through private sources difficult for, a great deal of individualistic housing which might now be glittering under the Florida sun.

"There's no gainsaying that FHA also has been responsible for hundreds of mass-built housing projects — those 'potential slums of tomorrow.' But with all the landscaping and shrub-planting you can see in progress, there's very little evidence yet that they're beginning to look like slums. One's esthetic sense, however, may be offended by the row upon row of little, square houses on 60 x 100′ lots."

From a philosophical architect comes the same summarizing complaint heard in Los Angeles, or Atlanta, or Hartford, or Kansas City: "Actually, the trouble is caused by the simple fact that FHA architects, underwriters and other officials are not top men in their field. If they were, they wouldn't be working for the Government."

SAVINGS & LOAN conventional lenders foresee a rosy year

Delegates to the 8th annual convention of the National Savings & Loan League last month in Los Angeles were almost gleeful. They had reason. Government credit restrictions and the pinch on mortgage funds would probably hurt them less than any other segment of the nation's housebuilding and financing industry.

Said Dr. H. E. Hoagland, league consultant and professor of business finance at Ohio State University:

Photos: Coy Watson



EARL W. WEBER (l.), new president of National Savings & Loan League, accepts gavel from O. W. Boswell, retiring chief.



DR. H. E. HOAGLAND urged League to adopt bonus interest plan for long-term deposits.

"Perhaps Regulation X represents a step in the right direction . . . Must we always look to our national government for successive doses of inflationary medicine whenever we begin to experience the pains of deflationary indigestion? The end result of such policy is not hard to forecast: The more private enterprise becomes dependent on public aid, the less likelihood of its continuous survival."

Viewing the shortage of mortgage money, Director T. B. King of the Veterans Administration loan guaranty service offered a stern prediction: "It looks like the tightened period will just have to be sweated out by all concerned."

Already, reported many of the 497 convention registrants, interest rates on con-

ventional loans were on the rise. Incoming League President Earl C. Weber, president of Chicago's Hoyne Savings & Loan Association placed the jump at ½%.

Also elected: first vice president, Raleigh W. Greene, St. Petersburg, Fla.; second vice president, J. E. Hoeft, Glendale, Calif.; secretary, A. G. Peterson, Greenwich, Conn.

The convention adopted an optimistic economic committee report forecasting:

Business conditions during coming months will remain favorable, despite rising costs, manpower shortage, controls and other handicaps; competition for conventional mortgages ("the sustained strength of our industry") will grow stiffer as housing starts drop "substantially" and war production pay checks fatten savings. Meanwhile, demand for existing homes will remain firm and the high volume of real estate transfers will hold up as long as inflation continues.

Building Managers Find Their Problems The Same, but More Pressing Than Ever

As usual, the men who operate the U. S.'s skyscrapers found plenty to worry about —creeping socialism, mounting taxes and expenses, defense shortages and decentralization of cities.

The problems were not new to the 801 delegates at the 44th annual convention of the National Association of Building Owners & Managers. They were, said former president Clarence Turley of St. Louis, "more prominent and threatening" just now.

No. 1 worry was the threat of commercial rent control. The Administration was trying to include it in extension of the Defense Production Act, a step the convention lustily denounced as "unnecessary, unwarranted and impractical of administration." Basis of the case for commercial rent ceilings, several delegates contended, is a Senate small business committee survey among 20,000 retailers and professional men in only six cities (Birmingham, Boston, Denver, Los Angeles, Minneapolis and Phoenix). Returns showed a 78½% rent increase from 1940 to 1950. That compared with an average increase of only 26% in residential rents during the same decade. But the office managers noted that the survey took no heed of comparative business volume in 1940 and 1950. Moreover, compared with the rise in the cost of living (70.5%), commercial rents were not out of line, said NABOMers.

Same team. Not changing firemen in the middle of a fire, the association re-elected its ranking officers—President James F. Cook, Jr. of St. Louis, First V.P. James M. Bradford of Seattle, Secretary-Treasurer Sterling Bigler of Philadelphia —who would carry the anti-rent control campaign before Congress. So far, reported Cook, "we have tried to act with quiet restraint."

The four-day meeting in Houston's Rice Hotel also brought forth these suggestions for other building management problems:

To reduce a No. 1 waste item, high employee turnover and resulting inefficiency: offer employees hospitalization insurance, urged Robert S. Curtiss of New York. Create a welfare fund for emergency loans to employees; study pension systems, offer financial inducements such as reimbursement of employees for the cost of taking educational courses.

To win decreased assessments: In one southern city, reported Atlanta's Fred B. Moore, building owners were rebuffed when they cried for lower taxes. City fathers sneered: "you can't muster 100 votes." Accepting the challenge, the owners set up voter registration booths in five big office buildings, signed up 12,000 tenant-voters. Confronted with a subsequent threat to write 12,000 letters complaining of the city's attitude, the city council granted reduced assessments.

To hedge against inflation: 1) write leases with escalator clauses tied to the Bureau of Labor Statistics commodity index or 2) wider adoption of percentage leases. Advised Gray Phelps of Los Angeles: "The certain cheapening of the dollar with its corollary higher operating costs indicates long term flat-rent commitments should be avoided."

Back to the city. Decentralization bothered NABOM least. Other businesses usually grab up first-rate office space vacated by firms moving to the greener, airier suburbs. Delegates felt most companies make suburban moves because they can't find enough space downtown. Some have even moved back downtown when enough space became available. Others have found they had to pay help $15 to $25 a month more in the suburbs, to compensate for bad transportation and poorer shopping facilities.

With office-occupancy holding close to 98% nationally, Government demands for more office space vexed a few managers in metropolitan centers. Former NABOM President J. Clydesdale Cushman of New York complained federal agents will lease only newest buildings, spurn proffered older ones.

Unpredictable U. S. The convention got no answer to how much space the Government will require from cautious W. E. Reynolds, U. S. Commissioner of Public Buildings. All he would say was that "generally, the Government can be expected to hire between 35,000 and 50,000 people outside Washington in the next few months," Reynolds reported that since the Korean war he has reduced the cost of housing Federal employees from $194 to $161 each—by crowding. Now, he insisted he is close to the point where further economy on space will only increase head colds, employee tension and inefficiency.

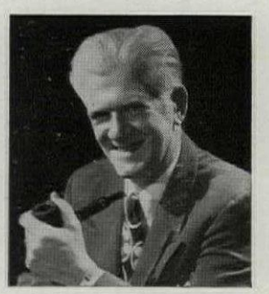
The commissioner, who is charged with leasing space for nearly all Federal agen-

(Continued on page 34)

Shoemake-Stiles



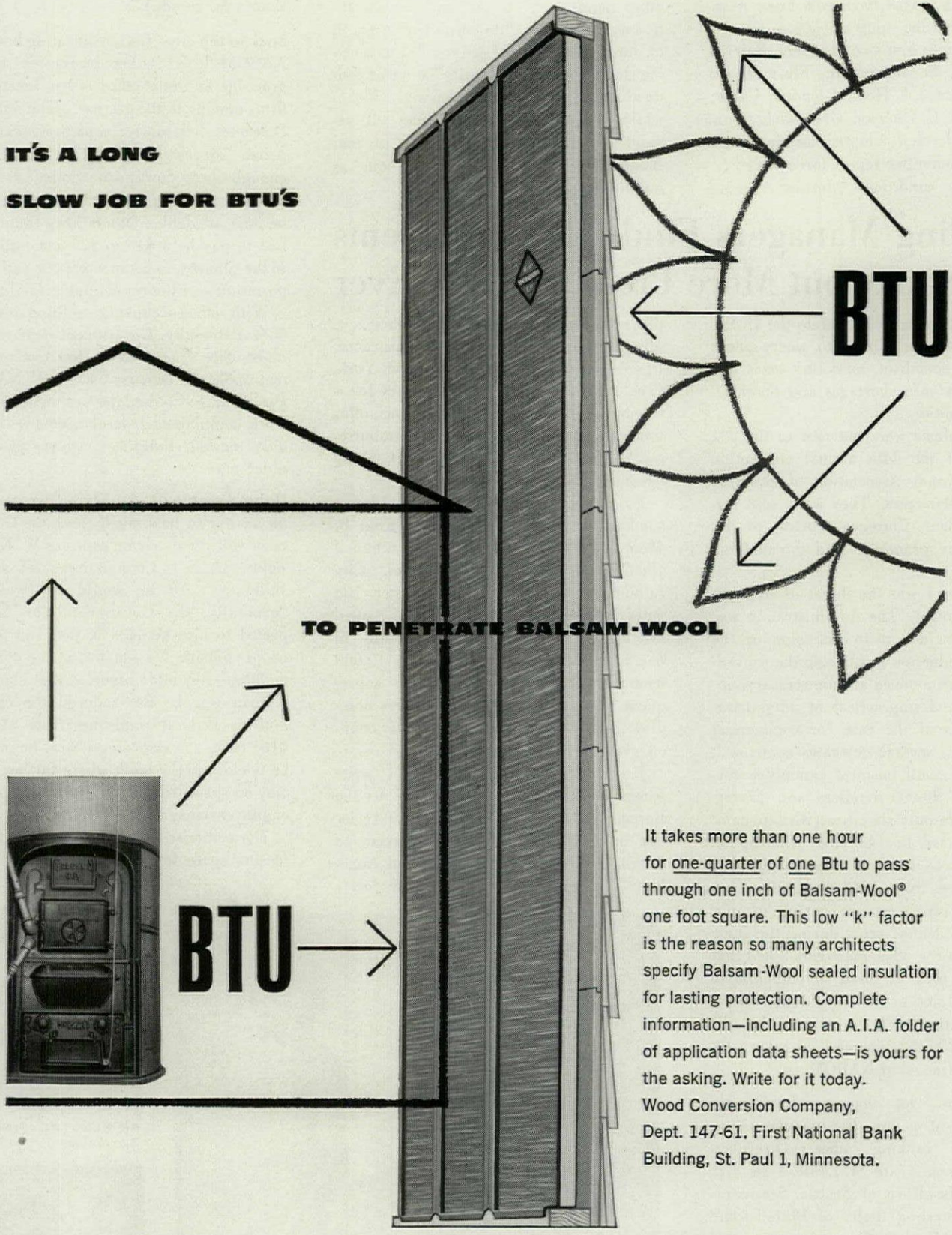
NABOM DELEGATES WERE SO WORRIED about commercial control (which Washington observers think unlikely) they re-elected (l. to r.) Executive Vice President Robert B. Beach, First Vice President James M. Bradford, Secretary-Treasurer Sterling Bigler.



RE-ELECTED President was James F. Cook Jr.



U. S. BUILDINGS Commissioner W. E. Reynolds



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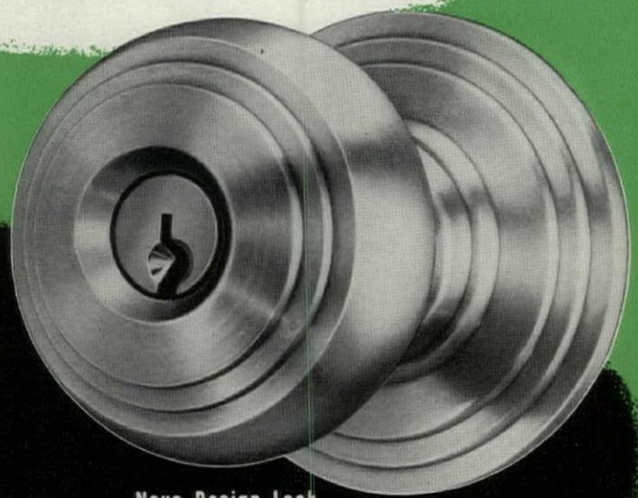
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The Schlage Lock Company is devoting its entire manufacturing efforts to the production of locks. Output is limited to certain designs and finishes in accordance with Government restrictions on the use of raw material. This has necessarily extended delivery dates, but Schlage quality is being maintained.



THE Schlage Cylindrical Lock was invented twenty-five years ago. Today it is the accepted and preferred type of lock mechanism.

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cies, flung a verbal boulder at modern, glass-faced buildings: "Glass exteriors leave me aghast. They're sitting ducks for atomic attack." If he has his way, said Reynolds, the Government will use no glass "except where windows can be washed from the inside and thus save 40% of washing costs.

Before adjourning, NABOM plumped for revival of war damage insurance, with the initial cost to be borne by the Government, but any surplus of premiums over claims to be split among policyholders when the danger of attack ends.

DIRECT LOANS to veterans rise sharply, VA reports

Since Congress in 1949 appropriated $150 million for direct mortgage loans to veterans unable to borrow from private lenders at 4%, the Veterans Administration had loaned only $63 million to 6,582 ex-GIs. But lately, 4,000 applications had been pouring in and the rate was rising. VA officials, claiming they might run out of cash by mid-summer, were preparing to ask Congress to add to the kitty. Probable method: an amendment to the long-stalled Defense Housing Bill, though if the bill stalled past June 30, VA's direct loan authority would expire.

MORE MARKET FOR LIGHT

Across the U. S., power plants were being built so fast the Defense Production Administration figured the nation's generating capacity by the end of 1954 would be up 50% over January of this year.

Two Building Experts in Defense Posts

One of building labor's top leaders, **Joseph D. Keenan,** and one of industry's top construction specialists, **Clay P. Bedford,** at last joined the high councils of mobilization. Keenan, (r.) 54, who rose from Chicago cable splicer to secretary-treasurer of AFL's Building Trades Department, was named assistant Defense Production Administrator. One-time vice-chairman (1943-45) of the old War Production Board, later labor adviser to Gen. Lucius Clay in Berlin, Keenan will serve without pay, keep his AFL job in Washington.



Bedford, (below) 47, executive vice-president of Kaiser-Frazer, became assistant to Mobilizer Charles E. Wilson. Longtime (26 years) aide to Henry J. Kaiser, whose industrial empire was built on cement and gravel, Bedford is the Texas-born son of a construction engineer, holds a civil engineering degree from Rensselaer Polytech (1925). He was project manager of inter-state pipeline construction, construction superintendent at Grand Coulee Dam, helped build the $54 million Navy Air Station at Corpus Christi, Tex., before he became vice president and general manager of the four Kaiser shipyards at Richmond, Calif., that built 729 ships during World War II. Bedford's assignment for Wilson: stimulating production.



New bosses of the world's tallest structure, Manhattan's 102-story Empire State Building, were Florida Hotelman **Ben Tobin,** 45, and two camera-shy partners, Detroit Banker **Alfred R. Glancy, Jr.** 43, and Realty Operator **Roger L. Stevens,** 41, of Ann Arbor. They plunked down $1 million cash, agreed to pay John J. Raskob's estate and family another $24 million within six months for 44% of Empire State stock. At that price, it was, as Stevens said "a cheap piece of real estate." The skyscraper is valued at $50 million, grosses $10 million a year. Raskob heirs sold to pay inheritance taxes, provide funds for a Catholic Foundation his will created.



Talbot Hamlin, 61, diminutive, white-bearded professor of architecture at Columbia University, and his wife **Jessica,** became authors of an intriguing book about their summertime hobby: cruising the Atlantic coast (*We Took to Cruising*, Sheridan House, $3.50).

Elected: President **John R. Cooney** of Firemen's Insurance Co., Newark, to the presidency of the National Board of Fire Underwriters. Retired: **Sewell L. Avery,** as chairman of U. S. Gypsum.

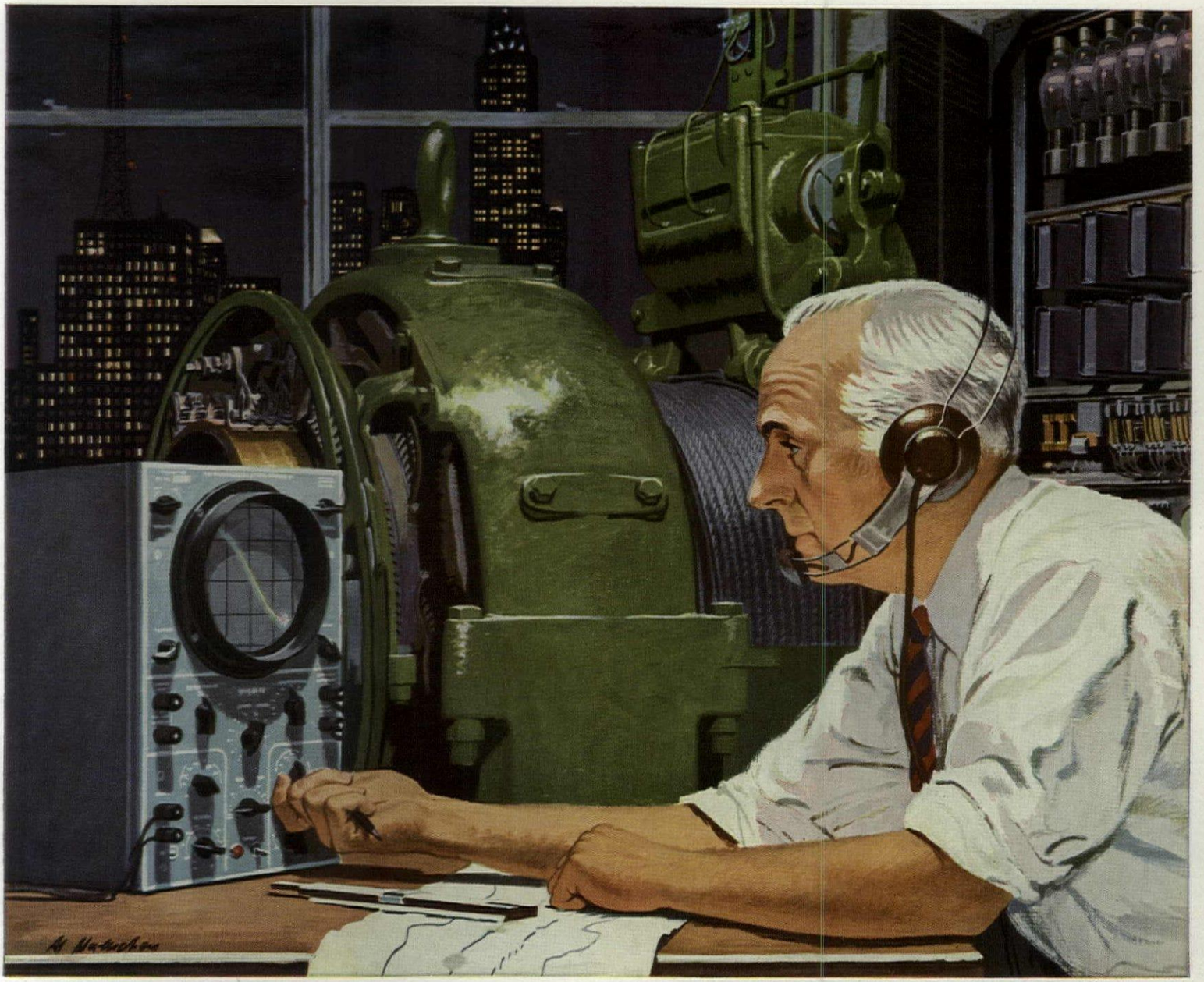
Landscape Architect **Thomas Church** of San Francisco, who won the Fine Arts Medal of the American Institute of Architects at its Chicago convention early in May, promptly was voted another honor, the gold medal of the New York Architectural League. Other recipients of special AIA convention awards: prodigious, affable **Marshall Shaffer,** chief architect of the U. S. Public Health Service, the Edward C. Kemper Award; **Steuben Glass, Inc.,** a special citation for craftsmanship.

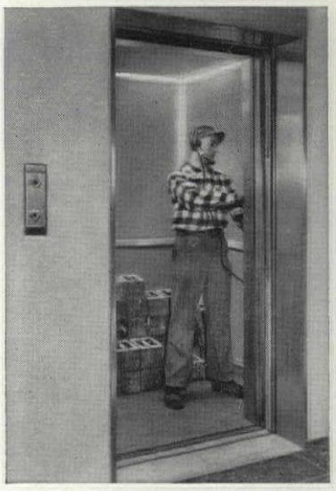


Ralph Camping

OUTSIDE VAULT, COWBOY LOUNGE make Phoenix bank unique

A western cattle baron last April moved his Farmers & Stockmens Bank into this refreshingly novel glass home five miles south of Phoenix, Ariz. Explains Owner Phil Tovrea Sr. whose Tovrea Land & Cattle Co. claims to run the biggest pen feeding operation in the world: "Most banks are like dungeons. We tried to build a bank with a welcome. Still we wanted our depositors (bank presidents to cowpokes) to have plenty of confidence their money is safe." For the touch of welcome, Architects Pereira and Luckman gave them a 65 x 100' lobby with rough sawn 1 x 2 in. fir plank walls, counters of stained wood, door handles fashioned from horseshoes, deep leather armchairs, and floors of rough cut granite set in unfinished concrete "so cowboys realize their spurs can't hurt 'em." To dramatize the sense of security, the vault went outdoors. It has 5' thick stone and concrete walls, a 7-ton steel door leading to the lobby. Floodlights give extra burglar-protection at night. Typical reaction among the 10,000 Arizonians who attended the opening ceremony came from a cowhand who eyed the vault, whispered: "that sure as hell looks solid." A lady spectator gushed, "I love this. I'm going to build a house like this exactly."





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Add Otis *elevator* research to Otis *elevator* planning, engineering, manufacturing, construction and service and you have the reasons why the Otis trade-mark is the symbol of the world's finest elevators and escalators. **Otis Elevator Company, 260 11th Ave., New York 1, N. Y.**

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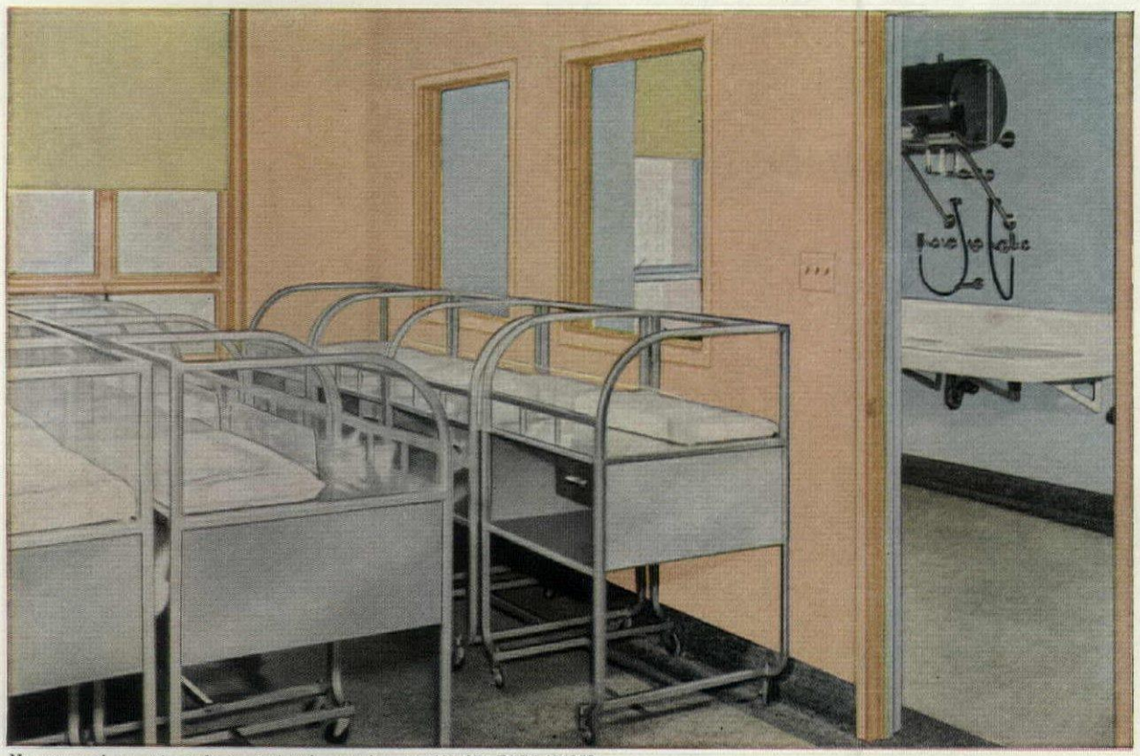
BH·G Home Planning Centers in leading department stores guide a million prospects a year! To mention another —BH&G's famous Five Star Plans and Materials Lists guide purchases running into many millions!

Those are just a few of the "extras" you get with BH&G's 3½-million man-woman circulation. They show why no other magazine can match BH&G as a year-round boost to your selling efforts!

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MEREDITH PUBLISHING COMPANY, Des Moines, Iowa



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Experience proves PITTSBURGH COLOR DYNAMICS produces these 4 important results—

- **aids convalescence**
- **relieves eye fatigue in operating rooms**
- **increases efficiency of nursing staff**
- **reduces housekeeping problems**

WITH the development of Pittsburgh COLOR DYNAMICS there is no longer any reason for the dull, drab monotones so often found in hospitals.

● **This new system** of painting has transformed many bleak and cheerless institutions all over America into efficient and inviting establishments.

● **Scientific research,** extending over nearly three-quarters of a century, has shown that color has a definite influence upon the physical, mental and nervous systems. Tests have proved that some colors stimulate and excite, others soothe and relax, still others depress, fatigue and irritate.

● **Pittsburgh's color experts** and technicians, working with hospital and medical authorities, have based their system of COLOR DYNAMICS upon these recognized reactions to the *energy in color.*

● **In many hospitals** where COLOR DYNAMICS has been applied patients' rooms have been given colors that aid convalescence. Color has been used in operating rooms to relieve eye fatigue and lessen nervous tension of surgeons. Graduated steps of receding colors have lessened the feeling of claustrophobia by patients in labor rooms.

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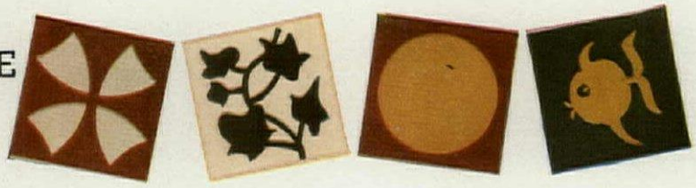
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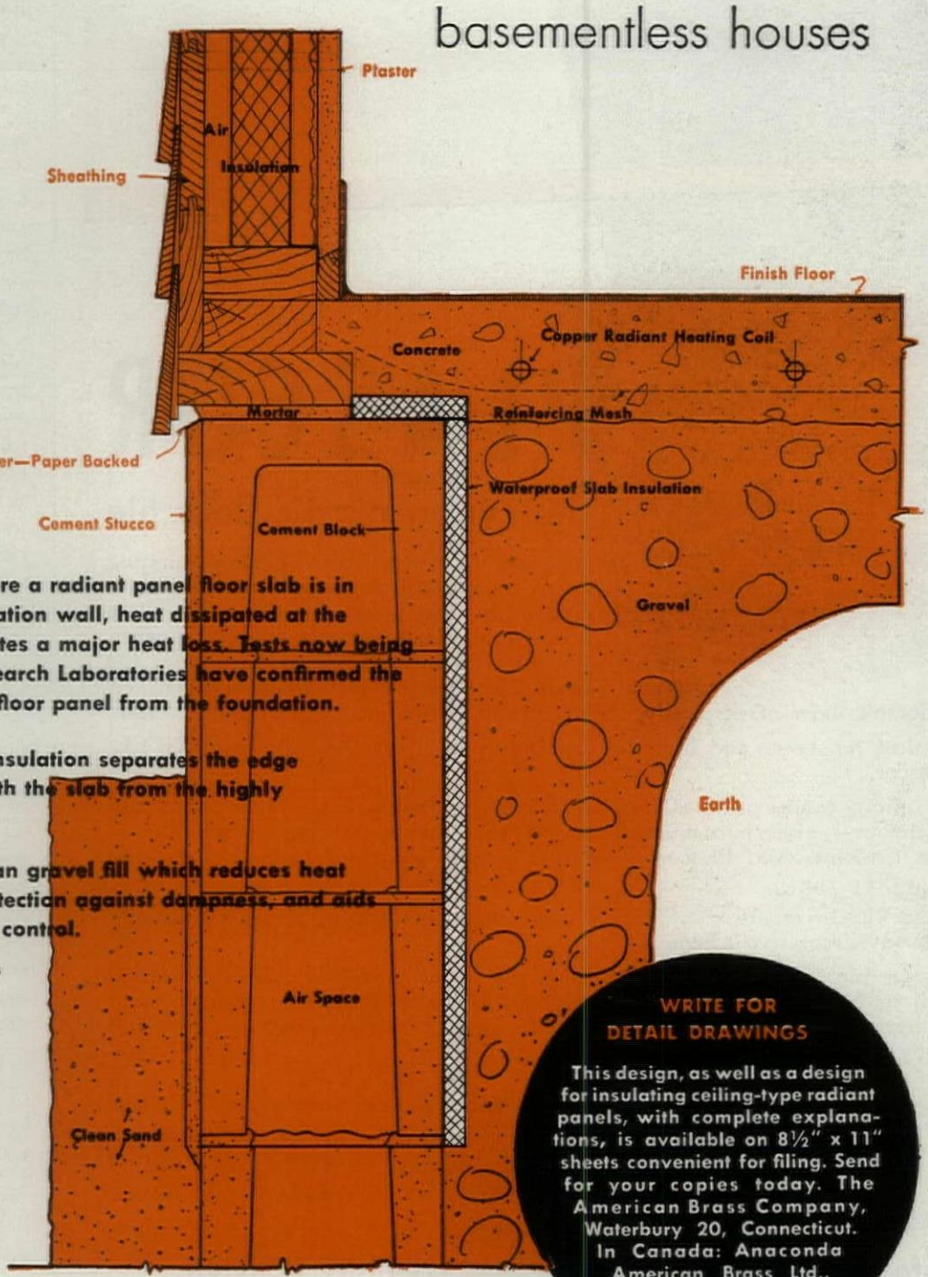
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How to **design** to insulate against heat loss in radiant floor panels of basementless houses



In basementless houses, where a radiant panel floor slab is in direct contact with the foundation wall, heat dissipated at the perimeter of the slab constitutes a major heat loss. Tests now being conducted in the ASHVE Research Laboratories have confirmed the importance of insulating the floor panel from the foundation.

In this design a waterproof insulation separates the edge of the slab and the fill beneath the slab from the highly conductive foundation wall.

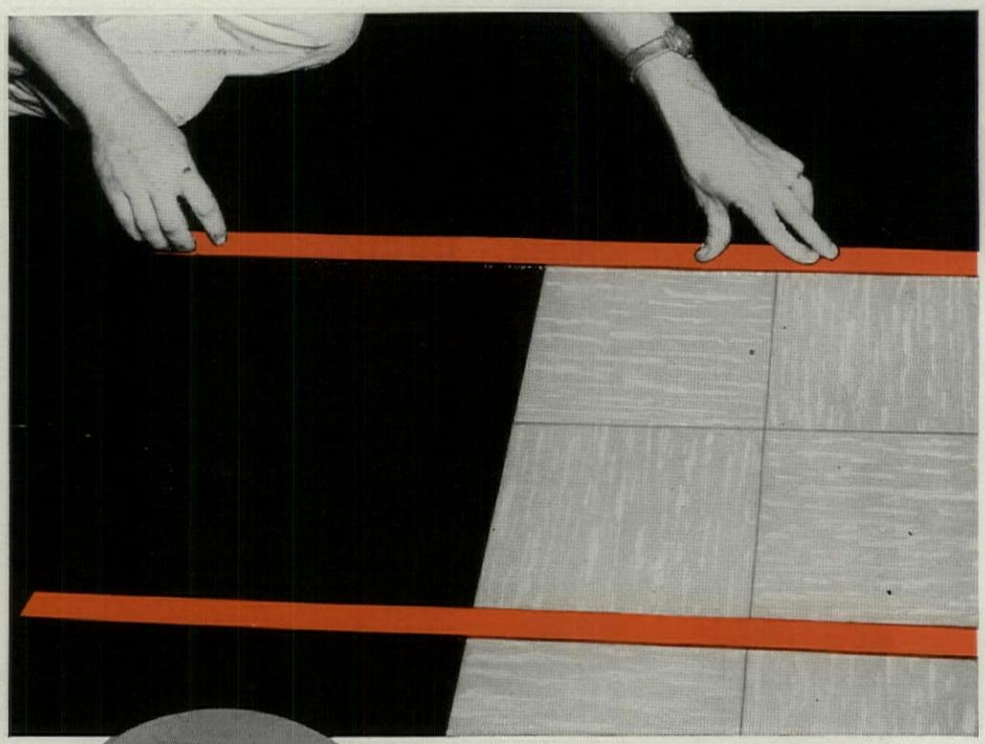
Note also the 6 inches of clean gravel fill which reduces heat loss to the ground, offers protection against dampness, and aids in more uniform temperature control.

5106

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This design, as well as a design for insulating ceiling-type radiant panels, with complete explanations, is available on 8½" x 11" sheets convenient for filing. Send for your copies today. The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

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No need to worry about Plascor standing up to chemicals and greases. It's made from Tygon, the inert plastic material used to line acid tanks. No need to worry about wear. Plascor will outwear any resilient floor tile made. No need to worry about maintenance. Plascor doesn't show marks easily, resists dirt accumulation, wipes quickly clean.

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Plascor's unique combination of cork and Tygon plastic makes a floor tile of unusual resilience — gives a cushioned comfort that makes walking or standing so much less tiresome. And Plascor is whisper quiet — absorbs the sound of walking feet like a deep rug.

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Plascor costs but little more installed than the better grades of rubber floor tile. It's worth it. No other resilient floor tile can give you Plascor's combination of chemical resistance, true flexibility, long life, ease of maintenance, quietness and underfoot comfort.

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LETTERS—WASTE IN BUILDING

Never before has an article in this magazine stimulated more comment than did the Round Table reports on Waste in Building in the February and March issues. Excerpts from this heavy mail are presented below; other letters begin on page 66.—ED.

. . . building codes: a hidden tax

Sirs:

You may have no fear that I would miss the Round Table report on the important anti-waste program initiated by your magazine. I always digest the content, from cover to cover, without prodding.

The Round Table Conference is, without doubt, the most effective initiation of thinking in the direction of national efficiency, which I have seen during my experience. The caliber of the delegates speaks very well for the program. You have taken on a tremendous task—but how can you drum it into some of the empty heads which have to be filled with such strange knowledge?

Building codes represent one of the largest hidden tax systems in the U. S. They have added, tremendously, to the cost of building our cities, and without making them any safer or more sanitary. They are a product of our inefficient, ignorant and often "sloppy" political bodies and privileged trade interests — but I suppose one must be content if one gets half a pound of mutton from a wooden goat.

As for my recommendations, I could write a book on the subject, but it would be compared to the effort of trying to plug the flow of the city trunk line sewer with the stopper of a perfume bottle. We always tell ourselves that we are *bigger and better* in everything. We are, indeed, *bigger* when it comes to wasting our resources and manpower, but it is, apparently, only evident to persons with engineering minds.

The technical press has long rendered a greater national service than any architectural body or building or code authority in existence today: A handful of men, who are not only able architects, but also engineers and artists, have repeatedly contributed works so far above the national average that the rank and file in the profession has difficulty in comprehending its existence.

GOSTA R. TRUEDSSON, *Engineer*
Holden, Mass.

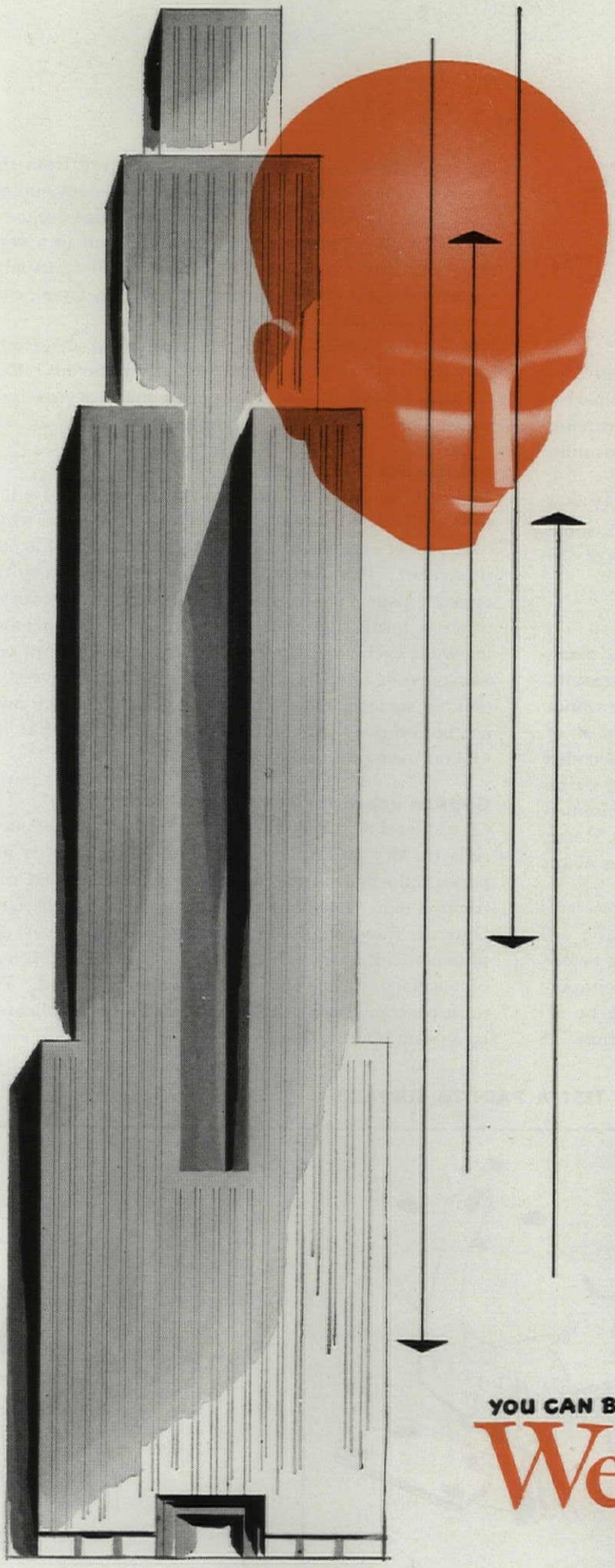
. . . a pain in the neck

Sirs:

. . . I am in strong agreement that the building codes are, in general, a pain in the neck to the progress of building. . . . Another great setback to architecture is the Federal Housing Administration. . . .

I am in strict disagreement with the Round Table's viewpoint on standardization of the home. . . . Good designing and much, much thought will save just as many dollars as that of standardization and also have many more advantages. . . .

(Continued on page 44)



ONLY SELECTOMATIC TAKES YOU FROM FLOOR TO FLOOR SO FAST ... SO SMOOTHLY!

Maybe you think scared rabbits have fast "get-away" . . . that feather-landings are tops for softness. And birds make more accurate landings than anybody. But, you haven't seen anything until you ride a new Selectomatic elevator equipped with Synchro-Glide—the fabulous Westinghouse automatic landing control!

Selectomatic "masterminds" the over-all control of the elevator system. Its ingenious "electrical brain" reduces waiting time to a minimum. And Synchro-Glide cuts floor-to-floor travel time 1½ *seconds per stop per car*. These are the facts!

But—to get a clear picture of how much these facts mean to you, you must see Selectomatic in action . . . enjoy its smooth, fast ride yourself.

So, if you are in any way responsible for planning elevator investments, *test ride Selectomatic before you decide!* Write today for the names of nearby Selectomatic installations you can "test ride."

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For years, Westinghouse engineering developments have stimulated the vertical transportation industry to strive for ever higher standards of quality and efficiency. In every phase of vertical transportation—equipment, maintenance, and service—Westinghouse has been the vanguard for progress. So, whatever your traffic problems may be—there's a Westinghouse Integrated Vertical Transportation System to solve them completely. Look ahead with the leader . . .

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J-98605

How to prepare ceiling surfaces

MANY architects have found that it's helpful to know in advance the steps that may be necessary in preparing a ceiling for acoustical treatment. This not only assures a better installation but usually results in saving time and money.

While many existing ceilings will serve as a good base for the direct application of acoustical materials, some will require extra preparation. Here are some of the points that may need special attention.

Surfaces should be firm and level

Many ceilings that appear to be suitable for the installation actually may not be level enough for best results. Uneven tiles can greatly detract from the appearance of a job. Ceiling irregularities should be leveled off or filled, loose plaster removed and replaced with wooden strips. If the material is installed over furring strips, the strips should be checked with a level and shimmed where necessary. For mechanical suspension systems, the only requirement is that proper anchorage is available to hold the hangers.

Guard against moisture

A ceiling surface should be dry and seasoned before any acoustical material is installed. It's very important, for example, that a new concrete ceiling be allowed ample time to dry out before the installation. If the concrete is not dry, alkali and moisture from the concrete will attack the oils in acoustic cement and almost certainly cause failure. If furring strips are used, the moisture may cause warping and result in a very insecure installation. A new concrete ceiling usually requires at least six months under average drying conditions to provide a satisfactory base.

New plaster ceilings also must have an adequate drying period—four or five weeks are usually sufficient. Vermiculite plaster, however, requires more drying time because of its high moisture content.

Remove lime, loose paint

Moisture and alkali aren't the only enemies of adhesives. The lime that's left on new concrete and white coat plaster surfaces will destroy the potency of acoustic cement. It is removed by the method shown on the opposite page. Oil is also harmful, and the use of oiled concrete forms should be avoided. Coverings on existing walls such as wallpaper, burlap, or loose paint will also prevent a secure bond and should be removed. A painted surface that's firm and in good condition need not be removed providing it does not soften after the 48-hour test (shown below).

Gypsum board for cement application

Care should be taken when cementing acoustical materials to "dry ceiling construction." Fiberboards and paper bulp boards are subject to expansion and contraction and therefore don't provide a stable base. Gypsum sheathing is an excellent base for screw application, but it isn't satisfactory for cementing because of a surface coating that prevents a secure bond. The most practical base of this type for cement application is gypsum board or lath.

HOW TO TEST A PAINTED SURFACE



1. First, cement a single acoustical tile to the painted ceiling surface, and leave it there for a 48-hour period.



2. Remove the tile. If the paint has not softened, it's safe to install an acoustical ceiling by cement application.



3. If the paint has softened, remove paint by scratching or with paint remover. Then acoustical tiles can be cemented.



New plaster. Wash white coat finish with a 10% zinc sulphate solution to remove free lime. If porous, prime with Armstrong's Wall Size. Acoustical materials can also be applied direct to dry, thoroughly seasoned brown coat of plaster.



Old plaster. The only preparation needed for bare, unpainted plaster is treatment with Wall Size if porous or dusty. Remove paper, oilcloth, or other coverings. Paint should be removed if unsatisfactory for base (see opposite page).



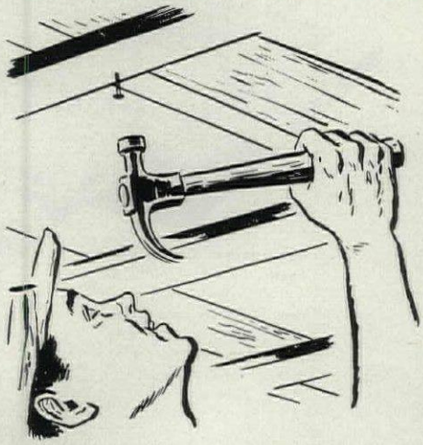
Unsound plaster. Repair by nailing 3/8" thick gypsum lath directly over the plaster. Nails should be driven into joists. If wood joists are not available, cross-fur with wood strips on 16" centers and nail gypsum lath directly to furring.



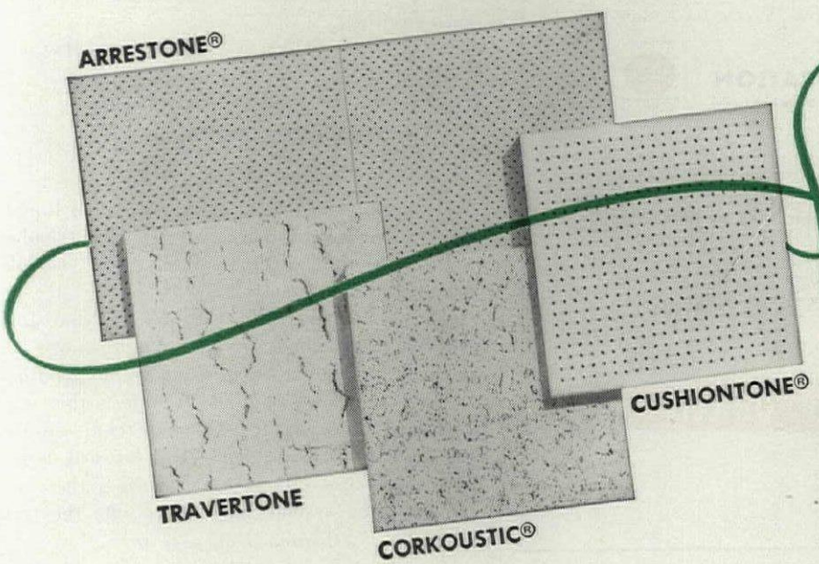
New concrete. Remove lime with zinc sulphate solution (1 lb. to 1 gal. of water), and allow to dry thoroughly. If oil has been left by concrete forms, remove by scrubbing with washing soda, rinse, and treat with zinc sulphate.



Old concrete. Wash with zinc sulphate solution. If surface is rough, apply 1" x 3" furring, on 12" centers, then nail acoustical tiles to furring, or apply gypsum base. Masonry may be furred or finished with brown coat plaster.



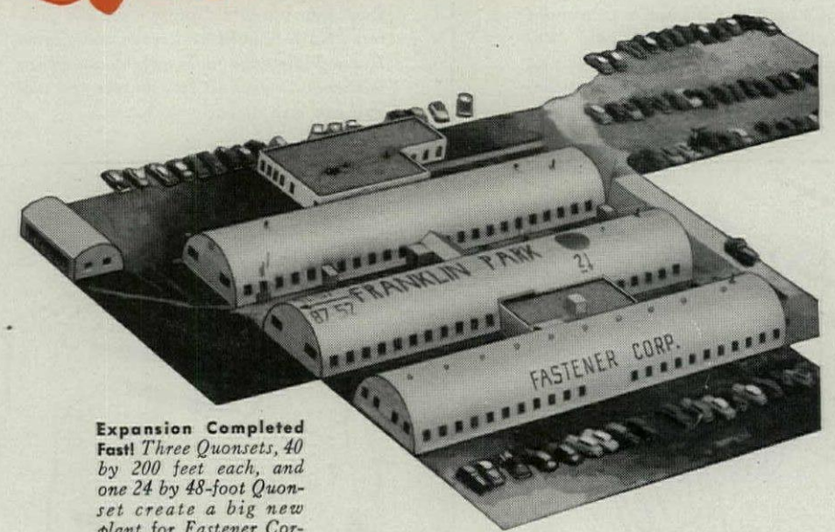
Wood joists or studs. Cross-fur with 1" x 3" strips, on 12" centers, and level for application by nailing or screwing; or fur on 16" centers and apply gypsum base. Either of these methods can also be used when preparing metal ceilings.



ARMSTRONG'S ACOUSTICAL MATERIALS

Free booklet, "How to Select an Acoustical Material," contains important facts about sound conditioning. Write to Armstrong Cork Company, 5406 Ocean Avenue, Lancaster, Pennsylvania.

Build
Quicker
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QUONSETS



Expansion Completed Fast! *Three Quonsets, 40 by 200 feet each, and one 24 by 48-foot Quonset create a big new plant for Fastener Corporation at Franklin Park, Illinois.*

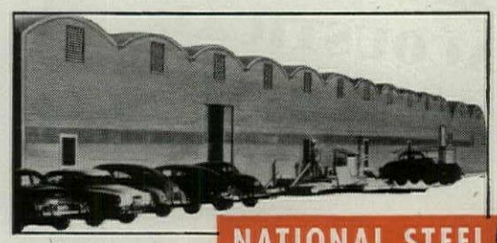
IDEAL FOR FACTORIES, WAREHOUSES, MACHINE SHOPS, STORAGE OR SERVICE BUILDINGS

For additions to your present plant—or for new plants—Quonsets mean *fast* completion, economy of materials, adaptability to *any* use. Also, should plants need more expansion later, you can add Quonset to Quonset, according to the need.

Made of N-A-X HIGH-TENSILE steel, Quonsets provide noncombustible construction and permanence far surpassing less modern buildings. They require little upkeep—are easily maintained. Let Quonsets serve you now. Write us today.

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PRODUCER OF NAX HIGH-TENSILE STEEL



Expands Floor Area by 20,000 Sq. Ft. *Bill Jack Scientific Instrument Co., San Diego, Calif., began with two Quonsets and added 20,000 sq. ft. of floor space in just 50 days.*

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LETTERS—WASTE IN BUILDING

I am also in disagreement with the Round Table's viewpoint on homes being overdesigned structurally. It isn't the homes that are so much structurally overdesigned as it is the larger buildings, such as the office building, commercial and industrial buildings. . . .

CHARLES RAY BATES
Reno, Nev.

. . . to inform the public

Sirs:

. . . Two major difficulties seem apparent: 1) There is little evidence of coordination in efforts to improve codes. The task of a community endeavoring to set up its own code is far beyond the volunteer effort likely to be available. 2) Few, if any, agencies seem in a position to adequately finance investigations aimed at code simplification plus the publicity necessary to get the results put in use.

Might not your magazine encourage the formation of an "American Building Code Association" somewhat like the American Standards Association to coordinate and finance building code improvements? Public understanding of the nature and functions of building codes is almost nil. The major function of an "American Building Code Association" would be to inform the general public. . . .

F. H. MCBERTY
E. I. duPont de Nemours & Co.
Wilmington, Del.

. . . less trouble for hill-billys

Sirs:

We hill-billys have a lot less trouble with arbitrary restrictions than do the big-city boys. . . .

In other fields skin-stressed structures are becoming the norm for exterior use, in either simple or compound curves: small and medium size boats (molded or sheet plywood, molded plastic and fiber glass), aircraft wing panels and fuselages (metal or plywood), auto bodies (metal). Is there anything in this for building?

Your program has my enthusiastic support, as does your publication. Recent issues have been most exciting.

ERNEST A. HAMILL
Ashville, N. C.

. . . with modular coordination

Sirs:

. . . I am in hearty agreement with the Round Table when it says that the economies obtainable by dimensional coordination on the 4″ module are already manifest. . . .

However, I must take exception to your general statement about modular coordination: "It could bring a great advance but it's no good unless everyone uses it." The AIA feels that it *is already* a great advance, although relative to the building industry as a whole, this forward step is still in process. Many, after learning the principles of the system, have fallen into the trap

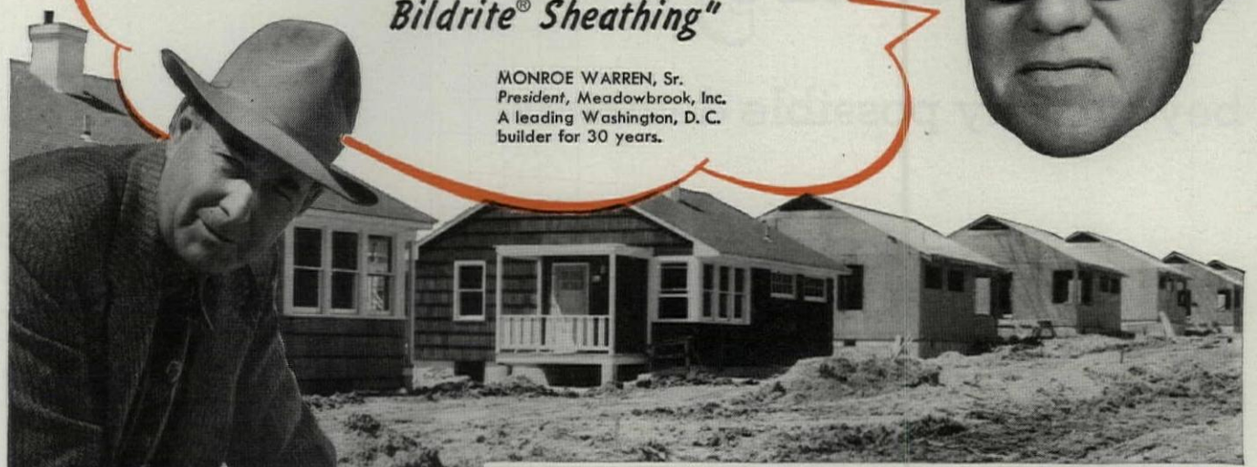
(Continued on page 48)

You, too, can profit by INSULITE® Leadership

"We gave 350 families better constructed homes at lower cost by using Bildrite® Sheathing"



MONROE WARREN, Sr.
President, Meadowbrook, Inc.
A leading Washington, D. C. builder for 30 years.





E. C. Burgdorf, Meadowbrook's Construction Superintendent

Monroe Warren, like thousands of other leading builders, has learned the meaning of INSULITE leadership through actual experience. Here's his story — in his own words:

"Gentlemen: We know and appreciate the advantages of Bildrite Sheathing, for we have built more than 350 homes since we started using it. As reputable builders, we use only the highest quality materials; but we are always looking for economies, at no sacrifice in quality. Our search led us to Insulite.

Because it is stronger and more economical, we use Bildrite instead of wood sheathing. We store it on the job, where it is exposed to the weather for weeks at a time. Yet, due to Insulite's leadership in developing a tougher, more rigid board that is really water-proofed throughout, we have had absolutely no losses due to warping or buckling.

Mr. E. C. Burgdorf, our Superintendent of Construction, points out that the ease of handling Bildrite Sheathing on the job enables us to 'close in' houses faster, and substantially save on labor costs.

With hundreds of thousands of feet of trouble-free use to back our judgment, we definitely prefer Insulite — and will continue to specify it on our new jobs.

Sincerely,
Monroe Warren, President
MEADOWBROOK, INC."

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MINNESOTA AND ONTARIO PAPER COMPANY
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Refer to Sweet's File, Architectural Section — 10a/In

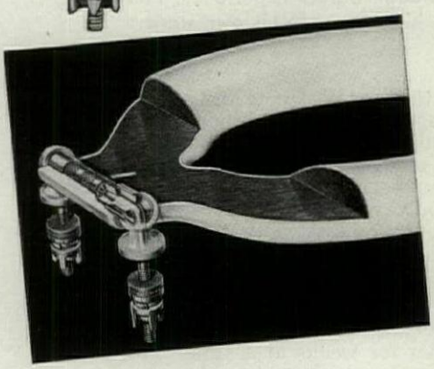
More and more builders, are learning about INSULITE'S leadership . . . how it means extra quality and advantages — yet saves them money. Give your clients these advantages, too, by specifying INSULITE on your next job. For complete information and samples, just drop us a card.

Strength

beyond any possible demands



No. 395
Church COREX Seat
in black or white



Heavy brass insert imbedded continuously across back and locked into molded core, absorbs any stress, strain or shock.

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This seal may be used only with Facing Tile that has been found to conform *in every detail* to the quality standards demanded of the Facing Tile Institute. This seal of quality is used *only* by members of the Facing Tile Institute.

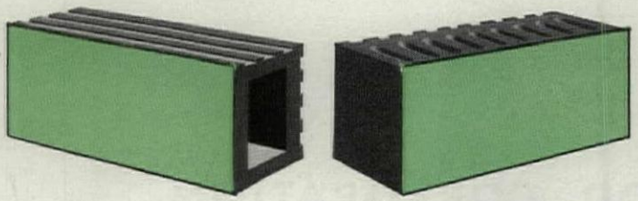
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Send for free copy of our new Catalog 51-C. Very helpful for those who design or build with Facing Tile. Shows shapes, sizes and specifications. Write the Institute, Desk MB-6, for your copy.



FACING TILE INSTITUTE

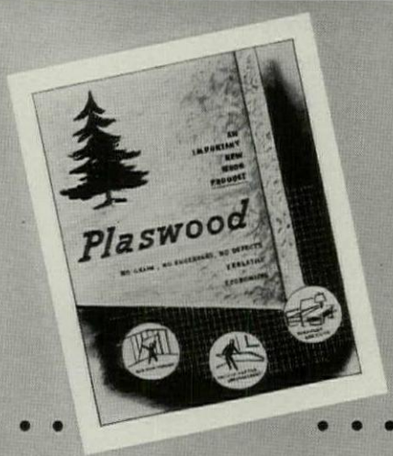
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What Plaswood is, how it is manufactured, its properties, its present uses, are briefly outlined in this folder which will be forwarded upon request.

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LETTERS—WASTE IN BUILDING

labeled "it's no good unless everyone uses it." True, for perfection, every working drawing would be modular and every materials unit size would be modular. Right now and for several years past; a number of practical architects without waiting for the millennium have been cutting their own production costs and getting more economical construction by doing modular working drawings, requiring modular shop drawings, briefly indoctrinating their contractors when necessary, and specifying such modular products as are readily available. Were there a wider range of modular products at hand, the savings these architects have achieved would be even greater, but *the economies are there already,* whether the job is 5% or 95% modular.

Many fail to realize that modular and non-modular materials can be combined without added cost since the non-modular units would have to be cut and fitted anyway whether the job is modular or traditional. The beauty of the modular system is that even in the transition stage there is something, or everything, to be gained and nothing lost. Drafting economies alone justify it even if there were no modular materials.

WALTER A. TAYLOR
Director of Education and Research
The American Institute of Architects
Washington, D. C.

. . . but don't tell government

Sirs:

. . . There is no doubt that the savings in our drafting room due to modular design are very appreciable, and I have records to prove it. I am not even certain that the first job developed on a modular basis cost more to produce than it would have cost on a non-modular basis.

However, I would not agree to the publishing of definite statements to this effect due to the fact that it would undoubtedly encourage some of our Federal agencies who are constantly trying to reduce architects' commission fees on Federal projects, and give them wonderful ammunition for their argument to justify further reduction of architects' fees. While they might personally realize that the use of a modular system would automatically reduce the architects' fees due to low construction costs, they probably would not admit it in the course of argument.

Name withheld

. . . the answer lies in concrete

Sirs:

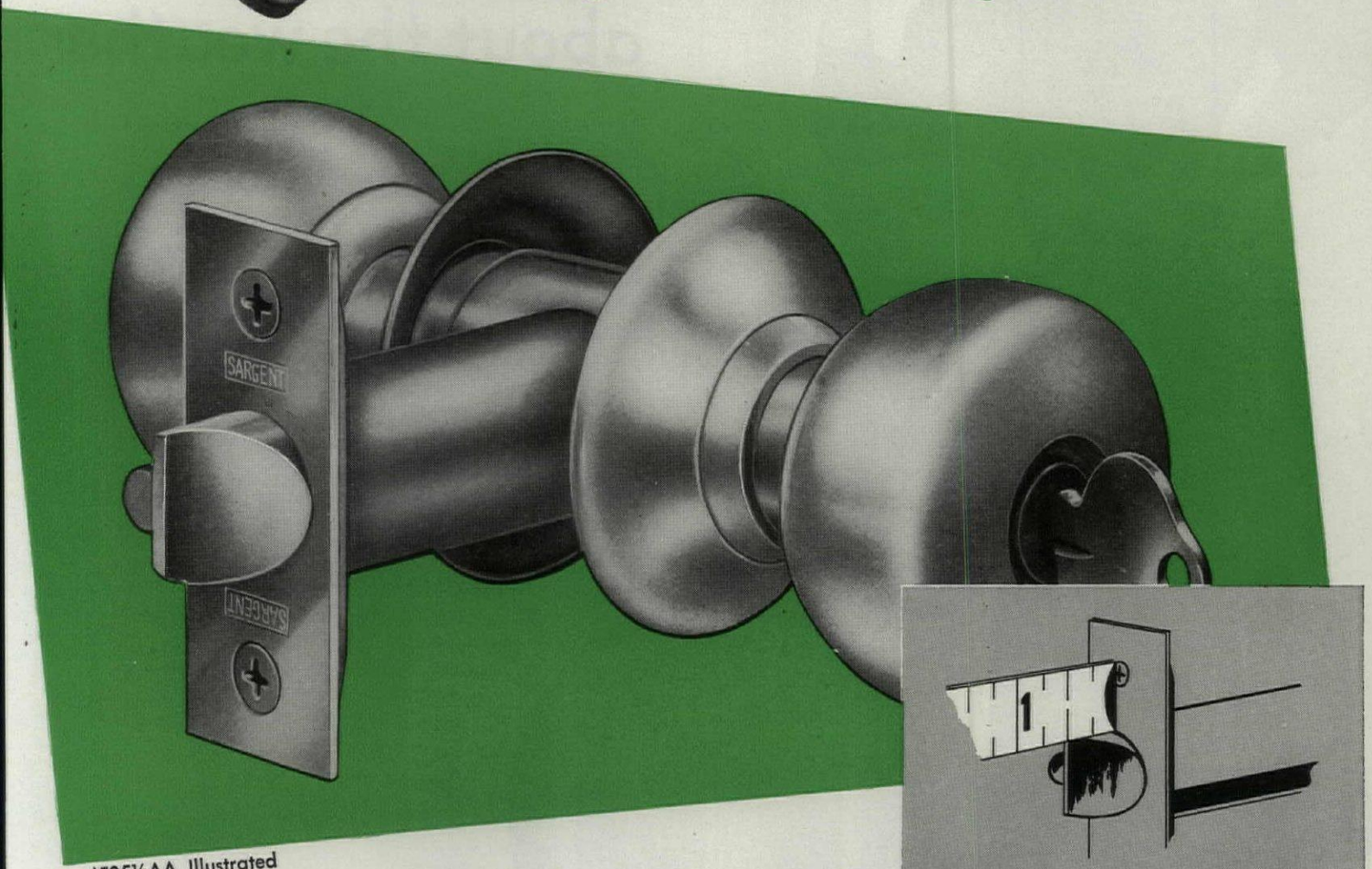
In your April editorial on waste you say, "The most concrete demonstration was being blueprinted by the NAHB. Two homes would be built side by side, one under old-fashioned building codes, . . . the other under conservation standards set by the Round Table."

This should be a reinforced concrete building experiment—one poured in the usual way; the other with 100% panel construction set in place mechanically. . . .

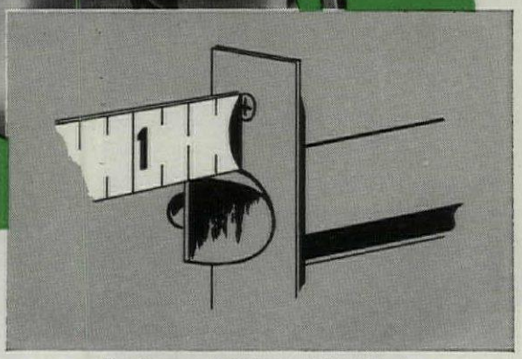
(Continued on page 53)



"The lock that never hangs on by a fingernail"



4505½AA Illustrated



The Sargent 4500 has a full ½" throw

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And you know the bolt will travel the full distance every time because the Sargent 4500 is built with four separate springs for smooth, positive latching.

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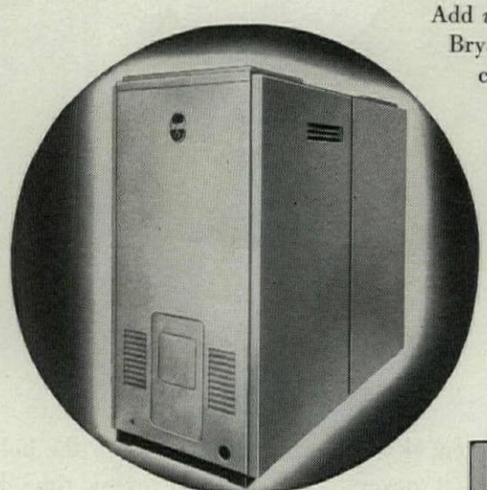
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This is how you can help your client obtain *complete* comfort indoors, day and night, through *all* the seasons.

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Bryant Model 576 All-Weather Conditioner. Made in 1½, 3 and 5-ton cooling capacities. Gas heating inputs from 100,000 to 200,000 Btu per hour, for use with all gases.

Let the pup be weatherman

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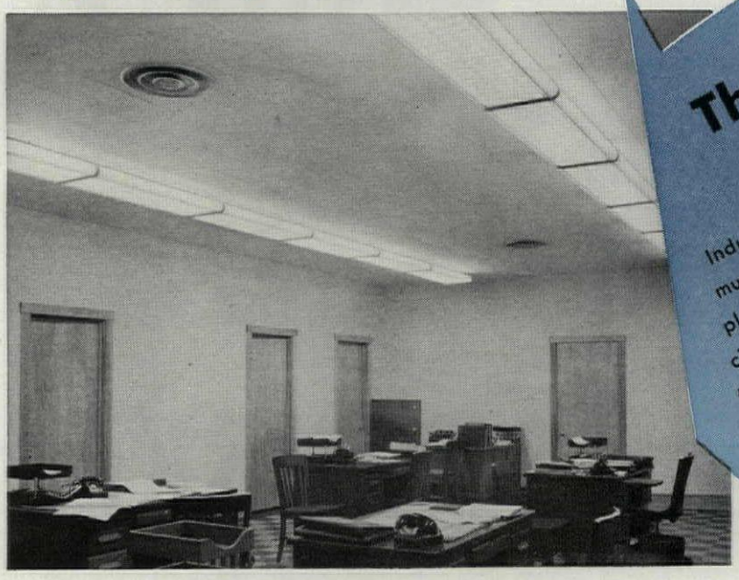
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The *"Officer"*—Leader's finest fluorescent fixture for all commercial interiors where beauty of appearance is as necessary as lighting efficiency. Available for 2, 3 or 4 40-watt lamps, also for Slimline lamps in lengths from 48" to 96". (VL-240, VL-340, VL-440; NHC-280, NHC-380, NHC-480)



IUO-240

The *"Stratoliner"* — Highly efficient, heavy-duty, all-steel industrial fixture. Removable end caps and turret-type sockets for easy servicing. Open and closed end models for 2 or 3 40-watt or 2 100-watt lamps. (IUO-240, IUO-340, IUO-2-100)

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STEEL WINDOWS . . . KNOWN FOR THEIR

Strength

Today's most versatile walls!

LETTERS—WASTE IN BUILDING

Pouring concrete at the site by erecting forms sufficient in themselves to build a building, next pouring the panels inside the forms and then taking down the forms is a duplication of effort and a waste of time and money in these days of pre-cast panels. The objective is to bring the framing members of the building and the concrete panels into one total unified assembly operation with jacks and power cranes, such as has been mildly attempted by private pioneers, but not extensively and not for the total structure. Until government comes in the process will be slow and hesitant and much time and money will be saved by a Federal commission appointed for the job.

I do not like to go to government for anything, even for subsidies for housing, or shipping, or farming, or anything else, but there is no choice and we must get on with the job. Since the building contractors are largely assemblers, they will never carry this ball either in time or money.

Efficiency cost reduction in the building industry as a steady and continuous process, comparable to motors and other progressive industries, is just one more cog in the anti-inflation machine, which is the prime order of the day.

I am suggesting some such course to the President as the plan affects all departments concerned with building and hence should be directed by a central bureau.

CHARLES C. PLATT, *Architect*
New York, N. Y.

. . . a lobby on waste

Sirs:

Congratulations on your fine campaign against waste in building. You might do well to send a delegation to President Truman urging him to make a national campaign on the issue. . . .

MORRIS MILGRAM, *Pres.*
Smelo-Peters-Milgram, Inc.
Builders and Engineers
Philadelphia, Pa.

. . . a mockery of architecture

Sirs:

The report in the February issue makes a mockery of architecture.

Agreed, a saving in material and labor is of the utmost importance. However, such controls as suggested are not the proper way to accomplish the ends.

It would make as much sense to *make* every new building a Frank Lloyd Wright design. . . .

You cannot *impose* something on a culture which is directly opposed to it. Our society and culture is based on speed, advance, more material things, and to hell with my neighbor today, and don't even think about the neighbor's children. . . .

This is our culture. Accept it. But *educate, educate.* We can change, we must! Not today, but maybe tomorrow.

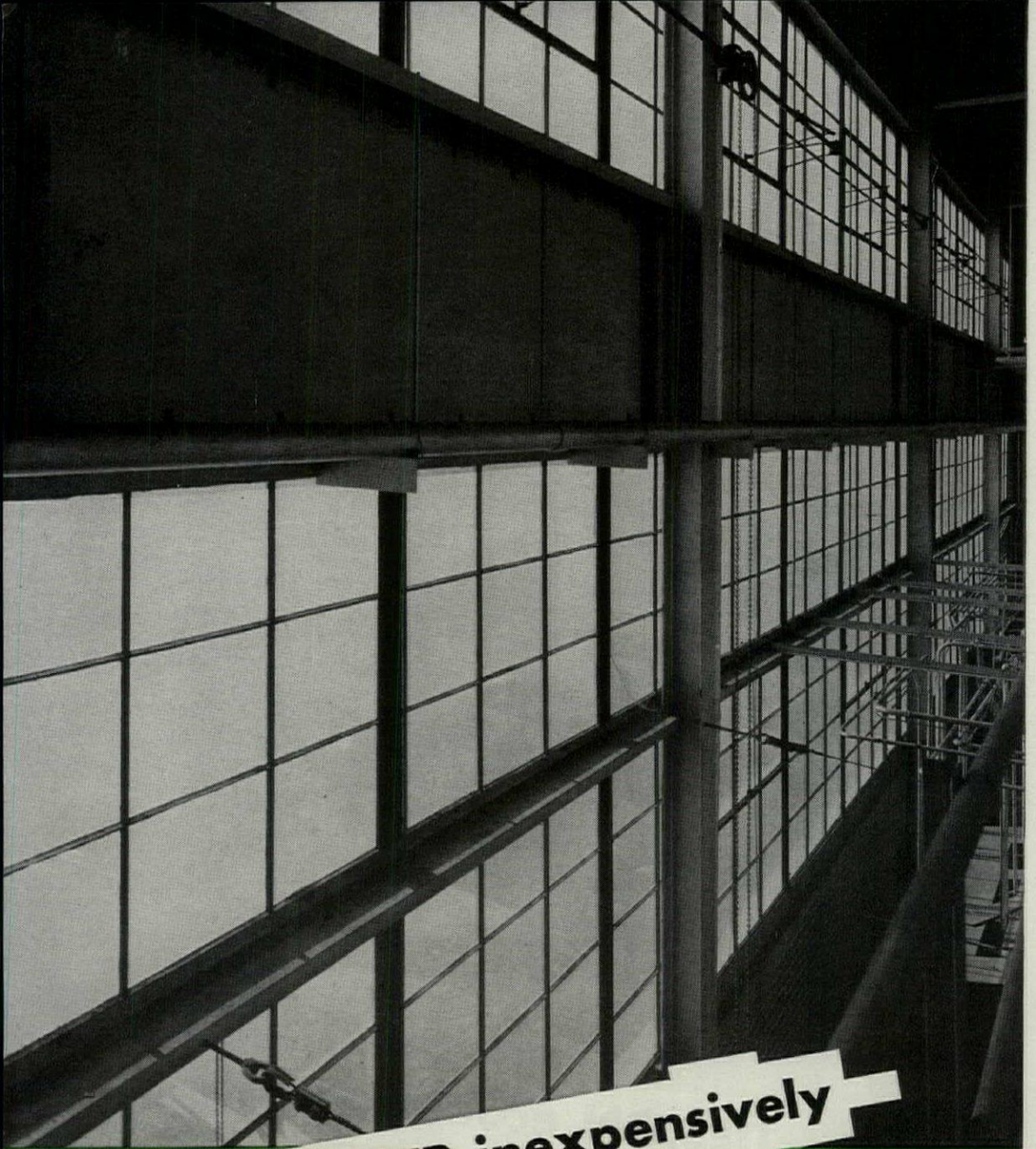
HAL CHALMERS
Gray Lake, Ill.

(Continued on page 54)



When clients wince at cost estimates, it's time to consider Mesker Steel Sash. Remember—every time your pencil indicates a solid masonry wall instead of windows, you're inviting HIGHER costs. What's more, it takes windows to get natural light and ventilation through any type of "wall"! Save hours of drafting time, get the job out of your office sooner with Mesker Steel Sash—today's lowest cost walls.

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ENGINEER inexpensively

You can with products like Mesker Steel Sash. Engineers know steel windows, know they take less "figuring," less experienced help, and above all, less time from key personnel with other things to do. Mesker Steel Sash in particular are stronger than others, which means greatest safety, greatest resistance to storm winds or damage—best performance wherever they're installed.

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STEEL WINDOWS . . . KNOWN FOR THEIR
Strength

LETTERS—WASTE IN BUILDING

. . . 25% per house

Sirs:

. . . Your February report was terrific and substantiated a great many of my own feelings and practices. Fortunately, we have no codes here and I have been able to use 2 x 3 studs, 3″ soil pipe, fiber sewer pipe, romex wiring, etc., and if you know this windy, stormy territory (the sun shines a great deal too), you will admit that a building must be good to stay up.

There has not been a house built in these parts by part owner, carpenter and contractor arrangement that I could not have (and I have) duplicated for 20% to 25% less and still made money . . . and this by the effective use of modular construction and proper materials. The waste I have seen on these jobs has been terrific and the best reason you can get for such work is "the other fella does it that way."

What is needed more than anything else is to educate the small carpenter builder to accept the new methods. . . .Your publication has been an educational device giving me a greater knowledge of this business in a few short years than the average builder gets in a lifetime. . . .

NAT SCHAFLER
West Copake, N. Y.

. . . labor is no penny item

Sirs:

. . . When you try to lower the cost by using 2 x 3's in place of 2 x 4's and lighten up on cast iron and a few other penny items, the overall cost is affected so slightly that you might as well forget it. The place to start is on labor costs, because that also has a bearing on overhead. When you try to cut costs on any manufactured item you do not use cheaper materials, but you devise methods that will machine the article faster, thus increasing the number of units per hour.

The manner of house construction has not changed in years. It needs a thorough overhauling to bring it in line with modern production methods. . . .

ARNOLD J. MILLIMAN
North Tonawanda, N. Y.

. . . take doors, for instance

Sirs:

The report of the Round Table on the construction industry is extremely interesting and certainly points the way toward more economical construction. . . .

We manufacture only one product, a hollow core flush door. This is the outgrowth of 98 years in the lumber business, 75 of which has been in the manufacture of millwork, including doors. We have, therefore, seen door construction develop from the raised panel door of the 19th century, which took about 35 board feet of lumber, down through the veneer period, the insert frame period and now to the hollow core construction which consumes only 7 board feet. This

has been our part, over a period of 75 years, in the economy of raw material.

There has been similar improvement in operations and machines, reducing saw curfs from 1/4" down to 1/16" where possible and the elimination of operations by especially constructed machines. . . .

GEORGE P. NEVITT, *Pres.*
Paine Lumber Co. Ltd.
Oshkosh, Wis.

. . . make it simple

Sirs:

The Round Table reports in your magazine have interested me so much that I am prompted to remind the building industry that our facilities of the Commodity Standards Division are as accessible to it now as ever.

Simplification is a sensible, practical procedure in normal times; it is doubly valuable, not to say essential, in a national emergency. More than half the WPB limitation orders featured simplification. It is likely that something similar will occur under NPA.

Our experience has attracted the attention of industries in the Marshall-plan countries because simplification is conducive to increasing productivity.

EDWIN W. ELY, *Chief*
Commodity Standards Division
U. S. Department of Commerce
Washington, D. C.

. . . make it permanent

Sirs:

We heartily agree with the basic theory presented in the article, and particularly with the proposition that the more wasteful requirements imposed by building codes and union authorities should be revoked. We see no need, however, for limiting such revocation to a temporary period. If progress in this direction is to be made, every effort should be made to make it permanent progress.

Standardization of building materials and sizes is a desirable goal. We agree that standard size building materials should be made more attractive price-wise.

F. M. FARWELL
Executive Vice President
S. C. Johnson & Son, Inc.
Racine, Wis.

. . . structural glass brick

Sirs:

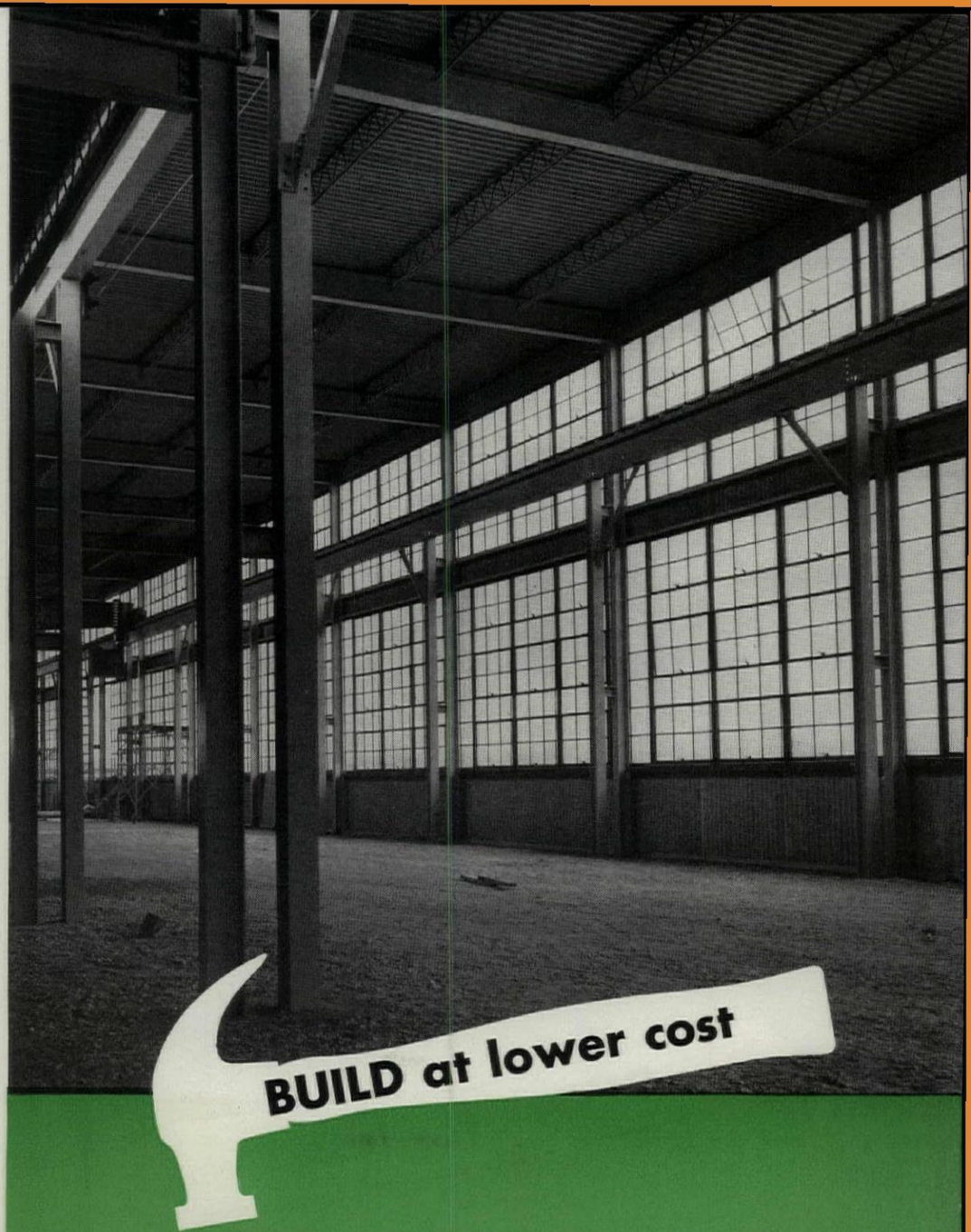
Your discussion of the elimination of waste is most commendable and will be an outstanding turning point in the operations of the building industry.

There are two points, however, I would like to suggest:

1) The standard sizes of your interior doors be increased 2" to be 2' 2" and 2' 8" wide, because those 2" often decide whether furniture will pass or not.

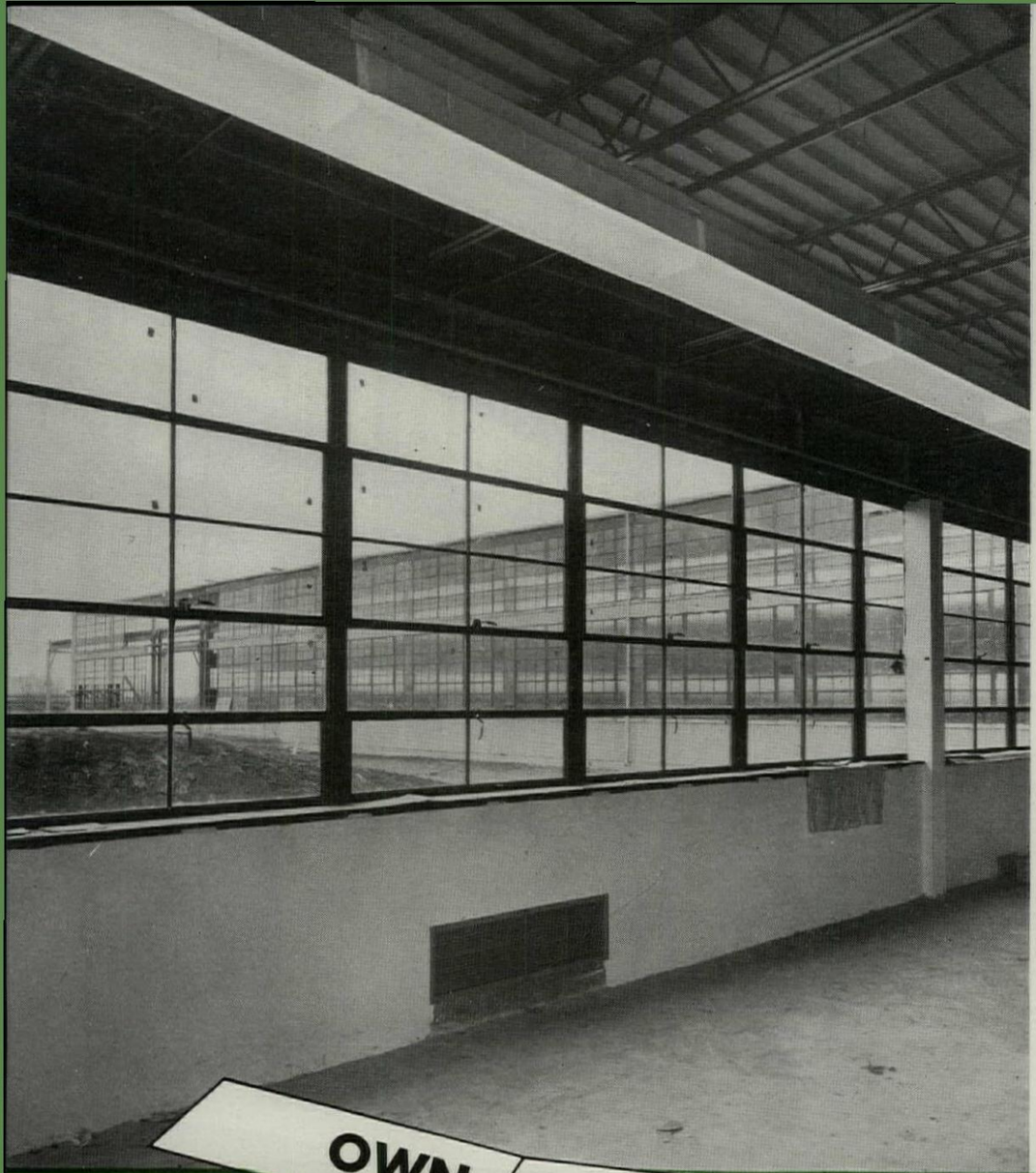
2) Tests on glass brick have shown them to

(Continued on page 56)



Dollar-wise, an average 13" masonry wall costs 3 times more than a finished steel window wall of the same area. A dozen bolts and clips will permanently anchor 50 square feet of Mesker Steel Sash in place in a matter of minutes. No "babying" or special handling, and you do less bracing, "adjusting" and general worrying. Besides very low unit cost, these advantages make Mesker Steel Sash outstanding wherever buildings are going up today.

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For non-residential buildings, Mesker Steel Sash are the most economical windows available today. Natural light and ventilation save money on artificial light and air conditioning, provide ideal working conditions. When buildings feature Mesker Steel Sash, the strongest windows made, owners invest less, pay lower property taxes, and hold down maintenance expense through the years.

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STEEL WINDOWS . . . KNOWN FOR THEIR
Strength

LETTERS—WASTE IN BUILDING

contain a higher compression factor than clay brick; therefore, it would seem to me that permission to use glass brick structurally would offer more flexibility and in some cases better construction. . . .

GURDON H. WATTLES
Wattles Construction Co.
Hemet, Calif.

. . . new hope in Canada

Sirs:

. . . I have little contact with union rules and building codes, but, as a builder and one who studies most angles of building construction, I wish to put myself on record as greatly pleased with the cooperative efforts of the leaders of the building industry about which I have been reading in THE MAGAZINE OF BUILDING.

I feel sure that, if anywhere near the greatest possibilities of this cooperative effort may materialize, many would-be small homeowners who had about given up hope will again dare to think about becoming homeowners.

FRANK MCDEVITT
Hughenden
Alberta, Canada

. . . and even in Guam

Sirs:

. . . The time is ripe for some very concerted action in this direction, and you have a real opportunity to assert your leadership and help our industry get up enough momentum to actually *do something* to accomplish the savings of materials and labor outlined in the Feb. Round Table.

Keep up the good work! Please keep plugging for action.

DANIEL K. COYLE
Guam, Marianas Is.

. . . architect-engineer cooperation

Sirs:

Large buildings are of particular interest to me because I have spent so much time on the job and in the offices where they were designed. With two large architectural concerns having their own engineering departments I have not found the cooperation between the two departments that could be desired. Our problems of working out interference on the job are a large part of supervision. You cannot look through a continuous line of trusses and see a clear opening to run a large pipe or duct. Electrical and mechanical tracings could be superimposed to discover multiple use of the same space.

Regarding small houses, the Round Table commented on the economy in flat roofs but said nothing about the omission of ceilings, particularly in the South where rafters are exposed with finished 2″ plank covering. Sloping ceilings give more feeling of space and a better reflection of light. In northern climates where more insulation is required the planks could be replaced by plywood enclosed 2 x 4's and wholly or partially exposed rafters. . . .

H. BURT FOOTE
Avon Lake, Ohio

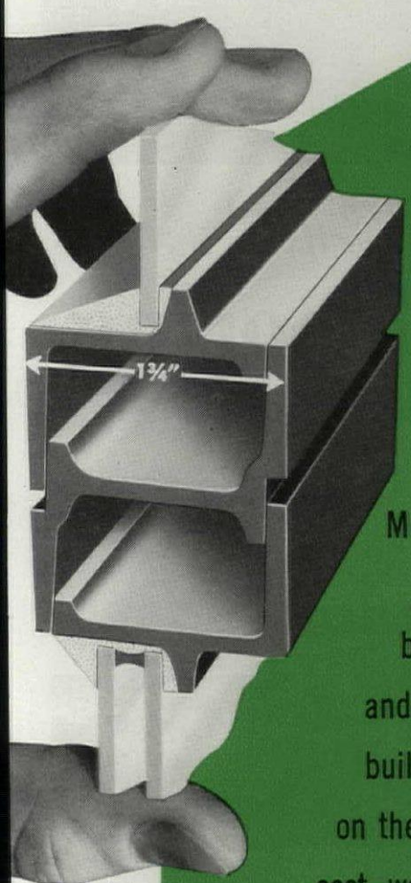
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when low cost is essential, the answer is

Mesker

STEEL WINDOWS . . . KNOWN FOR THEIR

Strength



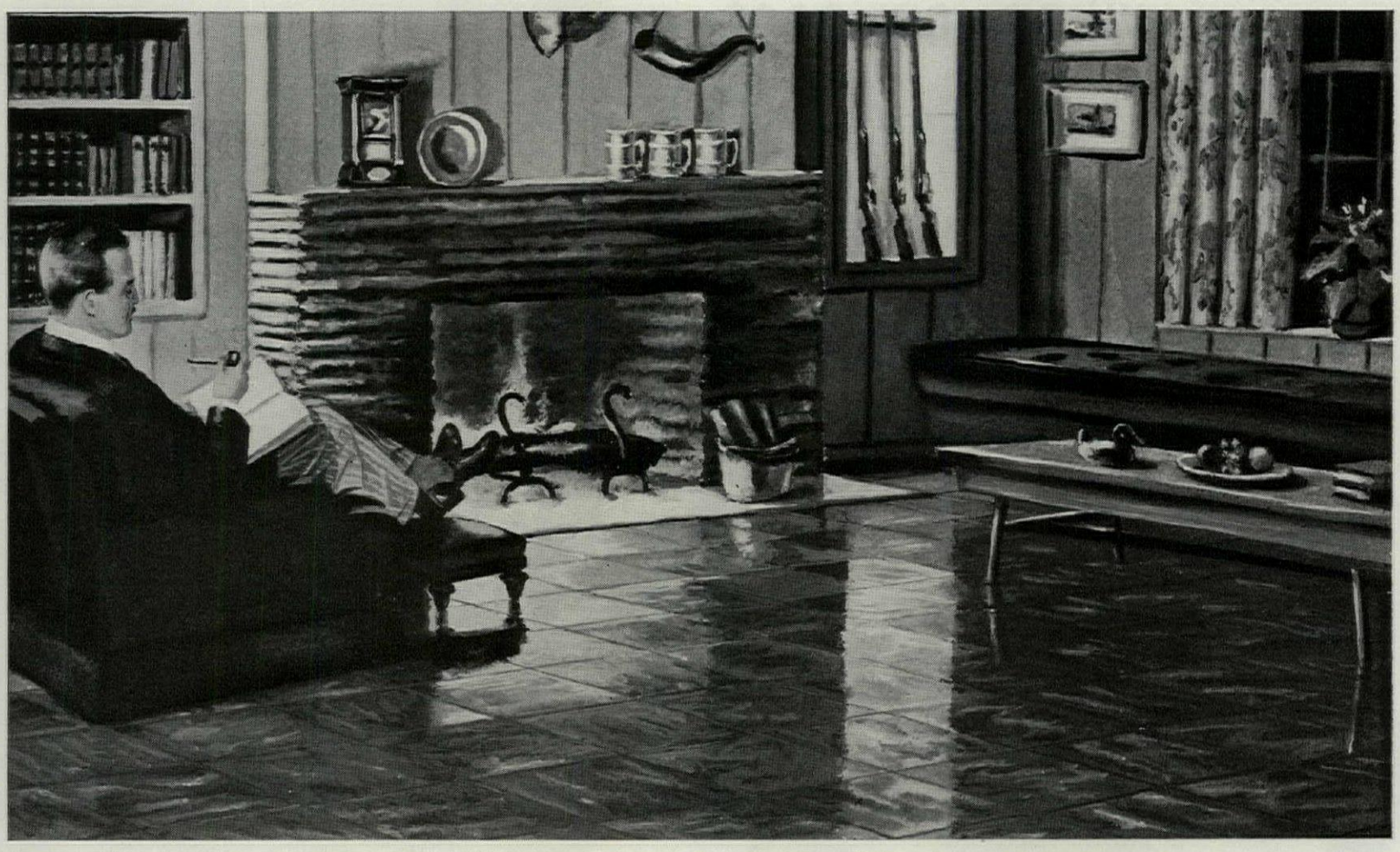
33% MORE STRENGTH!

Mesker's deeper sections, 33% stronger sections, mean lower building costs because architects and engineers work easier and faster, builders have less trouble and damage on the job, and owners get years of lower-cost, worry-free service. Look to Mesker Steel Sash, with the deepest steel window sections made, for advanced features at a cost competitive with any other window on the market.

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- *Defies time and wear—stays beautiful through years of service*
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DEVELOPED by Goodyear, Wingfoot Vinyl is outstanding in resistance to time and wear. It is impervious to the action of greases, fats, oils, mild acids, commercial cleansers, waxes. Because its colors are built right into the wearing surface, Wingfoot Vinyl keeps its rich, wonderfully warm color through years of service. It won't fade, won't "walk off," won't scrub off.

Complete Range of Superb Colors

Styled exclusively for Goodyear by Raymond Loewy Associates, Wingfoot Vinyl comes in a rainbow range of attractive correlated shades —either solid or tone-on-tone. They blend beautifully with fabrics, draperies, wall decor — in either traditional or modern settings.

You can specify Wingfoot Vinyl for a lovely wall-to-wall floor covering — at much lower cost than carpeting. And you'll be sure of the client satisfaction that comes from having an attractive floor that *stays* attractive with a minimum of care.

See Wingfoot Vinyl Flooring today—in either sheet or tile — at your flooring contractors' or dealers' showrooms. For specification data, write direct to Goodyear, Flooring Department, Akron 16, Ohio.



WIDE CHOICE OF COLORS

makes Goodyear Vinyl ideal for showcase jobs. This loveliest of all floorings is easily installed, lends itself readily to "personalized" floors of your own original design.

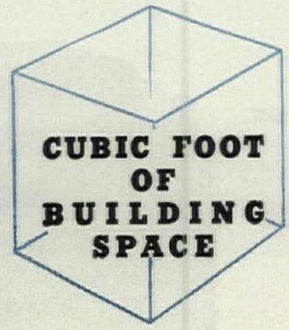
WINGFOOT *Vinyl* **FLOORING** { SHEET and TILE

by

GOODYEAR

Wingfoot—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

Now You Can Build It

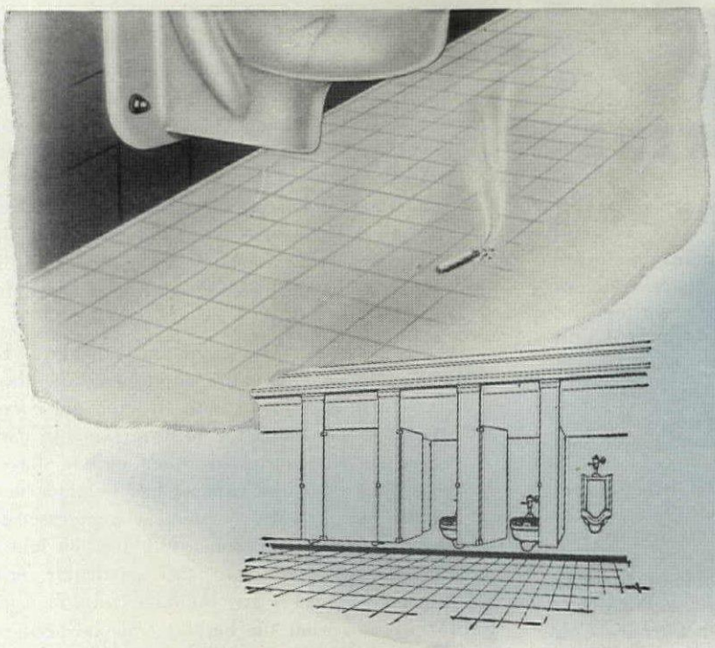


For Less



...THE NEW WAY

Yes, for as much as ten per cent less! The New Way *saves space* usually required for drainage lines suspended from ceiling. *The New Way eliminates the necessity of suspended-ceiling constructions to seal off drainage lines.* The New Way *reduces time* required for completing plumbing fixture installations. First step is to specify wall type plumbing fixtures. Second step is to specify their installation the Zurn Way—the simple, fast, safe way to install wall type closets, lavatories, sinks, and other fixtures. The Zurn Way reduces use of building materials—saves time and labor—protects rest rooms against premature obsolescence. Write for booklet entitled "You Can Build It (Cubic Foot of Building Space) For Less The New Way".



WHAT IS SO WONDERFUL ABOUT A FIXTURE-BARE FLOOR?

Mostly "the something wonderful" about a fixture-bare floor is immaculate cleanliness, the incentive to cleanliness and the ease with which it is kept clean. Cleanliness is no problem in rest rooms where plumbing fixtures are off the floor because there is nothing to interrupt the sweep of the broom and the swish of the mop. Those who use such toilet rooms are moved to respect cleanliness and to help maintain it. Insist on wall type plumbing fixtures—they reduce the cost of rest room maintenance and protect against premature obsolescence.

Write for this booklet. It tells how "You Can Build It (Cubic Foot of Building Space) For Less The New Way".



J. A. ZURN MFG. CO. ERIE, PA. U.S.A.

PLUMBING DIVISION

Sales Offices in All Principal Cities

Pre-eminent Manufacturer of Sanitary Products for the Protection of Human Health in Modern Structures.

ZURN

The Zurn Carrier Catalog and Handbook describes the complete line of Zurn Wall Closet Fittings and Carriers for all makes and types of plumbing fixtures. Use it with Zurn Carrier Indexes and fixture catalogs to save time in selecting and specifying wall type fixtures.



Type 150 Suspended Unit Heater — propeller fan type; 60,000 to 150,000 Btu capacities; shipped assembled and pre-wired. AGA and UL approved.

Mueller Climatrol

GAS-FIRED UNIT HEATERS

—save costs in many ways

For an independent heat source when plant expansion exceeds steam capacity, or for a compact, efficient heating system in new construction where time and costs are vital factors — the Mueller Climatrol unit heater line supplies the perfect answer!

Here are a few of the many savings they offer:

- ***Installation Cost is Low*** — shipped pre-wired, completely assembled . . . just hang, connect to gas and power lines and vent. No special chimney needed.
- ***Operating Cost is Low*** — efficient horizontal design assures maximum heat extraction, minimum fuel costs.
- ***Maintenance is Easy*** — can be completely cleaned and serviced from below without lowering the unit.

When you think of space-heating think of Mueller Climatrol. Capacities to fit any job you have. Write for complete information . . . *L. J. Mueller Furnace Co., 2020G W. Oklahoma Avenue, Milwaukee 15, Wis.*

B-56

Capacities and Types for Every Job



Blower Type 151 — Four sizes: 60,000 to 150,000 Btu input; all welded, horizontal design; AGA and UL approved. Shipped assembled and pre-wired.

Floor Type UH — nine sizes: from 180,000 to 540,000 Btu input in 45,000 increments; AGA approved. Easy to assemble and install.



94th Anniversary

Mueller Climatrol

FOR GAS FOR OIL FOR COAL

LETTERS—WASTE IN BUILDING

. . . the building officials' hurdle

Sirs:

. . . It will be necessary to sell the idea first to the building inspectors of the thousands of cities in the U. S. before any good can come of the program.

A. Ormsby Donogh, Jr.
Berkeley, Calif.

. . . the public and waste

Sirs:

. . . I am associated with a group of builders erecting 200 homes ranging in price from $27,500 to $45,000 in the Long Island area. My comments are based on my own experiences. . . .

Electricity: We definitely favor the new low-voltage wiring system and about 25% of our homes will be so equipped. However, our buyers have all purchased many additional wiring features (100 amp service, central control switching, 220 lines for dryers, ranges and equipment, automatic garage door openers, etc.). We could not sell these homes without many custom electric features.

Standardization: 90% of our customers have made many extensive additions and revisions to the standard base house which we offer. About the only standard items in our homes are the steel casement windows and flush doors; dimensional standardization would not work in our situation.

Plumbing: In our three bedroom, two bathroom base house one bathroom is back-to-back against the kitchen plumbing, but buyers often want the fixtures moved to the opposite wall, stall showers in place of bathtubs, etc.

Heating: Heat requirements are a very personal item and buyers want to be able to either roast themselves or freeze themselves as they wish — not as the builder wishes! Double glazing helps but have you tried to buy it in any quantity?

Basements: Persistent salesmanship has managed to convince 50% of our buyers that the slab is as good as a basement, but most are willing to pay as high as $5,000 additional for a full basement.

Site planning: Our minimum base plot is 13,000 sq. ft. and the entire development has been laid out in a series of both straight and curved streets, as best suits the hilly terrain. In cases where we have provided rolled gutters, buyers actually at their own expense had Belgium block gutters put in! Most customers want extensive flagstone walk work done, with the job laid in concrete, not sand. In this particular price bracket, *we have to give the buyer what he wants to buy*, not what the builder feels he needs or should have.

Design: We have an exceptionally clean, straight-forward design, but hardly "modern" in the full sense of the term. Our particular brand of buyer is definitely middle aged, and generally covers his 14′ carefully designed picture window completely with a double set of heavy drapes,

normally in the closed position! God forbid that we should ever try and erect a house with the flat-type gutterless roof! Not in this area!

I believe that your recommendations are basically true and if adopted would represent a great saving in the building industry; however, in my own situation, I can only sum it up by repeating *we have to give the buyer what he wants to buy.*

JOSEPH W. PERRY
New York, N. Y.

Sirs:

I endorse the findings. . . . However, they completely ignored the fact that Mr. and Mrs. Public have been brought up to live beyond their means. You may talk of code standardization, new and simpler construction methods and ideas, site and community planning, wasteful labor practices, etc., etc., but waste in domestic building can only be eliminated by the re-education of the buying public and those who cater to it.

Construction waste will take care of itself if the economy and simplicity of living together with political and community interest are taught in our public schools. This will take time, but it can be accomplished!

The U. S. cannot support the rest of the world in luxury unless our own citizens are forced to live in rather straightend circumstances.

WEBSTER C. MOULTON, *Architect*
Syracuse, N. Y.

. . . a Molotov veto

Sirs:

The lighting fixture industry received an unwarranted slap in the face through the fact that no home lighting authority was included in the roster of . . . home building experts who recently met in Round Table discussion to exercise a Molotov veto of center lighting outlets for the home.

It is our belief that the ideal job is achieved by a balanced combination of portables plus permanent overhead lighting. Scientific research reveals that two kinds of lighting are needed in any room—specific light on the seeing task and general room illumination.

WILLARD G. SAWYER, *V. P.*
John C. Virden Co.
Cleveland, Ohio

. . . a Bureau of Building Standards

Sirs:

. . . A federal organization on the order of the Bureau of Standards might be set up to serve the industry. Addressing itself particularly to residential construction, it could examine and test present materials and modes of practice and report on the soundness of new devices, etc. Operating, even without much authority, such a disinterested body's reports and opinions would have legal force on reluctant local codes.

Keep up your good work.

JOHN K. EHRETZ
Hollywood, Calif.

(Continued on page 66)

. . . COMMERCIAL STORES

FOR STEAM or HOT WATER HEAT or HOT WATER SUPPLY!

. . . APARTMENTS

. . . PLANTS AND FACTORIES

Type 20 Gas Boiler — cast iron, sectional; from 315,000 to 3,780,000 Btu input capacities.

Mueller Climatrol

SECTIONAL, GAS-FIRED BOILERS

—low cost in every way

No matter how you look at it, the Mueller Climatrol line gives you the best answer to your radiant and radiator heating and hot-water supply jobs. Quality construction, compact design, advanced engineering—all 'round boiler "know-how" — make every Mueller job low-cost from first to last:

- **Initial Costs are Low** — close-to-size capacities give you an economical installation for every job. Factory "assembled" tests make it easy to deliver an efficient installation.
- **Operating Costs are Low**—meticulous engineering of every part plus top-quality material and construction standards assure years of fuel-thrifty economy with minimum service and maintenance.
- **Future Expansion Easy** — sectional cast iron construction makes it easy to add capacity for additional loads simply by adding new section-burner units.

And that is just a brief outline of the many low-cost advantages of Mueller Climatrol boilers. Write for complete details . . . *L. J. Mueller Furnace Company, 2020G W. Oklahoma Avenue, Milwaukee 15, Wisconsin.*

B-55

94th Anniversary

Mueller Climatrol

FOR GAS FOR OIL FOR COAL

Capacities from 54,000 to 3,780,000 Btu (including Type 20 above)

Type 10 Gas Boiler — for steam or hot water heating or hot water supply. Nine sizes — 54,000 to 378,000 Btu input.

Type 11 Gas Boiler — Same as the Type 10 shown above except for the outer casing — controls are exposed.

AIR CONDITIONING THE EXISTING BUILDING:

This 13-story project proves it can be done quickly and economically with self-contained Frigidaire units

LOCATION: Nashville, Tenn.

GENERAL SHOE BUILDING CORP., Owner

Here's a problem that's bound to arise more and more as older buildings begin to feel the competition of postwar, air conditioned structures.

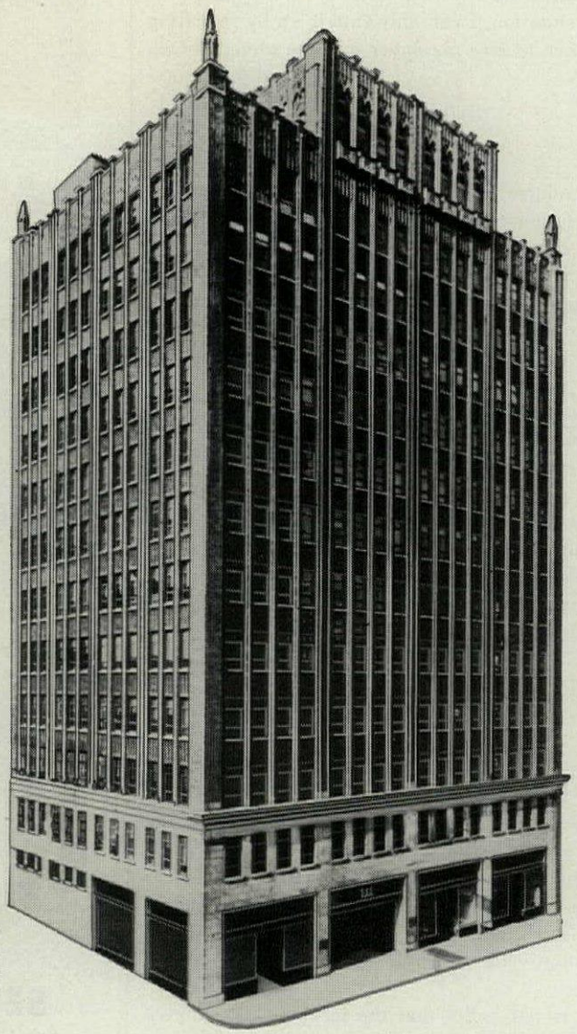
Simply stated, the problem is this: (1) To air condition a multi-story building in which no previous provision for air conditioning has been made. (2) To do it while business goes on as usual in the building. (3) To do it at a cost that's in line with reasonable rental charges.

An ideal solution suggested by Frigidaire for this 13-story Nashville office building is a multi-unit system—using several self-contained Frigidaire air conditioners on each floor.

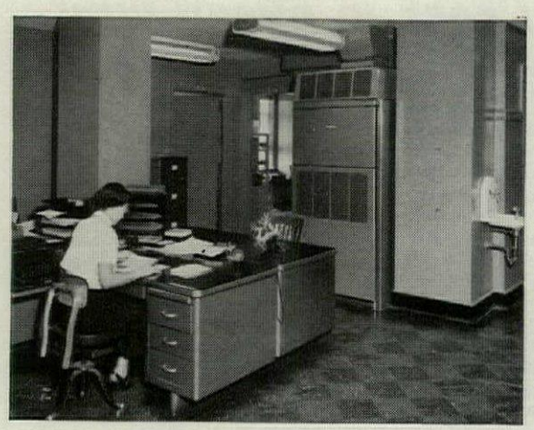
Besides providing a fast and economical answer, this Frigidaire plan has many other advantages. Since the Frigidaire units are individually installed and need little duct work, there is no costly interruption of business during installation. For the same reasons—if necessary—installation can easily be put on a floor-by-floor, "pay-as-you-go" basis.

But even more important than the installing is the end result—a system where the danger of total or even serious breakdown is held to an absolute minimum; a system that's "zoned" by the individual controls on each unit; a system that can quickly be modified to meet changing conditions.

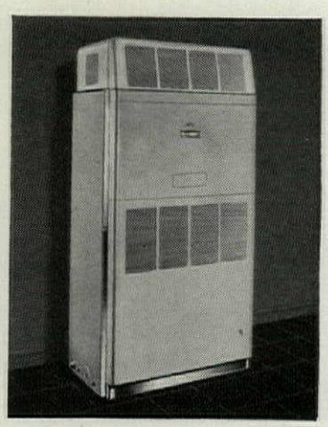
For expert help with such a system—or with any air conditioning or refrigeration problem—call the Frigidaire Dealer, Distributor or Factory Branch that serves your area. Look for the name in the Yellow Pages of your phone book. See Frigidaire catalogs in Sweets Files, or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Leaside (Toronto 17), Ontario.



A total of 39 self-contained Frigidaire units air condition this 13-story office building from top to bottom. Water for the units is circulated through two cooling towers on the 12th story roof. Central "on-off" controls are located in the basement.



Three 5-ton units like the one in this anteroom are used to condition the 12th floor. Cooled air from the units is distributed to individual executive offices through insulated ducts placed in an attic space directly above the ceiling.



Available in both 3- and 5-ton sizes, these Frigidaire self-contained air conditioners can actually be employed to handle almost any air conditioning need. With the addition of optional heating coils, they provide year 'round service.

FRIGIDAIRE Air Conditioning

Frigidaire reserves the right to change specifications, or discontinue models, without notice.

Refrigerators • Food Freezers • Water Coolers • Electric Ranges
Home Laundry Equipment • Electric Water Heaters
Electric Dehumidifier • Commercial Refrigeration

Specify National Electric 4x4 WIREWĀ

FOR INDUSTRIAL AND COMMERCIAL WIRING MODERNIZATION



ITEM	DESCRIPTION	CAT. NO.
1	CONDUIT END FITTING	544C30
2	X PULL BOX	544XB
3	4" SQ. JUNCTION BOX	544B4
4	90° PULL BOX ELBOW	544PL9
5	90° ELBOW	544L90
6	NIPPLE (LONG)	544N6
7	NIPPLE (SHORT)	544N3
8	45° ELBOW	544L45
9	TEE PULL BOX	544TB
10	4 BY 4 WIREWA 1 FT. LG.	544W1
11	4 BY 4 WIREWA 2 FT. LG.	544W2
12	4 BY 4 WIREWA 5 FT. LG.	544W5
13	WIREWA COUPLING	544C
14	BOX CONNECTOR COUPLING	544A
15	SLIP FITTING	544SF
16	END PLATE	544EP

Sketch of a typical 4 x 4 WIREWĀ installation showing complete flexibility, simplicity and use of fittings.

Plant men like National Electric 4 x 4 WIREWĀ for protecting wiring—wiring that may be re-routed, changed, tapped, or spliced frequently. National Electric WIREWĀ provides steel protection, plus accessibility, unequalled by any other type of wiring raceway, for housing of electrical wiring systems up to 600 volts.

STEEL FOR PERMANENCE . . .
GROUNDED FOR SAFETY!

Listed by Underwriters' Laboratories, Inc.

HERE'S WHY

4 x 4 Wirewā will do the job.

- **It goes up fast . . . can be tapped or rerouted without disturbing existing installations.**
- **No flanges to line up and bolt when assembling sections. Wrap-around hinged couplings—only two bolts to tighten.**
- **It may be mounted direct to wall or suspended from ceiling. Couplings may also serve as hangers.**
- **Low maintenance, simple to reroute and extend—100% salvable.**

EVERYTHING IN WIRING POINTS TO

National Electric
PRODUCTS CORPORATION
1334 CHAMBER OF COMMERCE BUILDING, PITTSBURGH 19, PA.

Planned for Better Living



...and Hotpoint Leads in Modern All-Electric Kitchens and Home Laundries!

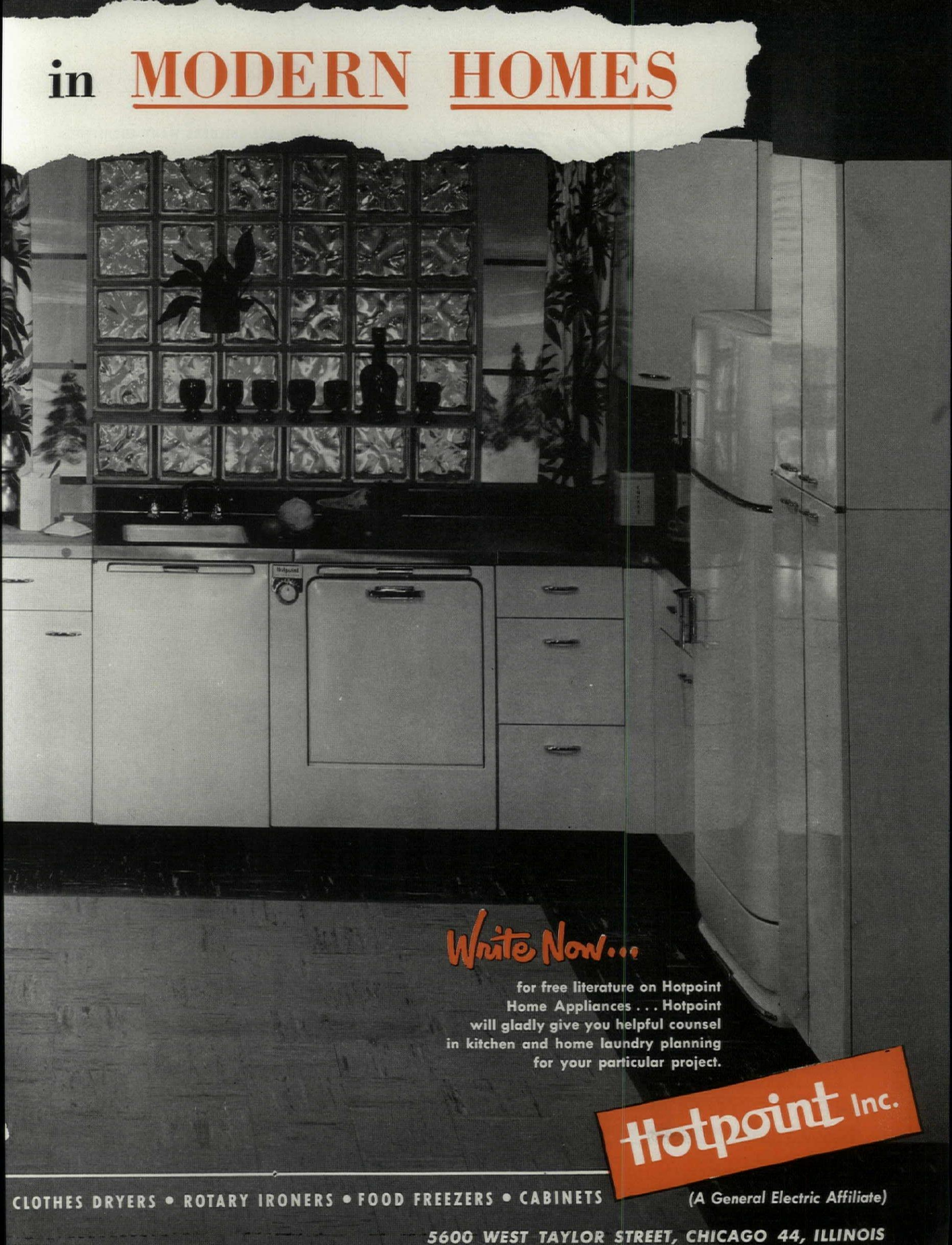
Whether you are remodeling or building a single dwelling, an apartment house or an entire subdivision, you can set the standard for *Better Living* in the homes you build . . . with **Hotpoint All-Electric Kitchens and Automatic Home Laundries.**

Hotpoint's labor-saving electric appliances take over—automatically—the tedious, unpleasant, time-consuming kitchen and home laundry chores of today's modern homemaker. Thus, more time and energy are conserved for the more important responsibilities.

Engineered to be the finest . . . designed for the greatest utility and styled at the peak of modern custom, **Hotpoint All-Electric Kitchens and Automatic Home Laundries** add the distinguishing quality to the *truly modern home.*

RANGES • REFRIGERATORS • DISHWASHERS • DISPOSALLS® • WATER HEATERS • AUTOMATIC WASHERS

in MODERN HOMES



Write Now...

for free literature on Hotpoint Home Appliances . . . Hotpoint will gladly give you helpful counsel in kitchen and home laundry planning for your particular project.

Hotpoint Inc.

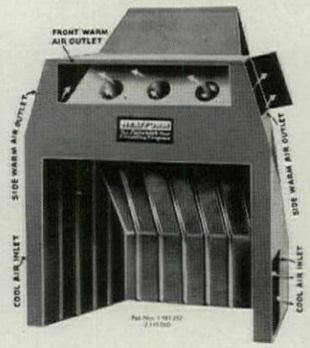
(A General Electric Affiliate)

CLOTHES DRYERS • ROTARY IRONERS • FOOD FREEZERS • CABINETS

5600 WEST TAYLOR STREET, CHICAGO 44, ILLINOIS

• architects
• designers
• draftsmen
• engineers

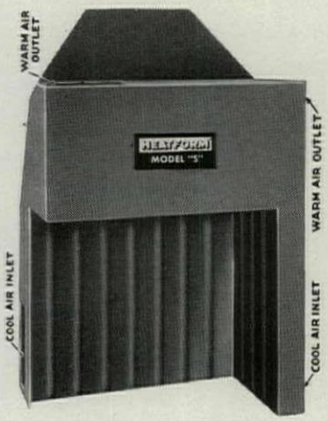
Write today
identifying your trade
for
Complimentary
HEATFORM* FIREPLACE BOOK



HEATFORM Model "A"
Eight stock sizes 24" to 72"

This 36-page book contains 50 beautiful interiors and fireplace designs.

These photographs were selected from our National Photo Prize Contest. The book contains elevations, sections and plans for installation of two HEATFORM Models: "A" and "S." It also shows proper location of fireplace for best heating results; how to heat adjacent rooms on first and second floor, and other valuable fireplace information you will want.



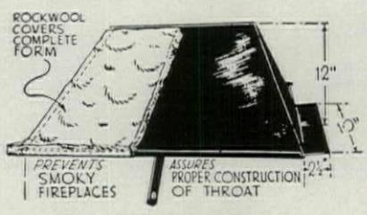
HEATFORM Model "S"
View of Fire from Front & Side

HEATFORM*

• Model "A" is the standard HEATFORM used in homes throughout America for the past 30 years. Complete information on Model "A" and Superior Form Dampers is contained in:

1951—Sweet's Architectural File, Section 29k/Su
1951—Sweet's Builder's File, Section 4-d/Su
1950-51—Western States A-E-C Catalog File

Model "S" completely described in HEATFORM Fireplace Book.



SUPERIOR FORM DAMPER
the Architects' Friend

SUPERIOR FORM DAMPER

— the Architects' Friend — always building good fireplaces without your personal supervision. It saves in labor time — no forms to build, no bricks to cut, no throat to plaster. Cracking of masonry is eliminated by use of rock wool and detached lintel bar. It is constructed of heavy steel for lifetime service.

*T. M. Reg.

SUPERIOR FIREPLACE CO.

Dept. AF 511
1708 East 15th St.
Los Angeles 21, Calif.

Dept. AF 511
601 North Point Rd.
Baltimore 6, Maryland

Pioneer manufacturers of heat circulating fireplaces and Form Dampers. Nationally advertised to millions of potential users. Sold through leading building supply dealers everywhere.

HEATFORM The SUPERIOR heat circulating **FIREPLACE**
most efficient and durable of all

LETTERS

TO MAKE BUILDERS WANT ARCHITECTS

Sirs:

In view of the restrictions on commercial building this would seem an ideal time for many offices to develop new clients in other fields. There is one large area that is largely untouched by the architectural hand—operative home building.

There is no field of practice that could affect more people, that could be of more service to our fellow citizens. The dollar volume of development housing is larger than in any other building category. The architect is needed yet he has let it alone.

True, the usual method of architectural practice, of architect-client relations and fee schedules, must be discarded upon entering this field for this is the practice of product design. Architecturally trained men have done well in product design. They can do well in the operative house business.

Here mere plans are a dime a dozen. The builder needs and would appreciate help in cost control; specifying and buying materials and equipment; giving cost advantage by specifying for the volume of several builders; improving the design of component parts by the pressure of mass buying; supervising construction and scheduling operations and materials; observing construction for improvement of methods and cost reduction during the operations.

In the more obvious factors of site planning and design the builder needs the architect. But if the architect can give the advantages of *cost reduction* and *sales appeal* the builder will *want* the architect.

And this requires new techniques.

L. Morgan Yost, *President*
Chicago Chapter AIA
Chicago, Ill.

NATIONAL S&L LEAGUE SPEAKS UP

SIRS:

UNITED STATES SAVINGS & LOAN LEAGUE NEVER APPEARED AT TAX HEARINGS AND ISSUED NO STATEMENT TO CONGRESS. FIGURES YOU QUOTED (Apr. '51, p. 25) WERE FROM MY OWN STATEMENT TO HOUSE WAYS AND MEANS COMMITTEE.

OSCAR R. KREUTZ
EXECUTIVE MANAGER
NATIONAL SAVINGS & LOAN LEAGUE
WASHINGTON, D. C.

• We regret having confused the mum U. S. Savings & Loan League with the outspoken National Savings & Loan League.—Ed.

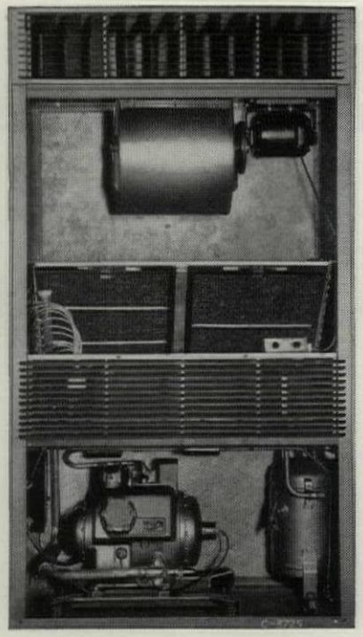
LEVITTS' LANDIA

Sirs:

. . . The information contained in the article on Levitts' Landia (Feb. '51, p. 140) is most timely and is indicative of what can be done even under present-day high costs to provide good housing and good community facilities.

(Continued on page 72)

EVERYTHING YOUR CUSTOMER WANTS



IN A PACKAGE AIR CONDITIONER

Here are the reasons why your customer will be happy with his Worthington Package Air Conditioner:

QUIET—acoustically insulated cabinet . . . no belts to wear or get out of line.

VIBRATION-LESS—smooth-floating multi-mounted compressor . . . dynamically-balanced fan.

TROUBLE-FREE—compressor hermetically-sealed against dust and moisture . . . no pulleys, couplings or seals.

NO ATTENTION NEEDED—pressure-type oiling . . . never needs replenishing.

LONG LIFE—compressor surfaces finished to micro-inch accuracy . . . oversize bearings . . . four rings per piston . . . dynamically-balanced crankshaft.

SAFE—high-pressure cut-out . . . high temperature safety switch.

CONVENIENT—finger-tip selection of temperature . . . thermostatic control . . . finger-tip adjustment of louvres.

ATTRACTIVE—plastic baked-enamel finish, scratch-resisting, washable . . . rounded corners, no projections . . . no "sweating".

ECONOMICAL—thermally-insulated . . . large copper-finned cooling coils . . . Worthington Feather* Valves.

Each Worthington unit—3, 5 and 7½ ton sizes**—is built to the same high quality standards as Worthington equipment for engineered systems, such as those described at the right. *Write for Bulletin C1100-B29.*

*Reg. U. S. Pat. Off. **Also, for remote location: 7½, 10, 15, 20, 25 ton units

Another "Worthington-Conditioned" hotel

in the National Hotel Co. chain



The 400-room Washington Hotel, one of the leading hotels in the nation's capital, gets its air conditioning from a Worthington centrifugal refrigeration system, using chilled water. This is one of five National Hotel Company hotels to be Worthington-conditioned; the others are Hotel Jung, New Orleans; Travis Hotel, Dallas; Thomas Jefferson Hotel, Birmingham; Hotel Cortez, El Paso.

Off-and-On heat calls for Off-and-On cooling



The work performed in the research laboratory of Aluminum Company of America, East St. Louis, Ill., is of such a nature that excessive heat is produced intermittently.

Certain of the rooms are provided with a "wild zone" of air conditioning which goes into operation automatically when the heat-producing equipment is in use, and the normal air conditioning zone cannot handle the load.

This building is handled by a 125-ton Worthington air conditioning system comprised of two Freon-12 compressors and one evaporative condenser.

WORTHINGTON

AIR CONDITIONING AND REFRIGERATION

INVESTIGATE

MORE WORTH WITH WORTHINGTON

Consult Classified Telephone Directory for nearest Worthington distributor. Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J., specialists in air conditioning and refrigeration for more than 50 years. A.1.3

MULTI-VENT

Low Velocity Air Diffusion CEILING PANELS



Architects — Narramore, Bain, Brady & Johnson.

Engineers — Lincoln Boullion & Associates

Multi-Vent Panels installed throughout, completely concealed in standard acoustical ceilings. Air is introduced and exhausted through the perforations in standard metal ceiling pans, eliminating all visible outlets or grilles.

For *COMPLAINT-FREE* Heating and Ventilating

IN THE SAN FRANCISCO FEDERAL RESERVE BANK, SEATTLE BRANCH

Top-flight engineers and architects are now specifying Multi-Vent for air distribution in virtually every type of commercial and industrial building, new or old, *where true comfort,* or where perfect uniformity and accurate control of air movement, temperature, and humidity is demanded by their clients.

For unlike any other diffuser on the market today, Multi-Vent panels do *not* depend on BLOW or THROW, (high velocity injection) for distribution. In fact Multi-Vent provides perfect over-all air distribution entirely by pressure displacement, completely free from BLOW.

This pressure displacement principle, exclusive with Multi-Vent, does away with the main sources of draft hazards . . . thereby eliminating all of the most serious installation, balancing, and adjustment problems, inherent in the velocity injection principle, upon which all air diffusers *except* Multi-Vent depend.

Multi-Vent is by far and away the best, not only in performance, but in efficiency, appearance, and economy of maintenance as well.

See Sweet's Arch. & Eng. Files or write for detailed literature and the name of the Multi-Vent sales engineer in your vicinity.

THE PYLE-NATIONAL COMPANY
1376 NORTH KOSTNER AVENUE, CHICAGO 51, ILL.

MULTI-VENT DIVISION

now! MENGEL MAHOGANY Flush DOORS

Available at less than many Domestic Woods!



"Believe it or not"!—Mengel Flush Doors with faces of genuine African Mahogany can now be bought for less than comparable doors built with many conventional domestic woods!

Why? Because Mengel, drawing from its own vast logging concessions in the heart of Africa's Gold Coast, brings its fine Mahogany veneers to America in tremendous volume. Second, Mengel has the wood-working equipment and know-how to manufacture its top-quality doors *with mass-production economy and efficiency!*

Use the coupon to get full details about Mengel Mahogany Doors. Until you know the facts, you'll never appreciate the extra luxury, the extra *values* now immediately available for *any* kind of job.

THE MENGEL COMPANY
Plywood Division, Louisville 1, Ky.

Gentlemen: Please send me full information on Mengel Mahogany Flush Doors—Hollow Core and Stabilized Solid Core.

Name_____

Firm_____

Street_____

City_____ State_____

The Mengel Company . . . America's largest manufacturers of hardwood products • growers and processors of timber • manufacturers of fine furniture • veneers • plywood • flush doors • corrugated containers • kitchen cabinets and wall closets



WILL YOUR BUILDING BE PROFITABLE... AS LONG AS IT WILL STAND?

modern circuit protection means built-in profit protection

Modern commercial buildings profit if rentals are high, occupancy steady—if tenants are well served electrically.

When electrical circuits go dead, business stops cold. Power outages affect illumination, business machines, maintenance equipment and air-conditioning systems.

Panelboards are the nerve centers for most of these circuits. You can lick constant trouble, maintenance costs, future modernization expense by specifying Westinghouse Circuit Breaker Panelboards.

Here's why! First, they are equipped with the well-known Westinghouse "De-ion®" Circuit Breakers. You get modern, economical circuit protection. Even unskilled personnel can restore power simply by flipping a switch. No fuses to replace. Circuit breakers are tamperproof, safe.

Look behind the breakers. You'll find extra margins of quality, safety and dependability in Westinghouse Panelboards. For instance, a rigid reinforced back pan protects the entire assembly against distortion or damage during shipment or after installation. Other features speed installations—cut job costs.

Be sure—specify Westinghouse.

For your copy of our new booklet "Panelboard Planning" B-5260, write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-93463

YOU CAN BE SURE.. IF IT'S

Westinghouse

PANELBOARDS

It's
Vivid!
It's
Versatile!
It's
Vitachrome!





. . . truly Greaseproof Resilient Flooring at moderate cost

Shrugs off attacks of the acids, alkalis, oils and fats in food...stays at its sparkling best with a minimum of maintenance . . . brilliant colors brighten interiors.

What does a restaurant man want in a resilient flooring material?

First, he wants resistance . . . resistance to the factors in foods that can ruin ordinary resilient floors . . . resistance to the oils and fats, resistance to the acids and alkalis, that bite into a floor when food is spilled.

Vitachrome gives him that . . . even more than he needs.

Second, because, ordinarily, maintenance is expensive...he wants a floor with simple upkeep requirements.

Vitachrome merely needs daily sweeping, to remove loose dirt . . . periodic washing...and water-waxing, when it's desired.

Repairs are quick and easy. Replacement is limited to damaged area, because of tile-by-tile installation.

Third, the modern restaurateur demands decorative beauty. A bright, attractive interior brings in customers.

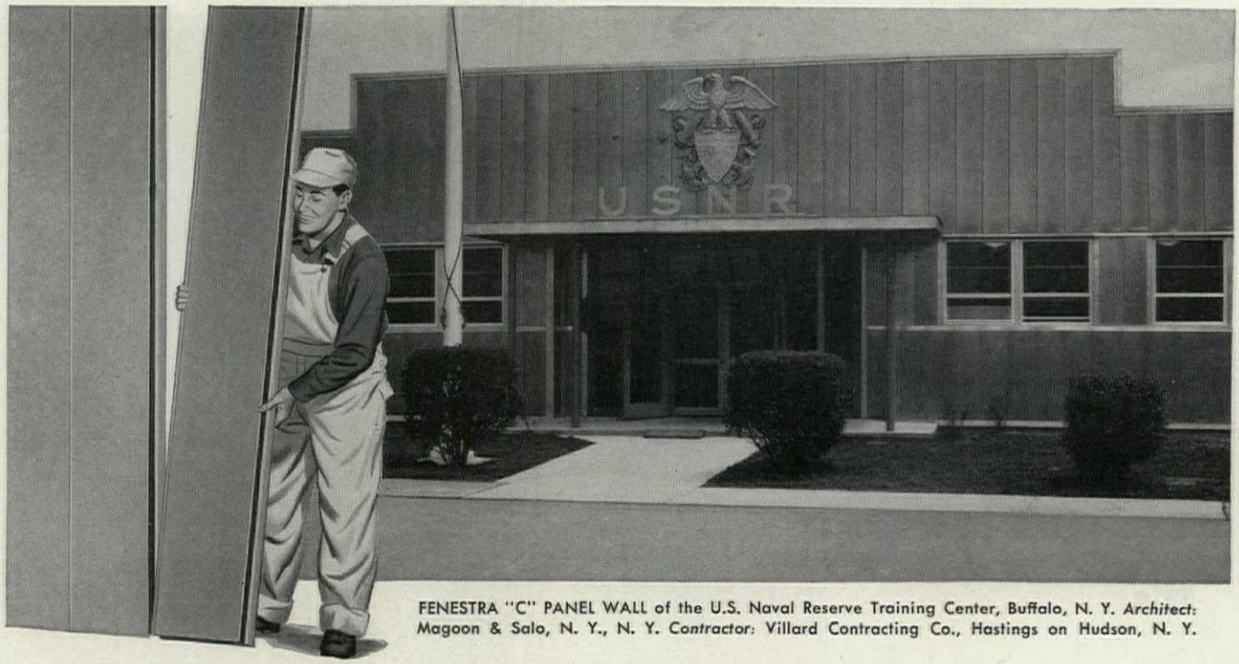
Vitachrome comes in many brilliant colors and sizes, making it difficult to beat for decorative versatility. And, since a restaurant man is a *business* man, he wants all these advantages at as low a cost as possible.

Vitachrome again fills the bill, with its many advantages.

Tile-Tex
RESILIENT
FLOORS AND WALLS

Ask local Tile-Tex* Contractor. Or, if you don't find his name in your telephone directory . . . write THE TILE-TEX DIVISION, The Flintkote Company, Dept. R, 1234 McKinley St., Chicago Heights, Ill.

**Registered Trademark, The Flintkote Company*



FENESTRA "C" PANEL WALL of the U.S. Naval Reserve Training Center, Buffalo, N. Y. *Architect:* Magoon & Salo, N. Y., N. Y. *Contractor:* Villard Contracting Co., Hastings on Hudson, N. Y.

Build by areas instead of inches!

... Save time, labor, materials, money

Now you can *zoom* a building up—instead of *inching* it up. You can save time, labor, materials and money as never before!

Fenestra* steel "C" Building Panels quickly and simply interlock to form strong, solid walls. Your building is enclosed in a hurry.

But that's not all! A wall of these rugged, rigid sandwiches of metal and glass fibre insulation can be zipped apart and set up again farther out when you want to *expand.*

Fenestra "C" Panels are only 3" thick . . . but have insulation value *better* than a 12" thick brick wall. (And the difference in thickness gives you 602 sq. ft. more floor space in a 150' x 250' plant!) Noncombustible. So *smooth* that dirt and grease can't get a grip.

A FEW DETAILS ON FENESTRA "C" PANELS

Size: Standardized 3" deep, 16" wide, 7' to 12' long, 18 gage painted steel. They weigh only 6.50 lbs. per sq. ft.

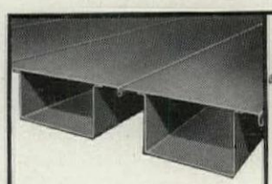
Elements: Made from two formed members joined into a structural, vapor-sealed unit. Asphaltic impregnated felt is inserted inside full length between members to prevent metal-to-metal contact. Packed with glass fibre insulation. Double tongue and groove joints give three positive bearing surfaces per panel, making wall of vertical "C" Panels an integral unit.

For full information, call the Fenestra Representative (he's listed under "Fenestra Building Products Company" in your Yellow Phone Book) or mail the coupon.

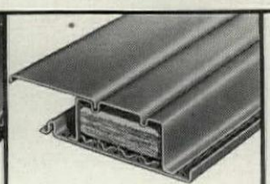
*Trademark

Fenestra **PANELS • DOORS • WINDOWS**

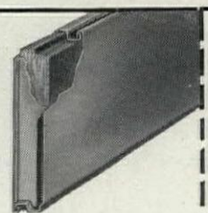
engineered to cut the waste out of building



"D" Panels for floors, roofs, ceilings. Standard width 16". Depth 1½" to 7½".



Acoustical "AD" Panels for ceiling-silencer-roof. Width 16". Depth up to 7½".



"C" Insulated Wall Panels. Standard width 16". The depth is 3".

DETROIT STEEL PRODUCTS COMPANY
Building Panels Division
Dept. MB-6, 2251 E. Grand Boulevard
Detroit 11, Michigan

Please send me, without obligation, information on Fenestra Building Panels.

Name_____

Company_____

Address_____

Smart modern appearance . . . easy, economical to construct with "Century"® APAC!

THE answer to "what to use" for nearly every type of construction problem! "Century" APAC—Keasbey & Mattison's versatile asbestos-cement structural board—lends itself equally well to both interior and exterior siding applications . . . to new structures, repairs, additions, modernizations. And it helps you *build better* at *less cost!*



Dunton's Cafeteria, Dallas, Texas. Attractive front is "Century" APAC, 3/8" thickness. **Architect:** Ralph Pease, Jr., Dallas; **Contractor,** Jansen Construction Company, Dallas.

APAC for APPEARANCE! For exterior use, APAC can be finished to give an attractive, stone-block effect. For interiors, it can be decoratively painted, or left natural to take advantage of its pleasing neutral gray color.

APAC for ECONOMICAL APPLICATION! Sturdy sheets are large size (standard, 4′ x 8′); are easy to cut and fit on the job; can be readily fastened with ring fettered nails or screws. With APAC, large surface areas can be covered quickly, easily, with minimum labor cost!

APAC for CONTINUED ECONOMIES! The original low cost of APAC only begins the cost savings! The all-mineral asbestos and cement composition resists weather and moisture—*can't burn*—will not rust or rot, can't be hurt by rodents or termites. It doesn't even need protective painting to hold its durable finish. Maintenance costs are really minimized with APAC!

Consider "Century" APAC for any problem calling for progressive design and construction—for theaters, stores, residences, multi-family dwellings, and industrial structures of all types. We'll gladly send complete information upon request.

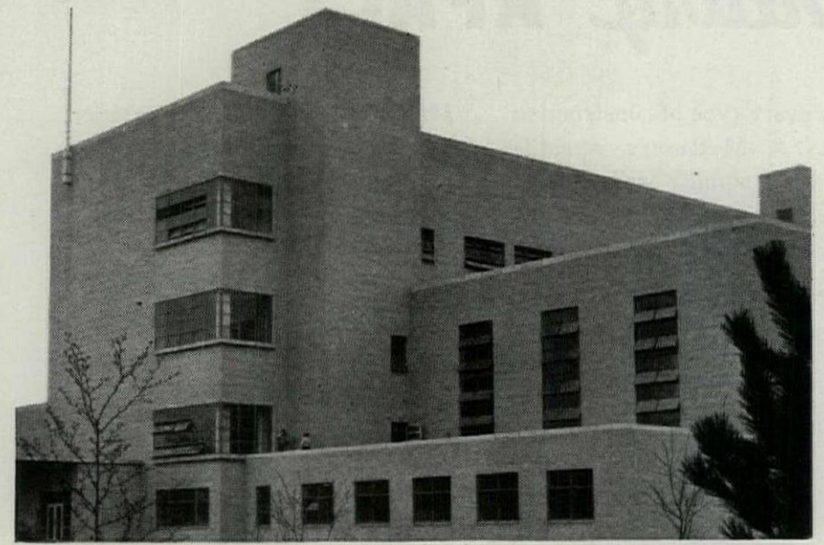
K&M best in asbestos®

KEASBEY & MATTISON

COMPANY • AMBLER • PENNSYLVANIA

ORIGINAL MANUFACTURERS OF ASBESTOS-CEMENT SHINGLES IN THIS COUNTRY

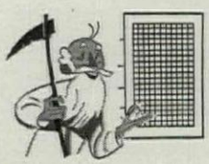
New Incinerator Plant Selects Corrosion-Proof Screen Cloth!



Offices on lower level of this new incinerator plant at Ridgewood, N. Y. are screened with Lumite Screen Cloth, chosen for its exceptional durability and resistance to smoke, fumes, and salt air. Flat-application type integral flange screens made by Watson Mfg. Co., Jamestown, N. Y. and installed by Ney-Land, Inc., N. Y. C.

IT'S LUMITE SARAN SCREEN CLOTH

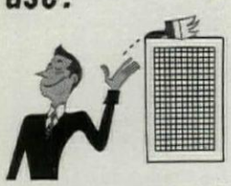
ideal for every exterior use!



LONG-LASTING! An independently conducted accelerated weathering test proves Lumite Screening superior to all other types of screening. Replacement and maintenance are held to a minimum with corrosion-proof Lumite Screening.



STAINPROOF! Lumite Screening can't cause unsightly, costly stains on the screen frame, sill or side of a building.



NEVER NEEDS PROTECTIVE PAINTING! Lumite Screening can't rust, rot or mildew. And—it's non-inflammable . . . easy to handle . . . low in cost.

Sold through hardware, lumber, building supply dealers and screen manufacturers.

LUMITE* SARAN SCREEN CLOTH

*Registered Trade-mark

Guaranteed by Good Housekeeping

SEND FOR FREE SAMPLE AND ADDITIONAL INFORMATION TODAY!

LUMITE DIVISION, Chicopee Mfg. Corp. of Ga. MB-4
40 Worth Street, New York 13, New York

GENTLEMEN: I am interested in the rustproof, stainproof, long-lasting qualities of LUMITE Saran Screen Cloth. Please send me FREE sample and further information.

Name.....

Company.....

Address.....

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

LETTERS

The article will receive careful consideration in our Engineering Division.

ROBERT E. CRON, JR.
Col., Corps of Engineers
Executive, Military Construction
Washington, D. C.

Sirs:

. . . a great improvement over most of the houses built during and after the Second World War.

Your magazine is performing a real service in publicizing this type of building.

HARRY A. BULLIS
Chairman of the Board
General Mills, Inc.
Minneapolis, Minn.

Sirs:

I found the article most interesting. . . .

RICHARD NIXON
U. S. Senate
Washington, D. C.

SLUM SURGERY IN ST. LOUIS

Sirs:

Your article in the April issue on the work we are doing is St. Louis on housing is sincerely appreciated.

There have been many fine comments on the story in St. Louis and I was especially pleased with the accurate and well-written presentation of our attack on slum conditions.

Articles such as the one you prepared are not only important to St. Louis but to the nation as a whole. I firmly believe that when the general public and our builders and architects are adequately informed of the problem, they will be better prepared to erect the answer. . . .

JOSEPH M. DARST, *Mayor*
St. Louis, Mo.

Sirs:

I was vitally interested in the April article about St. Louis slum clearance. . . .

The wonderful magazine which your organization publishes has been of considerable help to me in my capacity of supervising the very large building program which the Catholic Church is sponsoring in the city and county of St. Louis.

MOST REV. JOHN P. CODY
Auxiliary Bishop of St. Louis
St. Louis, Mo.

WICHITA'S DEFENSE HOUSING

Sirs:

The article "Defense Housing" (Apr. '51, p. 122) made an excellent analysis of the situation affecting the nation. To show you how rapidly private initiative can adjust to a situation, Wichita builders now are planning the construction of 7,491 housing units in the next 12 months. This will include over 1,500 rentals. These figures are in sharp contrast with the 3,500 units planned when your reporter visited Wichita several weeks ago.

(Continued on page 78)



make it a

One-Piece Pipe Line

with SILBRAZ* joints

Silbraz joints, made with Walseal* valves, fittings and flanges, actually make a "one-piece pipe line" of brass, copper, or copper-nickel I.P.S. pipe or tubing . . . leaky joints are completely eliminated, and maintenance costs are reduced to the minimum.

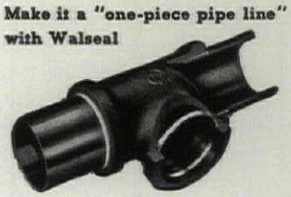
A Silbraz joint is *silver-brazed* — not soldered. This modern pipe joint will not creep or pull apart under any condition which the pipe itself can withstand . . . vibration or corrosion will not affect it. A Silbraz joint is designed to have a tensile strength equal to about three times standard weight brass pipe, and the pipe will fail before the joint will pull apart.

For full information about Silbraz joints made with Walseal valves, fittings and flanges, see your nearby Walworth distributor, or write for Circular 84.

Patented — Reg. U. S. Patent Office

SEE OUR CATALOG IN SWEET'S

Make it a "one-piece pipe line" with Walseal



WALWORTH

valves and fittings

60 EAST 42nd STREET NEW YORK 17, N. Y.

DRAVO HEATERS..

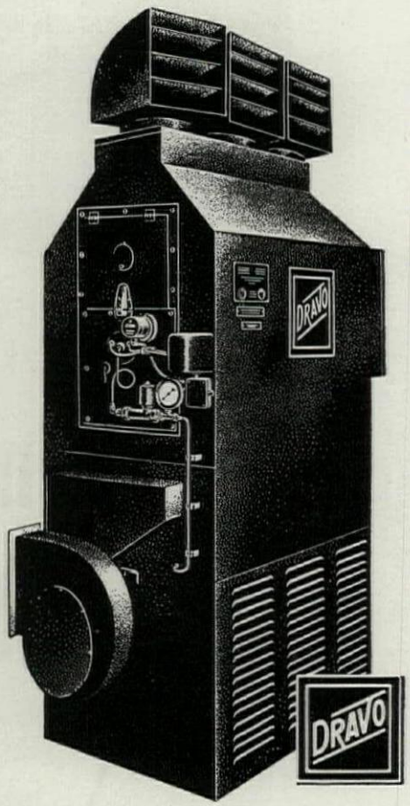
AS WELL AS MONEY....FUEL...

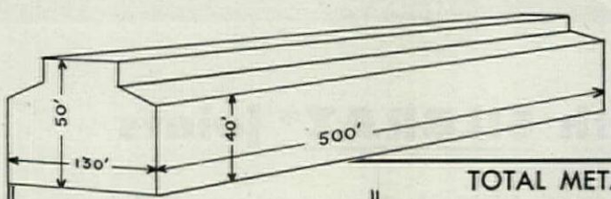
Heating system steel needs *can* be slashed from 50% to 70% for the representative open-space industrial structure shown below . . . by using the direct-fired warm air heating method with Dravo "Counterflo" Heaters! This conservation, of vital importance today, adds another to the long list of economies in money, fuel and labor effected by this heating method.

The chart below gives the detailed comparative story. Every system is equivalent in Btu output. Steel requirements for the 13 methods have been carefully and conservatively calculated.

It will be noted that Dravo Heaters not only take LESS steel in each fuel classification . . . but that the HIGHEST steel requirement in a Dravo installation is almost 50% less than the LOWEST steel requirement in any other system. Of special significance is the contrast in *pipe* required. Jobs now held up by slow pipe deliveries can MOVE . . . if Dravo Heaters are used!

Any time that YOUR jobs are delayed or deferred because of steel or pipe shortages, why not find out how Dravo "Counterflo" Heaters are expediting things for other users? And remember — steel savings are just *one* of the reasons that more and more Dravo "Counterflo" Heaters are heating increasing numbers and types of structures. You'll find many other good reasons listed at right, that will appeal to you.





Each heating system compared below was sized to make up a calculated 12,000,000 Btu heat loss in this representative industrial building.

TOTAL METAL REQUIREMENTS FOR VARIOUS HEATING SYSTEMS

COMPONENT	GAS FIRED					OIL	
	DRAVO WARM AIR	HIGH PRESSURE CONVENTIONAL BOILER	HIGH PRESSURE PACKAGED STEAM GENERATOR	LOW PRESSURE CONVENTIONAL BOILER	LOW PRESSURE PACKAGED STEAM GENERATOR	DRAVO WARM AIR	HIGH PRESSURE CONVENTIONAL BOILER
BASIC HEAT GENERATORS	26,400	38,000	62,000	38,000	62,000	26,400	38,000
PIPING—Oil—Steam Boiler Room—Gas	9,096	15,490	15,490	35,308	35,308	4,352	15,790
TANKS—Oil—Blow-off Condensate		3,500	1,500	1,500	1,500	13,000	16,500
UNIT HEATERS including Traps & Starters		21,240	21,240	21,240	21,240		21,240
STACKS & BREECHING	1,200	4,000	400	4,000	400	1,200	4,000
PUMPS—Fuel Oil Auxiliary Oil—Boiler Feed		1,000	1,000	1,000	1,000	400	1,400
STOKERS & FANS— including Dust Collectors Fuel Oil Preheaters							2,000
STRUCTURAL STEEL Boiler House Foundation Reinforcing		7,000	2,000	7,000			7,000
TONS of STEEL REQUIRED	DRAVO 18	45	52	54	61	DRAVO 23	53

..CONSERVE STEEL

. AND MAN HOURS

DISTRIBUTION PIPING AND DIFFUSERS COMPLETELY ELIMINATED

LEAST STEEL PER 1,000,000 BTU OUTPUT

NO VALVES, TRAPS OR FITTINGS

STAINLESS STEEL CHAMBER ELIMINATES REPLACEMENT

DRAVO CORPORATION

HEATING DEPT., DRAVO BUILDING, PITTSBURGH 22, PA.
Sales Representatives in Principal Cities.
Mfd. and Sold in Canada by Marine Industries, Ltd., Sorel, Quebec.

WITH IDENTICAL 12,000,000 Btu LOAD

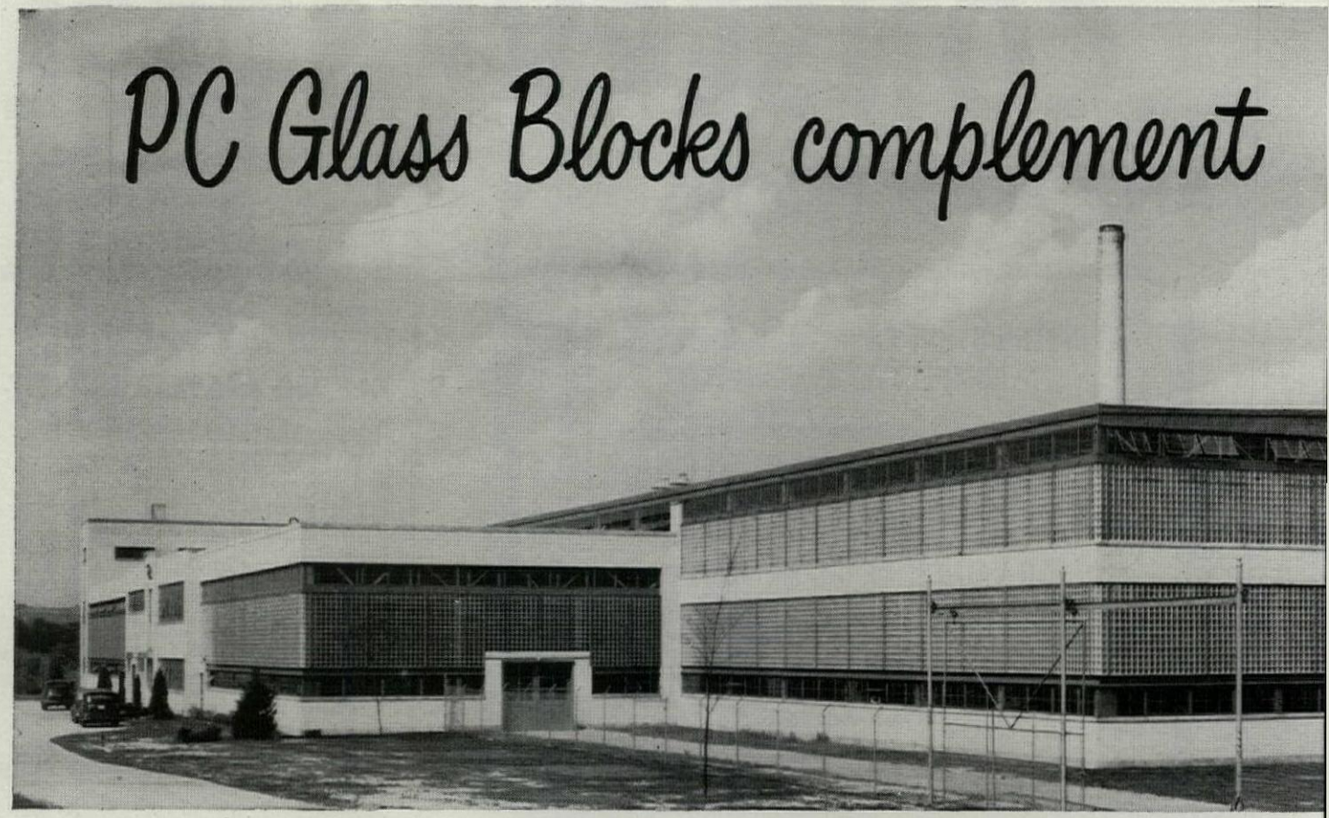
FIRED →			← COAL FIRED		
HIGH PRESSURE PACKAGED STEAM GENERATOR	LOW PRESSURE CONVENTIONAL BOILER	LOW PRESSURE PACKAGED STEAM GENERATOR	DRAVO WARM AIR	HIGH PRESSURE CONVENTIONAL BOILER	LOW PRESSURE CONVENTIONAL BOILER
62,000	38,000	62,000	27,450	38,000	38,000
15,790	35,608	35,608		14,990	34,808
14,500	14,500	14,500		3,500	1,500
21,240	21,240	21,240		21,240	21,240
400	4,000	400	1,200	4,000	4,000
1,000	1,400	1,000		1,000	1,000
	2,000		23,850	15,000	15,000
2,000	7,000			7,000	7,000
58	**62**	**67**	DRAVO **26**	**52**	**61**

DRAVO HEATERS HAVE EARNED HIGHEST ACCEPTANCE BECAUSE THEY

- *use less steel*
- *eliminate distribution piping*
- *have lower initial cost*
- *are very efficient in fuel consumption*
- *concentrate comfort heat at the working level*
- *reduce roof heat losses*
- *burn gas or oil*
- *are available in coal burning models*
- *save man hours through automatic operation*
- *require no attendant and negligible maintenance*
- *produce heat instantly and ONLY when needed*
- *have stainless steel chambers for longer life*
- *prevent rust and stain conditions in metal storage*
- *bear UL label and AGA approval*
- *require only stack, fuel and power line*
- *are portable and readily moved*
- *provide year 'round ventilation*
- *are ideal for process drying*
- *avoid freeze up worries, leaky traps, valves, etc.*
- *are shipped complete and flame tested*
- *can be installed on floor, wall or roof*
- *can be mounted upside down or horizontally*
- *eliminate ductwork with 150 ft. air throw*

WRITE TODAY FOR BULLETIN HI—523

PC Glass Blocks complement



AT THE American Brake Shoe Company's Foundry and Press Room in the Brake Shoe and Castings Division at Meadow Lands, Pa., Architect Harry Lucht of West Englewood, N. J., effectively utilized PC Glass Blocks. Besides admitting an abundance of natural daylight, they heighten the architectural appeal of the building. They eliminate expensive sash maintenance, reduce heating and air-conditioning costs. And, at night, the interior illumination streaming through them affords protection for the surrounding grounds. The construction used in this handsome building is typical of the design used in the PC *Vision-Lighting Plan*. This plan consists of orientation-keyed areas of PC *Functional* Glass Blocks—selected for sun or non-sun exposure—used with vision-ventilation areas as required.



ARCHITECT William J. Theodor of St. Louis, Mo., used multiple sizes of PC Glass Blocks in the Painters' Building of that city, to achieve this ingenious decorative effect. Plenty of light is assured for the interior, maintenance of panels is easy, and complete privacy is afforded.

PITTSBURGH ® PC CORNING

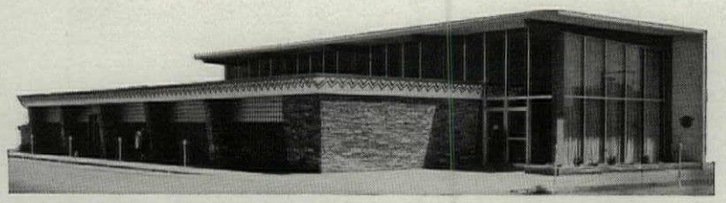
GLASS BLOCKS

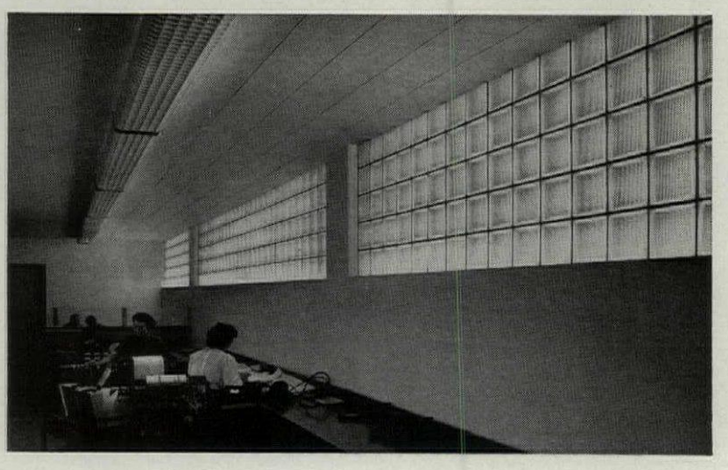
DISTRIBUTED BY PITTSBURGH PLATE GLASS COMPANY; W. P. FULLER & CO. ON THE PACIFIC COAST;

any architectural plan...

effect operating economies... make the most of daylight







THIS NEW air-conditioned building of the Valley National Bank, Winslow, Arizona, was planned to include PC Soft-Lite* Prism Glass Blocks. These glass blocks "make the most of daylight." That means the admittance of floods of natural daylight, softly diffused for employee eye-comfort. The exterior view shows to what extent panels of PC Glass Blocks can complement the architectural plan. And this is true, regardless of the architectural style. Architect: Edward L. Varney, Phoenix, Arizona.



PC Glass Blocks are immediately available... no construction delays

And this includes PC *Functional* Glass Blocks, especially designed for precision work. These glass blocks contain such features as light-directing prisms on the interior faces of certain patterns, light-spreading corrugations on outside faces, a fibrous glass insert to diffuse still further the light transmitted by the block itself, and the PC Soft-Lite* Edge Treatment, which creates a better, more comfortable "eye-ease" panel appearance. And the new "Clean-Easy Face Finish" provides an important short-cut for cleaning up the excess mortar on the panels after installation.

*T. M. Reg. Applied For.

PITTSBURGH CORNING CORPORATION
PITTSBURGH 22, PA.

Pittsburgh Corning Corporation
Dept. D-61, 307 Fourth Avenue
Pittsburgh 22, Pa.

Without obligation, please send me your FREE booklet on the use of PC Glass Blocks in industrial, commercial and public structures.

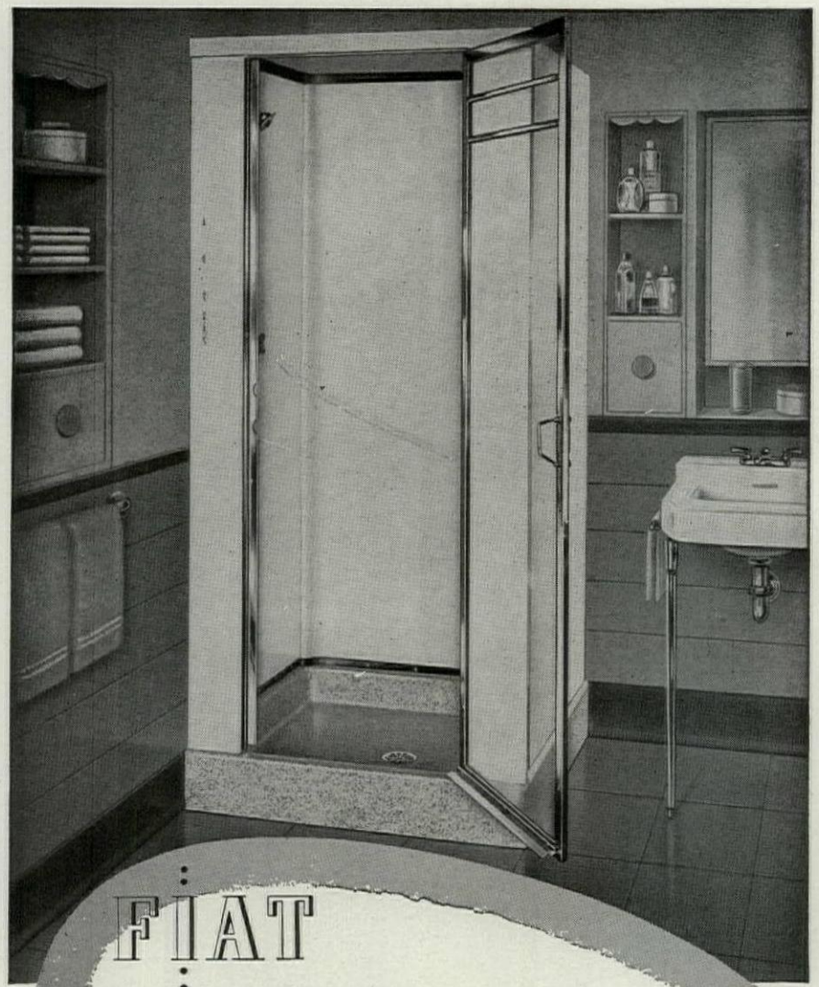
Name.....

Address.....

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

The mark of a modern building

HOBBS GLASS LTD. IN CANADA; AND BY LEADING DISTRIBUTORS OF BUILDING MATERIALS EVERYWHERE.



FIAT

Admiral . . . THE SHOWER CABINET WITH A VITREOUS PORCELAIN ENAMEL INTERIOR

The smooth, glass hard, vitreous porcelain interior surfaces of the Admiral Shower provide the ultimate in cleanliness and sanitation, they remain white and impervious to wear for a lifetime. Exterior of side and back panels are regularly finished with vitreous porcelain enamel ground coat, but can be furnished to match interior at small extra cost. Front stiles and head rail, bonderized, galvanized steel finished in white synthetic baked-on enamel. Receptor, deep type terrazzo made of black and white marble chips and white cement. Sizes 36" x 36" x 80" and 40" x 40" x 80". Illustration shows this shower equipped with a Fiat Dolphin heavily chromium plated glass door. The Admiral shower is suitable for high grade residential and institution installations.

Complete specifications in Sweets' Architectural Catalog File, or write any of the three Fiat plants for catalog.

FIAT

FIAT METAL MANUFACTURING CO.

Three complete plants

9301 Belmont Ave., Franklin Park, Ill.

Los Angeles 33, Calif. Long Island City 1, N. Y.

In Canada—Fiat showers are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

LETTERS

We must not have made clear the situation regarding past house building activities in Wichita. Your story mentions "5,000 houses erected since 1940." Actually, 5,400 housing units were built in Wichita in 1950; an average of 3,000 units a year in 1947, 1948, 1949.

Wichita is now completing approximately 600 units a month and the builders' forecast, may well be conservative if the mortgage market will absorb the investments involved. While we still hear rumors of additional public housing units, our builders remain convinced that private enterprise will do the job.

ALDEN TROVILLO
Wichita Chamber of Commerce
Wichita, Kan.

THE TEMPERATE HOUSE

Sirs:

. . . Regarding the Temperate House analysis in the March issue, the meaning of a 20% overhang as a measurement of length should be explained—also the meaning of 50% shading.

DAVE P. CLARK, *Architect*
Columbia, Mo.

• The overhang designation is the length of projection out from the shaded wall, as compared with the vertical measurement of the wall. An overhang projecting 2 ft. out from a 10-ft.-high wall would be a 20% overhang. The term 50% shading means that 50% of the wall's surface is in shade at the time indicated on the charts. The entire wall is considered because the entire wall is a heat absorber, windowed or not.—ED.

PANEL COOLING

Sirs:

I have read with interest the write-up in the April issue on panel cooling. It is a good explanation of the fundamentals of this system. . . .

We have been responsible for the designs of four large installations using extruded aluminum heating and cooling panels, of which the Dominion Textile Building was the first, the Manufacturers Life Building the second, the Toronto Western Hospital the third and the St. Catharine's General Hospital the fourth. Mr. Charles Leopold was associated with us on the Manufacturers Life Building. . . .

When we started on the radiant heating and cooling of the Dominion Textile Building some years ago we obtained from the Richard Crittall Company Limited of England their data on radiant heating and cooling and our first designs were based on this data and on the use of pipe coils embedded in the plaster ceilings. Later we decided to adopt aluminum ceilings, as developed by Gunnar Frenger of Oslo, Norway, but when we learned of the panels developed by Charlie Leopold, we adopted his system for the Manufacturers Life Building. . . .

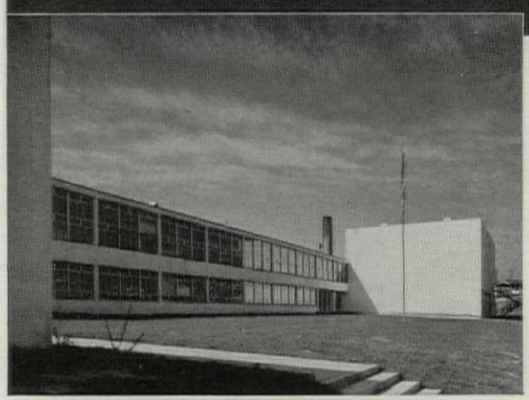
G. LORNE WIGGS
Wiggs, Walford, Frost & Lindsay
Montreal, Canada

(Continued on page 82)

OAK RIDGE BUILDS—

Safer, More Comfortable Schools With ZONOLITE® Products!





In Elementary School No. 6, Willowbridge, Oak Ridge, insulation of exterior walls was achieved simply and economically by filling the cores of the building blocks with ZONOLITE Insulating Fill. This extremely effective installation is obtained at far less than normal costs, yet insures economical heating plant operation, year around comfort and greater fire safety. Zonolite Insulating Fill will last the life of the building, too, for it is an inert mineral, absolutely sterile. It will not pack nor rot; is rat and verminproof.

• • •

In other new defense construction, Zonolite products are cutting costs, saving vital steel, slashing construction time. Send coupon at right today and be certain you have all available information and specifications.

Versatile Lightweight Mineral Adds Insulation, Fire Safety to DEFENSE CONSTRUCTION

The fire-resistance of the walls and ceilings in the **Senior High School, Oak Ridge, Tennessee,** was increased 400%, for Zonolite brand vermiculite Plaster Aggregate was used in lieu of sand in plaster throughout. In addition to this added safety factor, the insulating and acoustical properties in this amazing mineral aggregate provide greater comfort and more pleasant conditions for student and teacher alike.

Today, more than 27% of all plaster used, is ZONOLITE plaster, for both architects and builders know that only with ZONOLITE can they obtain all these qualities, frequently at lowest cost.

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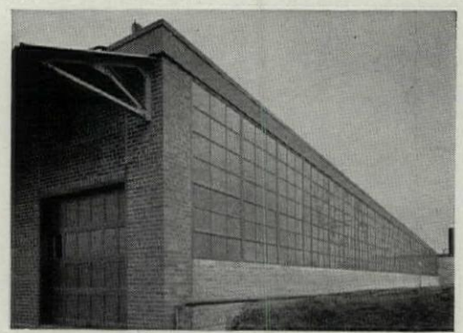


In construction products **CECO ENGINEERING**

Go Up On time...

with Open-Web Steel Joist Construction

There's need for speed in building today—an urgency that has to be met. For the nation's industrial plants must expand so enough of the things vital to defense can be made in quantity—quickly. And to help you complete more plants "on time", open-web steel joist construction truly meets the need. Here is the fastest way ever to build, with a saving in labor, too. No temporary framework is necessary—there's nothing to take down. So since speed is the need on "rush order" plants, specify Ceco open-web steel joists. They are fabricated to exact sizes in the factory, come to the job tagged, ready to install. Ceco assures you fast service from five strategically located plants: Birmingham, Chicago, Houston, and the New York and Pittsburgh areas. When speed's your need—call Ceco.



Ceco open-web steel joists are especially suitable for defense plants. Their light weight permits speedy installation without special equipment or falsework—also reduces the size of supporting beams, columns and footings.



Standard joists span up to 32 feet and Longspan joists up to 64 feet. By using these maximum spans, the number of columns are reduced and more manufacturing area is made available.

CECO STEEL PRODUCTS CORPORATION
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CECO STEEL®

makes the big difference

Why do more and more architects say "WRIGHT RUBBER TILE" instead of "rubber tile" when they write specifications?





. . . Why, because it is the *only* way to be sure of getting top quality material for all important floors.

There is no other way to be sure of getting the high modulus and high density that make Wright Rubber Tile last so long.

There is no other way to be sure of getting a naturally glossy, non-porous rubber tile that means easy cleaning and permanent new appearance.

There is no other way to be sure of getting the uniform color and marbleization that means a truly beautiful installation.

To be sure of getting the best installation, as well as the finest rubber tile, more and more architects are using the suggested installation specifications found in the Wright Section of Sweet's Architectural File. They are the result of thirty years' experience.

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5204 Post Oak Road • Houston, Texas

WRIGHT RUBBER TILE

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FLOORS OF DISTINCTION

- WRIGHTEX — Soft Rubber Tile
- WRIGHTFLOR — Hard Surface Rubber Tile
- WRIGHT-ON-TOP Compression Cove Base

LETTERS

MARCH CAME AND WENT

Sirs:

I awaited your March issue with the proper enthusiasm induced by . . . my interest in modern low-cost homes. March came and went, but I felt that perhaps such an outstanding issue required more time. . . .

At last the *April* issue arrived and I immediately knew that my subscription had not run out. . . . I know now that it is too late to receive my long-awaited copy, but I would like to know what other copies can I not expect to get. Yes, it is possible that the mail carrier suddenly developed an interest in good small homes. But I hesitate to accuse him since he is much larger than I, and he has not failed before. . . .

Please let me at least take a look at the March issue. I will even agree to return it after a few weeks if necessary, or pick it up if there is a question of stamps.

MARCUS H. CAINES
New York, N. Y.

• Unless his mail carrier has a friend also interested in good small homes, Reader Caines should have received his duplicate copy of the March issue.—ED.

KUDOS

Sirs:

Your April story on the Upjohn Co. is certainly outstanding, and I congratulate you and your associates on the fine way in which this article was prepared.

To me it is indicative of the great progress which you have made in the past year, and I think if your readers would take the time to compare the magazine with the one which you published a year ago, they would all hasten to congratulate you.

J. K. GANNETT
The Austin Co.
Cleveland, O.

Sirs:

. . . The job THE MAGAZINE OF BUILDING is doing at present is exceptionally good.

RALPH WALKER, *President AIA*
New York, N. Y.

CULLETS VS. CRULLETS

Sirs:

In your April article on Bruce Goff's "umbrella house" you used the word "crullets" referring to chunks of waste glass. I am curious as to the derivation of this word. In the glass industry we refer to excess glass from a manufacturing process as *cullet* and never use it in the plural. Is crullets derived from this or was it a typographical error?

Incidentally, cullet is not usually waste glass but is generally necessary in batch for glass melting.

P. M. REYNOLDS
Corning Glass Works
Corning, N. Y.

• Crullets was derived from cullet by a careless writer who had misplaced his dictionary.—ED.

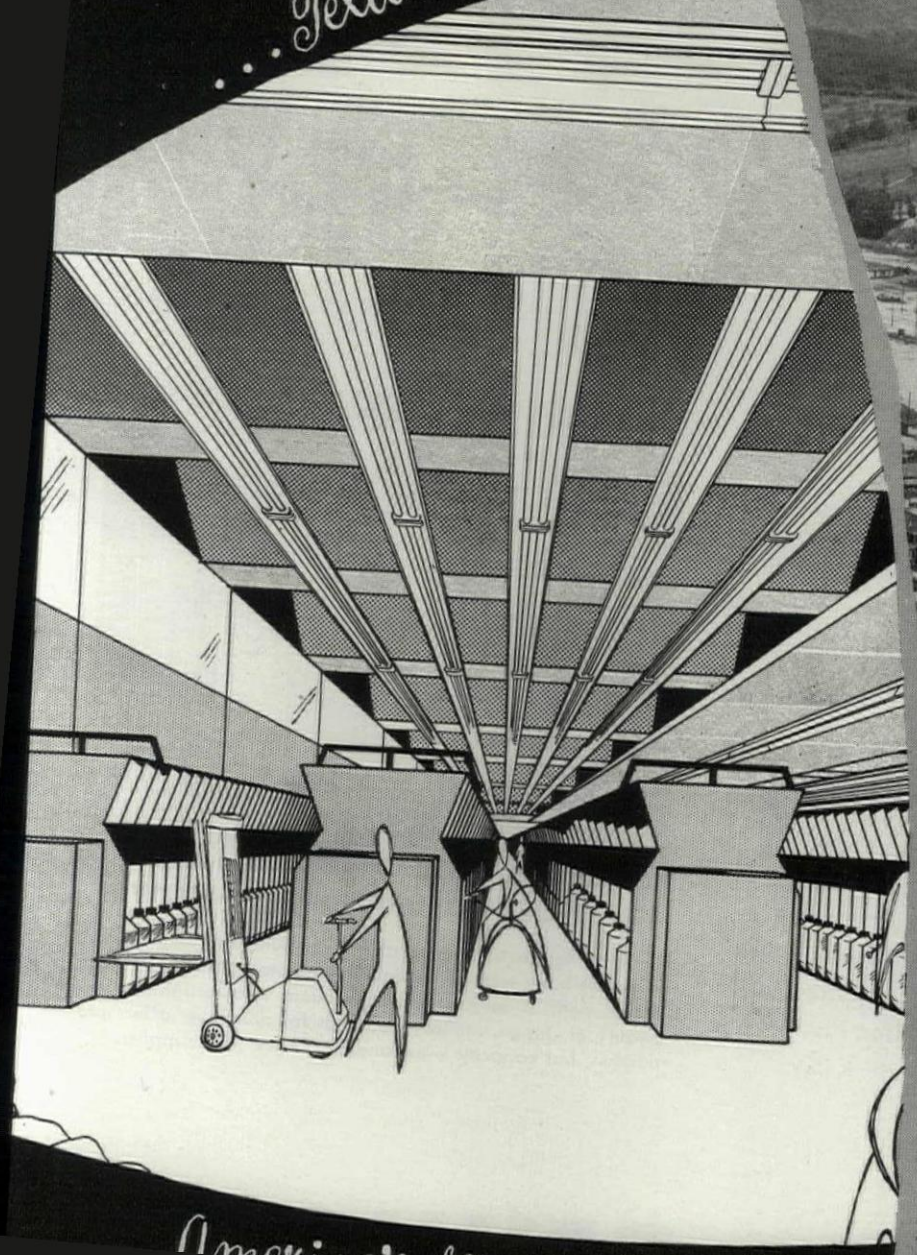
designing an ATOMIC ENERGY PLANT? a TEXTILE MILL?

It doesn't matter what the application may be . . . there's a Smithcraft fluorescent fixture for virtually any industrial location. The Oak Ridge Atomic Energy Project, for example, is one of the thousands of installations that utilize "lighting by Smithcraft". Textile mills, machine shops, industrial plants of every description . . . throughout the country, Smithcraft fixtures provide the "better-than-adequate" lighting that's so effective in increasing labor productivity.

There's a reason, of course. We all know that there's more to good lighting than meets the eye . . . and that essential "more" is provided by Smithcraft's features of design and manufacture. These features assure ease of installation, ease of maintenance, and long-term trouble-free service, as well as unexcelled lighting performance.

We've compiled descriptive folders and specification sheets on every Smithcraft fluorescent fixture into a bound catalog that's yours for the asking. Write for your copy today. You'll see why "America's Finest Fluorescent Fixtures" are products of "Smithcraft".

. . . Textile mill . . . . .



. . . Oak Ridge Atomic Energy Project . . .

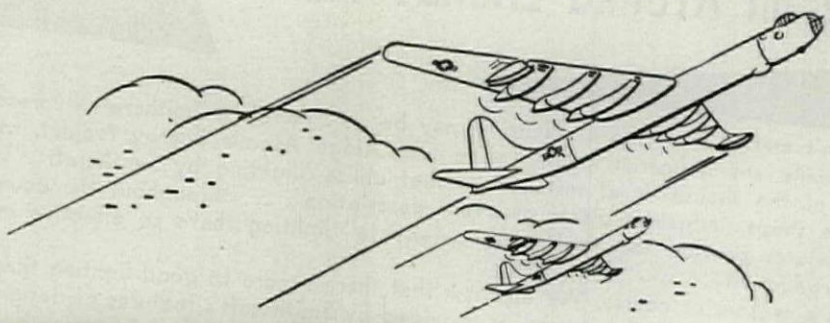


America's finest fluorescent fixtures by . . .

Smithcraft

LIGHTING DIVISION

CHELSEA 50 MASSACHUSETTS



THE SKY IS NO LIMIT TO THE USES OF ALUMINUM

From thinnest foil to jet-plane armor, aluminum is the most versatile of metals. It has become the architect's most modern material. No other metal within economic reach can be rolled so fine, extruded so easily in endless shapes, drawn, forged, cast. No other metal offers *at low cost* aluminum's freedom from rust and resistance to corrosion. No other metal combines light weight with a strength which can be made equal to mild steel. And no other low-cost metal can equal aluminum's radiant heat reflectivity.

From this extraordinary range of characteristics stems the scope of aluminum's uses. Aluminum roofing, siding, gutters and downspouts, insulation and vapor barrier, windows, screens...these have become staple building materials. Decoratively as well as functionally, the field broadens...aluminum spandrels, bas-reliefs, spires, railings, doors, moldings. And there is an increasing trend to aluminum structurals.

Reynolds, leader in aluminum building products, offers literature on technical engineering subjects such as "Aluminum Extrusions," "Aluminum Structurals," as well as on the specific products shown. Address inquiries to **Reynolds Metals Company,** Building Products Division, 2019 South Ninth St., Louisville 1, Ky.

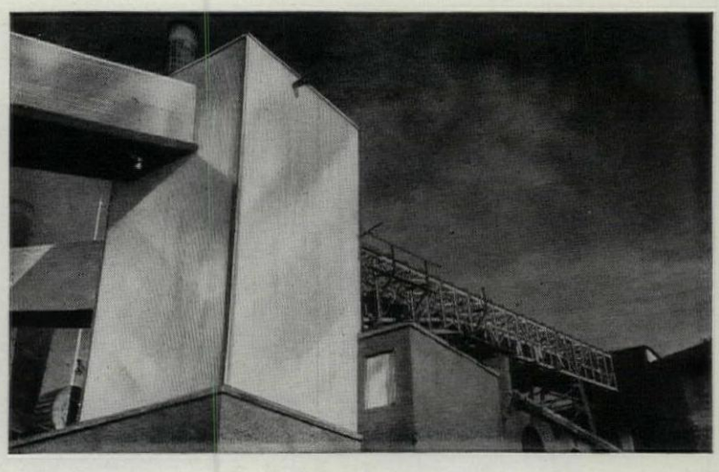


REYNOLDS ALUMINUM WINDOWS

Reynolds Residential Casement, Double-Hung, Fixed and Picture Windows have won an outstanding reputation for superfinish, for strength of corners and consequent weathertightness, for beauty of design. Military demands for aluminum affect production, but capacity is expanding. Check your supplier.

REYNOLDS

REYNOLDS *Lifetime* ALUMINUM INDUSTRIAL CORRUGATED

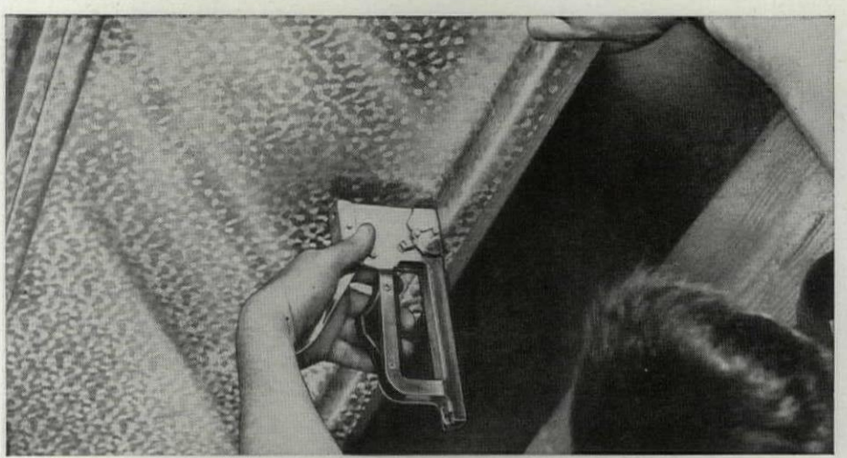


As used on the 600-foot coal conveyor system of the Worcester County Electric Company, New England Electric System. .032" thick, with extra deep corrugations (⅞" deep by 2⅔" crown to crown), this corrugated weighs only 56 lbs. per square, yet supports 80 p.s.f. uniform roof load over 4' purlin spacing. This light weight combined with strength makes possible important economies in framing. For low applied cost and *lowest* maintenance, specify Reynolds *Lifetime* Aluminum Industrial Corrugated. DO-rated orders receive priority handling.



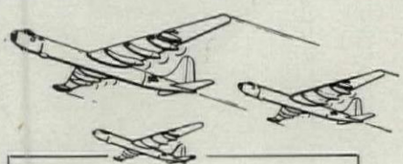
REYNOLDS *Lifetime* ALUMINUM GUTTERS AND DOWNSPOUTS

An excellent example of aluminum's *economy*... rustproof gutters at about half the cost of other rustproof materials. Non-staining, too! Reynolds designs include Ogee and Half-Round...5" residential gutters, with 3" downspouts, either smooth or stippled finish. Also 6" Industrial Half-Round with 4" downspouts. Military needs for aluminum affect production...check your supply source.



REYNOLDS ALUMINUM REFLECTIVE INSULATION

Embossed aluminum foil bonded to one side (Type C) or both sides (Type B) of tough kraft paper...250 sq. ft. per roll, 25", 33" or 35" wide. A preferred underfloor insulation and vapor barrier over unheated crawl spaces...approximate conductance 0.10 for one layer Type B. Excellent for sidewalls (Type B between studs), and over ceilings or under rafters.



Aluminum is required for planes and other military needs. Expansion is under way, but total supply of aluminum building products is necessarily reduced. Keep checking your supplier for the products shown, and for Reynolds *Lifetime* Aluminum Nails and Flashing.

ALUMINUM

IF YOU SEE RUST YOU KNOW IT'S NOT ALUMINUM

REYNOLDS METALS

REYNOLDS *Lifetime* ALUMINUM BUILDING PRODUCTS

PEELLE MOTORSTAIRS

inspire a new concept in hotel lobby planning



Holabird & Root & Burgee, Architects
Wm. B. Tabler, Associate Architect
Robert E. McKee, General Contractor, Inc.



how the lower floors of the new Los Angeles Statler were designed to yield peak income

The main lobby of the new Statler Center was planned in accordance with the Statler policy of organizing floor space to bring in the highest possible revenue. By locating their main hotel lobby on the second level, and giving it street floor convenience with Peelle Motorstairs, the first level was made available for shops and other high-income rental space.

When hotel lobbies, main banking floors and certain other business activities are on street level floors, they needlessly occupy the most valuable space in a building. But, when Peelle Motorstairs serve a second floor operation, this street floor space is released for the production of greater revenue.

Peelle Motorstairs are supplying smooth, safe, trouble-free vertical transportation in modern buildings of many kinds in many cities. Their advanced operational concepts result in longer life and the lowest maintenance cost yet achieved in the moving stairway industry.

For further details, send for new folder PM-502.

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of **THE PEELLE COMPANY**
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as fundamental as built-in plumbing...



Leo L. Fischer, *Architect*

A good plan is always better when it includes symbols for telephone outlets.

You wouldn't think of designing a home without concealed *water pipes*. Yet without telephone raceways, there's always the chance that *telephone wires* will be exposed.

To protect the beauty of thoughtfully planned interiors, it's always wise to specify built-in telephone raceways.

Your Bell Telephone Company will be glad to help you plan economical telephone conduit installations.

Just call your nearest Business Office.

BELL TELEPHONE SYSTEM



Another of the many excellent plywood-formed architectural concrete structures along Los Angeles' famed "Miracle Mile" section of Wilshire Boulevard, the Carnation Company's new Western headquarters building is 10 stories tall. Adjacent to the larger building is a two story building which contains an employee cafeteria and sales and display rooms for the company's dairy products. Architects on the project are Stiles Clements Associated Architects and Engineers, Los Angeles. Job Contractors: William Simpson Construction Company, Los Angeles, California.

"Plywood Forms Permit Finish Surface To Be Cast With Structure"

Say Architects of New Carnation Company Western Headquarters

PLYFORM CONCRETE FORM panels were specified on the new Carnation Company Western headquarters building by Stiles Clements Associated Architects and Engineers for "smooth fin-free concrete, ease of handling and overall job economy.

"Plywood offered the simplest and most direct medium for obtaining the smooth architectural concrete," explain the architects, "because plywood permitted an even-textured monolithic surface and the structure itself to be cast in one operation."

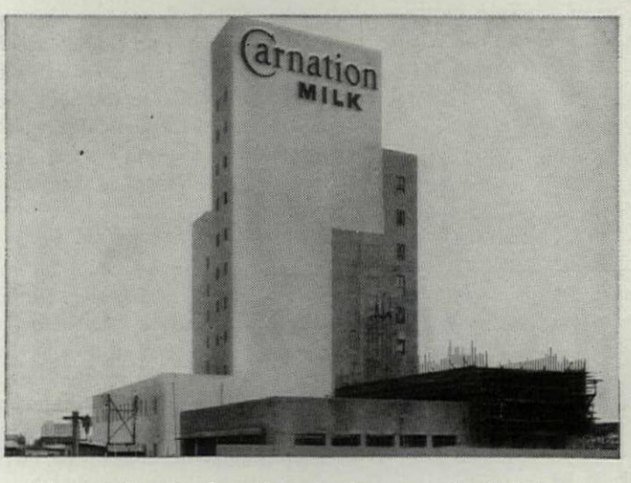
One more example of this fact: office building, factory, warehouse or bridge—architectural concrete or construction project—Douglas fir plywood creates smooth, fin-free concrete . . . affords economy through time and labor savings, simplified form construction and low cost per use.

Douglas Fir

Plywood

AMERICA'S

Contractors Report Time and Labor Savings With Plywood Form Panels



Construction view shows forms in place on smaller building as larger structure is painted. Smooth, plywood-formed walls required a minimum of finishing before being given two coats of oil paint. "Use of plywood forms provided many savings in application time and construction costs," report the contractors, William Simpson Construction Co. "On the job, plywood's performance was entirely satisfactory in every way. We have used the material for many years and, in our opinion, nothing else equals plywood for concrete form work."



Forms were built by placing ⅝"-thick PlyForm panels across 2"x4" studding, backed by double 2"x4" wales. Forms were built-up in 16-foot long sections which were stripped and re-erected as pouring progressed. The plywood forms were re-used to job completion with an average of from 6 to 8 re-uses obtained from each of the panels.



Large, Light, Strong Real Wood Panels

For additional data on Douglas fir plywood for concrete form work, write (USA only): Douglas Fir Plywood Association, Tacoma 2, Washington. Of particular interest are two booklets: "Concrete Forms of Douglas Fir Plywood" and "Handling PlyForm".

BUSIEST BUILDING MATERIAL

For Smooth, Fin-Free Concrete Surfaces...

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Concrete Form Panels

GENUINE
DOUGLAS FIR PLYWOOD
PLYFORM
CONCRETE FORM PANEL
INTERIOR-TYPE GRADE B-B
D.F.P.A. INSPECTED

Smooth, fin-free surfaces . . . ease of handling . . . strength, rigidity, tightness . . . superior nail holding qualities . . . cost-cutting re-use factors —these are primary advantages of Plyform®. Highly moisture-resistant glues used in PlyForm panels permit multiple re-use (as many as 10 to 15 are not unusual). For the greatest possible panel re-use, however, specify Exterior-type EXT-DFPA® Concrete Form grade of Douglas fir plywood—bonded with completely waterproof phenolic resin adhesive. For special architectural concrete, requiring the finest possible finish, the architect or contractor may specify Exterior-type or Interior-type Douglas fir plywood in grades having "A" face veneer—or one of the new plastic-surfaced panels.



Yours for $1

New Keely PlyForm calculator gives construction data for plywood forms, based on hourly rate of pour. Complete with leaflet, "Design Assumptions for New Keely Calculator." Send coupon now!

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TACOMA 2, WASHINGTON (Good in USA only)

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THE MYSTERIES & REALITIES OF THE SITE.
By Richard Neutra. Morgan & Morgan. 64 pp. 8 x 10¼". Illus. $3.75.

This beautiful little book is just in time for the season when we renew our awareness of sun, wind, water and land. The northerner is beginning his summertime explosion from city cubicles; the southerner, his annual retreat from the violence of the sun. In either condition, the reader is likely to be receptive to this great architect's feeling for the relation of indoors to out, and, perhaps, especially so if confined in the 90% of modern buildings which ignore this relationship.

Bullies of the landscape

Primitive man, who appeased the 'spirits of the place' before he started to build, was no fool, Neutra says. His worship of natural fact and geography seems downright astute compared to "our land developers and subdividers in bowler hats who, followed by surveying parties with transits and measuring tape, wade through the brush and over the hills, cut the trees, excavate the good earth, bulldoze and bully the landscape, victimize it to the rectangularity of a gridiron, while generally blowing up the natural habitat of bird and beast to get so many 50′ lots on the market.

"Little money is budgeted for planning and design and a mere minimum for the cheapest, straightest line of engineering. Bulldozings and pavings and painfully silhouetted powerlines, with rugged poles topped by sheet metal transformer cans, soon eat into the dream of a site.

"It is a dream finally ravished by a shrill alarm clock that signals the dawn of the day of opening —the opening of the subdivision. When the selling starts, the nymphs and spirits have long since fled — vanished like shadows before the steam rollers of glaring monotony. Insult is heaped on injury when such man-made monotony is now 'relieved' by man-made horrors of variety and the speculative builder camouflages his twenty-five dollars worth of floor-plan with a diversity of three or four FHA insured fronts, or synthetic variations of asphalt shingle colors."

Even the animals, Neutra says, adjust themselves to their natural environment. Only man seems to have a "tendency to explode it; to contaminate it with everything from foul fumes and industrially polluted offal to gamma rays."

Like ships at sea

Neutra eloquently conveys his own highly developed feeling for the natural circumstances which must always surround man's building, and the fine phtographs of his houses by Julius Shulman should help any architect to renew his sensitivity to these timeless matters. Neutra also reminds us that the designer's imagination must be stirred not merely by the big, dramatic challenges, but also by the tedious limitations of a 50′-wide city lot. Not all of us can build a house riding on the desert "like a ship at sea." But we can all profit by the suggestion, for example, that "even if there is not one shred of view, a silky translucid glass pane with a judiciously planted vine outside, silhouetted against it, may yield pleasure in daytime and at night, when endowed with a glow of faint illumination. A street lamp with its ugly glare may be turned into a subtle site asset when its light is filtered through that sort of window glass."

The reward of this care is not "view" or "breeze" or "solar heat" or "privacy." It is human happiness. "The most profound experiences of happiness and love are sparked in brief fractions of time. The brief second when we open a door into the scented air of early spring, or look out of our window into early morning, may count in a deep sense for our lasting exhilaration."—L.C.

(Continued on page 96)

Give Them HEAT in a HURRY!



WITH *Humphrey*

GAS UNIT HEATERS

AGA AND UL APPROVED


REQUIRES NO FLOOR SPACE


NO FUEL STORAGE


NO BOILER


NO STEAM LINES

You can install Humphrey Gas Unit Heaters fast, using a minimum of critical, hard-to-get materials. Humphrey Unit Heaters cut maintenance and fuel costs, too.

Only Humphrey has the Free Flow Heat Exchanger that eliminates all tubes — never needs cleaning.
Only Humphrey has the Super-Combustion Burner with stainless steel, dual flame burner tips.
And only Humphrey has the tilting louver assembly that directs heat flow exactly where you want it.

Positive safety controls, including limit control against overheating.

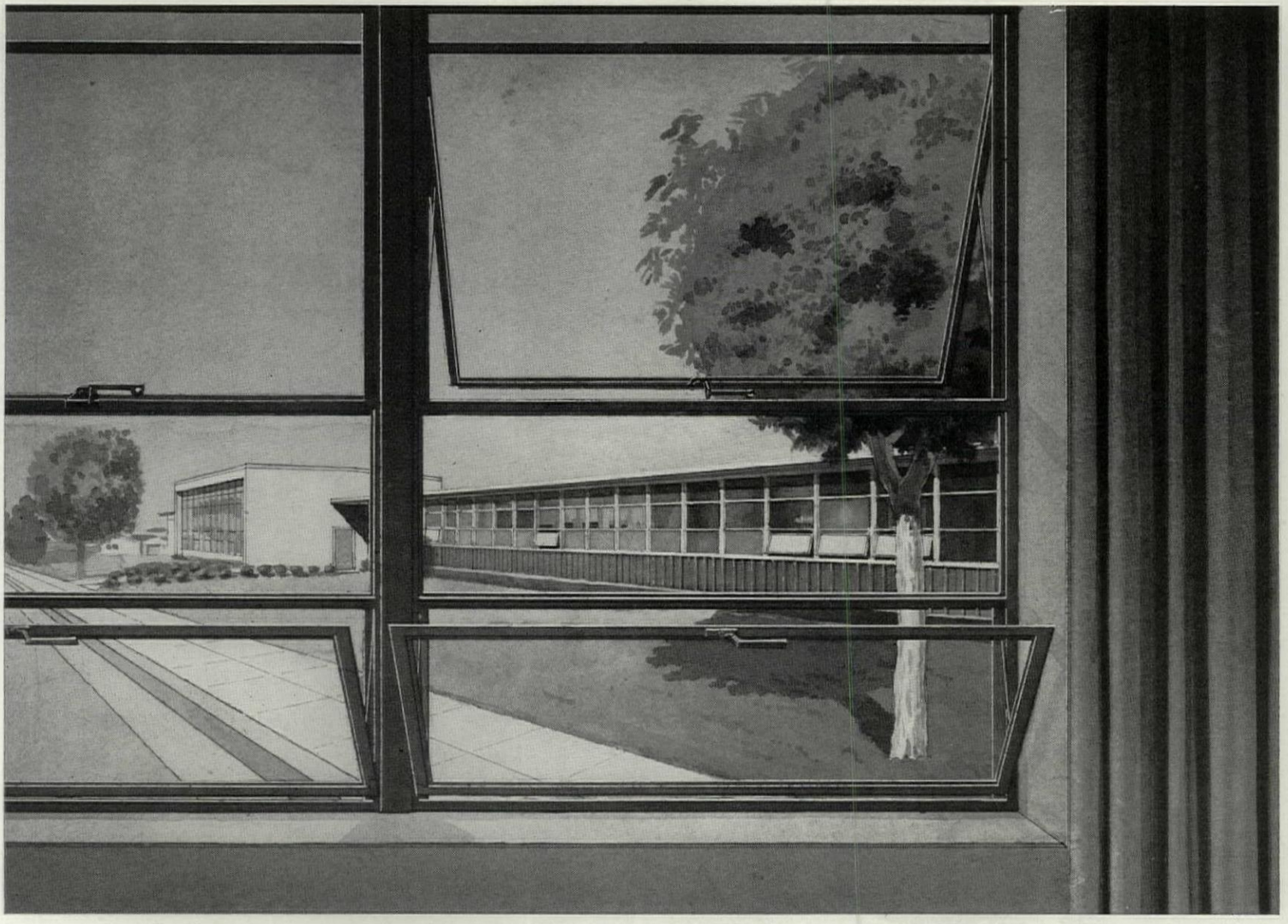
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Lupton Architectural Projected Window Installation in the South San Francisco Primary School, San Francisco, Calif. Architects: Bamberger and Reid. Builder: Gaspard and Henderson Construction Co.

Everybody's happy with these Lupton Metal Windows!

Teachers like the uniform, all-weather ventilation control — simply designed easy to operate hardware.

Pupils like the slim frames and muntins that let in all the light and view—the more cheerful classrooms.

Architects like Lupton Metal Windows because they are a quality product, precision built and backed by a leader in the field, with 40 years experience.

Builders like their speedy installation through uniformity and strong construction.

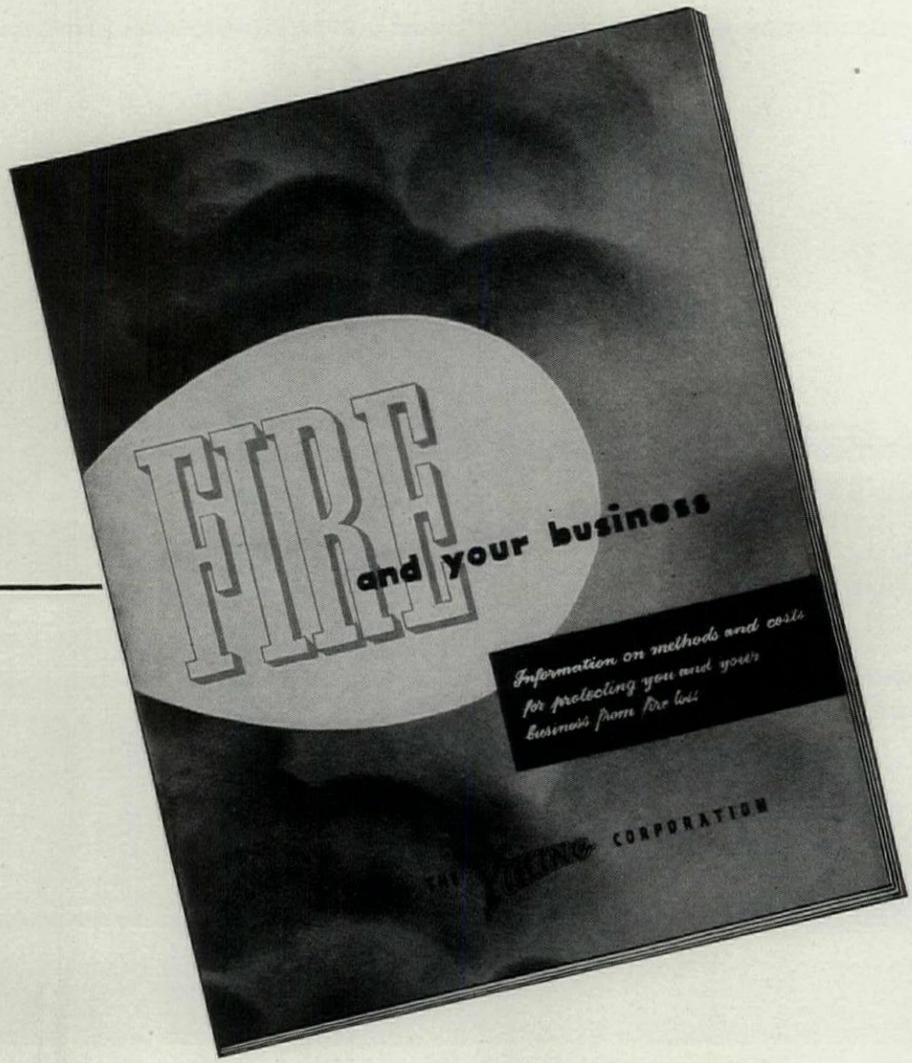
School boards like the long life of Lupton Metal Windows and their easy maintenance — they will not shrink, swell, warp or rattle.

Write for our General Catalog—or see it in Sweet's.

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700 East Godfrey Avenue, Philadelphia 24, Penna.
Member of the Metal Window Institute

LUPTON METAL WINDOWS

this book can help you answer an important question



Whenever you design a building there is one question you always consider: Is this building and its contents adequately protected from fire?

"Fire and Your Business" can help you answer this important question. It shows you how, and why a Viking Sprinkler can make your buildings infinitely safer from fire loss. In addition it shows how new Viking developments have eliminated the penalties formerly inflicted on interior design by sprinkler systems — maintaining the beauty and symmetry of the most care-designed interior. "Fire and Your Business" gives you valuable information on all types of sprinkler systems and their application. It will show you how well equipped Viking engineers, strategically located throughout the country, are available to work with you and follow thru to make properly engineered installations quickly and economically.

And remember this important point: Your clients will appreciate your far-sightedness when you show them how your Viking equipped building cuts fire protection costs as much as fifty to ninety per cent.

All Viking Devices approved by Underwriters' Laboratories and Factory Mutual Laboratories.

To receive your copy write today.

DON'T GAMBLE WITH FIRE — THE ODDS ARE AGAINST YOU!

the Viking corporation

HASTINGS, MICHIGAN

OFFICES IN PRINCIPAL CITIES



Her tomorrows are brighter today

Mrs. David Howard, a polio victim, was told she might never walk again. Today, after five months in New York's new Institute of Physical Medicine and Rehabilitation she is home—keeps house, cooks—even hopes shortly to drive a car. Mrs. Howard's recovery is typical of many now being effected by the special training and equipment used in this great institute to bring new hope to the handicapped.

Edwards is proud of its small part in that rehabilitation. For Edwards strengthens the vital link between patient and nurse through their new "soft-speaking" Nurses' Call System. Alert, dependable, trouble-free, this system is one of the many Edwards installations that today spell greater safety and comfort in institutions everywhere.



Safety Always Within Reach! . . . Simple, easy, almost effortless. The touch of a finger summons help. And thanks to 3-level Volume Control her softest whisper can be heard.

Whatever your problem in electric signaling, communication or fire protection . . . for hospital, school, business or industry . . . Edwards can help you solve it. Write to Dept. **B-6**, Edwards Company, Inc., Norwalk, Conn.



Sight and Sound for Double Protection . . . A light flashes . . . the patient speaks. Nurse answers, learns patient's needs without going to bedside. Saves steps, time, needless effort.

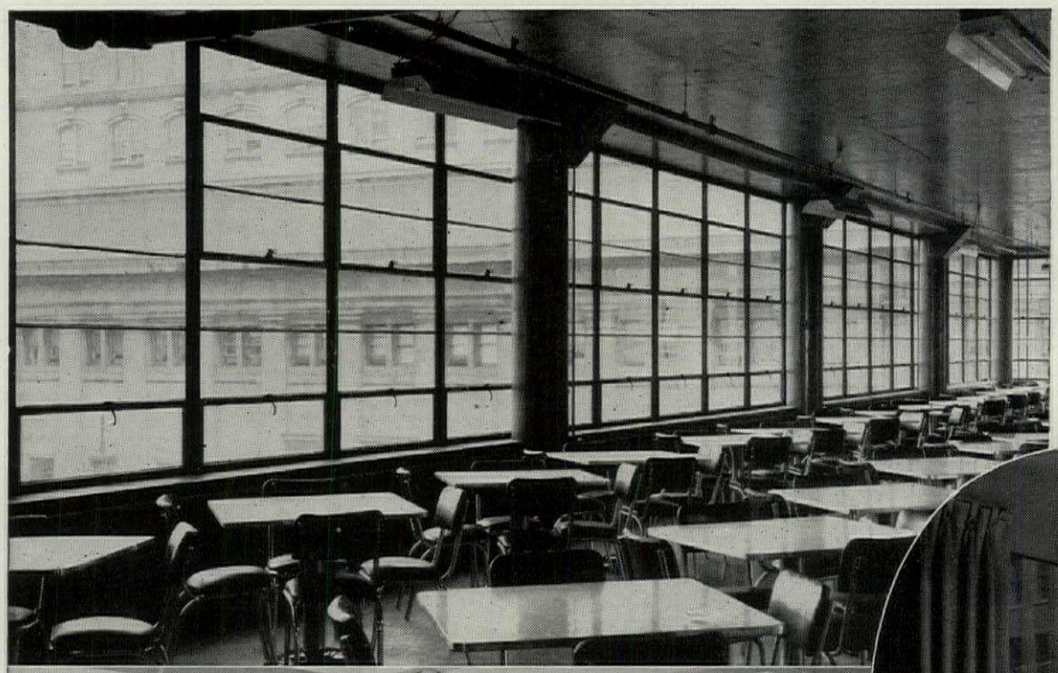


A Triumph of Architectural Planning . . . The new Institute of Physical Medicine and Rehabilitation, the first completed unit of the vast New York University-Bellevue Medical Center in New York, is devoted exclusively to helping the handicapped. Skidmore, Owings and Merrill, the architects for this great institute, specified "Edwards" for the Fire Alarm as well as the Nurses' Call System. The dependability, long-life and trouble-free operation of Edwards equipment was a vital factor in their choice.

EDWARDS

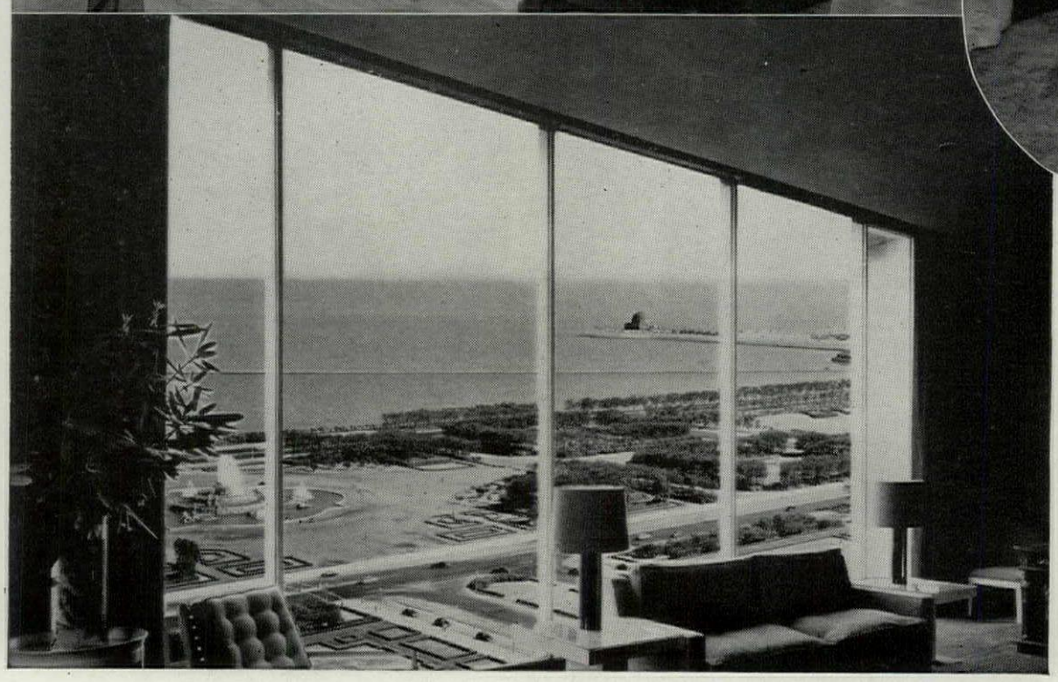
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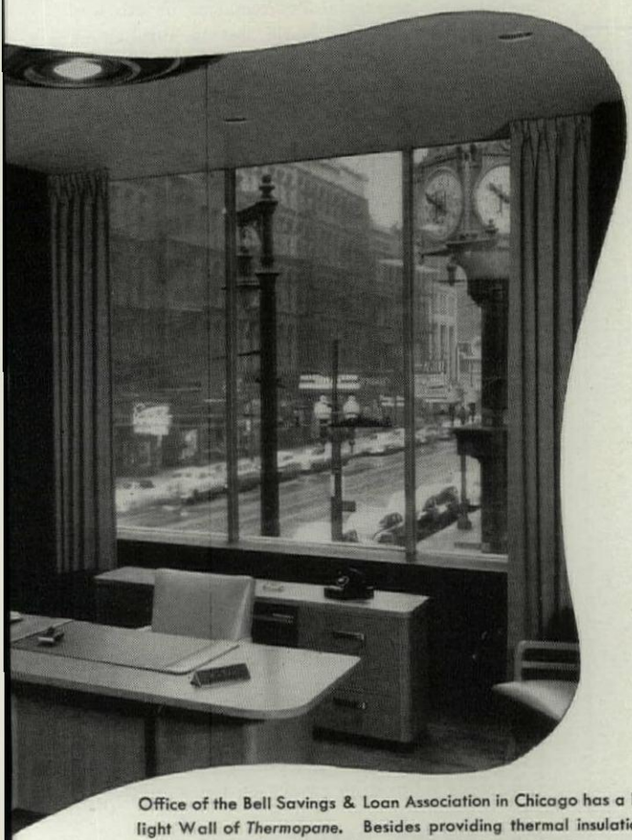


(Top) Restaurant in the Florsheim Building, Chicago, designed by Shaw, Metz & Dolio.

(Center) Barrington (Ill.) Consolidated High School, designed by Perkins & Will.

(Left) Lucien Lelong, Inc., Chicago, designed by Loebl, Schlossman & Bennett.

each design... FREEDOM



Office of the Bell Savings & Loan Association in Chicago has a Daylight Wall of *Thermopane*. Besides providing thermal insulation, it muffles traffic din. Designed by Johnson & Johnson Engineers.

An office, a restaurant in a factory, the salon of a perfume manufacturer, a high school classroom—they all have this in common: they enclose people.

But people don't like to *feel* enclosed. They like the freedom of wide-open space. So in each building shown here, the architects have created a sense of spaciousness by using Daylight Walls, clear flat glass from wall to wall and all the way to the ceiling. Clear glass does not obscure vision, and the plane of the ceiling is not broken by any optical barrier, as it would be by a nontransparent header between the glass and the ceiling. Daylight Walls make rooms seem larger because the distant view becomes a continuation of the room.

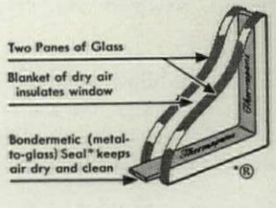
You should also take into account the value of maximum natural daylight and the fact that Daylight Walls can save floor space. If they are built of *Thermopane** insulating glass, eliminating chilliness and downdrafts near the glass, you may seat people more comfortably near the windows. Where floor space is costly, you effect important savings by greater use of the space adjacent to windows.

Aside from the psychological advantages of Daylight Walls, there are structural economies. Glass requires no interior finishing. Comparatively, it is lightweight and quickly installed. Just on a cash basis, compare a wall of clear, flat glass with a wall of any other material and you will see that today's economics are in its favor. Then add the pleasures of view, sunshine and plenty of light and you'll see why Daylight Walls are so much in people's favor!

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LOF GLASS

DAYLIGHT WALLS
THAT DON'T OBSCURE VISION
THERMOPANE • PLATE GLASS • WINDOW GLASS

INTERRACIAL HOUSING. By Morton Deutsch and Mary Evans Collins. University of Minnesota Press, Minneapolis, Minn. 173 pp. 6 x 9¼. $3.

On the theory that "research can do much to outmode prejudice," Marshall Field has subsidized this provocative study of racial segregation in housing. Comparing two New York City low-rent public housing projects where Negroes and Whites are next door neighbors with two similar ones in Newark in which they are assigned to separate buildings or areas, Authors Deutsch and Collins, of New York University's Research Center for Human Relations, find marked differences in racial attitudes. After 600 interviews with housewives in all four developments, they conclude that New York's integrated project has:

1. Many more instances of friendly, neighborly contacts between races;
2. A social atmosphere more favorable to friendly interracial associations;
3. A more closely knit project community in general;
4. Far more favorable attitudes toward the Negro people, both in and out of the project.

The inference is clear, though beclouded by professional jargon and hedged by the usual reservations resulting from social research in real life settings: the policy of complete non-segregation went much further in reducing prejudice and creating harmonious intergroup relations than Newark's half-way, partial measures. Obviously, the writers concede, in areas of great hostility to interracial communities, North and South, these findings could not be duplicated. But in many other places, they fully expect they could. So convinced was Newark by the evidence of this survey that in November, 1950, it reversed itself, decided to allocate apartments in its public projects according to need, regardless of race or color.—RKB

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SCHOOL PLANNING. The Architectural Record of a Decade. Compiled by Kenneth Reid, AIA. Published by F. W. Dodge Corp., New York; 456 pp.; 8½" x 11½" ; illus.; Price $8.

Ten years' tear sheets of the *Architectural Record*, including some interesting material but mainly proving that a magazine doesn't become a book through ten years' storage. The offset reproduction was made directly from the magazine pages.

LANDSCAPE ARCHITECTURE. By the Department of Landscape Architecture, Graduate School of Design, Harvard University, Cambridge, Mass. Edited by Lester Collins and Thomas Gillespie. 74 pp. 8½" x 11". Illus. $2.

Designs and photographs of contemporary work by Harvard students, graduates and instructors plus some interesting essays on the subject.

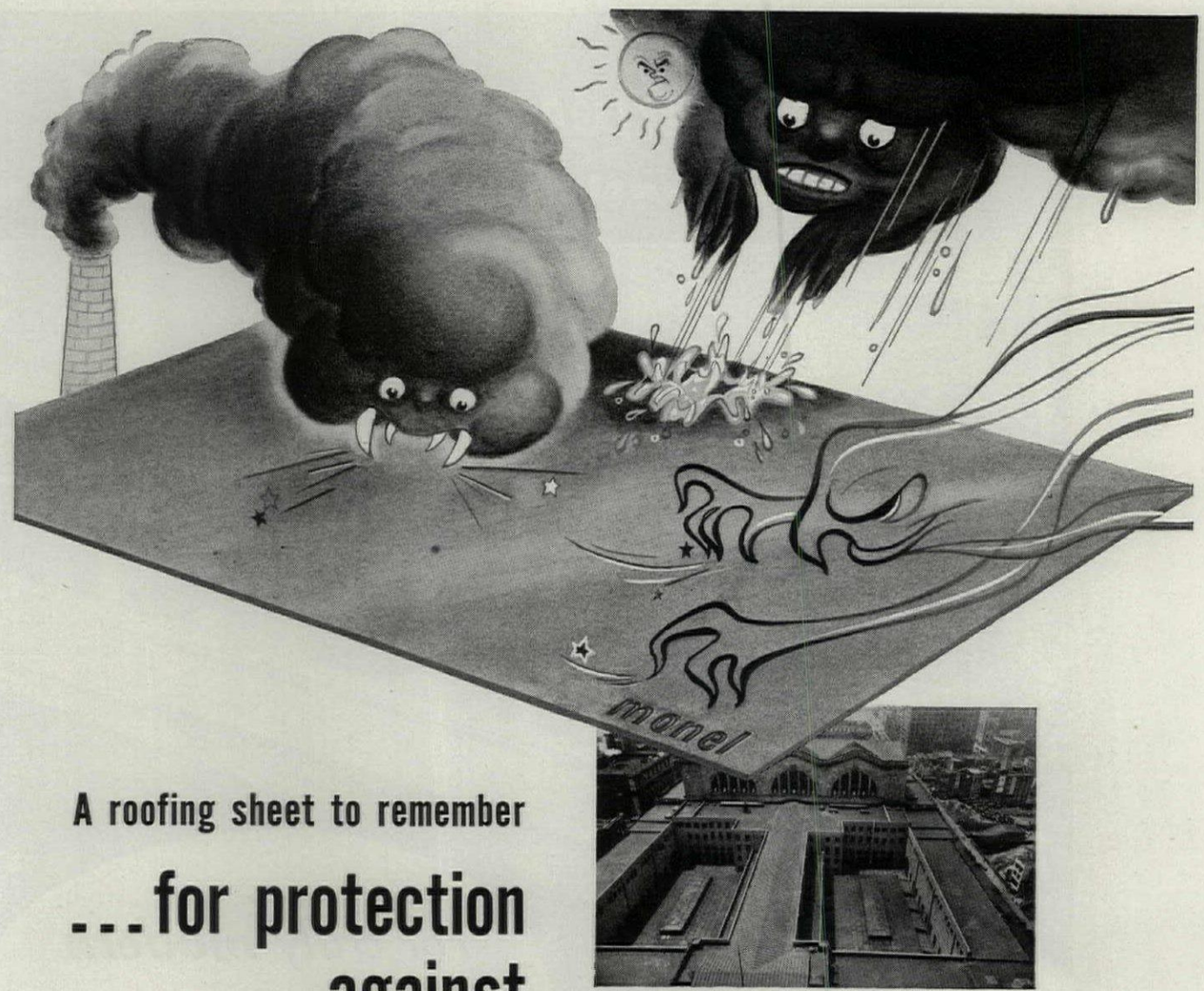
CIVIL DEFENSE MANUAL. By Commerce and Industry Assn. of New York City, 233 Broadway. Three pamphlets, each approx. 28 pp., 6" x 9". 15 cents.

Outlines of procedure for establishing control organizations in apartment, office and industrial or loft buildings, respectively, prepared by the Association's Property Owners Committee (comprised of New York City's top realty management executives) in accordance with the instructions and planning of New York City's Office of Civil Defense.

ELEMENTS OF INTERIOR DESIGN AND DECORATION. By Sherrill Whiton. J. B. Lippincott Co., 521 Fifth Ave., New York City. 811 pp. 6" x 9". Illus. $7.50.

A text book by the director of the New York School of Interior Design for the student and practitioner of this art in its traditional form—of little interest to the designer of contemporary interiors.

(Continued on page 100)



A roofing sheet to remember

...for protection against corrosion!

41 YEARS YOUNG. This batten type Monel roof on New York's Pennsylvania Station covers an area of 300,000 square feet. Installed in 1910, it gives every evidence of lasting for the rest of this century.

Here's a roofing sheet proved by time and severe conditions . . . Monel®.

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Monel can't rust, and it stubbornly resists corrosion by acids, alkalis and salts. This not only explains why Monel roofing lasts so long, but also why it needs so little maintenance.

At the moment—because of the demand for nickel and nickel alloys in the defense program — the use of Monel for building applications is prohibited by Government order.

But the time will come again when there is enough Monel available for normal roofing needs! Meanwhile, let INCO help you in planning for the future. Call on our Architectural Section for the latest technical information and literature. No obligation, of course.

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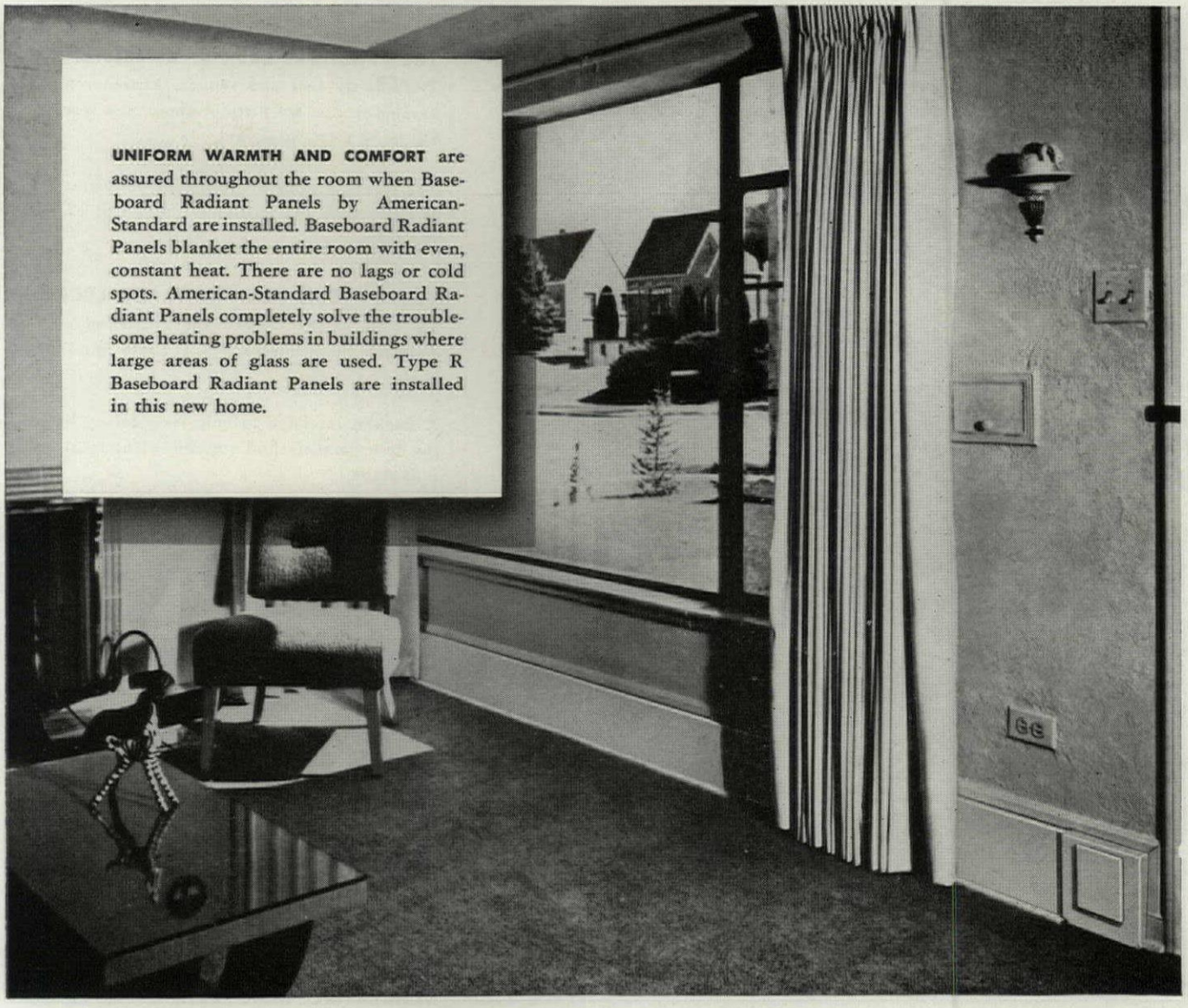
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SMARTLY STYLED BASEBOARD RADIANT PANELS by American-Standard lend themselves perfectly to the modern trend of functional design. The smoothly finished cast iron panels take the place of ordinary wood baseboard and become an integral part of the room construction. In this installation, Type RC Baseboard Radiant Panels by American-Standard not only afford comfortable warmth but actually add to the decorative effect of the built-in book shelves.



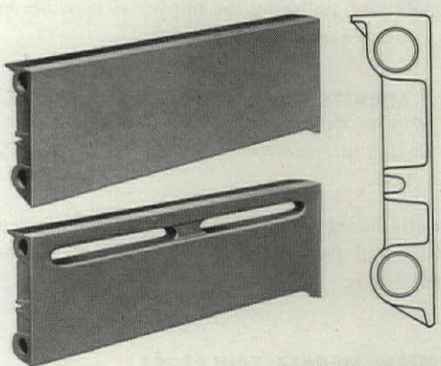
EXTENDING LESS THAN ONE INCH FROM THE WALL, these American-Standard Baseboard Radiant Panels are real space savers. Not only is the heating equipment out of the way, but the normally cold space along outside walls is comfortably heated, even in extreme weather. Baseboard Radiant Panels are easy to install in modernization jobs as well as in new construction. Shown here is a modernization job in which Type RC Baseboard Radiant Panels by American-Standard helped to convert an old garage into a beautiful, comfortable living room.



UNIFORM WARMTH AND COMFORT are assured throughout the room when Baseboard Radiant Panels by American-Standard are installed. Baseboard Radiant Panels blanket the entire room with even, constant heat. There are no lags or cold spots. American-Standard Baseboard Radiant Panels completely solve the troublesome heating problems in buildings where large areas of glass are used. Type R Baseboard Radiant Panels are installed in this new home.

CHILL-CHASING BASEBOARD RADIANT PANELS

by AMERICAN-Standard



TYPE R PANEL, offering radiant heat, has a smooth, smartly plain front. Made in one and two-foot sections. External dimensions: 8 inches high, 2 inches thick. (Same sizes as Type RC).

TYPE RC PANEL has slotted openings near the top and an array of fins in the back, permitting combined advantages of both radiant and convected heat from the same panel.

FREE LITERATURE: If you would like further information about American-Standard Baseboard Radiant Panels, contact the American-Standard sales office serving you and ask for a free copy of Form No. 736, which describes installation practice, or Form No. 773, which illustrates varied applications of Baseboard Radiant Panels in homes.

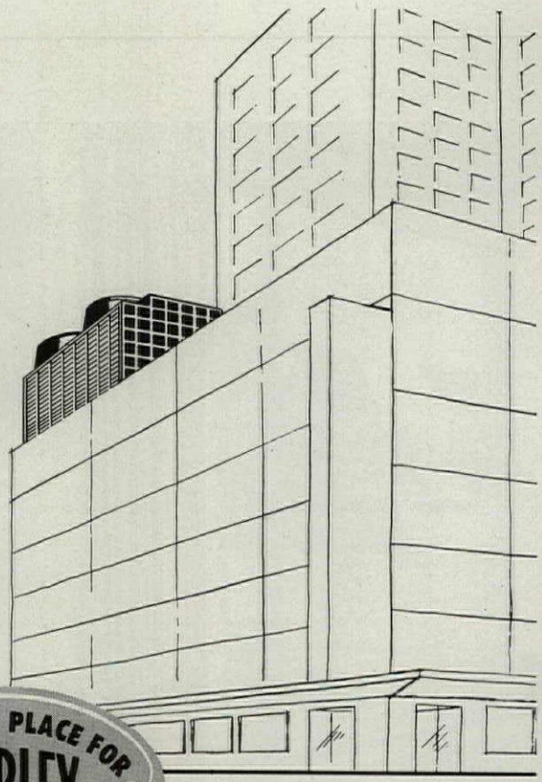
LOOK FOR THIS AMERICAN-Standard HEATING · PLUMBING MARK OF MERIT

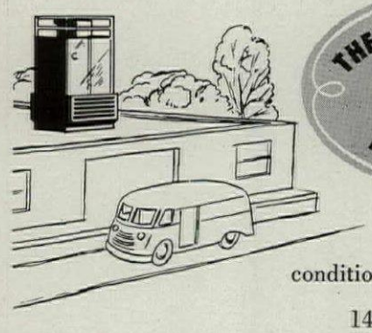
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REVIEWS

THE PRACTICAL BOOK OF AMERICAN WALLPAPER. By Lois and William Katzenbach, J. B. Lippincott Co., 521 Fifth Avenue, New York City. 142 pp. 8" x 11". Illus. $10.

The recent history of wallpaper, its manufacture and use with 141 half-tone plates and 12 actual samples.

YOURS — FOR HELP IN PLANT LOCATION. By New Jersey Department of Conservation & Economic Development, 520 E. State St., Trenton, N. J.

A booklet intended to help New Jersey by helping industrialists find suitable plant locations in that state.

THE BEHAVIOR OF ENGINEERING METALS. By H. W. Gillett. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. 395 pp. 6" x 9". $6.50.

A concentrated thesis on metallurgy and a guide for nonspecialists in the choice of metals—for engineers only.

BUILDING MODERN SWEDEN. By Bertil Hulten. Penguin Books Inc., 3300 Clipper Mill Rd., Baltimore 11, Md. 64 pp. 7" x 8¾". Illus. $1.

A quick paper-bound look at some of Sweden's architectural accomplishments of the past decade and their relation to the Swedish people and their customs.

RESIDENTIAL REAL ESTATE IN CANADA. By O. J. Firestone. University of Toronto Press, Toronto 5, Ontario, Canada. 514 pp. 6½" x 9½". $5.

Sponsored by Canada's Central Mortgage & Housing Corp., this big book is a technical report packed with statistics, tables and charts detailing the housing supply and demand in Canada and analyzing the impact of housing on the country's economy.

THE ARCHITECTURE OF ANCIENT GREECE. By William Bell Dinsmoor. B. T. Batsford Ltd., 122 E. 55th St., New York 22, N. Y. 424 pp. 6" x 9". Illus. $6.75.

A well-illustrated text book and history for the scholar and devotee of Doric, Ionic and Corinthian details.

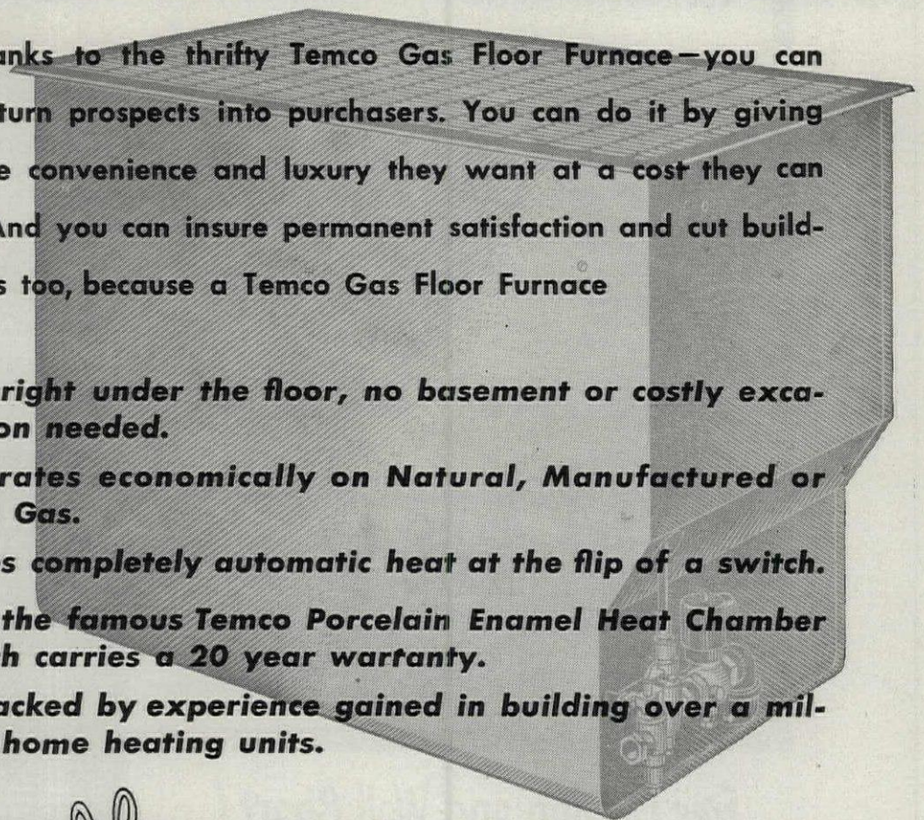
ARCHAIC MARBLE SCULPTURE. By Humfry Payne and Gerard Mackworth-Young. William Morrow & Co., Inc., 425 Fourth Ave., New York 16, N. Y. 230 pp. 10" x 13". Illus. $15.

A photographic catalogue for archeology students and those interested in the art of ancient Greece. 470 excellent photographs.



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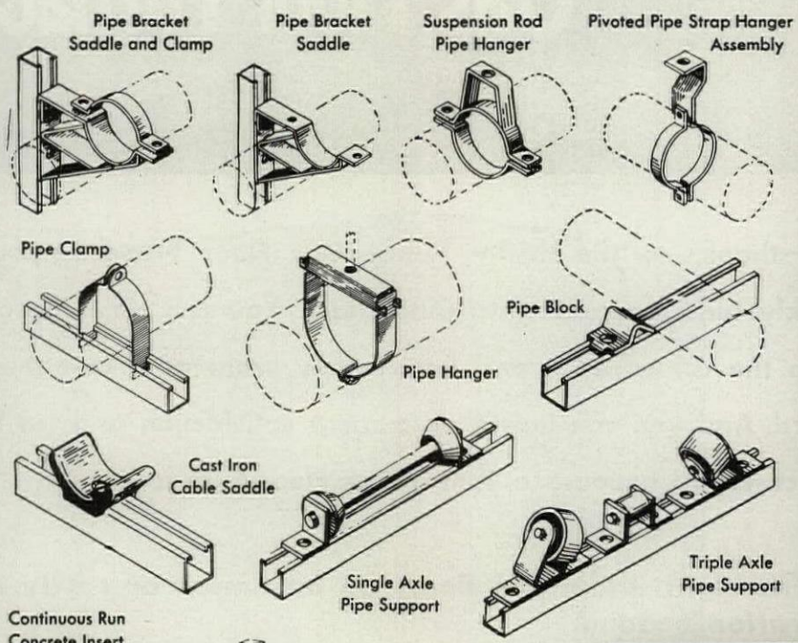
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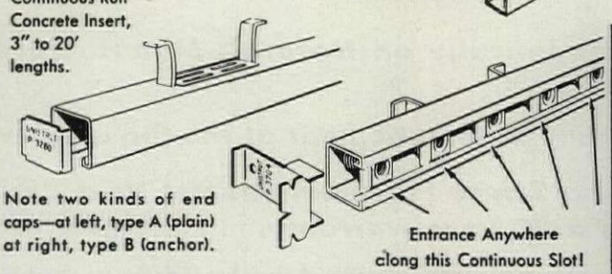
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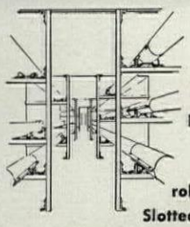
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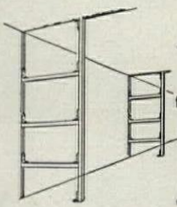


Note two kinds of end caps—at left, type A (plain) at right, type B (anchor).

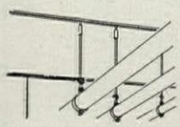
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Typical piping installation supported by Unistrut framework, concrete inserts and roller pipe supports. Slotted Unistrut channel permits attachment of fittings at any point desired.



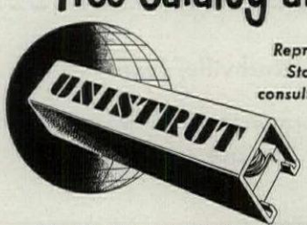
Tunnel job showing how Unistrut continuous run concrete inserts may be installed vertically or horizontally or at any angle required. Attachments made anywhere along slotted channel without disturbing existing connections.



Here are Unistrut continuous run concrete inserts in ceiling, and Unistrut hangers clamped to suspended pipes. For racking heavy overhead pipe runs, Unistrut trapeze assemblies (not illustrated) are ideal.



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ROUND TABLE REPORT:

The Worst Mortgage Crisis Since 1932

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DOUGLAS MEREDITH
Executive Vice President, National Life Insurance Co., Vermont, Chairman of Committee on Housing & Mortgages, Life Insurance Assn. of America.

CHARLES VAN ANDEN
Vice President in Charge of Real Estate and Mortgage Loans, New York Life Insurance Co.

MILFORD A. VIESER
Vice President, Mutual Benefit Life Insurance Co.

OLIVER M. WHIPPLE
Financial Vice President, Mutual Life Insurance Co.

for the Savings Banks

CARL G. FREESE
President, National Association of Mutual Savings Banks

ROBERT MORGAN
Vice President and Treasurer, The Boston Five Cents Savings Bank

HARRY HELD
Vice President in Charge of Mortgages, Bowery Savings Bank

for the Commercial Banks

HARRY BAYER
Vice President, Irving Trust Co. (Mortgage & Real Estate Division)

WILLIAM A. MARCUS
Executive Vice President, American Trust Co., representing American Bankers Assn.

for the Mortgage Bankers

JOHN F. AUSTIN, JR.
President, T. J. Bettes Co.

WILLIAM A. CLARKE
President, Clarke Mortgage Co. Consultant to the Office of Real Estate Credit, Board of Governors of The Federal Reserve System

JACK HALPERIN
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SAMUEL E. NEEL
Counsel, Mortgage Bankers Assn.

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EMIL A. GALLMAN
Executive Vice President, New Jersey Savings & Loan League

M. K. M. MURPHY
Past President, U. S. Savings & Loan League

for the Builders

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Past President, National Association of Home Builders

NATHAN MANILOW
Chairman of the Mortgage Committee and Treasurer, National Association of Home Builders

JOSEPH MEYERHOFF
Past President, National Association of Home Builders

EARL SMITH
Executive Committee, National Association of Home Builders

MARK TAPER
President, Biltmore Homes, Los Angeles

Others

MILES COLEAN
Economist

MALCOLM LEES
Assistant Vice President, First Boston Corp.

JOSEPH SALAMONE
General Manager of Sales, American Radiator-Standard Sanitary Corp., representing Producers Council.

Presiding

P. I. PRENTICE
Editor and Publisher of THE MAGAZINE OF BUILDING.

For the first time ever, the mortgage crisis has led to a full and highly informative exchange of views between the chosen representatives of the home building industry and a carefully selected group of the most thoughtful and influential executives responsible for the mortgage policies and operations of the savings banks, the commercial banks, the insurance companies, the mortgage bankers, and the savings and loan associations.

These discussions took place June 4 and 5 at a two-day Round Table sponsored by THE MAGAZINE OF BUILDING.

Because the issues are so pressing and so controversial, and because so many long-term considerations must influence any solution of the immediate crisis, it was not possible in two days to formulate unanimous agreement on every point. The Round Table did reach substantial and significant unanimity on the nature and seriousness of the problem which must be faced. It agreed on the lines along which the solutions must be worked out. And, finally, it agreed to reconvene early in July to draft specific recommendations, both long-term and short-term.

What follows is a preliminary report which does not necessarily reflect the views of every Round Table member on every point.

THE ROUND TABLE CONCLUSIONS:

The worst mortgage money shortage since 1932 has struck the home building industry.

Almost overnight the flood of money disappeared which as late as February was pouring into FHA and VA loans. In 38 of the 48 states it is now almost impossible to get commitments for 4% VA loans and very difficult indeed to get commitments for 4¼% FHA mortgages. Many of the biggest lenders have withdrawn completely from the market and indicated they will make no more commitments for these loans before February, 1952.

This mortgage crisis hit home building just when the industry was beginning to feel the full effects of the consumer credit curbs imposed by Regulation X last fall. The double impact, many of us believe, may soon cut home building starts to an annual rate of not more than 500,000. *This would be only 35% of last year's peak, whereas the soft goods industries confidently expect to end 1951 running well ahead of the new high they set in 1950, and even the great metal consuming industries like automotive expect not more than a 35% cut-back from their all-time high.*

Should home building be cut to a 500,000 rate, the industry would have the un-

happy distinction of being cut-back nearly twice as hard as any other industry and nearly three times as hard as industry on the average.

Some sections of home building have been hit much harder than others. The situation is particularly serious in the South and West, where local funds have never been adequate to meet mortgage needs, and where today's heavy westward and southward population shift has stimulated a far greater demand for new housing than in sections where local money is more readily available. In recent years the South and West have been especially dependent on the flow of big Eastern money made possible by VA and FHA guarantees. Consequently, the disappearance of funds for new VA and FHA loans threatens to cut home building in these fastest-growing communities still more deeply than the 65% cut contemplated in the national average.

Agreement on Problem

The reasons for the sudden crisis in VA and FHA mortgages are clear and well understood. Equally clear is the harm it is doing to the home building industry, but this has hardly been noticed at all, let alone understood, outside the home building industry itself.

Even the home builders have been too harrassed by their own financing problems to give much thought to what this disruption of their industry may cost the home-buying public. And many lenders may, perhaps, have overlooked the danger that as home building labor is thrown out of its accustomed work, and as the public finds it harder to get homes from private industry, the government will be subjected to great pressures to adopt schemes and devices which cannot fail to hurt the free economy operation of building construction and building finance—schemes and devices like the already threatened wholesale resort to direct government loans to veterans, like removing the present curbs on FNMA, or even a great increase in public housing instead of a cut.

After two days of frank and informative discussion we have reached substantial though not always unanimous agreement on the nature and magnitude of the problems which must be solved:

1 to meet the immediate crisis

2 to safeguard home building in the future against such recurring credit uncertainties as have so often disorganized it in the past

3 to provide adequate credit to finance, year in and year out, the volume of home building needed for a slow rise in the American standard of housing.

Our agreement on all these aspects of the problem is reported in some detail below.

Progress Toward Solution

We have also made substantial progress towards agreement on various steps which should be taken to meet these problems. After a few weeks' further study we plan to meet again. At this next meeting we hope to agree on specific recommendations, both short-term and long-term.

We are giving careful consideration to all the following proposals:

1 What should be done about the interest rate on VA and FHA loans?

2 What, if anything, can be done to cut the cost of servicing FHA and VA loans, in the hope of increasing the net yield to the lender without a fully equal increase in cost to the borrower? (Some institutions report considerable progress along this line.)

3 What, if anything, can be done to broaden the market for VA and FHA loans? For example, what can be done to make them more attractive to pension and other trusts and even to individual investors? One suggested means to that end would be the sale of certificates reflecting the net yield of the mortgages, backed by the same security of the Federal guarantee and paying interest semi-annually without involving the purchaser directly in any of the costly and cumbersome monthly bookkeeping and billing required of holders of the mortgages themselves.

4 What can be done to cut the senseless costs of foreclosure, which now vary from as little as $5 in Texas to as much as 10% of the mortgage in New Jersey, New York and Illinois and are now one of the more important discouragers of low cost mortgages in many states?

5 What part, if any, should an institution like the Federal National Mortgage Association (FNMA) with its access to Federal credit be allowed and expected to play in meeting crises like the present?

The Lenders' Viewpoint

The lenders among us are unanimously agreed that the mortgage crisis stems from "the greatest change in government credit policy in a generation," and that nothing less than a 4½% rate will restore VA and FHA loans to the same competitive attractiveness as when funds for these loans were plentiful last winter.

Pressed further by the builders, most of the lenders somewhat hesitantly agreed that, unless the government itself makes heavy demands for credit and unless the price of U. S. bonds continues to fall, the authorization of a 4½% rate would shortly make enough commitments available to permit a rate of 850,000 starts (i.e., as many houses as the builders now believe they could sell in the face of Regulation X.) Bases of this hesitant

assurance are: the normal assumption that no money would actually have to be paid out on these commitments for six to nine months, by which time the lenders expect to have more money available; that real savings tend to rise in terms of national emergency.

The Builders' Viewpoint

The builders among us agree that the interest rate on VA and FHA mortgages must be flexible and that VA and FHA loans must be made sufficiently attractive to compete in the money market against other types of investment like government and high-grade corporate bonds.

The builders, however, are very skeptical as to whether a ½% increase in the VA and FHA interest rates now would quickly relieve the crisis. On the contrary, they believe the situation is so bad and the money shortage so acute that a substantial increase in the interest rate would just create new difficulties without solving the present difficulty.

Furthermore, the builders all have some doubts as to the permanence of the new credit policies. They note that 1952 is an election year, and they have not forgotten what happened the last time they were persuaded to support higher interest rate ceilings. While the higher rate was still being debated, a sudden change in government credit policies flooded the money market and made the increase unnecessary. Before long, FHA loans went to a substantial premium with great profit to those who got the premium.

Instead of endorsing an immediate increase in the VA and FHA interest rate ceilings, therefore, the builders among us would all prefer, as a temporary expedient, to increase the discount at which VA and FHA loans may be sold, *even though much of this increase in discount could not be passed on to the home buyer and would have to come out of their own profits.* An increase of 4 points in the allowable discount (now fixed at 1%) could give lenders about the same increased yield as a ⅓% increase in interest rate—but it might be easier to withdraw if mortgage money became more plentiful and it might be easier politically. It would also permit realistic recognition of the hard fact that builders—and therefore home buyers—in the South and West must pay more for money than builders and home buyers in the North and East, where local funds are usually more than sufficient to meet local mortgage needs!

Any increase in mortgage interest would automatically require an increase in monthly payments. The builders among us know from long experience that every such increase in monthly cost cuts the number of qualified buyers to whom a house may be sold. Their market has already been hit so much harder than FHA and the Federal Reserve told them to anticipate, by the stiff down-payment required by Regulation X, that they may wish to urge some modification in Regulation X to compensate for the further market lost by a higher monthly payment.

Causes of the Crisis

The mortgage crisis developed overnight, and without warning, when the Treasury allowed the interest rate on long-term U. S. Bonds to rise from 2.5% to 2.75% and the Federal Reserve let the market seek its own lower level for the long-term U. S. debt which, heretofore, had been kept convertible into cash at par, or better. All through February savings banks and insurance companies had been making mortgage commitments with little concern for future increases in their available investment funds, since they were carrying out a considered and consistent program of selling some of their longest term pegged government bond holdings to buy higher interest paying mortgages backed by Federal guarantees. The new reserve policy brought this switching to an abrupt halt, for when government's fell the switch could be made only after accepting a 3 to 4-point loss instead of taking the 22/32-point profit which had long been customary. The attractiveness of the switch was further reduced because the yield on government bonds was increased one-quarter of one per cent without any corresponding increase being allowed in the yield of VA and FHA mortgages.

Every other type of investment promptly adjusted its yield to the change in the yield on the long-term U. S. debt. Within three months, the average yield on new corporate bonds rose about ½%. For example, Duke Power, which was borrowing money at 2.70 in February, offered a new bond issue in April at 3.15.

The only segment of the entire economy which was not allowed to raise its bid for money was that segment of the home building industry which is dependent on FHA and VA loans for its financing.

As a result, when lending institutions took stock the middle of March, most of them found themselves already committed nearly a year ahead for more VA and FHA loans than they could well absorb without selling any of their demonetized governments at a substantial loss. Furthermore, they found that, whereas VA and FHA loans had offered among the most attractive yields available in February, their spread above governments had been cut more than one-third and their yield was hardly as high as the yield on much less troublesome Grade A corporates.

In the second half of 1950, when mortgage debt was shooting up at the rate of $12.8 billion a year, the

insurance companies were selling governments at the rate of $2.8 billion a year; savings banks at the rate of $1.52 billion a year; and commercial banks at the rate of $7.2 billion a year—making a total sale rate of governments of $11.52 billion, or almost as much as the net increase in mortgages.

With this great source of funds from switching eliminated; with lenders already heavily committed; with the yield of all other types of bonds very substantially increased; and with VA and FHA loans alone forbidden by government action to compete for money through more attractive rates, it is clear enough why the lenders' demand for FHA and VA loans turned from a torrent into a trickle almost overnight.

Attitude of Government

It is also clear that the reasons home building has been hit so hard grew out of government policy. The mortgage crisis results directly from the government's decision to put its main reliance on credit controls rather than on direct controls (like price fixing and material allocations) to curb inflation and maintain an orderly economy in the face of the tremendous demands of rearmament and the Korean war.

Both the effort to curb inflation and the reliance on credit controls have the full support of our industry. As far back as last September at a MAGAZINE OF BUILDING Round Table, home building's leaders strongly urged such a program "even though this may mean curtailing housing more sharply than any other segment of the economy."

The members of today's Round Table unanimously re-affirm our industry's support of credit controls to curb inflation and maintain an orderly economy—but still we believe there are limits to the sacrifice any one industry should be called upon to make in support of that policy when other industries are making little, if any, sacrifice. We further question whether a program designed to preserve order throughout the economy should be allowed to threaten complete disorder in any one industry—especially an industry as important as home building.

No responsible government official has made any public statement which could support the belief it is now government policy to cut home building back to 500,000 starts a year. On the contrary, within the past month the Federal Reserve Board Chairman has predicted 1,200,000 housing starts in 1951. Also within the month HHFA Administrator Foley has announced 850,000 starts as the government's program for 1952 home building. We cannot believe the government would deliberately undertake to cut home building back to a rate below 500,00 units while its most responsible officials are talking so much higher figures. Consequently, we believe the mortgage crisis is just one of many instances where a new government policy has produced repercussions in a limited area far beyond anything contemplated or desired by those who promulgated the new policy.

No Homes without Credit

The plain fact is that credit controls are the only controls to which home building is peculiarly vulnerable, because credit is the one thing without which home building is impossible.

An earlier Round Table (THE MAGAZINE OF BUILDING, February 1951) has shown how home building could adjust itself to even a 50% cut in its supply of metals without any reduction whatsoever in the total output of homes (whereas, for example, any such cut in metals might require an almost equal cut in the output of an industry like, say, automobiles). This same Round Table indicated home building could make a similar adjustment if its labor force were sharply reduced.

But credit and home building are today inseparable. Home building requires more long-term credit than all other industries combined. Conversely, home ownership is, today, among the greatest sources of individual (as distinct from corporate) savings.

We believe government should recognize these special exigencies of the home building industry in making its plans to maintain an orderly economy. We believe government should recognize that its credit curbs have now hit home building far harder that it was ever intended that they should. Certainly it should not now discriminate against home building by making home building the only industry forbidden to raise its bid for credit in response to the higher interest rates which have prevailed on government and corporate bonds since March 3.

Furthermore, everyone should stop confusing the situation by averaging the all-time record rate last winter with the very low rate expected this fall and using this average as the basis for loose talk of 850,000 starts in 1951.

Effect on the Industry

In the past, home building has always been a "feast or famine" industry—subject to greater ups-and-downs than any other segment of the nation's economy. Within the past 20 years its volume has ranged from a low of 93,000 homes to a high of 1,400,000 last year. The possible year-end cut to one-third of last year's vol-

ume would, therefore, be nothing new. On the contrary, these violent swings have been so frequent that they could almost be considered normal, and some of our members were at first inclined to question whether the present threat could properly be called a crisis.

Yet all of us agree that the magnitude and violence of these swings have done incalculable harm to home building in the past and if continued, will do incalculable harm in the future.

These swings have been the biggest single cause of waste, inefficiency, and high cost in home building, the biggest reason home building so long lagged behind the progress of other industries towards the economies of assembly line production. How can any industry be expected to produce a better product at lower cost if, from season to season, its labor cannot be sure whether it will be employed or not, when its suppliers cannot estimate their market within 300%, and when its capital and management have no assurance that changing credit conditions will not wipe out their sales and demand overnight?

All these uncertainties are reflected in the cost of building labor, in the price of building materials, and in the profits needed to attract enterprise and management in the housebuilding field.

Home Building—An Infant Industry

We are all agreed that, in the past five years, home building has made more progress towards efficiency and order than any other industry in America. In fact, it can almost be said that the home building industry, as we know it today, is a new industry created since World War II. Its large scale planning, its volume operations, and its assembly line methods were made possible only by the new FHA and VA financing which have now been abruptly halted by the mortgage money crisis.

We fear this exciting progress may be set back many years if another violent swing now forces the home builders to disband their organizations and seek opportunity for themselves in some other field. To say home building is a new industry is to say also that it is still, in many ways, an infant industry. And what that infant industry now needs above all is some assurance of stability, to give the forces of free enterprise competition time to bring costs down. None of us wants another sudden boom year like 1950, for no industry so overextended can hope for either efficiency or economy. But the builders among us are unanimous in declaring the industry has, as yet, hardly scratched the surface of the savings and economies that would be made possible by a stable competitive market for around 1,000,000 new homes a year.

Home Building and the Economy

Greater stability in housing is important, not only to home builders and home buyers, but to the whole U. S. economy, whose worst ups and downs have always, heretofore, been intensified by the still more violent ups and downs in home building.

The thriving home building industry of the past six years has supported the prosperity of many other industries. In fact, the new home building industry played much the same part in the boom which followed World War II that the new automotive industry played in the boom that followed World War I. Conversely, after 1929, homebuilding aggravated the depression by suffering the worst collapse of all.

1,000,000 New Homes a Year?

We cannot yet agree that a post-austerity average of 1,000,000 new homes *should* be built each year, since we have not yet agreed on ways to finance so many new homes without inflation. We do, however, agree that *the American standard of housing cannot keep pace with the rising standard of living if less than 1,000,000 new homes are built.* That figure is barely enough to keep up with population growth and replace the 40,000,000 existing homes over an 80 year span. In the 18 years since Mr. Roosevelt found "a third of the nation ill-housed" new construction has barely kept ahead of family formation, so the great majority of Americans still live in the same kind of homes as in 1933—the same kind 18 years older! From the social, if not from the economic point of view, the sooner some 10,000,000 of these sub-standard homes can be replaced the better.

The builders among us further agree they could tap a vastly increased market when, as, and if, the industry can lower its costs and prices. Even at present prices, they add, demand would have been much bigger if the artificially low rents fixed by rent control had not kept millions of favored renters out of the new house market.

A New Kind of Tenancy

We are unanimous that individual homeownership and the credit of the individual homeowner are the best way to finance home building. We recognize that most new houses must be sold to young married couples with neither the savings for big down payments nor the income for big monthly instalments, and we further realize that, in our fluid economy, many of these young people will have to buy and then sell not one but several homes as their jobs take them from town to town or their growing families and growing incomes require and permit a changing way of life.

FHA and VA financing, with their lower down payments, have made possible homeownership on a basis which one of our members calls "a new type of tenancy." And although some of us view with alarm the inflationary possibilities of such liberal credit, still most of us agree that this new type of tenancy is well suited to the realities most young couples face and may perhaps offer the only alternative to rental housing, for which, at least as far back as 1924, new construction has been virtually impossible without even more liberal financing or direct government subsidy.

In the past, home building ground to an abrupt halt whenever business was bad because, quite simply, home buyers could not or would not make the large down payment formerly required unless business was booming. The new kind of tenancy offered by FHA and VA financing should make possible much more in home building in bad times, since even then millions of families who would hesitate to make large down payments would be glad to move from old rental housing into new homes they could "buy like rent."

Along with all the other financing required by our expanding economy, it will not be easy to provide the liberal credit for a stable volume of 1,000,000 new homes each year without inviting the evils of inflation. Builders can help by getting the cost and price of housing down. Government can and must help by reducing its own credit demands to the lowest point compatable with a strong defense. Beyond that, we believe the demands for credit will be so great that new ways and policies are urgently needed to encourage bigger savings.

ROUND TABLE DISCUSSION of the mortgage crisis filled two days and 400 pages of a stenographic record. These excerpts highlight the statement of the problem and the proposals for solving it

Photos: Roy Stevens

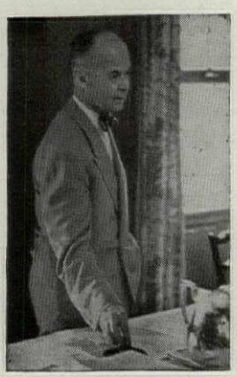


IMPACT OF THE CRISIS: The slowing pulse of home building reflects an overdose of government controls and a deficiency of mortgage money. It is putting the industry on its back

CHAIRMAN PRENTICE: The word "crisis" has two definitions, one of which is a medical definition which pertains to the point where you find out whether the patient is going to live or die. The other definition, however, seems to me the best; it is the point at which some sort of change is in order.

Miles Colean has documented the crisis which confronts the home building industry, the crisis we are here to consider.

ECONOMIST COLEAN: During the first third of 1951 the number of new private dwelling units started fell 18% below the number for the same period in 1950. As further evidence of future decline, applications for FHA insured mortgage loans on new housing were 65% less during the first four months of 1951 than during the corresponding months of 1950. There was also a sharp decline in the volume of prospective loans to be guaranteed by the Veterans Administration.



CHAIRMAN PRENTICE: On FHA and VA financing, our industry, has had its hands tied behind its back and then been told to scramble like an egg without moving.

BUILDER SMITH: We are going to run completely out of financing. There is a little carry over from last year here and there, but the bulk of home building in the southwest and the entire western areas will grind to a miserable halt within the next 60 days, unless something is done. While Regulation X is a major problem, it is not the immediate problem. I think it is certainly to be taken into consideration, but our most urgent problem is to get a "take out."

I do not know if the problem is the interest rate. I do not know the answer. But I would like to know how we are going to keep our home building industry rolling, if it is important enough to keep it rolling, particularly on the West Coast.

BUILDER COOGAN: It isn't only the Pacific Coast; it is everywhere in the U. S., except for a small stretch from Washington up to New England. It is hitting in Ohio, Detroit, Des Moines, and places that normally have money. It is particularly bad in Texas, and Louisiana, and if you take eight or nine of the 48 states out of the picture, it is nationwide. There is nothing localized about it.

BUILDER TAPER: My problem is even tougher than Earl Smith's, because I am in the southern part of California where money is even harder to get. We are builders, and we employ people. In about a week or two, we are going to have to let our key men go. We have already let go many hundreds of people. All we seek is some solution from our friends on the other side of the table whereby they will say, "we cannot buy any loans now, but we will give you a commitment," the same as FNMA did. "We will give you a commitment that we will buy those loans, six, eight, ten or twelve months from now."

Now, here is a direct, clear question. Is there anything they can do for us so that we can keep working, or are we to fold up completely?

ECONOMIST COLEAN: It is next year you are worrying about.

BUILDER SMITH: We are worrying now for next year, as well as right now.

BUILDER COOGAN: The manufacturers of materials are already beginning to pile up stuff in the warehouses. Part of the money we cannot get is tied up in inventory loans around the

country. They are going to cut back on the production of building materials. They will get into some other type of manufacturing. When we want to step up house building again, we will go through the same thing we have been through so many times.

We have been five years training our mechanics. We have just now got a skilled force back at work. It won't take six months to lose it. Any time they get into any other industry they don't come back.

BUILDER SMITH: It is going to be darned serious very shortly with unemployment, and lots of it, which the defense program is not going to be able to take up.

On the West Coast, it is very evident. It is growing by day more serious, and you know that your automotive industry is in very serious trouble as far as employment is concerned.

If we don't do something here on the private enterprise side to stimulate this thing, or give suggestions to those who control the credit, there are going to be pressure groups spearheaded by labor groups who are going to ask for something which is going to be hysterical in type, and it won't be at all what we want. It will be highly inflationary. Just as sure as I sit here, that will be the case.

HOW HEALTHY MUST HOUSEBUILDING BE?

Are 850,000 units a year too few? Are one million too many? The answers involve population growth, national defense, economic prosperity and the standard of living

ECONOMIST COLEAN: Any of us could have forecast a drop from last year's high volume of housebuilding whether we had any restrictions or not. We are coming into a period of relatively low rate of family formation due to the low birthrate in the '30s. By the same token, we are coming, a little later on, into a rate of very high family formation, so that the normal trend probably would have been for a drop this year and a continued drop of some proportions during the next four of five years. But, over a decade, I think it could well have averaged around a million dwelling units a year. With the continued level of prosperity we could probably have had a very high rate of replacement of old houses and makeshift conversions that account for such a large proportion of our total supply.

CHAIRMAN PRENTICE: That is still not providing for raising the standard of living.

ECONOMIST COLEAN: The replacement of those houses in 80 years would give you an increased standard at a slow rate.

CHAIRMAN PRENTICE: I think an average of one million homes a year, which means replacing housing at the rate of once every 80 years, is a low figure to set as an objective. I am trying to get some kind of target set up for volume and some sort of target set up for stability.

LENDER MARCUS: By and large, a million houses is what everybody around the table thinks would be tops.

BUILDER MEYERHOFF: Approximately one million, I would say.

BUILDER COOGAN: Let us accept the figure of one million.

LENDER MEREDITH: It is tantamount to saying to the automobile industry that they should produce six million automobiles a year. You are picking a high figure for the building industry which, in my opinion, is extravagant.

BUILDER COOGAN: I think somewhere around a million is reasonable, in view of the growing desire for homeownership, and the growth of ownership, and the increasing rate of change in the ownership of homes. I think we are going to have a higher level of house production, particularly if we have a continuing expanding economy, and we are certainly going to have it.



BUILDER COOGAN: There is no sense in kidding ourselves that we are running into a soft market.

BUILDER MEYERHOFF: A million housing units a year is not too much, and much below that is not enough.

BUILDER MANILOW: I predict that we are going to be on a basis of less than 500,000 units a year for the second half of 1951.

LENDER MARCUS: How did you get that replacement figure, Mr. Colean?

ECONOMIST COLEAN: You have got about 40 million houses, roughly. You have got an average rate of family formation of 500,000.

LENDER CONKLIN: 40 million houses?

LENDER MARCUS: Dwelling units. That includes apartment houses and everything.

ECONOMIST COLEAN: It includes everything. You have an average family formation rate of 500,000—that would leave you 500,000 units for replacement. Divide 500,000 into 40 million, and you get 80 years.

LENDER MORGAN: With rent control on, it is difficult to know what the new demand for new housing is.

CHAIRMAN PRENTICE: That is a very, very important point. Somebody has finally mentioned that nasty word "price." Volume is a function of price.



ECONOMIST COLEAN: I doubt very much, if we are going along with Federal budgets of $70 billion a year, that you can have a million houses a year without inflation.

BUILDER MEYERHOFF: I challenge that. The demand for housing is almost universally tied to optimism and full employment, and you cannot get away from it. The same house we had in '49 could have been sold in '50 for more than we sold it for in '49, just because people had jobs.

LENDER HELD: I think that is the whole crux of the situation. You couldn't sell houses in '39 and '40 because they didn't have the $500 or $600 to put down on a $6,500 house.

BUILDER MEYERHOFF: Shouldn't we base our discussions on a reasonable level of economy and prosperity and employment? It we don't talk about that, we have nothing to talk about.

We are assuming the level of economy which is generally prosperous. Under that type of economy a million housing units a year is not too much, and I think much below that is not enough. A million houses a year is a reasonable goal to shoot for.

LENDER MEREDITH: A million units a year to maintain the standard of living is one thing. To say, on the other hand, that we should expect a million units a year, in my opinion, is a very strong statement.

ECONOMIST COLEAN: Doug Meredith is right on that. When I say a million a year, I don't put it in terms of expectancy, or even possibility under the present circumstances. I doubt very much, if we are going to have Federal budgets of $70 billion a year, that you can have a million houses a year, except on an inflationary basis.

On the other hand, I think that is part of the job. I think the problem is the distribution of the total take in the country in such a way that you can maintain an increasing standard of living.



BUILDER SMITH: I am the typical little man. What is going on here is a debate on whether I am going to be cut down from the noose on which I am hanging with a knife or a saw.

LENDER MARCUS: No artificial barrier is strong enough to prevail against the natural laws of supply and demand.

THE LIFE BLOOD IS MORTGAGE MONEY:
but is there enough to sustain the health of housebuilding?

BUILDER MANILOW: Assuming that the future money supplied for mortgages will be based on new money, and not on this business of selling bonds and excessive bank credit, and forgetting for a moment the question of interest, could that yield a sufficient supply of money to support a million house a year mortgage program?

LENDER VAN ANDEN: There will be a considerable amount of money available for all those loans, if the rate is attractive.

LENDER MURPHY: In 1950, the savings and loan business financed approximately 935,000 homes; individuals financed 610,000. With a reasonable flow of savings, we will handle 800,000 loans this year.

ECONOMIST COLEAN: Not all new construction.

LENDER MURPHY: I am giving you some indication that there is going to be mortgage money available.

LENDER VIESER: I think under certain circumstances there will not be enough money available for 850,000 starts, because I believe that yield is not the whole answer. I believe the other part of the answer is national need.

In 1941, the life insurance companies had 20% of their assets in government bonds, but at the end of the war they had 50% so invested. The national need took preference over yield. We invested in 2½% obligations at a time when our own contractual obligations called for a 3% rate.

If the national need once more demands new defense plants, and we have to feed and clothe growing armies, and war needs are more necessary than housing, then you will not have enough mortgage money for 850,000 starts.

But if the normal prevails, I would say that we would have money enough for 800,000 starts.

LENDER MORGAN: The permanent investors in mortgages probably may also, during this coming year, look a little closer at their short-term position, and may build up their short-term position over the period of the next 18 months, in view of what has happened just within the last two months.

That, in itself, will retard or hold back some of the money that might normally have gone into this business.

BUILDER MEYERHOFF: You mean a reversal of the trend to get a bigger percentage of portfolio in mortgages.

LENDER MORGAN: Once burned a little bit, you remember that burn for quite a while.

BUILDER MANILOW: Last year we built 1,400,000 homes. We are talking now on a basis of 800,000 to 850,000. That is an automatic adjustment to reflect the downside of availability of money in itself.

LENDER NEEL: We made a survey recently to find out, roughly speaking, how many hundreds of millions of dollars the members of MBA were committed to as of May 1, '51, and we came up with approximately 40% of our membership reporting, exclusive of the life insurance companies. These are the mortgage bankers. They were committed to lend roughly $500 million as of May 1st this year. Now, it doesn't take very much arithmetic to figure out that we will not be financing 850,000 houses if that figure represents anything at all.

LENDER BAYER: Is that all house financing?

LENDER NEEL: All home loans.

ECONOMIST COLEAN: A lot of those houses were started last year.

BUILDER COOGAN: I would like to ask the bankers a question. Isn't it true that because of the war years and the lack of other investments, you had a relatively high ratio of government's to your normal investment portfolio, so if they had not gone into mortgages they would have gone into other investments anyway?

LENDER WHIPPLE: They did go into other investments during that period. A lot of money was invested in government bonds with the intention of being only a temporary sort of investment.

LENDER VIESER: In the year ending March 31 the life companies increased their mortgage loan account $3 billion and in that same period they sold $2 billion of government's.

LENDER CONKLIN: Here is the figure year by year of the net sales of government's by life insurance companies, fire and casualty companies, savings banks and savings and loan companies. For example, in 1947, they sold $1.1 billion; in 1948, $3.6 billion; in 1949, $1.1 billion; in 1950, $2.1 billion.

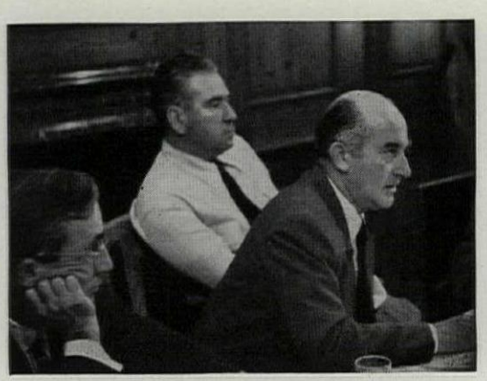
They are probably going to liquidate about $1.7 billion or $1.8 billion this year, something like that. That is the order of magnitude of disposition of government's net. If you take



LENDER MERIDITH: The real crisis is what is the future purchasing power of the dollar going to be.

LENDER MACDONALD: The mortgage man is sitting in the background and he is going to sit there until the rates straighten themselves out.

BUILDER COOGAN: We have not yet proved the need for a higher interest rate.



BUILDER TAPER: Is there anything the lenders can do for us so that we can keep working, or are we to fold up completely?

those three groups, they have savings of about $7 to $8 billion a year.

In addition to that, they have recurring income, pay-offs, and so on, which brings their income to about a level of $12 or $13 billion, so that is the amount of funds that they have each year to invest. At this level of income, that would be, more or less, a normal situation.

Now, whether or not, under normal circumstances, that would be sufficient to satisfy your needs for $7 or $8 billion will depend on what the needs of the rest of the economy are. If everybody is expanding and wants to expand more rapidly than people will save, then there will be a shortage. But I would judge that on the average, excluding periods of peak stringency, such as this, that there would certainly be available, readily available financing for a level of 850,000 to one million homes in a normal year.

If there isn't, then it will mean that there is not enough saving to go around, and the proper method is to try and stimulate people to save more. If you want to build more, and you want to finance it, then you have got to get them to save more.

One method of getting them to save more, and by no means the only one, is to have a higher interest rate. If you don't need all the funds, then interest rates will tend to go down.

If you want to sell more homes, you have got to sell the American consumer, both by making him want to buy homes by making the price attractive, and inducing him to save.

LENDER HELD: During the past five years, all of the lending institutions, life insurance, mutual savings banks, and commercial banks, increased their mortgage portfolio $29.5 billion. The savings increase in the same institutions was $34.7 billion, meaning that they put in about 85% of their total net savings, increase in savings, in mortgages during the five-year period.

LENDER CONKLIN: That's right.

LENDER LEES: We have left one point out of our thinking here. The rate of national income has been very much higher in 1950 and will be in 1951 than it was in these earlier years, '47, '48, and '49, and if the same average percentage goes into savings at this high level of national income, we have got a lot more savings to play with. . . . Just take 1950, when we did manage to keep afloat this tremendous building program. At the same time, we had the heaviest capital

industry program ever undertaken by this country too, which had to be financed.

CHAIRMAN PRENTICE: The number I am trying to get is some estimate of how much housing, you think, can be financed through existing channels and institutions.

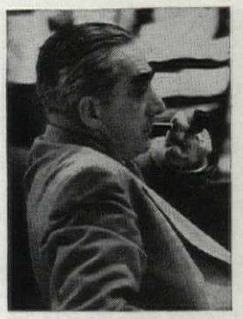
LENDER HELD: You are going to have an $80 billion mortgage debt at the end of the year.

BUILDER MANILOW: What is the annual amortization on it?

LENDER HELD: Let's say 7% of that gives you available just from that source about $5.6 billion.

BUILDER COOGAN: A reinvestment fund.

LENDER HELD: On top of that, you have earnings of savings banks, life insurance companies, commercial banks, and so forth, a certain portion of that which would go into mortgages—50 or 60%.



LENDER HELD: Are you going to wait until January to raise the interest rate and then get your commitments, or would you rather have your commitments today on a higher interest rate?

LENDER MARCUS: I hate to be discouraging but there is not going to be much sunshine as far as the commercial banks are concerned in the future, if you look at the past.

The savings in the commercial banks, the net accretion in 1945, was $6 billion. It has gone steadily downhill until it was $250 million last year. Unless there are some new savings in the country, you are not going to get much more mortgage money than you have today from the commercial banks.

LENDER FREESE: The interest rate is important to the savings banks. I think the increase in the interest rate, and the increased earnings in savings banks would be important in helping the accretion of savings. In 1950 we showed an increase in assets of just under $1 billion, and we sold about $500 million in government's, and added $1.5 billion in mortgages. In other words, the entire amount plus sales of government's—two-thirds of it was from the added savings.

We have had a rather dry period in savings, but I think that with better earnings, and increased rates (we are looking forward to possibly somewhat better rates on savings, and it will attract more savings), we are turning the corner in the savings banks, as far as growth goes.

I would say there would be mutual savings bank money available in the mortgage market.

LENDER GALLMAN: In the savings and loan business, the increase in 1950 was without any change in the government portfolio at all. In fact, the government bond portfolio increased in 1950. Our lending for the last two years has been done from funds other than those derived from the sale of government's.

LENDER VIESER: The figures that are given you don't take in the biggest source of savings, and that is where your arithmetic doesn't add up. It doesn't consider mortgages held by individuals.

ECONOMIST COLEAN: It is $2.3 billion by individuals out of a total of $16 billion. That was 1950.

LENDER MORGAN: In the New England territory, it runs about 20% by individuals.

ECONOMIST COLEAN: In addition, there is a general category of "all other" types of mortgagees—pension funds and all the rest of them, which is $2.3 billion.

LENDER CONKLIN: That's $5 billion we haven't talked about here.

ECONOMIST COLEAN: It is $5 billion out of a $16 billion total.

LENDER WHIPPLE: It would run over 30%.

LENDER VIESER: We are getting an estimate of what is available for mortgage financing, and it will go into this form of financing only if two things happen: That the need for defense and the war isn't greater than the need for housing; and secondly, that the rate will be attractive enough to induce those funds into mortgage loans as against any other form of investment. We are talking only about availability.

LENDER MacDONALD: Anybody that thinks there is going to be a great deal of money available a few months from now must think that this combatting inflation battle that the Fed have put on is going to be called off by some higher authority.

Personally, I think it is a long-range program. I think that we have got to face this thing on a basis of increased interest rates.

BUILDER COOGAN: You are all talking about this 4½% interest rates as bringing out the money. I am still under the firm impression there isn't much money to come out even at 4½%.

ECONOMIST COLEAN: Except by selling bonds.

BUILDER COOGAN: How much money do you think it will make available?

LENDER CONKLIN: Every day new bond issues are being floated and purchased at interest rates which are very realistic. We are going to make an intelligent decision as to the alternative of putting money into the bond issues or into mortgages.

BUILDER COOGAN: How much uncommitted money would you have for the balance of the year that might be attracted to mortgages at 4½%? Our problem is today. We are in trouble now. I think you fellows are trying to lead us to believe that 4½% will bring out a rush of money. I don't think there is a rush of money to come out.

LENDER MEREDITH: If you mean for immediate delivery, I don't think there is any question about that. If you mean for delivery later this year, or earlier next year, I personally believe it will bring some out.

BUILDER COOGAN: Later this year?

LENDER CONKLIN: Very definitely.

LENDER VIESER: You want money committed today for payment within six months from now.

BUILDER COOGAN: That's right; but the commitment today.

LENDER VIESER: There will be plenty of money for that, in my opinion.

CHAIRMAN PRENTICE: What do you mean by "plenty"?

LENDER VIESER: Enough for 850,000 starts.

CHAIRMAN PRENTICE: Are the building and loan people in the second half of this year going to be able to take up a substantial amount of the slack that the builders do not expect to be able to get through FHA-VA channels?

LENDER BODFISH: In all candor, I doubt it, because we will have about the same funds available to lend this year that we had last year.

Let's all get ourselves on a business basis in which the lenders are taking the risks, in which the builders are leaving more and more money in their deals, and get this whole thing out of the hands of government. That is the wholesome way.

CHAIRMAN PRENTICE: Earl Smith is here in New York not with one hat in his hand but I guess with two hats in his hand.

BUILDER SMITH: And not a damned thing in them up to this point.



LENDER FREEZE: The chances are that there should be an accretion of savings. At the present time we have about 40% in mortgages and there is room on the up side.

LENDER CONKLIN: To feel that you can avoid by some monetary means this swing up and down in building is wishful thinking.

BUILDER COOGAN: We are being pushed up from the bottom, down from the top, and in from the sides.

BUT FHA AND VA MONEY WON'T FLOW

at today's rates. All other rates are up and some lenders believe the world rate for money has begun an upward swing

LENDER VAN ANDEN: You have got to make it attractive to the institutions to put their money in mortgage loans.

LENDER CONKLIN: The market should determine what the rates are going to be. They determine it for conventional loans. Why shouldn't they determine it for the rest of the loans? There is something sacrosanct about 4% or 4½%. The lenders cannot exact any more than the supply and demand situation will allow. The supply of money goes where it can get the return. That's all.

ECONOMIST COLEAN: How much has the rate increased on conventional loans?

LENDER CONKLIN: It is very material, at least ½% and in some cases 1%.

LENDER MURPHY: I disagree with that. There has been some tightening of interest rates in the savings and loan business around the country, but not generally speaking. We don't expect the temporary hardened interest rates to remain as we believe there will be a greater inflow of savings in the last six months of 1951.

LENDER HALPERIN: What is your relative increase in bond yield?

LENDER CONKLIN: The rates on new issues coming out today is up ½% from 6 months ago. South Carolina Electric & Gas was floating a new issue. That's the bond that was sold in December at 2.95 yield, and they are now offering 3.60 to 3.63 yield.

There you have an increase in yield of 68 basic points, which is better than ½%. This is true throughout the bond picture. We can invest our money today at ½% better than we were able to invest it three, four, five months ago.

Now, so long as that persists we have to get a better rate for VA's and FHA's or the money will just not go into those channels.

The going rate in Canada before March for long-term mortgage money was 5%, and it has now gone up almost universally to 6%.

ECONOMIST COLEAN: I must say, along that line, that the mortgage authorities in Canada have, by the same token, raised the rates on their insured loans and other Government programs.

LENDER CONKLIN: An increase in the interest rate overnight will not increase by any great percentage the savings. You cannot do so immediately. You won't change the savings habits of the people today, or tomorrow, or next week; but in six months or nine months hence, it certainly will be working in that direction and will tend to increase the volume of savings.

At the present time, we have a substantial volume of savings coming in, and there will be a substantial volume of savings coming in every month during this year and next year, and that volume of savings will go into the competitive picture. It will not go into VA's or FHA's, so long as they are not competitive in price with the rest.

LENDER CLARKE: What Earl Smith wants is a commitment to take his permanent loans six months from now or eight months from now.

If that is what he wants, it is my opinion that an increase in the VA interest rate now to 4½% would immediately produce for you those commitments.

What we are talking about is the stringency of money that exists today. In other words, if you had those loans all ready, and all wrapped up in pink ribbons, and ready for delivery, you would have difficulty, at any rate, in getting the money. What you are after is something for six months from now and if you came up today with a really realistic rate, I think you could walk into Mil Vieser and get a commitment for a loan six, eight or nine months from now.

LENDER HALPERIN: I have recently sold 373 VA's at 100¾. I think there has been some improvement in the market.

LENDER VIESER: I don't think you builders should feel that there has been a complete withdrawal from the investment market. We are making investments every week. In the past two months we have not purchased many VA loans. We have purchased quite a few FHA loans, 4¼ at par. The reason we haven't made VA loans, and very few 4¼ FHA loans is that each week we are making an increasing number of 4½ to 5% conventional loans.

We are not setting the market. We are merely selecting each week that which comes up at 4½ or 5% in the market. So that unless you do go up, we cannot help you. But if you do go up, and come in with a million dollars of VA loans at 4½, you would get those commitments.

LENDERS' PRESCRIPTION NO. 1: A free and competitive interest rate for VA and FHA mortgages

LENDER CLARKE: What is the problem in relation to money? It seems to me that the great building industry is constantly subject to the supply and demand for money, over which it has no control. Something should be done to keep that great industry at least reasonably supplied with funds.

The first problem that has to be overcome in connection with mortgage money is to get away from a completely fixed rate of interest, an interest rate which has been established by law by various individuals in the government, an interest rate which has no relationship to the supply and demand for money.

We have now had five years or six years since the end of the war, and in that period we are now in the process of seeing the second occasion when GI money was practically not to be had at 4%.

The Mortgage Bankers' Association a year or two ago suggested having a fluctuating rate of interest on all government-insured mortgages, a rate which would fluctuate based upon some fundamental such as the interest rate on long-term governments or AAA corporate bonds.

ECONOMIST COLEAN: At this time, would an increase in rate on GI loans increase the supply of money for those loans?

LENDER CLARKE: No, but I think from the point of view of the long-run good of the building and mortgage loan business, we should have the rate at a point where people would be turning their minds to mortgages and looking at them as an acceptable security rather than the case in many spots in the country today, where their minds are completely turned away from them because of the more adequate rates obtained through corporate securities and other types of investment.

LENDER MORGAN: An adequate supply of mortgage money should be treated from two points of view—one quantitative and the other qualitative.

When we talk rate, we talk qualitatively and not quantitatively and some constant spread between long government and mortgage money is essential in the whole business.

LENDER CLARKE: Where the interest rate on government-insured mortgages is not competitive in the market, somebody will get the idea some of these fine days that the government ought to be doing all the mortgage lending in the country, because everybody else is frozen up. Having a fixed rate of interest might very readily lead us all into direct government lending.

We have evidences of it now, with the $150 million that the VA has for direct lending and FNMA isn't actually too far away from the matter of direct lending. The whole thing ought to be taken away from the government, and the only way you can do it, is by having an interest rate which is always acceptable in the money market.

BUILDER MANILOW: Do you assume that the interest rates on these competitive securities that you were talking about, are going to continue upward or maintain their high rate and is that the reason for the anxiety on your part for changing the interest rate now? What would happen if, by reason of the changes, we were to go to a lower interest rate instead of a higher interest rate? What would you think of your plan then with regard to dislocating our industry?

LENDER CLARKE: I believe the rates should go down and go up. There isn't the slightest reason in the world why there shouldn't be a 3½% rate, if that is the rate.

The only thing that I am suggesting is some-



LENDER CLARKE: I think everyone in the investment field has been in agreement that in some way interest rates on GI and FHA loans should do some fluctuating with the market.



LENDER MORGAN: The market price is the only true price.



LENDER VIESER: If war needs are more necessary than housing, then you will not have enough mortgage money for 850,000 starts.



LENDER BODFISH: I want to remind you that about 5/6 of the mortgage money is loaned without government guarantees at customary rates which are not affected by the government bond rate.



LENDER BAYER: I don't think we are near a life and death crisis at all, far from it. Our bank delivered about $3 million of loans to lenders within the past two months.



LENDER VAN ANDEN: You have got to make it attractive to the institutions to put their money in mortgage loans.

thing which I think is practical, that might possibly succeed in getting through Congress. If the rate were tied to something which could be recognized by all people as reflecting the market, I think that the rate would remain steady until there had been a violent fluctuation, as there has been now. If Mr. Foley, for example, on the first of April, had known exactly what had happened, it would not have been left to his discretion at all. The rate would have been changed up automatically. I would just as soon have it changed down when it is required.

BUILDER MEYERHOFF: Are you saying that if you adjust your interest rate today or tomorrow, you would have adequate money for all the financing now in the market?

LENDER CLARKE: Not currently.

BUILDER MEYERHOFF: Then, I don't think it is a valid argument.

LENDER CLARKE: It is for this reason: for the first time in a 10-yr. period or more, the monetary authorities in the government have now reached some degree of sanity; they have gone ahead and unpegged the price of government bonds and the price that the government is now paying for interest is beginning to reflect the supply and demand for money. That is the way it should have been. There never should have been any occasion when the Federal Reserve Banks were pegging the price of bonds. When you get into the position of a free economy in government bonds, then I say we must run to a free economy in mortgages.

BUILDER MANILOW: If the high rate on competitive securities were to continue and in a sense become fixed, then, obviously, the insured mortgage rates on VA and FHA would become forced and under pressure have to change. Under those conditions, I wouldn't think anybody would object.

CHAIRMAN PRENTICE: Are you raising a question as to whether the important thing isn't to be slow about making the change?

BUILDER MANILOW: The important thing is the ability to ascertain whether it is just a slight flash in the pan, a temporary money change, corrective situation, or is it more inclined to be permanent?

BUILDER COOGAN: I think that when the long-term trend in interest rates is established, you will find FHA moving with it. We butted our heads against the VA rates two years ago, trying to secure government-insured and guaranteed loans that would have the same interest rate. We ran into the term "vested right in the 4% interest rate." The veterans claim Congress gave them that. The government later on used direct loans to veterans as a further substantiation of the fact. As the law stands now, if a veteran cannot get money at 4%, he goes into the government office and says, "I cannot get it at 4:" They give it to him.

CHAIRMAN PRENTICE: Is there anybody here who doesn't think that is a hell of a note? Anytime a veteran wants an uneconomic loan, all he has to do is say, "If you don't give it to me, I will go to the government."

BUILDER COOGAN: You are getting into a big subject there. They gave the GI education. They gave him a business loan. It was one of the grants by the government to the veterans. You have got to get back to the basic reason for GI loans. Congress granted a discretionary authority to the VA to raise the rate to 4½%.

ECONOMIST COLEAN: In the law it was recognized that that rate might move.

BUILDER COOGAN: After giving discretionary power to the Veterans Administration, they went back and passed the blocking law that if they couldn't get it at 4%, the government would lend it to them.

ECONOMIST COLEAN: To get back a little into history, it is generally understood that the reason the rate wasn't raised was that the Federal Reserve Board itself persuaded the Treasury not to give its consent, after the Veterans Administration was ready, simply because the Federal Reserve Board felt that by keeping the rate low, they could cut down the business.

CHAIRMAN PRENTICE: Beyond being opposed to a change in the interest rate now, are you builders opposed to a flexible interest rate?

BUILDER COOGAN: I have consistently advocated you have to change interest rates, but you have to change them on the long-term swings, and I think it is difficult to tie them to any group of bonds.

I am opposed to a change at this time.

BUILDER TAPER: I think there is some logic to adjustable interest rates, provided a suitable vehicle could be provided that would tie an adjustable interest rate to the interest rate paid on Treasury bonds. I think the difficulties are almost insurmountable, because I think it is political. I don't think that any administration would dare raise the interest rates on millions of GI's and expect to get any votes.

CHAIRMAN PRENTICE: I think the builders have agreed that we are all reasonably free enterprisers here, and within safeguards, we are not in favor of a permanently fixed or a rigid and immutable interest rate. What we are really talking about is a question of when and how.

BUILDER COOGAN: I am very much opposed to a fluctuating interest rate. I think you would immediately have large institutions playing the cycle; that is, when the interest rate was low they would go into other types of investments, which would force up the interest rates on the governments, and we would have a tightness of money.

They would wait for the interest rates to be high, and then they would buy. It would defeat its own purpose. Under the present system of premiums and discounts we are able to take care of the minor fluctuations that occur in the mortgage market.

I think one of the things that is lost sight of in all these discussions of the VA and FHA mortgages is the effect of the FHA insurance and VA guarantee. Lenders are always talking about rates of interest, but they are talking in terms of conventional loans rather than the government's insurance and guarantee of the loans. They come under a special classification. I don't think they have ever had a chance for true evaluation because we have had a constantly increasing supply of those loans. Nobody has ever had to reach for one. Some of the New York State savings banks and some of the insurance companies did reach pretty high for some of the loans in their immediate area and created a false sense of values in some of the high premiums they paid; but I don't think the big insurance companies did at all.

The insurance or guarantee has not been evaluated. I think under Regulation X and this money stringency, as the housing is cut back and there are fewer FHA and VA loans available, we will find a true value to the investment institutions in the way they buy them.

LENDER MARCUS: There are two questions the builders bring up: 1) Is this a short-range proposition, or a long-range proposition, and 2) would a raise in the rate immediately cure the situation? I think I can answer both of these.

All through the depression years, the percentage of saved funds, whether in insurance companies, banks, or savings and loan associations, that went into mortgage investment was very small. In 1945, the savings and loan associations had 72% of their assets in mortgages; today, they have 96% of their assets in mortgages. The insurance companies had 17% in 1945, and today they have 30%. The commercial banks had 15%; they have almost 35% today.

Based on those ratios which are approaching the limits of prudent lending we must conclude that this is a long-term change. The answer to the other question is, no, the increase in the interest rate will not immediately bring out a large amount of dollars seeking mortgage investment because these dollars are already employed, but it will bring out some, and it will cure a situation that should have been cured a long while ago.

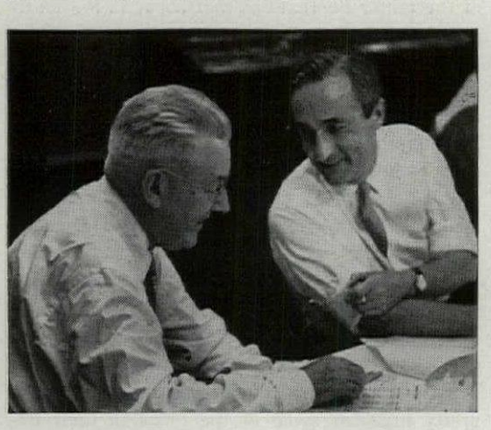
LENDER MEREDITH: You want to get money out, so take your restraints off interest rates. Give the market a chance to move freely. We are talking here about the free enterprise sys-

tem, and we are all giving it lip service. What is the harm of putting the FHA rates up to 4½ or 4¾? What is the harm in letting the GI rates go to 4½%? What is the harm of you builders getting back of that? We appreciate the politics of the thing, but if that is the remedy within the confines of our system, why don't we say so?

BUILDER COOGAN: There is a great stringency of money; money is not available, no matter what the interest rate. At the present time you could not bring any great new sources of money into the mortgage field. Isn't that an established fact?

LENDER MEREDITH: No.

CHAIRMAN PRENTICE: Consolidated Edison got its money. They raised their bid and they got it. There is some money somewhere.



LENDER GALLMAN: In the savings and loan business, the increase in 1950 was without any change in the government portfolio at all. Our lending for the past two years has been done from funds other than those derived from the sale of governments.

LENDER MURPHY: Do you think anyone ever lost his home because he paid 5% instead of 4½% as far as the monthly payment is concerned? Of course not!

LENDER HALPERIN: Ask the bankers what additional yield today would bring out money?

LENDER CONKLIN: ½%.

CHAIRMAN PRENTICE: You think that ½% would produce a really substantial additional amount of mortgage money?

LENDER CONKLIN: I think it would tend to produce an increased amount of mortgage money, yes, and the longer the period that you talk about, the greater the increase. In other words, today or tomorrow it cannot work wonders, but it works in the right direction and over a period certainly will increase the supply.

If you are going to have some tie-in with a government rate, even the spread between mortgages and corporates shouldn't be a fixed spread, because at one time there will be a free demand for mortgage money and very little for the other. Then the spread would tend to go against the mortgages.

LENDER VIESER: I don't look with favor on the pegging of interest rates to Moody's AAA corporate bonds or to a long-time governments.

In determining proper interest rates, we have historically added to the prime rate (the long-term government bond rate) three elements: an additional cost for hazard, an additional cost of management and the cost for non-liquidity.

I believe if we peg mortgage interest rates to government bond rates or to Moody's, we are going to have more trouble in the future than we have now, because we cannot adjust the other three elements satisfactorily.

I think it is just as unsound to peg the mortgage interest rates to government's and Moody's as it is to peg the price of houses to the cost of houses; I think it is a suggestion that we should look into very carefully before we commit ourselves to such a policy.

BUILDER MANILOW: Anything that would be sort of a current changing rate on mortgages just would not be workable.

ECONOMIST COLEAN: Do you mean from month to month?

BUILDER MANILOW: That is what he has in mind.

CHAIRMAN PRENTICE: He was talking about four times a year.

BUILDER MANILOW: He might as well make it every month.

LENDER CONKLIN: Once a year would be my idea of the most that it would change. Sometimes it would go two or three years without changing measurably.

LENDER MORGAN: Suppose the mortgage interest rate change was tied to an eighth in the change in said interest rates; in other words, not time but amount. Suppose it were tied to an eighth, would there have been any harm in the last year, or even the last three years? That is the thing we would like to have you builders see. If you miss that, you miss one of the cardinal points, namely, that money is as flexible and as fluid as water.

BUILDER MANILOW: Mr. Morgan, wouldn't you have the Federal Reserve and Treasury determine that?

LENDER MORGAN: Wouldn't it be far better to have it attached to something that is fixed, that no one has the right to change voluntarily? For instance, the labor unions decided that they didn't want anybody fixing their increase or decrease in wages except the cost-of-living index as it is found to be true by the Bureau of Labor Statistics. Let's use either Bill Clarke's AAA corporates or government long-term 2½'s.

BUILDER MANILOW: How would you treat your commitments then, your sales to people?

LENDER MORGAN: Obviously when we commit it to you, we would commit on the market of that day. And that would hold.

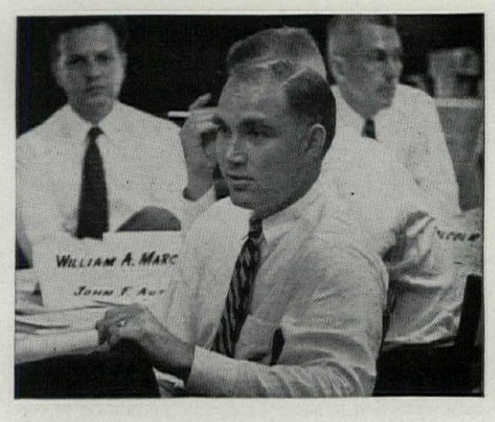
CHAIRMAN PRENTICE: I want to make sure I know what you mean. Would the rate be the rate at the day of committing?

LENDER MORGAN: Surely.

LENDER MARCUS: I am somewhat shocked that a crowd like this hasn't got the fortitude to look the facts in the face and take the whole dose of the medicine, rather than to take it piecemeal. The only way to solve this thing is to solve it on the basis of sound economics. You have got to go to VA, and you have got to go to FHA, and give them the true facts, the economic facts, and tell them, "This has got to be done."

You can sell this to the American Legion, in my opinion. You can sell it to any 100% American, if you will do the job right, and that is what we have got to do. No other program is going to solve this. It's a long-term program if you define long-term as at least six months.

We don't ask for a 4½% fixed rate. If you are going to have a ceiling, have it at a reasonable rate. Let the market find its own level below that ceiling, as it always has in the past. To me, it is the simplest solution.



LENDER NEEL: This situation in which mortgage money is difficult to get and home building is therefore slowing down is a deliberately contrived situation which was brought about by the actions of the government advisers who were working on it.

LENDERS' PRESCRIPTION NO. 2: A central discount bank to stabilize the mortgage market. But not all lenders agree and the builders prefer to leave FNMA alone

LENDER CLARKE: After the war the building industry began to come of age. For the first time in the history of this country there was enough building going on to produce what I think the people of the country need. If you are going to take the assumption that you need a million houses a year—and I think that is not an unreasonable assumption (the population of the U. S. by 1960 might be increased some 25 to 29 million and I think that the building industry has to go along with the increase in growth)—then I think the mortgage end of the business is still completely operating on the history of the past when mortgages were not of the great importance that they are now.

We need some completely brand new thinking. We need to have something in the form of a central discount bank, something that would operate in the mortgage field and for the building industry which would be the equivalent of what now has been in existence since 1913 in the Federal Reserve System for the banking field.

BUILDER MEYERHOFF: Is that necessarily tied up with FNMA?

LENDER CLARKE: My own reaction is that I am fearful constantly of anything that the Government has anything to do with.

BUILDER MEYERHOFF: They have plenty to do with the Federal Reserve Bank System.

LENDER CLARKE: Let's assume, as a matter of illustration, that it was required by law that certain types of institutions belong to or own stock in XYZ corporation (that XYZ corporation might easily be FNMA) and the governors of that particular bank or organization were appointed by industry, by the insurance companies, by builders and by the Government. It could in times of shortages of funds, if you had satisfactory rates of interest, sell debentures to the public, which is what the original Federal Mortgage Association was supposed to do, and did do. It could in turn act as a support for the market. It could act in reverse of that as a pool from which mortgages could be sold in other times to life insurance companies, savings banks. It could sell them out at times when they had to have money.

BUILDER TAPER: Don't you already have that in the Federal Home Loan Bank System and the Federal Reserve System, without starting another one?

LENDER CLARKE: Not for a life insurance company.

LENDER MARCUS: You can't rediscount any mortgages at the Federal Reserve. You could possibly borrow at the Federal Reserve against mortgage collateral but you can't rediscount mortgages at the Federal.

LENDER CLARKE: You might, by that process, get access to additional funds—pension funds, etc., which are not today any factor in the mortgage market. I don't believe they ever will be until you can make the matter of purchase of mortgage securities somewhat easier.

ECONOMIST COLEAN: How can you be assured that at all times you as a builder would have money with which to build unless you are going to be able to convert your mortgages into currency?

LENDER CLARKE: Well, it may be that that should be a part of it.

ECONOMIST COLEAN: That is inflationary, just like pouring the mortgages into the bank system the same way you have been pouring bonds into the banking system.

LENDER MARCUS: I think Mr. Clarke has a fundamental thought there that we should give a great deal of study to. If you want to enlarge on that large subject and carry this thing through to a solution of the entire problem, I offer you this: that the FHA and the VA be consolidated under one group, that that group be organized like the Federal Reserve System, that you have a board of governors, career men, three from the building industry, three from the banking industry (including the insurance companies and savings and loans) and three from the government, and that the rate be not determined by the builders nor by the lenders, nor by the Government, but by the aggregate responsibility of the three. I think you then have your solution.

LENDER CLARKE: That makes sense.

CHAIRMAN PRENTICE: This is really a major proposition.

LENDER MORGAN: Without in any way attempting to argue, what organization except that organization which has the right practically to print money can, in the long run, be the reservoir?

BUILDER COOGAN: Nobody.

LENDER MORGAN: Is that a fair question?

ECONOMIST COLEAN: That is the one I was trying to ask.

BUILDER COOGAN: It is a function of government, pure and simple.

LENDER MORGAN: In FNMA's right to go to Congress and get additional lending from the Treasury, it, in effect, has the right to print money.

LENDER NEEL: If FNMA today wanted to get another $1 billion from Congress. I would be willing to bet it couldn't get it.

LENDER MORGAN: What bothers me a little bit about this whole secondary mortgage market is whether or not we can under our form of government set up any group that has the right in effect to print money. I would hope that we could with some government strings attached. Perhaps the sugestion that Bill Marcus has made may be the answer. Certainly the Federal Reserve Bank, pretty nearly has the right to print money, in effect.

LENDER CONKLIN: They do essentially, and that is what they have been doing. They just call it in a different term. They create deposits and it is exactly the same as printing paper money.

BUILDER COOGAN: I think when the funds become so short that our national economy is in danger we go into inflationary tactics which are inevitable in a democracy, but I think that that is part of the plan. I don't think you can assure yourself automatically, particularly in any private enterprise economy, of a perfect supply of money. For one thing, when you talk about private FNMAs, the minute private enterprise gets into a business, it is going to want to run it for profit, and a profitable position for any mortgage bank like FNMA is a sold out condition, when they have their debentures out and they have their portfolio filled and they have a little interest differential. That is a profitable operation.

LENDER MORGAN: It does seem to me, on the other hand, that there is some happy meeting ground between that and what we have at the moment. This mortgage industry should not have to be the prince and pauper business that it is.

LENDER BAYER: Regarding this question of special facilities for the builder and mortgage lender, a corporation or a FNMA in private hands, why do we pick the mortgage market as against the automobile industry, or the soy bean industry, or personal loans, or any other phase of the lending field? They are all competitive. They all meet conditions as they occur. Certainly the mortgage industry is well supported by huge institutions whose principal function is to invest in mortgages.

LENDER VIESER: The short-term position here is the same as any merchant who buys more goods than he can sell promptly. Macy's have one way of disposing of their problem. They have been running sales and reducing their high inventory. We have taken another method. We have not loaned quite as much money in the past two months, and we are cutting our commitments.

I don't think we should spend too much time on the short-term position. I think our problem is a long-term problem, if we have a problem.

LENDER CLARKE: It seems to me it is a long-term program. We are having and have had in the building business within the short period of five years, since the end of the war, two separate individual money panics. If it had not been for FNMA coming into the market in 1947, there would have been no mortgage money at that particular time. Now we are back again into the same status. There ought to be worked out some kind of a long-term basis which would come close, in any event, to obviating these situations.

LENDER MORGAN: In any industry where there is the swing from prince to pauper, from something under 100,000 units a year to 1,400,000 a year, there has got to be a buffer somewhere



LENDER AUSTIN: I think that it would be much better if both sides could get together and put the cards on the table and ask for a selling rate higher than the one today.

along the line; there has got to be a secondary market for periods of transition; there has got to be, either in government itself or in a quasi-government instrumentality such as you suggest —a temporary reservoir.

LENDER CONKLIN: Merely because the Federal Reserve Board was established and put the Federal Reserve System into operation for 16 years prior to 1929, didn't guarantee us at all that we were not going to have a terrific crisis, the worst in our history. Those are physical facts.

What the Federal Reserve System can do and what the other systems can do is, if you get into those terrible conditions they can ameliorate them somewhat.

You have real faith when you centralize your control not only of banking credit as we have but also now of mortgage credit, so you have everything funneled up to one decision. That decision is: what are we going to have ahead? Is it going to be deflation and should we take inflationary measures, or is it going to be inflation and should we take deflationary measures? Every time you have had some one person or group make that decision, the history of that type of action has been all bad, almost.

LENDER GALLMAN: I think that if you ever set up a central board, regardless of the sources from which the board came, you are just indulging in a day dream if you think that board won't eventually be politically controlled. You had that in the Federal Reserve for a while. You have had it in the FHA. You have an unrealistic rate in GI loans and you would simply get back to another centralized control based on political desires rather than on economic soundness.

ECONOMIST COLEAN: I don't think the argu-

ment is convincing that you need additional institutions. After all, the reason federal national mortgage associations were provided for in the first FHA Act was the argument that there was not enough mortgage money anywhere and you had a need to create a new type of institution that would get back to the savings of the country to trap the funds and divert them directly into the mortgage field.

The reason that the mortgage associations were not formed immediately was due to the fact that savings were pretty short at the time FHA was set up, and the government had to set up the original FNMA with RFC funds. But very soon after that time, its need disappeared. The insurance companies were back, savings and loans were back in a big way, and the commercial banks were back in a way they never had been before. By that time, when private people were ready to come in and set up a FNMA of their own, the government said, "There obviously is no demand for it." It couldn't make a living. The one association which they had set up and which RFC did of course find profitable was all that there was need for.

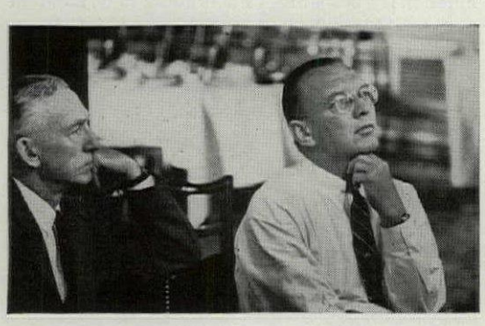
I am not convinced that once this situation, which, as Sam Neel says, was brought about deliberately has passed over, the existing institutions might not again have enough savings to divert into this field. To put it another way, I am not convinced that a new type of institution could create savings, that it would draw them in preference to the insurance companies, or the savings and loans, or the mutual banks.

LENDER CONKLIN: If you sell debentures in the market, that merely creates another demand for investment funds. We have so many places for our funds right now and we don't have any funds available.

So I think the need for an additional institution is at least a questionable one.

LENDER GALLMAN: If the economy is going to expand so that some time in the future you need 1.5 million houses a year, it is a reasonable assumption that your institutions or insurance companies, savings and loans, savings banks, are also going to attract more savings to keep up with that growth. I don't think the one is going to be static while the other grows. They will go along together.

LENDER HELD: Isn't it quite evident from the experience with FNMA that the need for mortgage money was more of a regional need than it was an overall need? For instance, FNMA took very little in the entire northeastern area of the U. S. In certain other spots it took a considerable amount of mortgage money.



LENDER WHIPPLE: A lot of money was invested in goverment bonds with the intention of it being a temporary sort of investment.

LENDER VIESER: If our national income continues up around 250 billion, it would seem we will have sufficient mortgage money for the 850,000 units, but if our national income falls down and the formation of savings drops substantially, how is a discount bank going to help that situation?

LENDER CLARKE: It wouldn't help it a bit.

LENDER MORGAN: Aren't we a little off the track in assuming that a secondary market is a permanent market? Bill Clarke and I are both talking about a secondary market being an interim holder, a temporary expedient, a temporary resting place. It would be for the time when, for instance, insurance companies and banks think that the rate has not changed enough, or when the demand for money is unusually large in California and Texas and Florida temporarily because there is a building surge there, or when the savings banks of New York and Massachusetts and New England generally are not in the market? In other words, we are talking about a secondary market that eases the steady flow of the business over a long period of years? Yes, right now, a secondary market will not be able to go out and get any money and throw any additional money into the pool, but in the long run, a secondary pool is one of the devices by which the prince-to-pauper situation may be eased.

BUILDER COOGAN: Isn't FNMA fulfilling that?

LENDER MORGAN: Do you want a government agency to do it—an agency that was overpricing its paper so that these fellows in the mortgage banking business had to sustain a loss in cutting their service fee?

BUILDER COOGAN: That is water over the dam. They have remedied that practice. They have begun, actually and actively, to liquidate their portfolio.

LENDER MORGAN: They were very late. You and I know they arrived at their price on 501's at 100½ by tossing the hat up and seeing which way it came down.

BUILDER COOGAN: I disagree with you on that. They arrived at a price at 100½ because if they offered seasoned mortgages at par, the mortgagees around the country would not be able to sell unseasoned mortgages at par.

LENDER MORGAN: Wasn't that the time to offer them, when as a matter of fact the business was fullblown?

BUILDER COOGAN: That was when RFC had it. It has been taken away from RFC and is functioning differently.

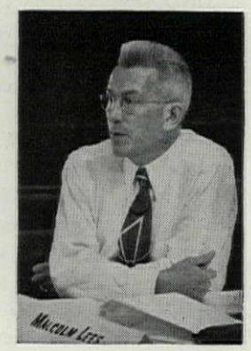
LENDER MORGAN: It is just in a different government agency.

BUILDER COOGAN: It is in a government agency and they are trying to revolve its fund, and it has revolved before. I say at one time they had only $100 million in mortgages left in FNMA and they could have sold that, but the man who was president at that time said he would still keep a few mortgages so he could call his agency a mortgage bank. I think it is doing an excellent job the way it is now constituted if they don't keep changing the regulations. I think they prostituted FNMA during the period of the GI program about two years ago when they started giving those open-ended commitments and they really let it run hog wild. They have corrected that. It is now in working shape. It is only the government that is going to be able to dig up the money to buy the mortgages because when you get in a tight spot, any private agency you create is going to run to cover. They are not going to be buying. They won't be there.

LENDER MORGAN: We have not limited our discussion to solely a private agency but a semi-private agency, and there is a big difference. The Federal Reserve System is of that nature.

ECONOMIST COLEAN: Don't forget another bit of the history of FNMA. When FNMA was under Jesse Jones' regime before the war, it operated in just about the way you are describing here. It sold out at the right time. It got out of the market just as things began to loosen up. The thing that got FNMA in wrong was getting into the market when there was no need for it to be in the market, which was after the war, when it should not have been used to increase inflation that was already under way. I don't believe that HHFA could have liquidated it much more rapidly than it did after it got hold of it.

BUILDER MEYERHOFF: Certainly there is no disagreement on the part of any builder that I have ever heard of not wanting any additional financing aids that he can get in order to insure production of houses and insure our ability to sell them to buyers, so that if you or anyone else would want to propose setting up a discount bank or a discount agency or some agency which could perform that function, I would be all for it 100%. I would do everything I could to help see it established, but at the same time I would not want to see that sort of agency established at the expense of destroying or in any way detrimentally affecting the agencies which we have and which we have had experience with. That is why I would be opposed to any such suggestion as made by Bill Marcus. Certainly leave FHA and VA alone. We know the problems we have with them, but at least we know the good points about them. If you want to create a new institution, create one, but leave the old ones alone until you have a much better proven instrument.



LENDER LEES: At this high level of national income, we have got a lot more savings to play with.

Leave FNMA alone. If you have an idea to form a discount bank, I am for it 100%. I think that is what we need, but you ought to create it in such a way as to leave our present institutions alone.

BUILDERS' PRESCRIPTION: Adjust FHA and VA loans to the market by tinkering with price, not interest rate. But the bankers balk at the discounts-premium proposal

BUILDER MANILOW: Tom Coogan had suggested that this may be a temporary situation, that it may right itself two or three or four months hence, and that the method of remedy would be to let the mortgage, like the government bond, find its mark. If a big demand is existent for the lesser number of mortgages available, then you will be bidding par and par plus. If, on the other hand, the money is not plentiful and mortgages are in greater supply, then they will be bid on a discount basis and may go down to 94, 96, 97, whichever the case may be. I think they would then be bought on a quantitative and qualitative selective basis.

BUILDER MEYERHOFF: I think it goes a little deeper than that, basically, when we realize that, practically, you can't get the VA or FHA to raise interest rates tomorrow or next day to take care of the immediate situation. They are not going to increase it until such time as they are firmly convinced of the definite trend toward an increased higher rate. This plan of Coogan's will take care of the intermediate period in the next few months. If you gentlemen are correct in your conviction that we will have definitely higher interest rates in the future and if that is shown up by conclusive evidence, the FHA and VA will unquestionably raise those rates. Until that time comes, this device that Tom suggested is a good one.

BUILDER COOGAN: It also provides for a regional variation in the price of the mortgage.

CHAIRMAN PRENTICE: For my money, that is a highly practical suggestion for getting some flexibility quickly into the interest rate. The builders are agreed that they don't want to be on a permanent premium basis. If for a reasonable period of time they sold for 96 or 97, instead of having them go on indefinitely selling at a discount they would rather have the interest rates adjusted, but they don't want to bite off the interest rate adjustment, as such, at this time. Secondly, even if they did want to, they don't think that the politics of the situation would make it possible.

LENDER MARCUS: I think it is begging the issue.

CHAIRMAN PRENTICE: I don't like shenanigans but I think there are times when we have to adjust ourselves to some shenanigans.

BUILDER COOGAN: The discount will automatically adjust itself to the prevailing market as it goes along on a week-to-week basis. It will also adjust regionally. Up in Vermont and Massachusetts, you wouldn't have to discount VA loans in order to market them, but in Texas and California and in Oklahoma they would probably take the maximum discount. In places down around Washington and North Carolina, they would take a modest discount. The FHA and VA have refused any regional variation in interest rate. If they make a change, it is uniform all over the country. That is unrealistic, but it is their policy.



BUILDER MANILOW: Is it a temporary change in rates—a slight flash in the pan—or is it inclined to be permanent.

LENDER MEREDITH: As an officer of a lending institution, I do not like that and I am sure that all the men around that table wouldn't blame the lending institutions for not liking it. I think it would be bad public relations for word to get out that they were buying these loans at a 5% discount or something of that kind, if you are going to charge it back to the borrower.

ECONOMIST COLEAN: You charge the interest rate to the borrower.

LENDER MEREDITH: That is perfectly okay. He understands it.

BUILDER COOGAN: I think we can do it easier this way. If Mr. Murphy is right and I am right and money is going to be easier next fall, the discount would disappear. If we are wrong, if you fellows are right, that this is a long-term trend and by October we are still discounting VA's at 97, it is a sure indication that they need a change in the interest rate, and I don't think we would have any trouble getting that then.

LENDER MORGAN: Tom, isn't it fair to say that this problem resolves itself on this one point: Is it politically better to do the job the way you are doing it or is it better to face the issue in the open? In other words is the deception that goes with doing it your way and the veteran learning of that deception has been better than the solution which I agree with you is politically difficult?

BUILDER COOGAN: I think the discount basis will be the prologue to the interest change that Bob Morgan and you fellows all want. If it is justified, you will get it.

LENDER VIESER: We don't look with favor on purchasing mortgages at a 5% discount for two reasons: You have no idea of the screwy letters we receive from policy holders about VA loans, and on all types of investments. They say that if they are that bad that they must sell at 95, why should we buy them?

But there is a more practical reason why I don't like them. The 5% is a profit that goes into a capital profit account during the current year that is offset by some bond losses and some bond profits, from real estate and mortgage profits and losses. At the end of the year, a capital profit and loss goes into our account.

A life insurance company is not interested in capital profits; it is interested only in long-term income. So I take the profit or loss, and for the next 20 years, I keep a lower rate than I should. From a practical accounting standpoint, it just doesn't add up to an attractive investment.

BUILDER TAPER: I think Tom Coogan has come up with a sound suggestion, and an immediate suggestion whereby you could give the commitments today for delivery six, eight, ten, or twelve months from now, and protect yourself against this condition that we heard so much about, that interest rates are going to rise.

LENDER MacDONALD: There is one other objection to Tom Coogan's plan, and that is that the attitude the bank examiners are going to take on VA loans bought at 95.

I cannot talk for the life insurance examiners, but after 20 years' experience with the commercial, or the Federal Reserve examiners, and the state examiners, any loan that was purchased below par, every year of the life of that loan on the books, it would be written up in the examination, because you would never be able to tell them that it was a good investment. The minute it sells below par, it is a substandard asset in their eyes.

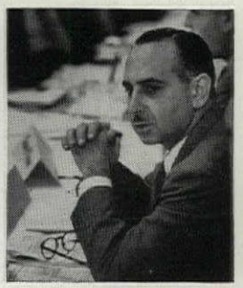
BUILDER COOGAN: It is just establishing a new procedure. You are not afraid to buy bonds that are selling at a discount, and I think it is just because you have been in this habit. It seems to me your bonds are under more inspection when you pay a premium for them. The bank examiner would question you as to why you paid 102, or 103 for these loans.

LENDER MacDONALD: That is not the way it works. I know of specific cases where bank examiners have learned about a 99 market for VA loans, and they have gone in and tried to write down that VA loan, which may have been purchased at par or better, to 99. Now, I think that is entirely unjustified, but I am just pointing it out as a thing that examiners do.

LENDER CONKLIN: There may be a good deal of difference of opinion as to whether a discount basis is as attractive as a straight 4½%. It certainly is a lot better than nothing at all.

LENDER MEREDITH: Do you have any reason to believe that the discount idea will be more palatable to the authorities than a higher interest rate?

BUILDER COOGAN: I know it will. The thing I am suggesting, gentlemen, is being used today; 50% or 70% of all your VA mortgages being sold are being sold on a discount basis.



BUILDER MEYERHOFF: The demand for housing is almost universally tied to optimism and full employment, and you cannot get away from it.

LENDER AUSTIN: Some investors have received legal opinions from their various counsels that they cannot purchase VA mortgages at a discount. That can be done by getting this permission; that is quite true. But in getting this permission, and going out into a discount market, and passing a part or all of the charges on to the veteran, you will see a great deal of resistance come out on the part of the veteran once he realized that. That may have some political repercussions.

I just think that it would be much better if both sides could get together and put the cards right on the table and ask for a selling rate higher than the one today.



LENDER MARCUS: The statement made that mortgages could be made more attractive without changing the rate is, I think, debatable.

BUILDER COOGAN: If VA's continue to sell at 97, 97½ and 98, and FHA's sell at 99, or at par, it will be an indication that we need an adjustment in the interest rate.

BUILDER MEYERHOFF: This provision that the builder can pay no more than 1% for placing a VA mortgage ought to be amended.

LENDER MORGAN: You are violating a perfectly good fundamental concept in economics with respect to the demand and supply for money. It does not make any difference what the rate is, providing the price is right, and what the price is, providing the rate is right.

BUILDER COOGAN: If we put VA's up to 4½%, what would you be paying for 4½ GI's up in New England? You would be paying 105 for them, wouldn't you?

LENDER MORGAN: No.

BUILDER COOGAN: Sure you would.

BUILDER COOGAN: The thing is too uneven around the country. For instance, the worst market is California. If they could be on a discount basis, the northeast could still be buying GI loans at par, and they could discount the ones in California.

LENDER MARCUS: Who pays for the discount?

BUILDER COOGAN: The consumer. Who pays for everything? Who pays the added interest?

LENDER CLARKE: May I add one or two observations in connection with that?

Let us assume a $10,000 mortgage which you are going to have to sell—we will have a tough one for an example—at 95. That means that the builder is going to have to add $500 to his price to sell that particular mortgage and still keep his profit.

I think the builder and the general public and everybody else are a sight better off if they do not have to pay anything for his mortgage; if he buys it at par and lets the interest rate carry it over a long period of years. Otherwise, you are just adding $500 to the price of the house, and the price of housing is high enough.

BUILDER COOGAN: If you add ½% interest, you do the same thing.

LENDER CLARKE: Your way you have to get it all at one time.

BUILDER MEYERHOFF: I think the only excuse for the discount method is that it is a temporary, transitory situation that might clear itself up in the next month or two, and that's the only basis for doing it.

LENDER CLARKE: There is a psychological thing you overlooked in connection with discounts. Always in the mortgage business, any mortgage that has been offered to us at a discount we have always looked at a bit askance—"What's wrong with a mortgage being offered at a discount?"

Of course you can become accustomed to anything. It seems to me that for the good of the building industry, the financing institutions and the general public it would be better if mortgages were constantly traded at par.

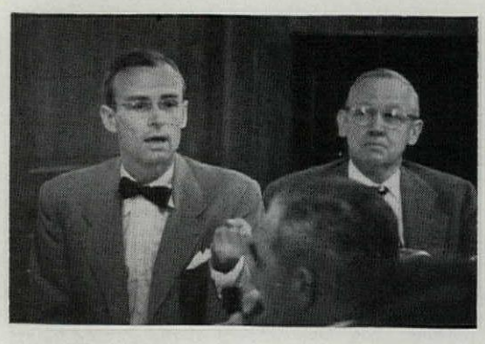
BUILDER COOGAN: I think that is an impossible situation. If we can get the permission to discount them we can prove our point and get our interest rate raised, because if VA mortgages continue to sell at 97 or 97½, and the market does not improve, you show conclusive proof to the Administrator, to the Treasury, and everybody else that you have a good case.

But if you just let them go along and won't make the loans, you are fostering the direct lending program; but if you continue to take the loans but take them at a discount you prove the inadequacies of the rate and you have a chance yourself to demonstrate why it should be corrected. You make a better case for yourself.

CHAIRMAN PRENTICE: My understanding is when you sell a 4½% bond or a 4½% mortgage at 95 you have in fact raised the interest rate. We have torn a lot of hair out this afternoon, but what it all amounts to is Tom Coogan has said he is opposed to raising the interest rate by raising the interest rate, but he thinks it might be a good idea to raise the interest rate by increasing the discount.

Tom Coogan's suggestion seems to me the only politically feasible way of permitting some change in the interest rate.

LENDER NEEL: You have a precedent for that, Mr. Prentice, because under the VA rules a fellow who makes a loan to a builder is entitled to charge him a maximum of 2½ points. That maximum was varied downward if the VA thinks it isn't needed in that area.



LENDER CONKLIN: The assumption that you can look into the future nine months or 15 months, especially in the field of real estate, and find any unanimity of opinion by anybody is just a false premise.

LENDER MARCUS: How sick do the builders want the patient to get before they give any medicine.

CHAIRMAN PRENTICE: My recollection is once upon a time when they set the Federal Reserve up they had some such idea.

BUILDER COOGAN: They have varying rates, yet.

CHAIRMAN PRENTICE: If the price dropped to 95 quickly, I think that would be more than the equivalent of what has happened to the government rate.

BUILDER COOGAN: That would give them a 4½ yield.

LENDER NEEL: What is it you are asking the VA to do? Are you asking them to authorize the permanent lender to make a charge against the builder which he is now not permitted to make; is that it?

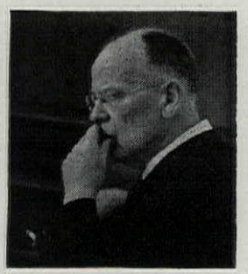
BUILDER MEYERHOFF: That's right. He is not permitted to pay more than 1% at this time.

BUILDER MANILOW: If the VA once allowed it, if they did allow it, they would have to recognize it as part of cost.

LENDER NEEL: But they would also say the charge could not be passed along to the veteran.

BUILDER COOGAN: In areas where it is not necessary they would; in others they wouldn't.

BUILDER TAPER: In southern California there has always been a larger allowance for financing than in northern California. The FHA also realized the builders had to pay a little more to get money, and that was recognized in their figures.



LENDER CLARKE: I am fearful constantly of anything that the government has anything to do with.

ECONOMIST COLEAN: Whatever you do increases the cost of the veterans.

LENDER NEEL: But this does it directly.

ECONOMIST COLEAN: It may force the builder to reduce his own profit.

LENDER NEEL: Let's ask Mr. Smith if he thinks it will solve his problem.

BUILDER SMITH: To some degree. I do not know enough to say. It would give us some money. We would have to try it to know.

BUILDER COOGAN: It would solve it in so far as money was available; it would not make more money available.

BUILDER SMITH: It would give us a little better position in the national spread.

LENDER MORGAN: Politically, your program is a lot easier. Is it really sound to add $500 to the cost of the house, though?

BUILDER SMITH: I believe market conditions would govern that. We would have to absorb some of that.

LENDER CONKLIN: And that's a good thing.

BUILDER SMITH: We would be willing to do that.

BUILDER COOGAN: You could swap some treasuries for GI loans!

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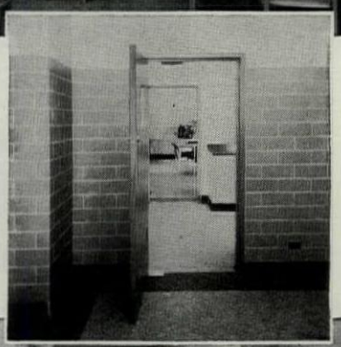
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Natco Structural Clay Tile offers every desirable advantage for hospital wall construction—strength, permanence, attractiveness, firesafety, imperviousness to moisture . . . plus construction economy and practically no maintenance.

For interior walls, Natco Glazed Facing Tile provides added features of cheery brightness, cleanliness, sanitation, and germproof qualities so necessary to wards, rooms, kitchens, laboratories, operating rooms, corridors, etc.

Many of today's newest and finest hospitals have used Natco Structural Clay Tile for both interior and exterior wall construction. First cost is last cost—because Natco Structural Clay Tile never deteriorates. Installation is easy and speedy with minimum material waste due to modular sizes. Each tile is marked "NATCO" as an assurance of quality. Write for Catalog SA-50 for information and details.



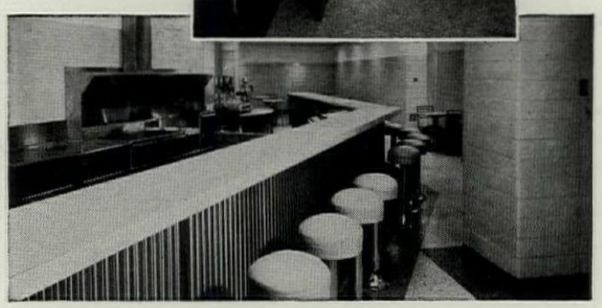


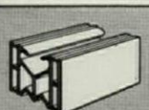
ST. VINCENT'S HOSPITAL

Toledo, Ohio

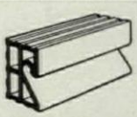
Interior views showing 6-T series Natco Structural Glazed Vitritile walls. Natco partition tile was also used in the building construction.

Architects—Maguolo & Quick, St. Louis
General Contractors—A. Bentley & Sons, Toledo, Ohio

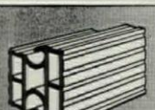




Buff Unglazed and Manganese Spot Dri-Speedwall Tile
5⅓" x 12" Nom. Face Size



Raggle Blocks
Red Mingled Shades
4" x 5⅓" x 12" Nom. Size



Speed-A-Backer Tile For backing Brick Faced Walls
12" long. Varying Heights



Ceramic Glazed Vitritile
8" x 16" Nom. Face Size



Ceramic Glazed Vitritile
5⅓" x 12" Nom. Face Size

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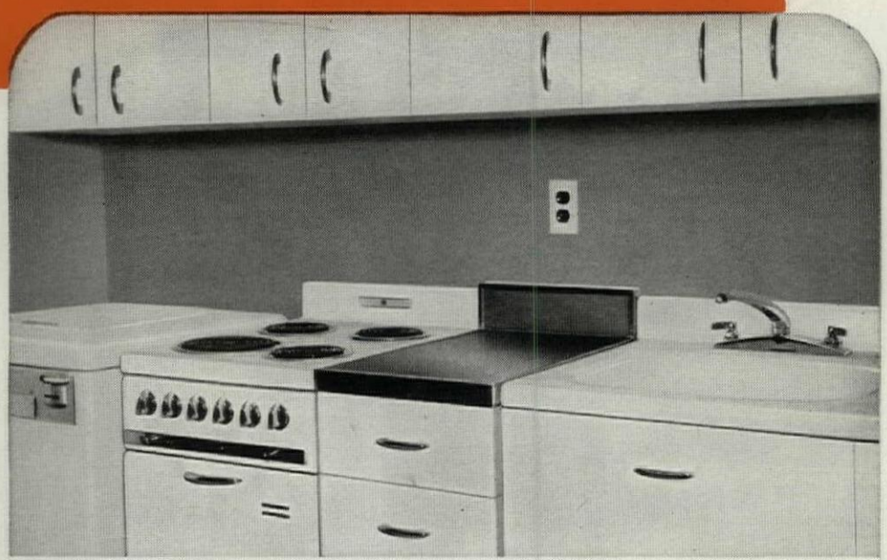
NATCO CLAY PRODUCTS SINCE-1889

"ELECTRIC ranges help me stay ahead of competition,"

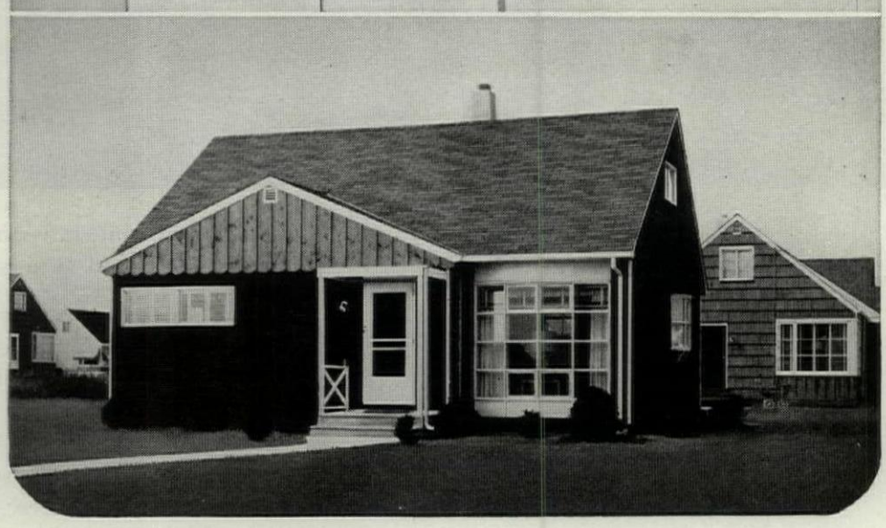
says

Mr. Joseph P. Lenny

Runnemede, N. J., builder



The kitchen in the Cinderella Home has electric sink and dishwasher, kitchen ventilating fan and automatic clothes washer. The range? . . . of course, it's ELECTRIC.



Mr. Lenny calls this his Cinderella electric home. He sold 25 the day he opened his model house at Runnemede, N. J., last Fall. There are 4 rooms with expandable attic for under $10,000.

"In my experience, most home buyers can't resist an all-electric kitchen. And the kitchen can't be all-electric without an *Electric* Range. Although my homes are moderately priced, I offer this plus item and it helps me stay ahead of the field."

Builders like *Electric* Ranges because they help *sell* houses. Home buyers look for *Electric* Ranges because they're clean, cool, economical and fully automatic. Why don't you attract more home buyers by offering them a modern *Electric* Range?

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Back in 1938 the Loma Linda Food Company built the above factory in La Sierra, near Riverside, Calif. using architectural concrete. Clinton Nourse was the architect. Harold C. Whittlesey was the structural engineer. L. C. Havstad was the contractor. Today, this striking industrial plant is as attractive and new looking as the day it was completed.

This is another example illustrating how industrial buildings can be constructed in architectural concrete with all these benefits: (1) distinctive appearance, (2) great strength and durability, (3) firesafety, (4) economy. Being moderate in first cost and requiring little maintenance over a long life, architectural concrete structures render true ***low-annual-cost*** service.

Clean cut, impressive appearance is of paramount importance in many types of industrial buildings while ***low-annual-cost*** service always is important to owners and investors.

Whether you are designing an industrial plant like the Loma Linda food factory or one for any other use, architectural concrete is the ideal construction material. Being versatile and adaptable, it can be used to create functional and imposing apartments, schools, hospitals, churches and other structures. Architects find architectural concrete an ideal material to use in giving form to their finest designs, for it can be molded economically into the ornamentation of any design or period. Such ornamentation can be cast integrally with structural parts of the building.

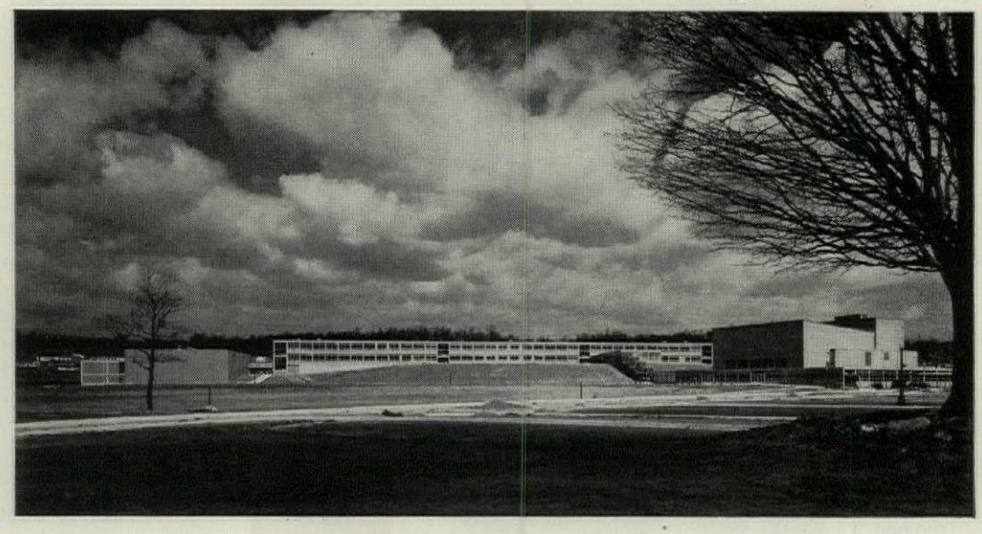
For additional information about designing and building attractive, economical architectural concrete structures write for free literature. It is distributed only in the U. S. and Canada.

PORTLAND CEMENT ASSOCIATION

DEPT. 6-7, 33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work

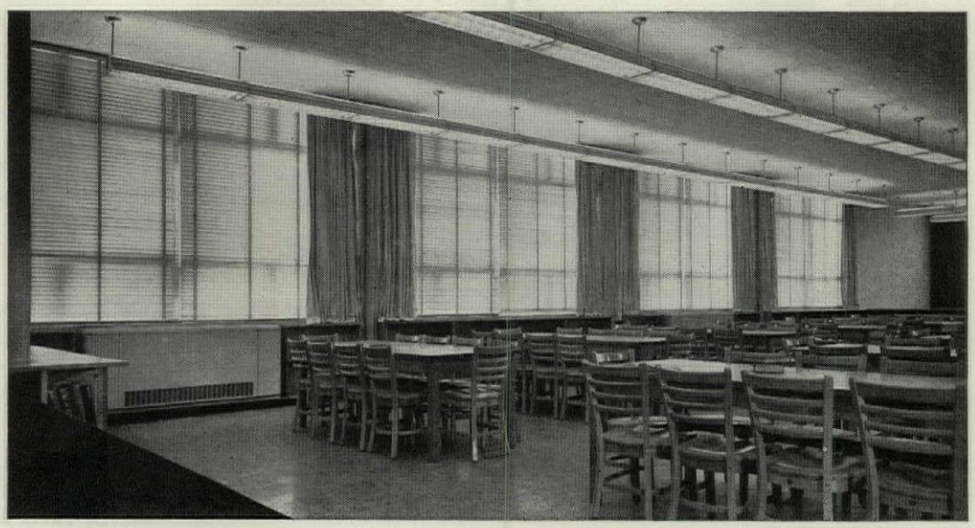
SENIOR HIGH SCHOOL, Oak Ridge: one of several public buildings equipped throughout with Venetians made with LEVOLOR enclosed heads and bottom bars. Skidmore, Owings & Merrill, Architects.



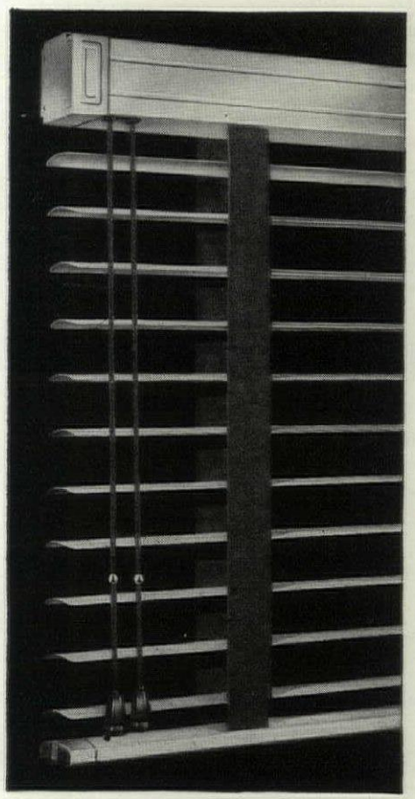
DESIGN FOR TODAY

Oak Ridge Buildings are equipped with

The Venetians of Today made with LEVOLOR Products



IN VENETIANS MEASURING 86″ WIDE AND 106″ LONG, the fine adjustment given by LEVOLOR precision-built hardware is an essential part of an ultra-modern light-control system.



Here are features that set LEVOLOR-built Venetians apart; smart, enclosed head that houses finest precision-built hardware; durable, springy plastic-coated metal slats; tape ends disappear in the sleek bottom bar. All are chip-, mar- and stain-resistant. And one gentle pull makes tilt-cords even, thanks to the LEVOLOR patented tilter mechanism.

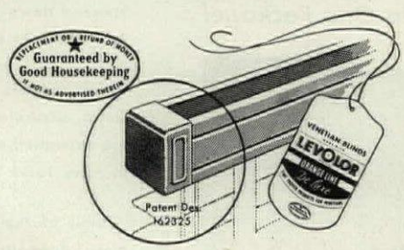
See our catalog in Sweet's Architectural File, 19D-3A, and Sweet's File for Builders, 3E-5.

Part of the precise and careful planning of the Oak Ridge community project is the equipping of main public buildings—and private units, as well—with custom-built Venetians made with LEVOLOR parts.

Include Venetians built to LEVOLOR specifications in *your* careful planning, and you'll be sure of the finest!

Send for your free copy of the LEVOLOR *Architects Manual for Venetian Blinds* (AIA 35-P-3) . . . 16 pages giving you all the factual and visual assistance you need for any installation.

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LEVOLOR-built Venetians are identified by this head design and this tag.

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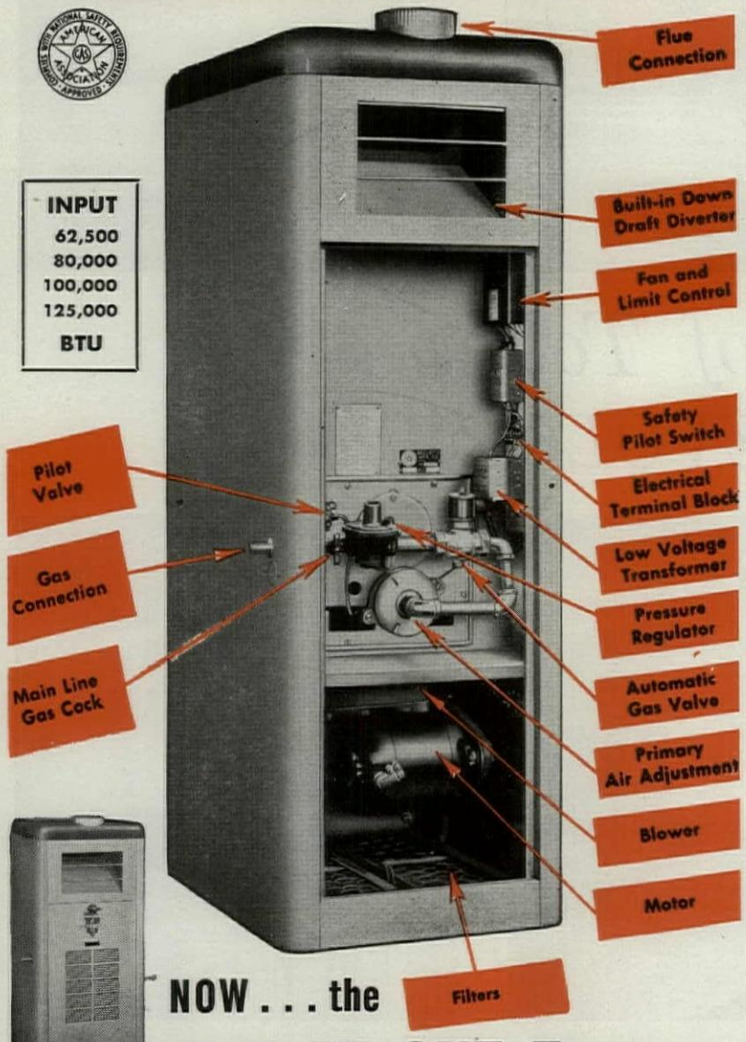
Time-proven Products for Venetians

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HI-LO COMBINATION





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TWO-IN-ONE Furnace

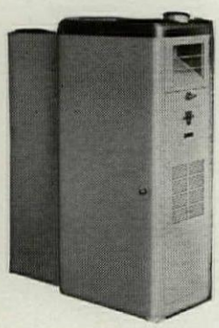
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All controls are located in one compartment. Quick, accurate adjustments . . . easy replacements are expedited without disturbing other wiring. Built-in filter racks can be placed at installer's option.

Built of top-quality materials throughout. Complete information, specifications, prices and discounts available. Write today !



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BEHIND THE BLUEPRINTS

Biographical sketches of the young men who designed the buildings presented elsewhere in this issue, together with brief mention of other people who helped build them.

Architect **WILLIAM SUTHERLAND BECKETT** was born in Kansas City 30 years ago, graduated from Yale with a prize-winning thesis in 1943. During the war he was liaison engineer for Douglas Aircraft, later worked for Southern California architects Sumner Spaulding and John Rex, and engineer C. Gordon de Swarte. In 1949, Beckett opened his own Los Angeles office, now houses it in a sleek, airy building of his own design (p. 138), landscaped by Van Herricks.

* * *

THOMAS E. MOORE is a Yale architect and ex-Air Corps officer in Grand Junction, Colo., who left his native Denver to practice architecture on the rugged western slope of the Rockies. Formerly a partner of Smith, Hegner & Moore and now in business under the name "Tom Moore," he designs houses, does regional planning, transformed a condemned school into Grand Junction's modern City Hall (p. 141). Chief designer for this project was Robert A. Van Deusen, who sports degrees in both architecture and mechanical engineering, now works in Boulder, Colo. Jane Silverstein did the landscaping, and the city, rather than a general contractor, was responsible for construction. Thomas I. Moore, the city manager, supervised the job.

* * *

A product of Beaux Arts and Harvard, Architect **ROBERT WOODS KENNEDY** doubles in brass, teaching and practicing his profession in Cambridge. He is assistant professor of architecture at MIT, also has his own office from which he designs multi-family housing (public and private), stores and small homes. He planned the Summer Festival Theater for Newport, R. I. (p. 142) with the following groups: Charles A. Maguire and Associates, engineering; Bolt, Beranek and Newman, acoustics; Fred N. Severud, structure; Jean Rosenthal, theatrical production.

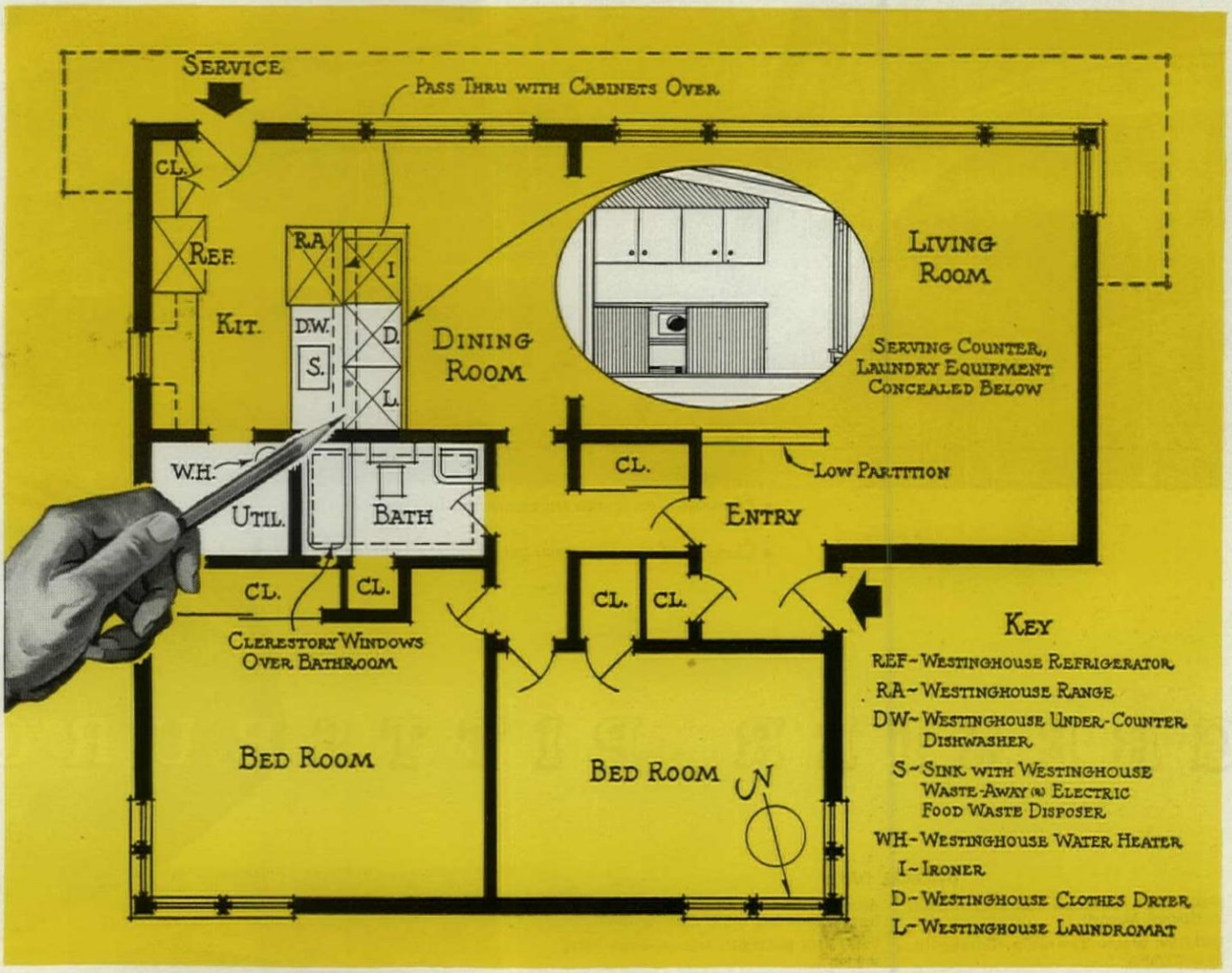
* * *

Both natives of Atlanta, Architects **JAMES HARRISON FINCH** (35) and **MILLER DAVIS BARNES** (41) are also graduates of Georgia Tech and former employees of Burge and Stevens, the firm they left to found their own in 1949. Barnes had his own private practice from 1934 to 1939. Finch is also a Princeton alumnus, a winner of the Princeton Prize, and a former Marine Infantry Officer. The Mondrianesque apartments they designed for an abandoned tennis court (p. 144) are next door to their own office quarters. Contractor for the apartments was Griffin Construction of Atlanta.

* * *

HERMANN H. FIELD studied architecture at Harvard ('34) and the Swiss Federal Polytechnic Institute ('36), toured Europe in the mid-Thirties studying housing. Back in the U. S. during the Forties, he directed research and planning for Antonin Raymond. In November, 1947, he joined Cleveland College, downtown adult education center of Western Reserve University, as director of planning for its new building (p. 146). Prior to his disappearance on a trip to Central Europe in 1949, he had developed the basic concept of the structure. **DENNIS E. BLAIR** was educated at Detroit's Lawrence Institute of Technology and at Taliesin. In April, 1949, he joined Garfield, Harris, Robinson and Schafer as a designer on the Cleveland College project, and after Field's disappearance, developed the present plans for the building.

(Continued on page 116)



This IDEA concentrates all Plumbing... Cuts installation and material costs!

This small, low-cost home offers a feeling of great spaciousness and the practical advantage of multiple use of space.

Its novel arrangement is feasible because of the design of Westinghouse Appliances.

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Electric Appliance Division
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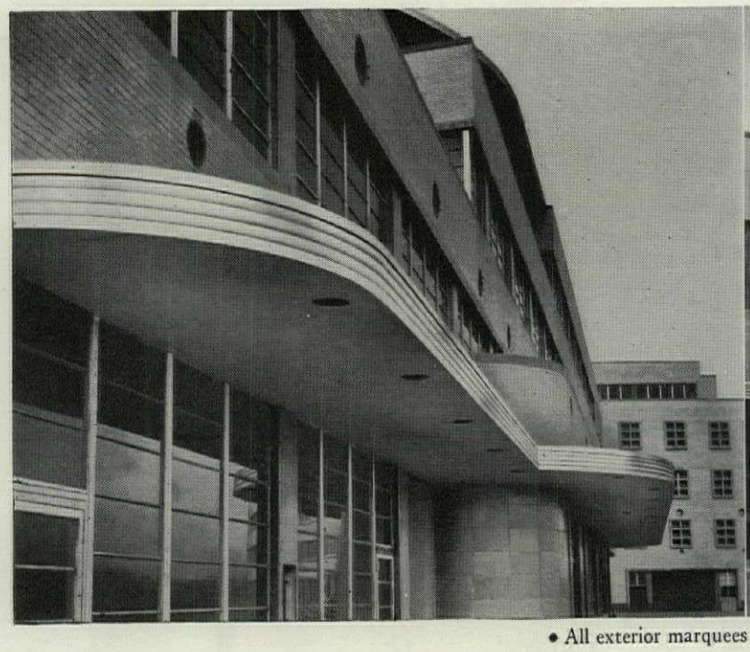
Street_____

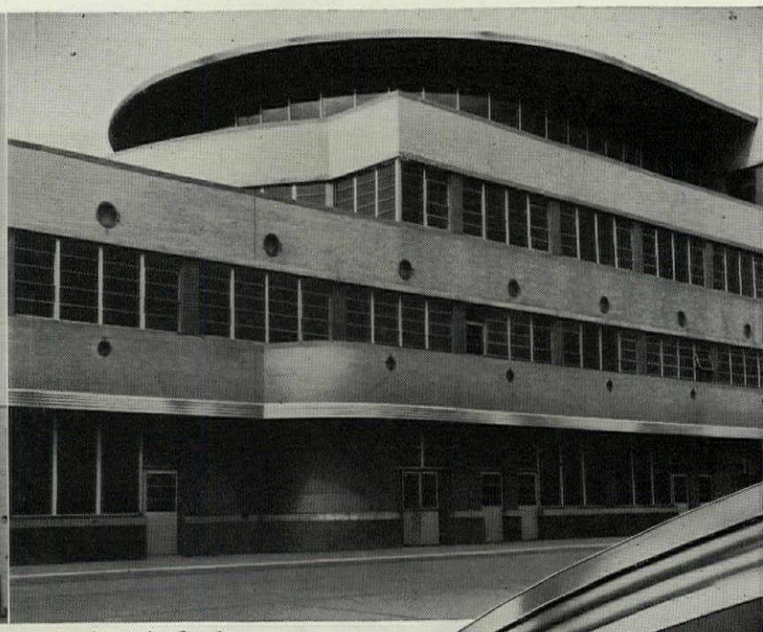
City_____

6MOB

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• All exterior marquees are aluminum, by Overly.

• Close-up of aluminum marquee, showing facia and ceiling.

GREATER PITTSBURGH

GENERAL DATA

NAME: Main Terminal Building, Greater Pittsburgh Airport

LOCATION: Moon Township, Coraopolis, Pennsylvania

OWNER: County of Allegheny, Pennsylvania

SIZE: Main building is a half-circle, 460′ in diameter; over-all width is 575′; over-all length, including south dock, is 1060′.

COST, MAIN BUILDING: Approximately $9½ million

FIGHTER BASE: Air Force protection is adjacent.

COUNTY DATA

BOARD OF COUNTY COMMISSIONERS

John J. Kane, Chairman
Harry W. Fowler Ernest Hillman

DEPARTMENT OF AVIATION

John B. Sweeney, Director
Edward G. Messner, Chief Engineer

DESIGN DATA

ARCHITECTS

The Office of Joseph Hoover, Pittsburgh, Pennsylvania

CONSULTANTS

Parsons, Brinkerhoff, Hall & MacDonald, New York City

ENGINEERS

Lee W. Cook, Structural
E. S. Tower, Plumbing
J. P. Warner, Electrical
T. F. Rockwell, Mechanical
William Murdoch, Sanitary

CONSTRUCTION DATA

GENERAL CONTRACTOR

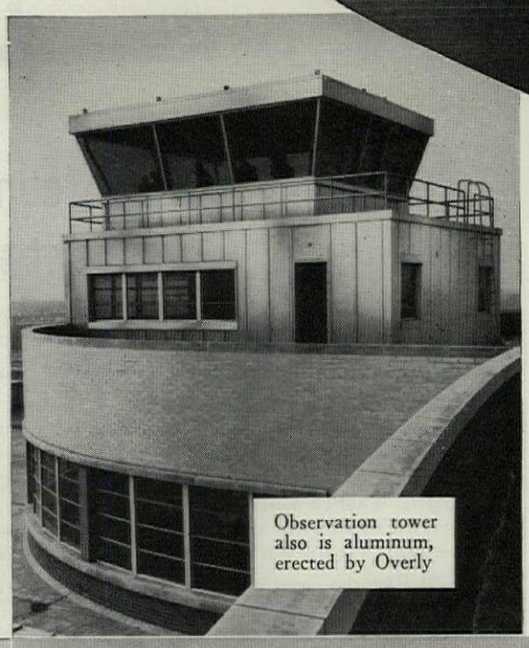
Dick Construction Company, Pittsburgh, Pennsylvania

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OVERLY STEEL ITEMS

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Observation tower also is aluminum, erected by Overly



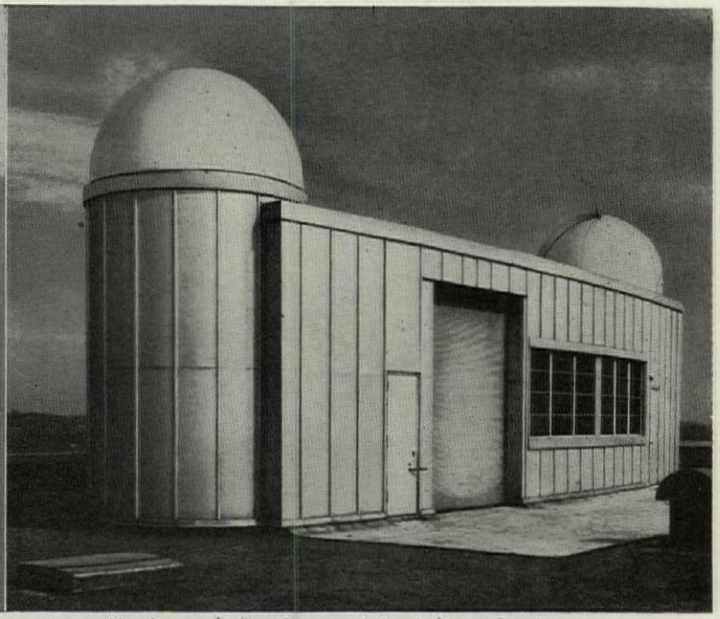
FRONT



SIDE



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• Aluminum mirador, dome, and theodolite by Overly.

is prepared for

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The Greater Pittsburgh Airport ranks with the nation's largest, and the modern super terminal building pictured on these two pages will meet the expanding needs of this progressive region for a long time to come. West and east docks will be added as needed. Although many innovations are represented architecturally in the design and materials, all were planned for initial and ultimate economy. *Overly* is proud to have been selected for the prefabricated architectural aluminum work and its installation.

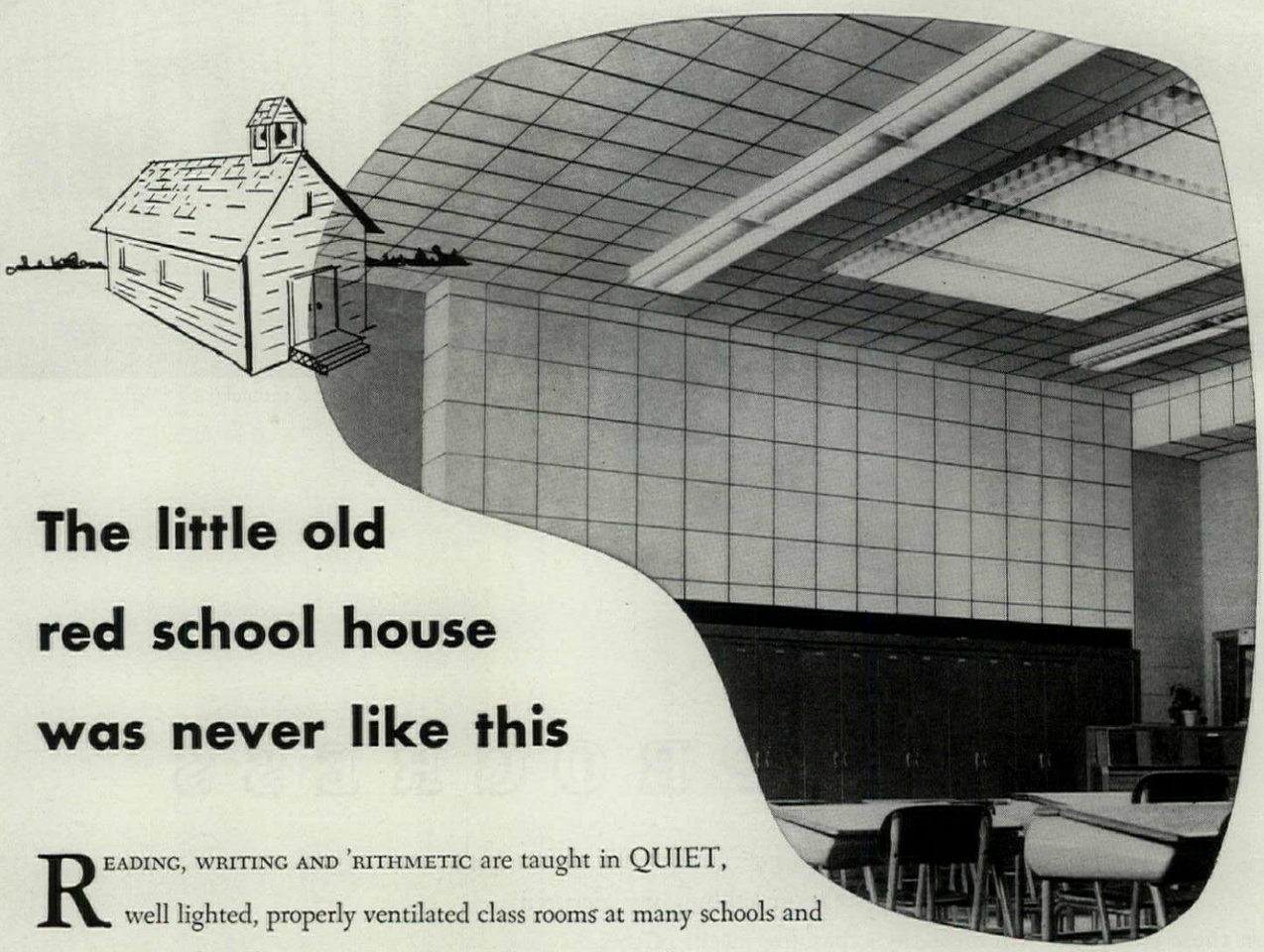
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See Section 28a / 7a

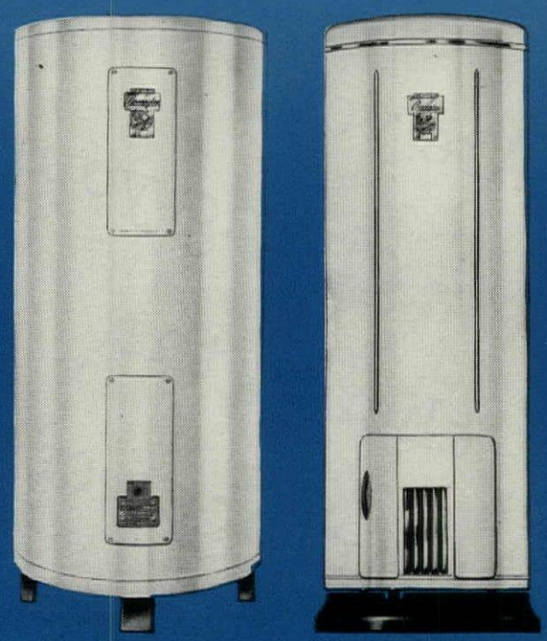
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Water Heater Division, Kankakee, Illinois

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- ☐ Send me, free, booklet by Don Herold describing exclusive *Ceramitron* Construction.
- ☐ Give me name and address of nearest A. O. Smith distributor.

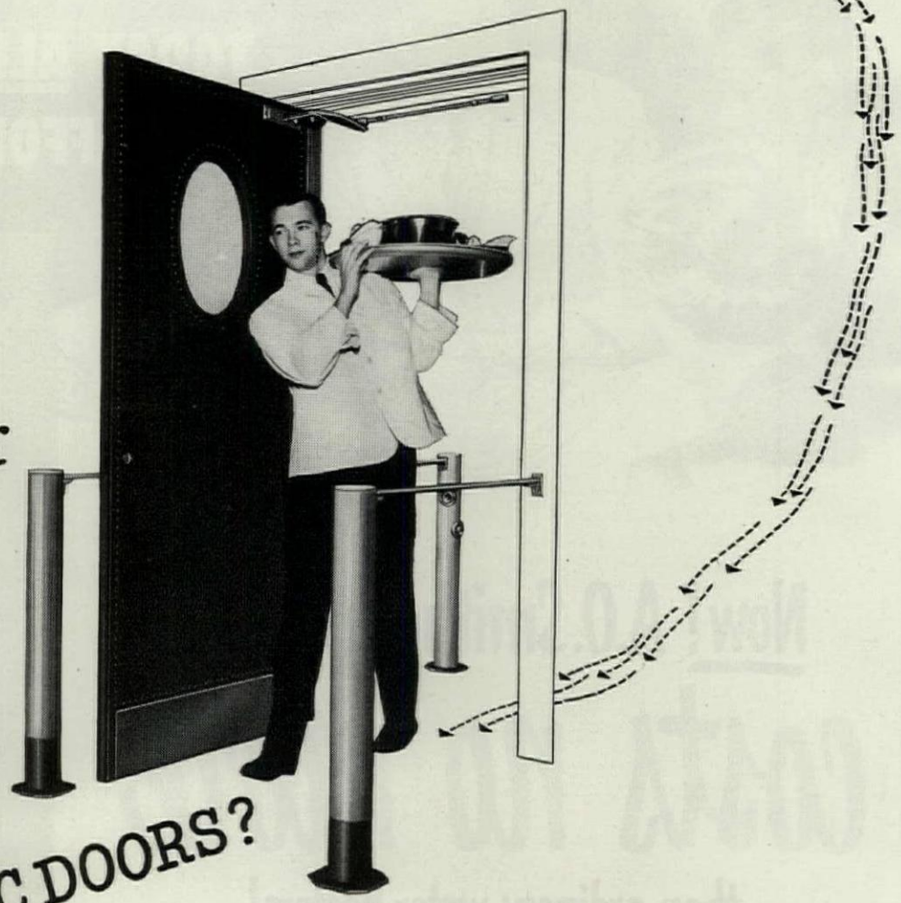
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Pictured here is one of the eight service door installations at the new Brown University Refectory, Providence, R. I.

With Stanley Magic Doors it's a fast, easy trip from kitchen to dining room — there's no fighting or fumbling to open doors manually. Traffic flows smoothly — collisions and dish breakage are reduced. And by closing door promptly, kitchen noises and odors are minimized.

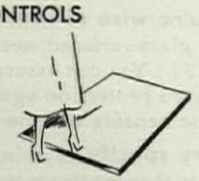
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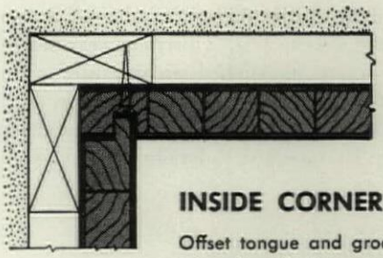
☐ Kindly send me full information on Stanley Magic Doors.
☐ Please have your representative call.

Your name.....

Firm's name.....

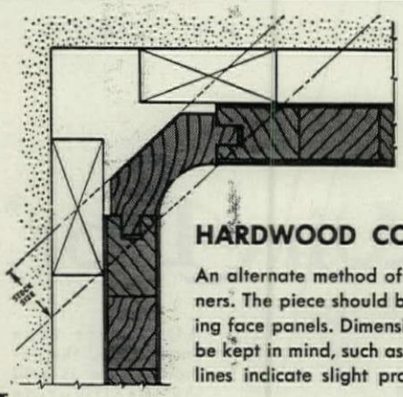
Street.....

City..... *State*.....



INSIDE CORNER

Offset tongue and groove is the preferred joint where flush treatment is desired. It provides positive locking and hides attachment screws.

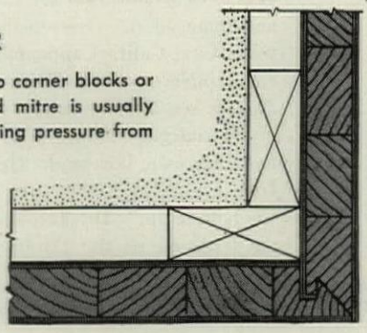


HARDWOOD CORNER

An alternate method of treating inside corners. The piece should be hardwood matching face panels. Dimensions of piece should be kept in mind, such as ⅞" or 1⅛". Dotted lines indicate slight projection often used.

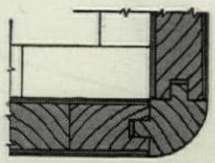
OUTSIDE CORNER

For a clean corner with no corner blocks or molding, this tongue and mitre is usually used. It needs glue-clamping pressure from one direction only.



HARDWOOD CORNER

Outside corner handled in same manner as inside corner (above).



HOW TO SPECIFY CORNER DETAILS IN ARCHITECTURAL GRADE WELDWOOD® PLYWOOD

Shown above is a typical section of the new Weldwood Plywood manual, "Construction Details and Specifications for Architectural Grade Weldwood."

Packed with useful information on architectural grades of plywood, this new reference manual pictures and describes types of veneer cuts, characteristics and availability of 36 important decorative hardwoods. It also contains detailed information on making joints, corners, curved panels, various types of room-paneling arrangements, and other useful data.

The details shown reflect standard procedures as used by cabinet shops and woodworking firms in producing fine installations.

This new manual deals with ¾" architectural panels and supplements the installation data on the ¼" grades, available in the new booklet, "Building Better with Weldwood Plywood."

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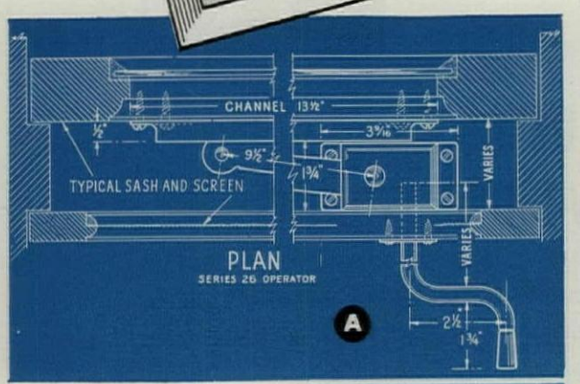
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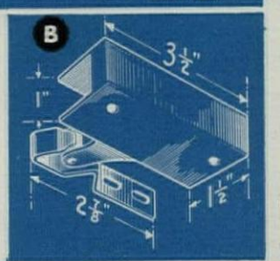


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After more than forty years, this famous name is still the specification standard . . . for one reason . . . Quality products.



A Win-Dor Casement Window Operators for outswung wood casement sash have no equal. They make any wood casement window the most convenient and modern window there is. There is merit in the exclusive Win-Dor design and construction with bronze worm and bushing. There is long wear, and there is always user satisfaction. Shown at left is typical plan of Series 26 installation. See Sweet's for complete details and other types.

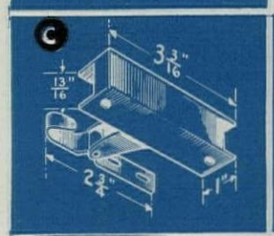


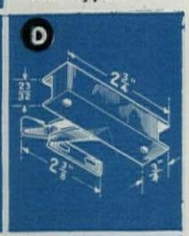
B Here is the large size No. 45 Win-Dor Snugger, the automatic top-closer that reaches out and pulls sash shut.

C Medium-sized Snugger does the same job on light sash and is the choice of thousands of architects for cupboard and closet door closing.

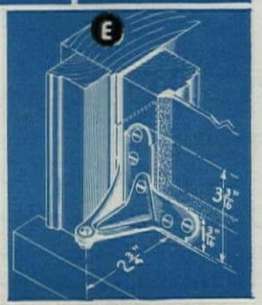
D Small Snugger is now the nation-wide favorite among builders for the automatic closing of cabinet doors.

Snuggers have nation-wide distribution and are suggested for a standard specification item.





E Win-Dor Extension Hinges . . . designed especially for properly hanging outswung casements. They provide that necessary feature of space between the sash and the frame, when open, for cleaning the outside of the glass from the inside.



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BEHIND THE BLUEPRINTS

Former Frank Lloyd Wright apprentices **PAOLO SOLERI** and **MARK MILLS** designed and built the spectacular glass-domed desert house (p. 150) in Cave Creek, Ariz. Thirty-one year old Soleri was born in Torino, Italy, where he studied architecture, spent one year with Wright and has now returned to Italy. Thirty year old Mark Mills hails from Jerome, Ariz., supplemented his architectural engineering degree from the University of Colorado with four years under Wright's tutelage.

* * *

ANTHONY JOSEPH CAPPUCCILLI, SEAN O'HARE, WILLIAM PATRICK and **CELESTYN WISNIEWSKI** are the four Taliesin alumni who designed, built and financed the concrete block "Midglen House" (p. 153) in Redwood City, Calif. Cappuccilli and Wisniewski are graduates of Syracuse University, have had several years of wartime military service. Patrick is a Pennsylvanian, and a Fine Arts graduate of the University of Pittsburgh. O'Hare is Dublin-born, with an architectural degree from his own fair land. He is now in Ireland, reports glumly "the Irish are about 1,000 years behind in understanding the architecture we believe in." Dr. Jaroslav J. Polivka was consulting engineer to the foursome on the "Midglen House."

* * *

Architects **RALPH S. TWITCHELL** and **PAUL RUDOLPH** have given Florida's west coast many a top-notch tropical house design. Twitchell's degrees in Arts, Architecture and Structural Engineering bear the insignia of Rollins College, McGill and Columbia Universities. Rudolph, the young member of the firm, is a product of Alabama Polytech and Harvard, became Twitchell's partner because "he was the one draftsman who tied cobwebs to clouds and insistently searched . . . to materialize the impossible." An ex-Naval officer, Rudolph used the plastic material with which the Navy mothballs its fleet to build the tent-like "Cocoon House" (p. 156). Associated Builders, Inc. was general contractor.

* * *

H. DOUGLAS BYLES and **EUGENE WESTON III** are loyal southern Californians, born in the same sunny area where they now practice. Byles is 28, a Marine Corps veteran, and holder of an architectural degree from the University of Southern California. Weston is 26, an Army veteran, and alumnus of both the Art Center School in Los Angeles and his father's architectural office. Byles and Weston both worked for Whitney Smith and Wayne Williams before opening their own Pasadena office. They designed a successful group of contemporary houses in Tujunga, Calif. for Merchant Builder Victor Sease (p. 160).

* * *

Thirty-one year old ex-Marine Corps Major **VINCENT J. SCULLY, JR.** was born in New Haven, Conn., and fittingly enough, won all his degrees from Yale, starting with a B.A. in 1940 and culminating in a Ph.D in Art History in 1949. An architectural historian and critic, Scully teaches both undergraduate and professional students at Yale, does extensive research and writing, is disproving the maxim about teachers and doers by designing several houses this year. One of these, a single-room structure wrapped around a central core, was built for himself and his family (p. 162). Albert H. Riese, Jr. collaborated with Scully and an inventive young New Haven builder, Anthony Concelmo, did the actual construction.

(Continued on page 124)

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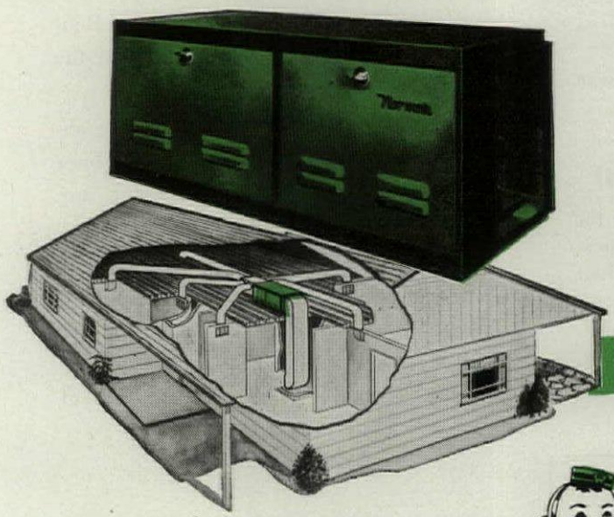


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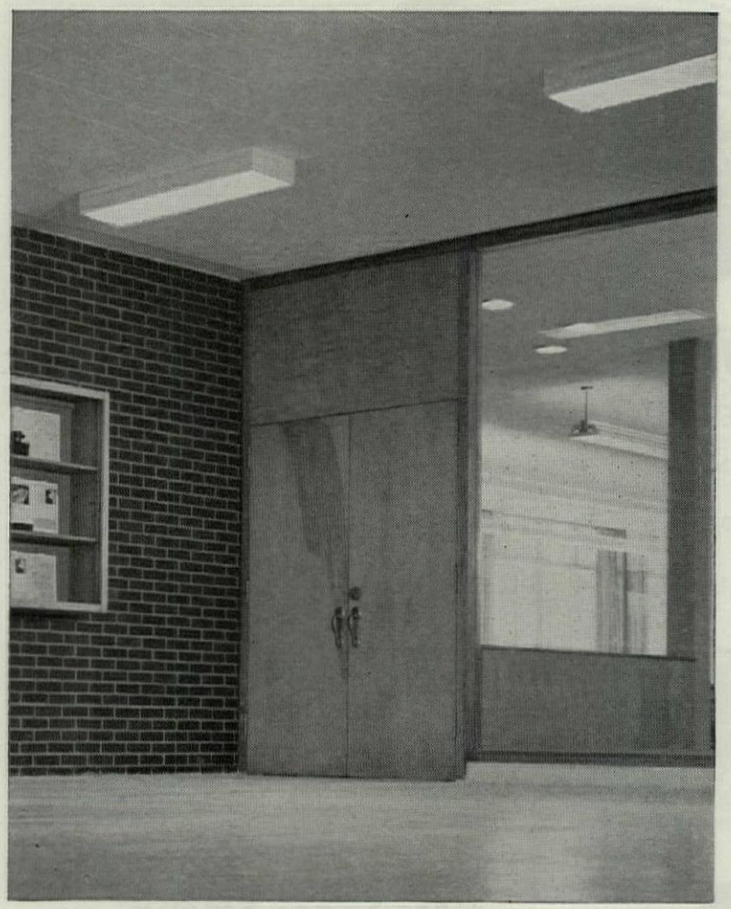


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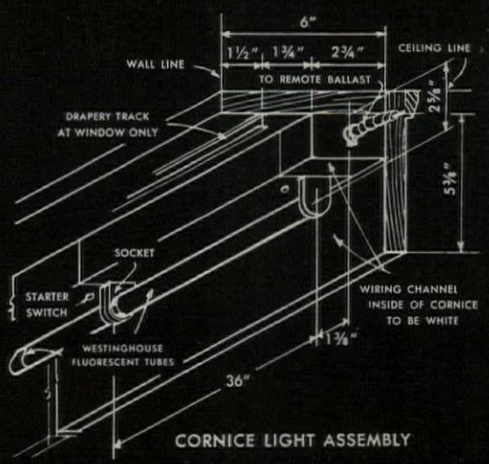
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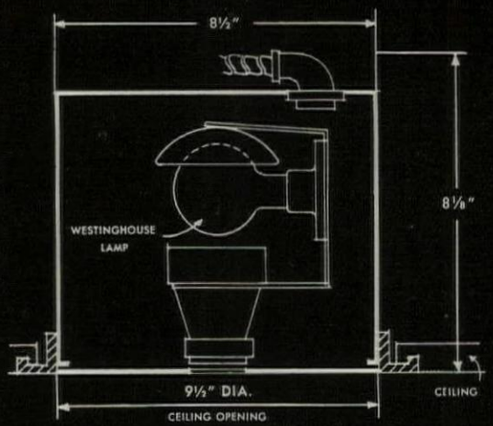
DESIGN DETAILS

PLATE 4 LIGHTING

..Cornice Light
..Pin-Hole Spot



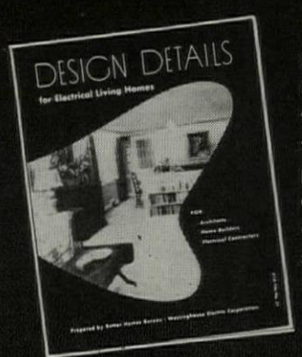
CORNICE LIGHT ASSEMBLY



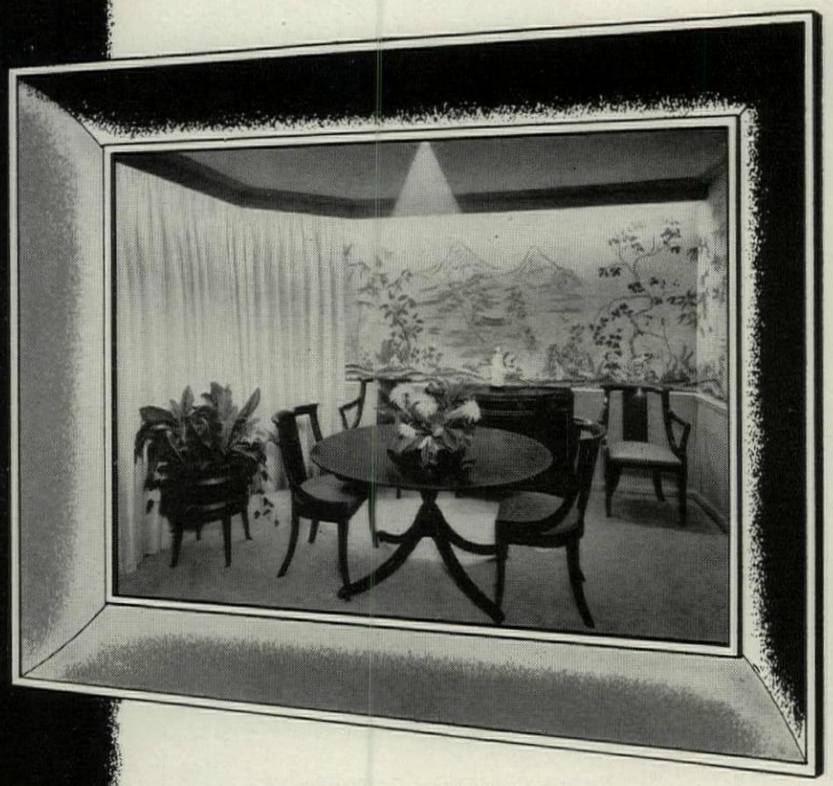
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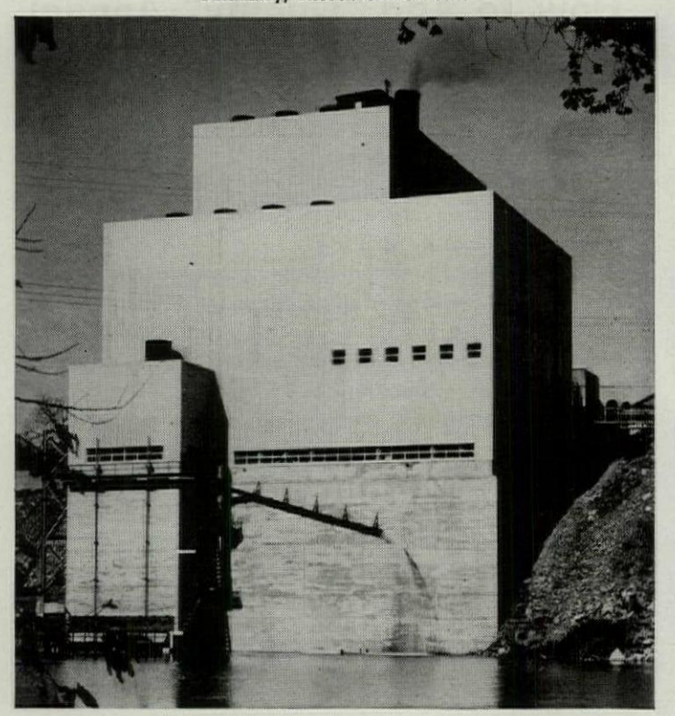
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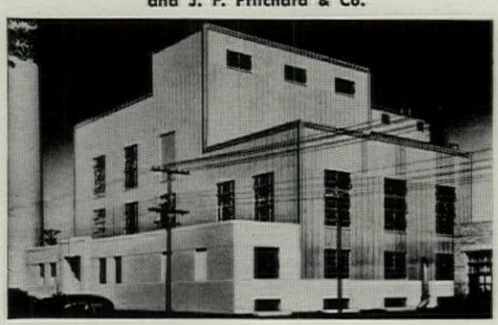
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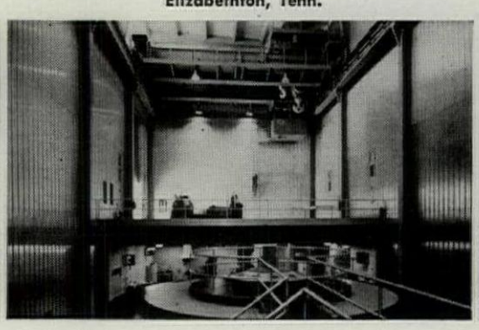
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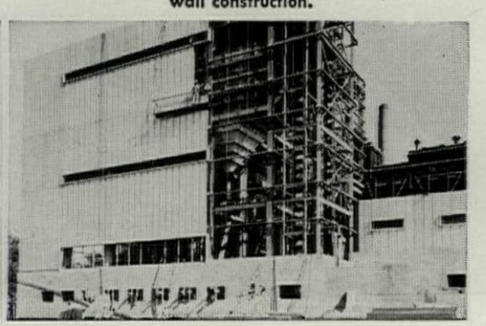
Iowa Public Service Co., Eagle Grove, Iowa
Designed and built by Iowa Public Service Engineers and J. F. Pritchard & Co.

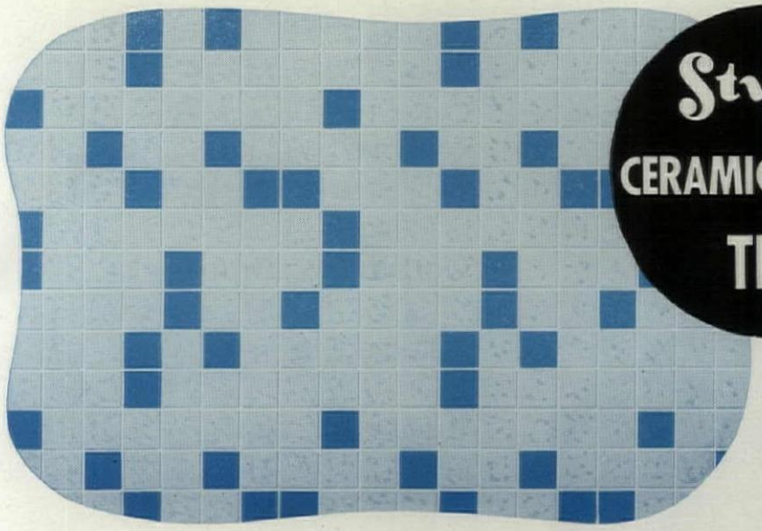


Tennessee Valley Authority Watauga Project
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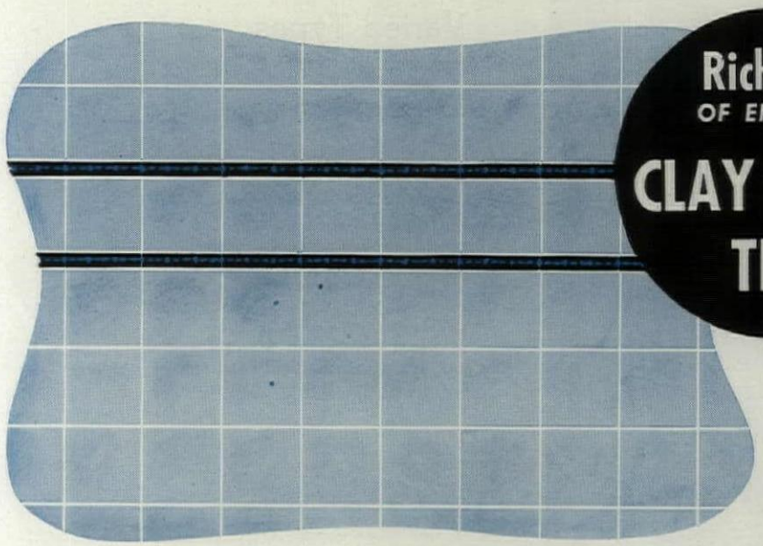
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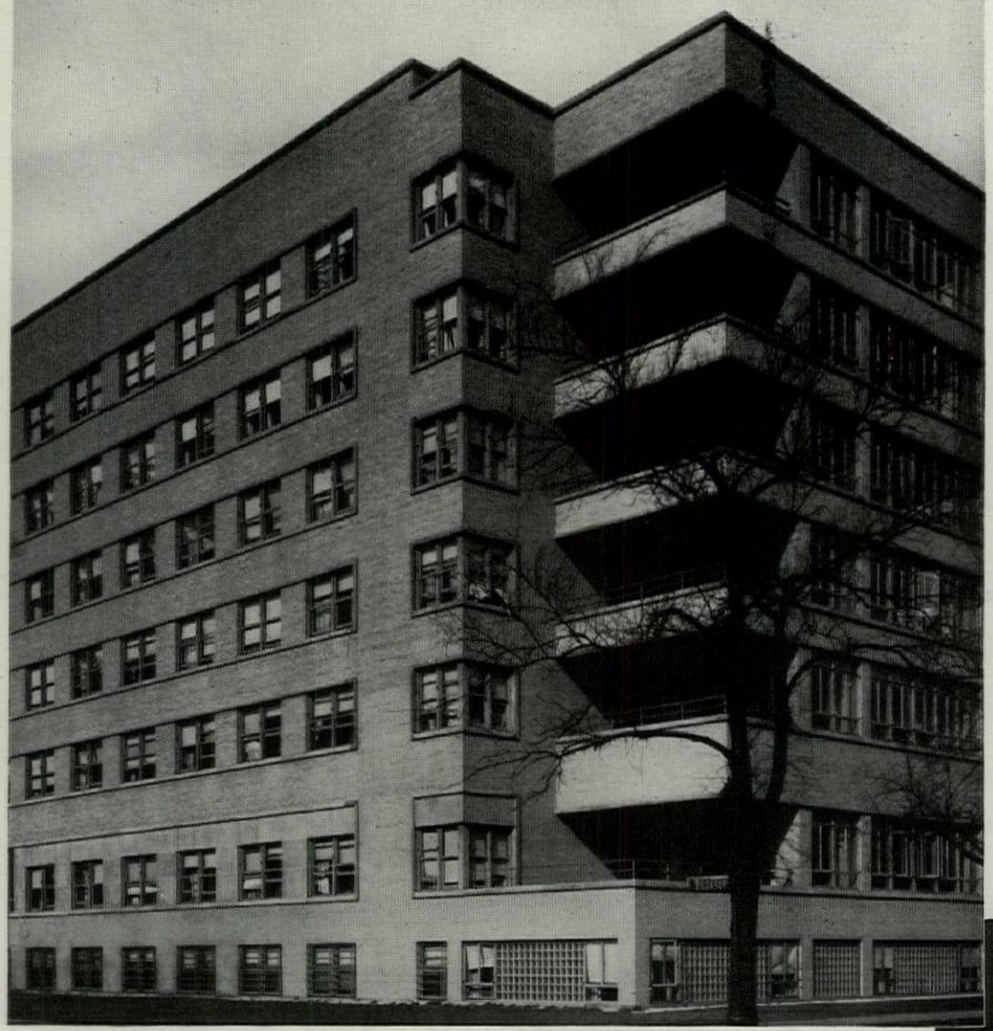
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New Old-Age Home Includes Full Hospital Facilities



Corbin Hardware Selected to Insure Efficient Operation of Varied Types of Doors

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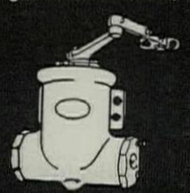
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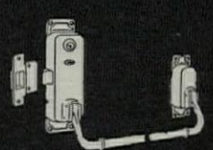


DEAD LOCKS



OFFICE DOOR LOCKS

AUTOMATIC EXIT FIXTURES





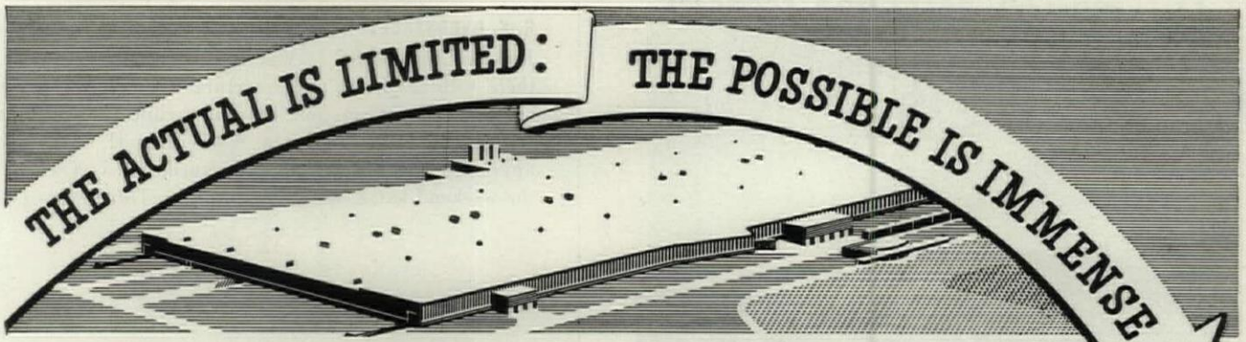
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WELDED design is cutting 5% from the labor costs of fabricating and erecting the 11-story Edgewater Apartments at Cleveland, Ohio. Simpler details of frame connections, made possible only with welded designs, are also helping to effect savings of 25% in weight of connections and a 3% reduction in total weight of this 1200 ton framework.

Each design detail utilizes the full economies of welded construction. Connections are so engineered as to allow fast, low cost shop fabrication and yet permit flat position field welding on every joint.

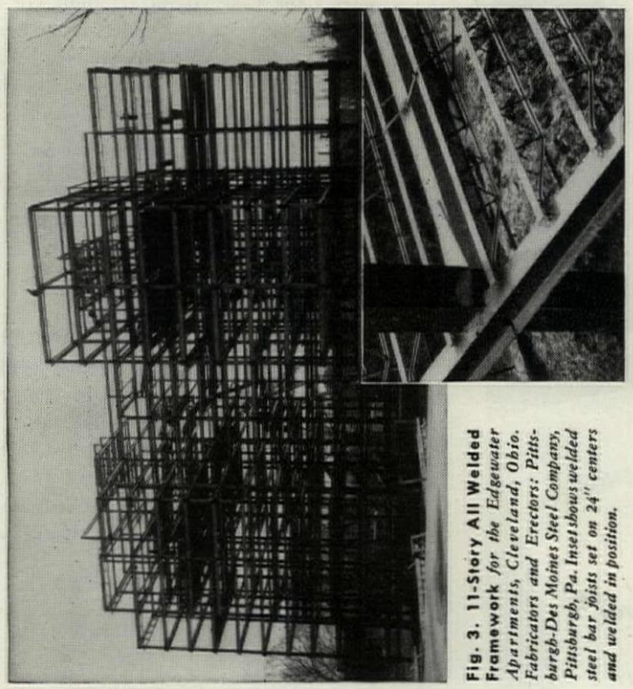


Fig. 3. 11-Story All Welded Framework *for the Edgewater Apartments, Cleveland, Ohio. Fabricators and Erectors: Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa. Inset shows welded steel bar joists set on 24" centers and welded in position.*

SIMPLER COLUMN SPLICES

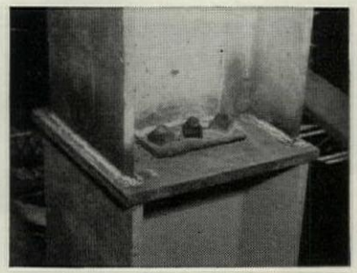


Fig. 1. Typical Welded Splice *of all columns 12 to 12 and 12 to 14 WF column. Bearing plate is shop welded to lower column . . . clip angle for erection bolts is shop welded to upper column. All field welds are made in fast, easy downhand position.*

FASTER BEAM-TO-COLUMN CONNECTIONS

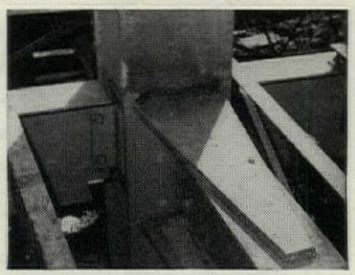


Fig. 2. Simpler Detail Speeds Erection. *Clip angle is shop welded to column for bolting beam in the field. Outside cover plates are then field welded to top and bottom flanges and the top plate to column in flat position with Lincoln "Fleetweld 5" electrodes. Bottom plate is shop welded.*

WELDED DESIGN SAVES 25% ON WEIGHT OF CONNECTIONS

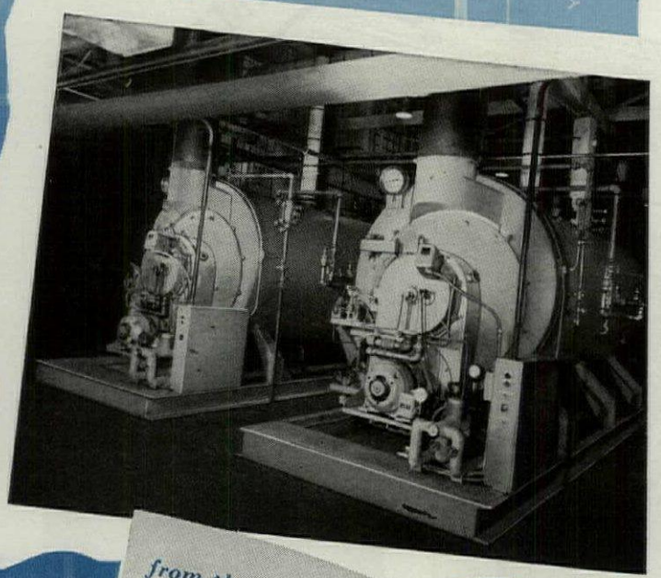
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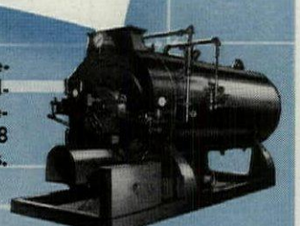
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BEHIND THE BLUEPRINTS

R. K. OVERSTREET, the 27 year old designer of the lakefront lodge near Jackson, Miss. (p. 171) was born in that southern city, now practices there with his father's architectural firm, N. W. Overstreet and Associates. Young Overstreet studied architecture at Tulane University, served as a naval officer in World War II, spent one postwar year apprenticed to Bruce Goff. He returned to Jackson in 1949, designed the weekend lodge, which was built by Tillman Sessums, a year later.

* * *

SUZANNE and **JULIAN UNDERWOOD** are the young husband-and-wife team who designed a modern shingled house on stilts for themselves near Cape Cod (p. 172). Both are Harvard-trained architects and alumni of Carl Koch's office. Together they have done several houses and remodeling jobs. Separately, Julian Underwood works for architects Tallman, La Brode & Rounseville in New Bedford, Mass. Contractor for their house was Philip S. Manchester Sons (Ernest Manchester).

* * *

CLINTON MOCHON and **H. CONRAD KROLL** were youthful (27 and 26, respectively), colleagues on the faculty of the University of Texas School of Architecture until Mochon transferred to the University of Virginia. Mochon earned his Master of Architecture at Rensselaer Polytechnic Institute, also studied at the Cranbrook Academy. Kroll was trained at the University of Texas. The vacation house (p. 175) they designed for a 5 acre wooded site near Austin, Tex., was a joint, extra-curricular venture. The house was built by A. W. Bryant and M. Z. Collins of Austin.

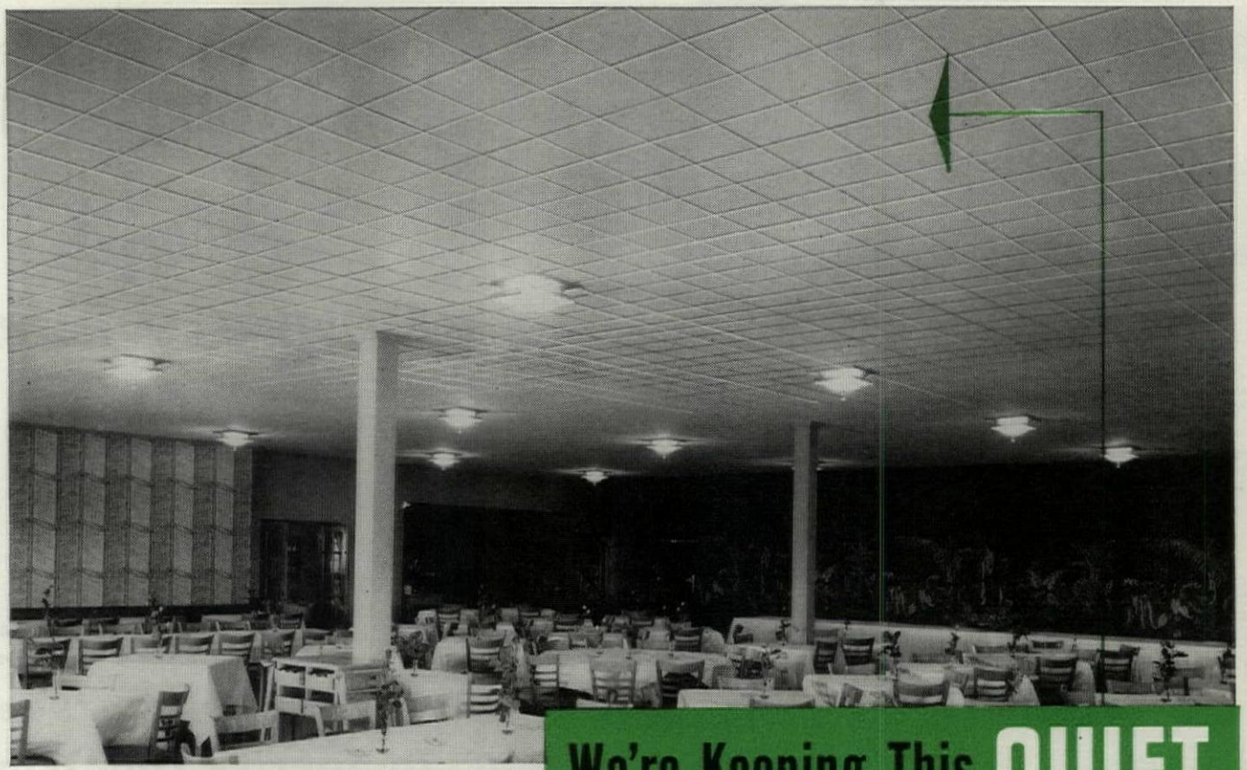
* * *

Army veteran **ULRICH J. FRAZEN** is a scholarship graduate of Harvard's School of Design. The 30 year old architect has worked in several well-known Boston offices, including Hugh Stubbins, Jr., and Anderson and Beckwith, now has projects of his own under way in widely scattered areas of Maine, California and New York. The split-level hilltop house in Williamstown, Mass. (p. 176) was designed by Franzen and built by Albert Cummings, contractor in town.

* * *

Chicago-born, 36-year-old **EDWARD LARRABEE BARNES** taught English and Fine Arts at the Milton Academy before switching back to an earlier interest, architecture. Forsaking the schoolroom, Barnes earned an architectural degree and a travelling fellowship from Harvard in 1941, served in the USNR in World War II, went to work for industrial designer Henry Dreyfuss in 1946. Since 1948, Barnes has had his own New York office. The suburban house for the New York *Herald Tribune's* Editor-In-Chief (p. 180) was the first job Barnes completed under his own name. E. W. Howell Company of New York built the house, and Benjamin Spivak engineered the complicated heating system.

(Continued on page 132)



Milburn Country Club, Kansas City. Emil O. Bayerl, architect. Simpson Acoustical Tile installed by Kelley Asbestos Products Company, Kansas City, Missouri.

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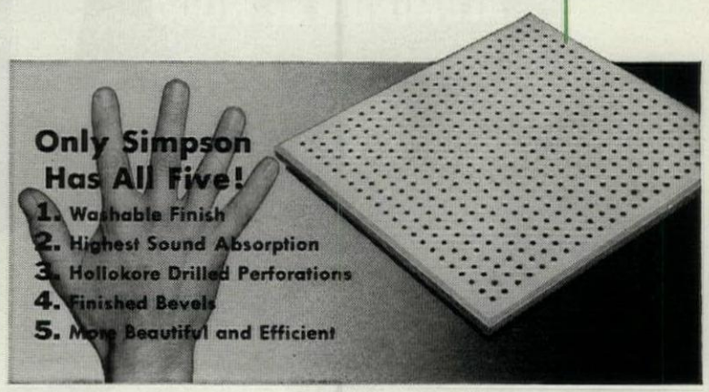
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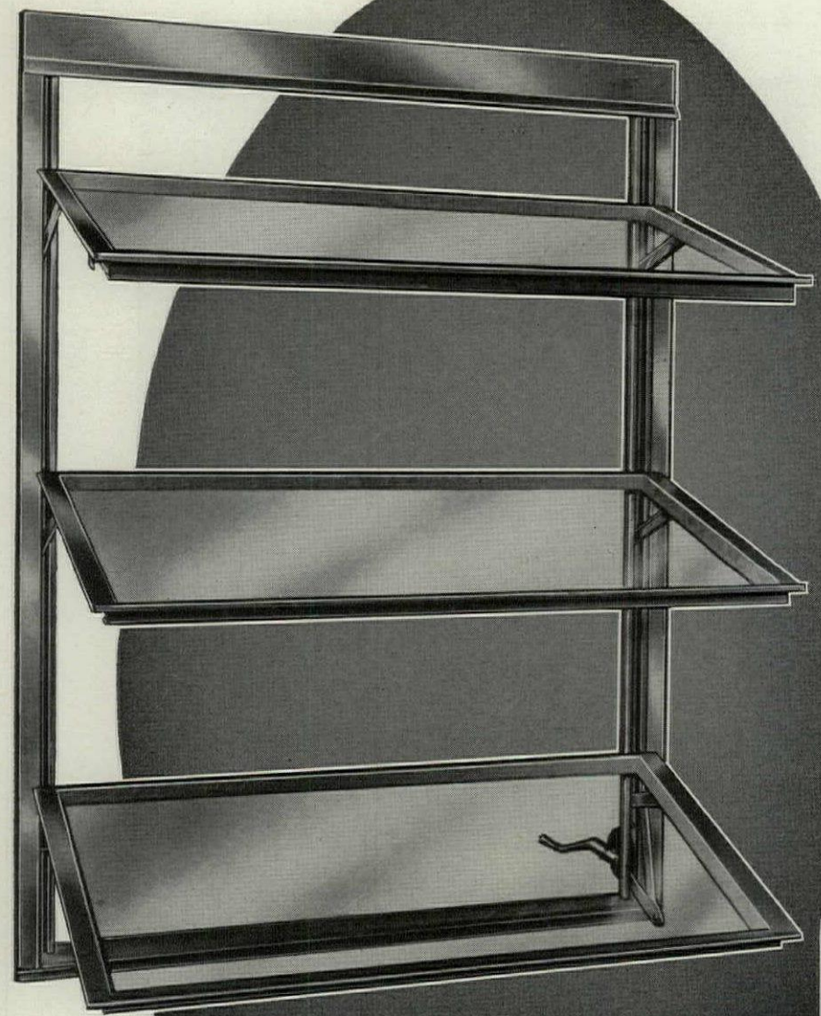
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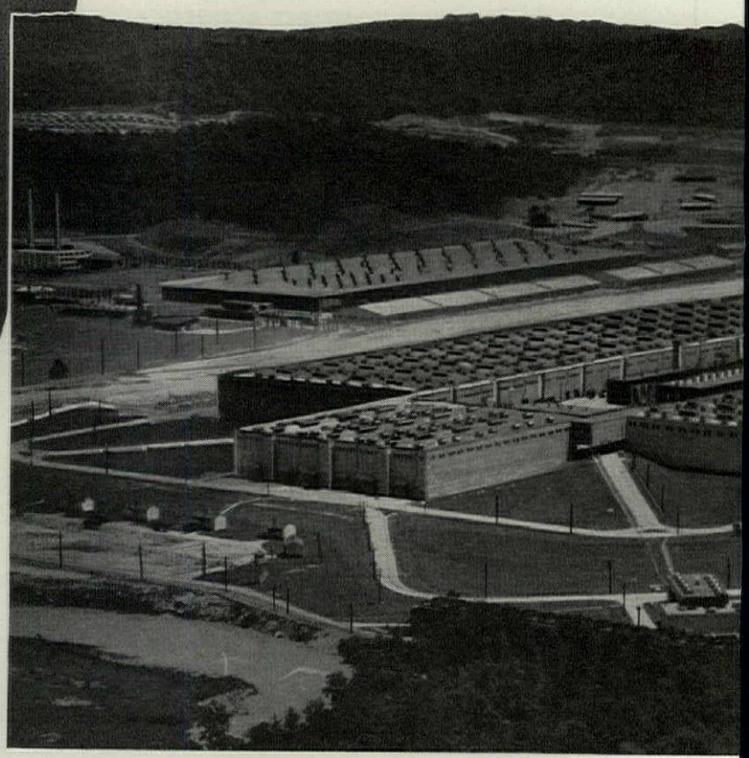
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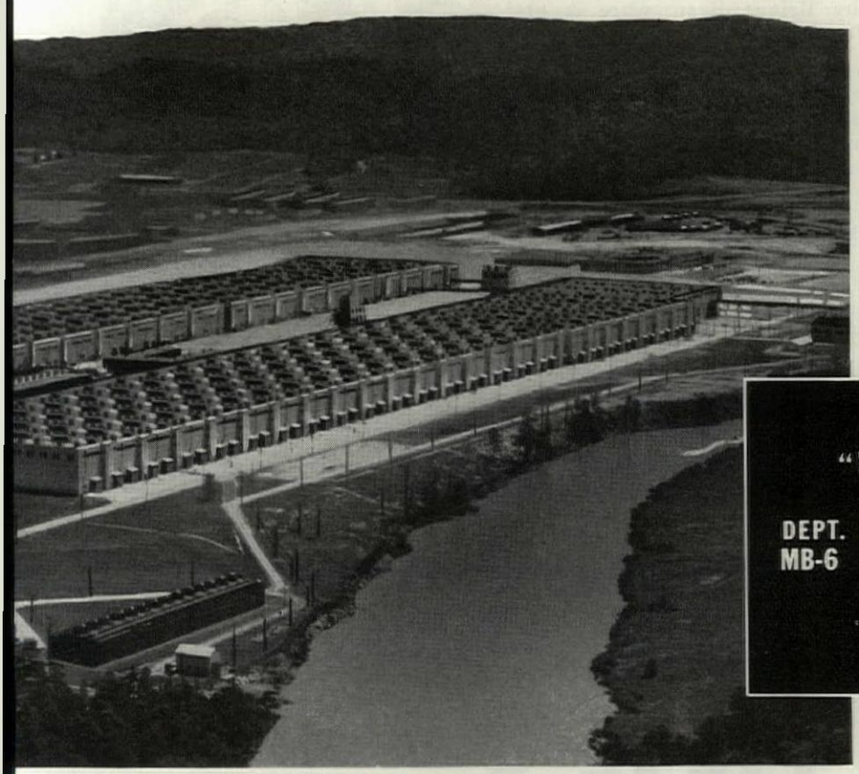
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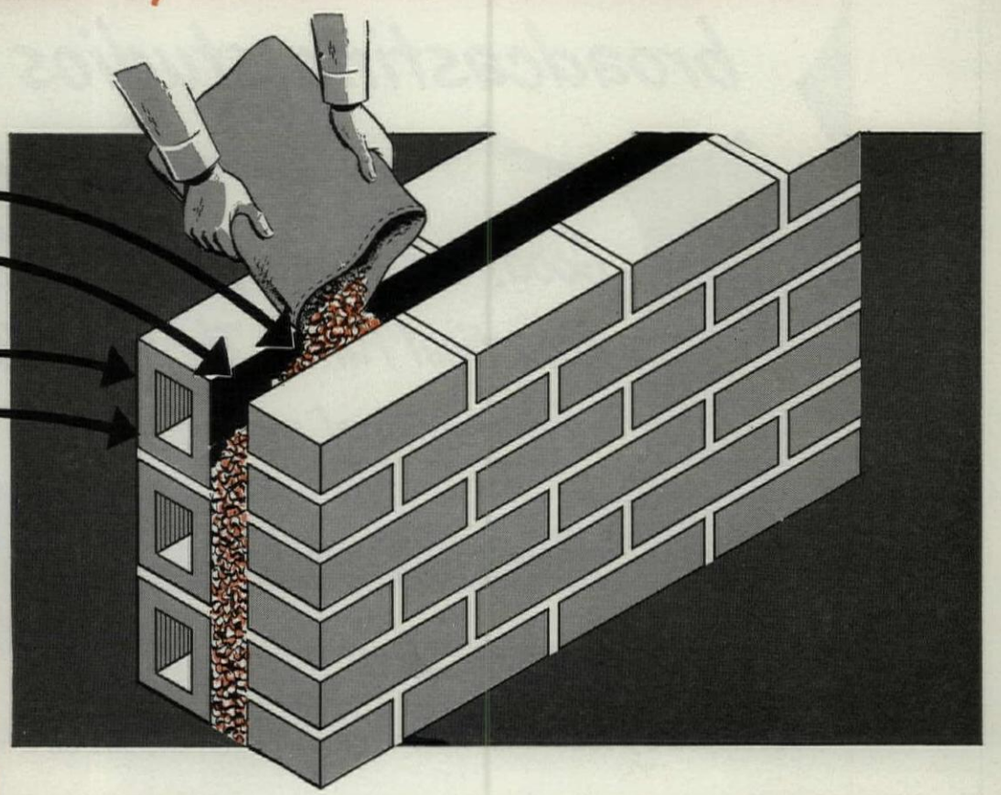
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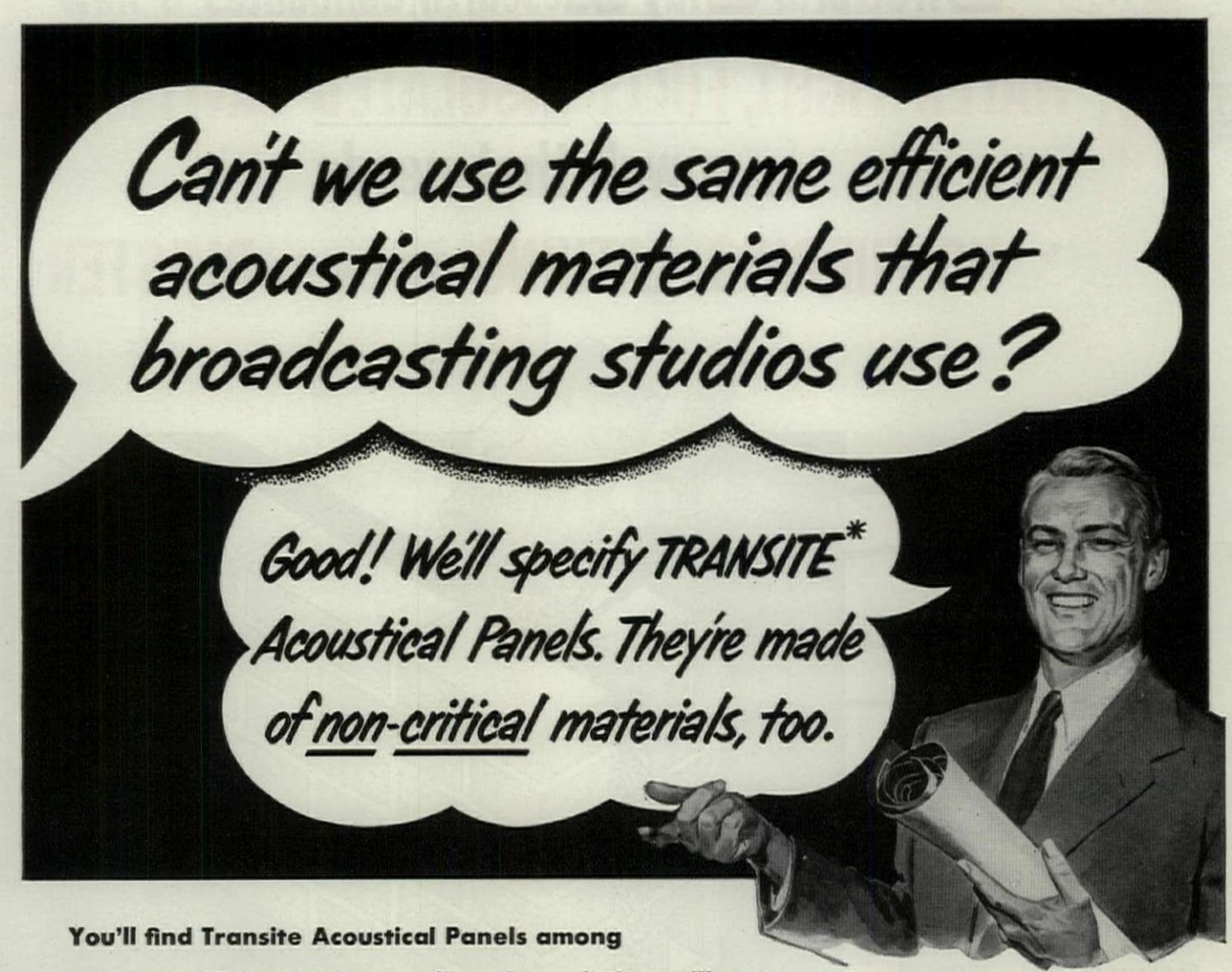
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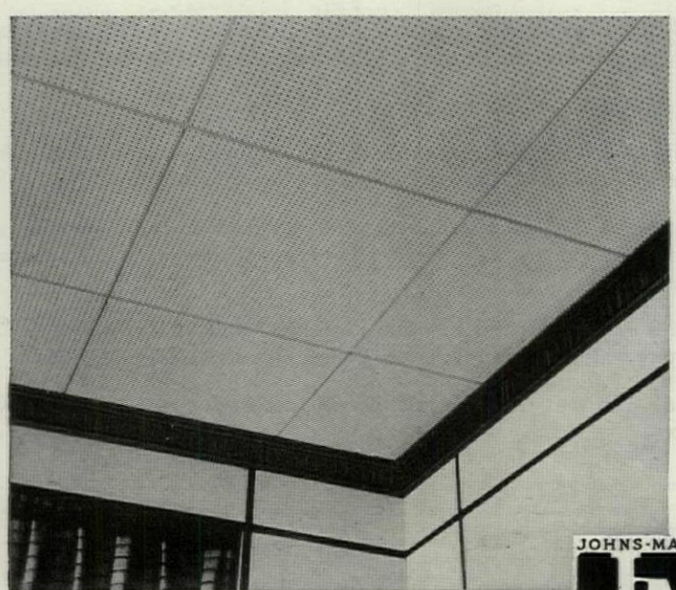
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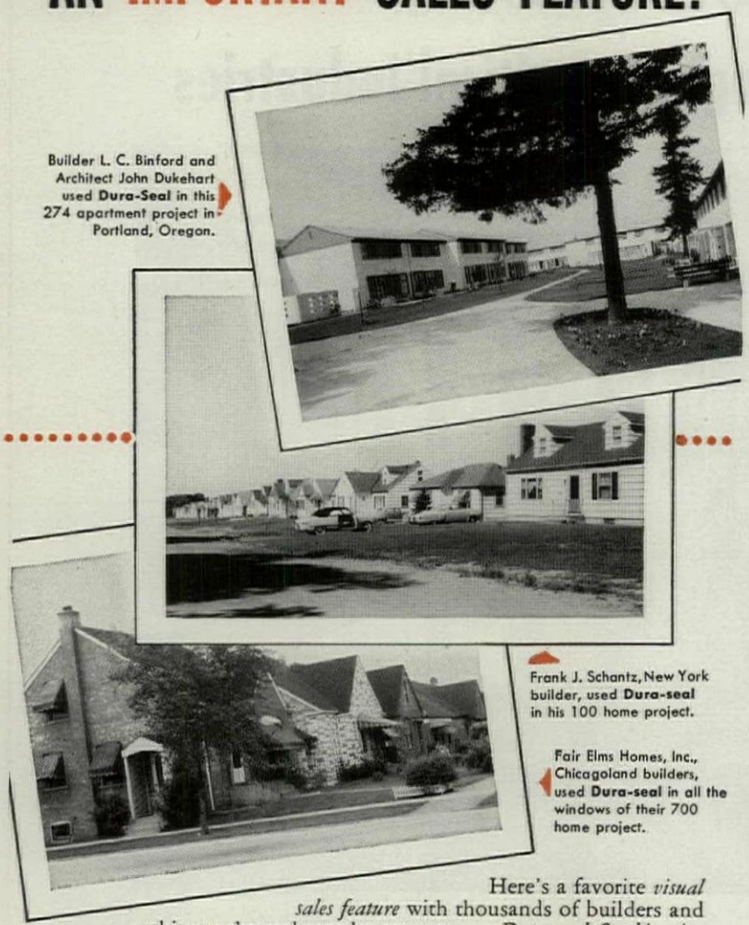
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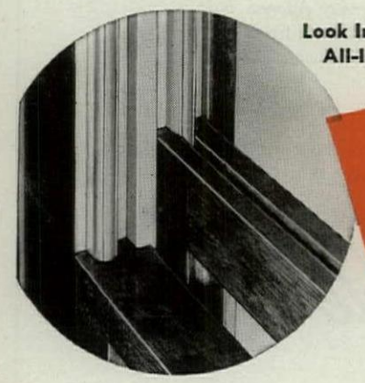
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BEHIND THE BLUEPRINTS

JOHN CARL WARNECKE is the second generation bearing that name to practice architecture in the famous Bay Region. A graduate of Stanford ('41) and Harvard ('42), he was field supervisor for $25,000,000 worth of wartime housing for Richmond, California. While associated with Chester Miller and his father, Carl Warnecke, over the past five years, young Warnecke has been welding a group of individualistic young architects into a coherent design group. This new firm, now completely on its own, carries out the majority of the new commissions, has recently opened new offices in San Francisco in addition to its Oakland quarters with the older firm. On its drawing boards at the moment are several million dollars worth of modern building. The Mira Vista School (p. 185), landscaped by Eckbo, Royston & Williams, is a first-rate example of its work. Contractor was INDEMCO.

* * *

HUGH MOORE, JR. is the 30 year old designer of Vikon Tile Corp.'s new offices and showroom (p. 190). Moore's diversified background includes a degree in architecture from Yale, another in civil engineering from Pennsylvania State College, plus a wartime stint with the Army Engineers, designing military structures. Moore practices architecture in Easton, Pa., under the name of Moore, Tydeman, Associated Architects, designs residential, industrial, as well as commercial structures with equal ease.

* * *

Partners since 1945, **KENNETH GIBBONS** and **WILLIAM H. HEIDTMANN** met while both were members of the same New York firm. Gibbons received his professional training at Yale, Heidtmann at MIT. Gibbons worked for several architects in Massachusetts and New York before striking out on his own. Heidtmann has been a contractor's construction superintendent, was project manager for the design and construction of a big aircraft plant in World War II. The clean, tile-faced building for the Children's Aid Society (p. 192) is a recent design, executed by Irons and Reynolds, New York contractors.

* * *

Australian-born **BRUCE E. HEISER** has an international background of study and travel, encompassing Europe, the South Seas and his native land. Heiser studied architecture and construction at several California colleges, supplemented it with coaching by practicing architects and engineers. During a wartime assignment in the Naval Construction Battalion (Seabees), he worked with famed Bruce Goff. Since 1950, Heiser has practiced architecture from his own San Francisco office. The farm machinery showroom (p. 195), built by Barrett & Hilp, was designed by Heiser while in partnership with another local architect, features a striking mural by Don Clever.

* * *

HARRY WEESE (36) is both a registered architect and engineer practicing in the Chicago area, close to his birthplace. An ex-Navy man, he worked for Skidmore, Owings & Merrill before and after World War II, opened his own independent architectural office in 1940, re-established it in 1947. He is an inveterate prize winner and researcher, has won grants for study in city planning, housing, prefabrication and low cost furniture design. One of a variety of building types to come from Weese' office is the PTA office building (p. 196).

"Costs CUT 44%"

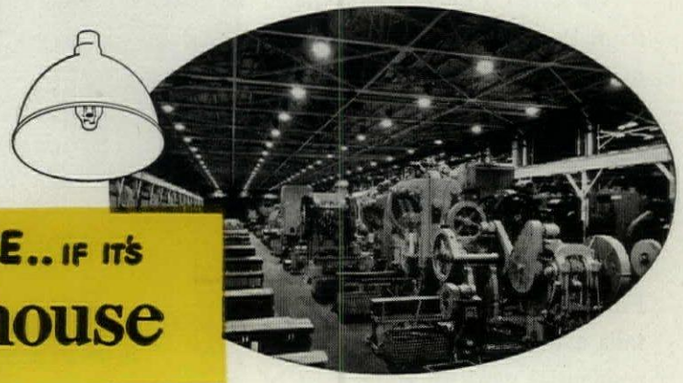
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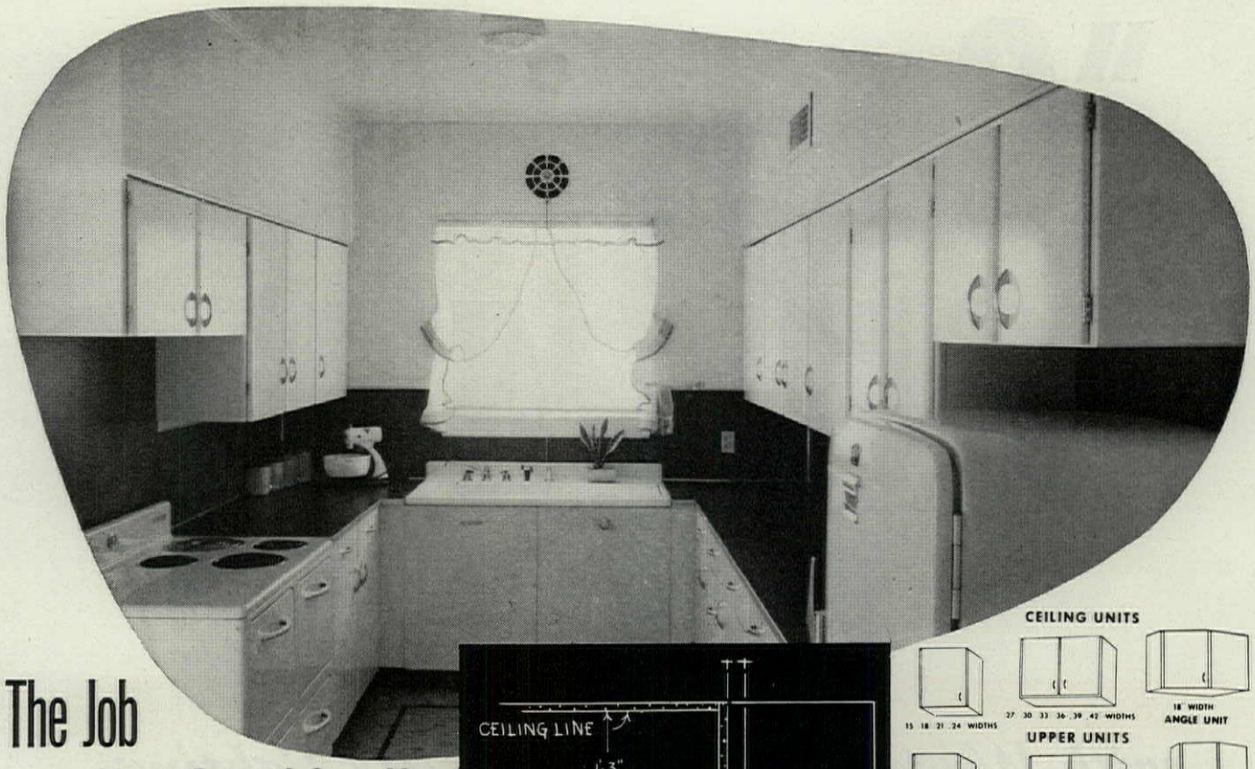
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The Job on Your Board Can Use Nu-Style Cabinets –

if your clients are the kind who demand the best, both in eye appeal and in structural quality, yet appreciate economy as well.

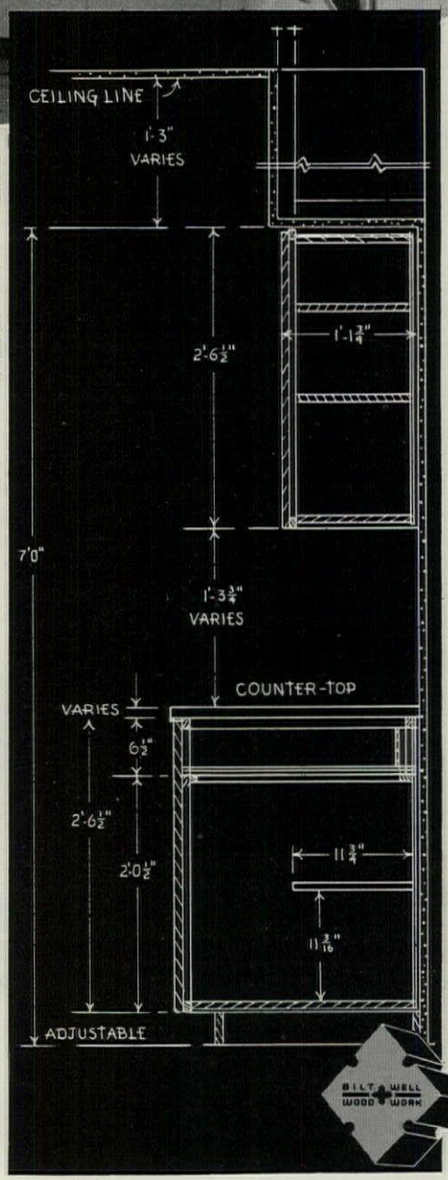
Specify Nu-Style Cabinets for kitchens, storage walls in hallways, laundries, nurseries, and sewing rooms . . . wherever your creative ability calls for them.

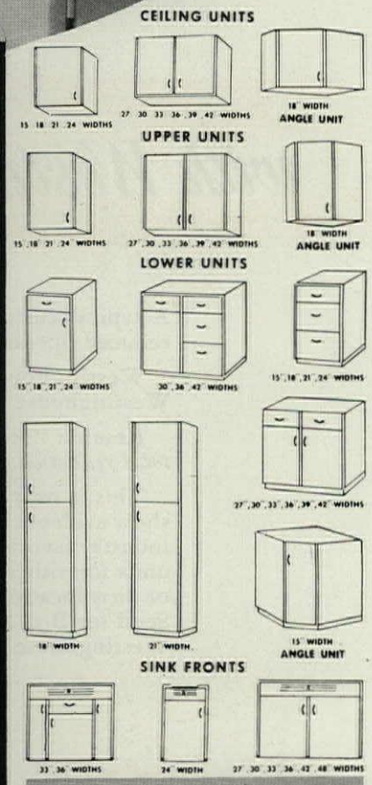
Nu-Style Cabinets are produced from Ponderosa Pine, completely machined and smoothly sanded, ready for assembling and painting or varnishing. Each unit is individually packed in a dust-proof carton.

For further information see Sweet's Architectural & Builders' Files 17c-Ca, 5c-Ca, 24b-Ca. Details available to architects doing residential work in states east of the Rocky Mountains.

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ANOTHER CASE OF *Copper where it Counts!*

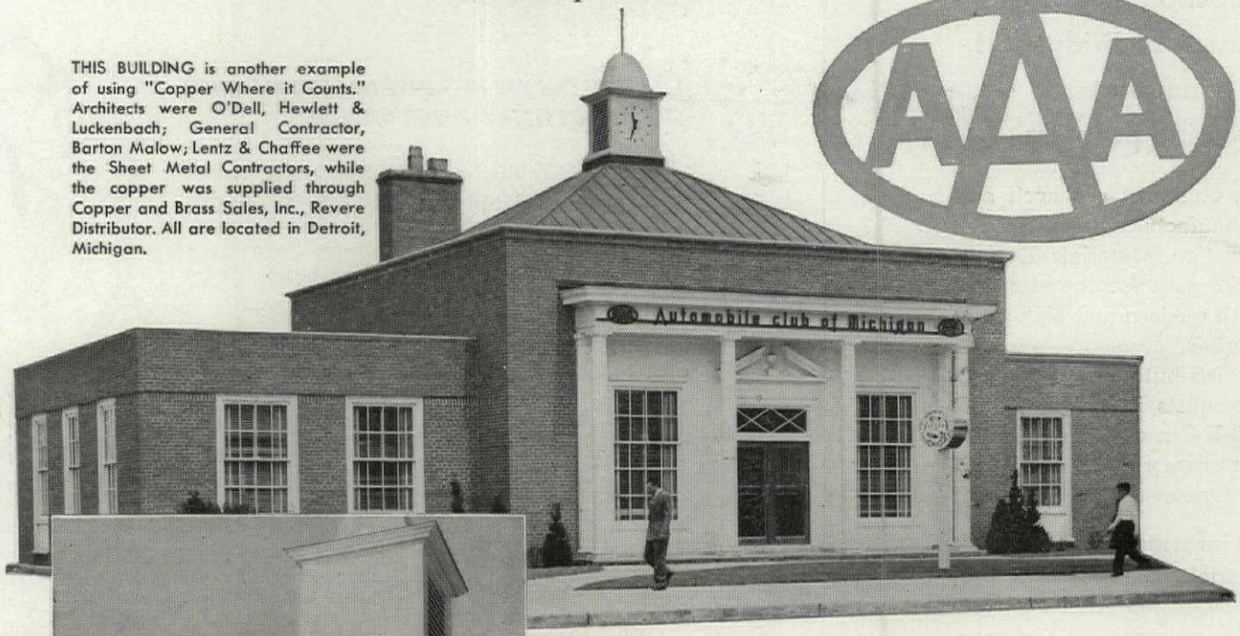
• Copper doesn't "happen" to be specified for roofs like the one on this building of the Automobile Club of Michigan. Copper gets the call over other materials because it has been proved, down through the centuries, that it endures, is easily worked, requires little if any maintenance and when aged adds a touch of distinction to the building it shelters.

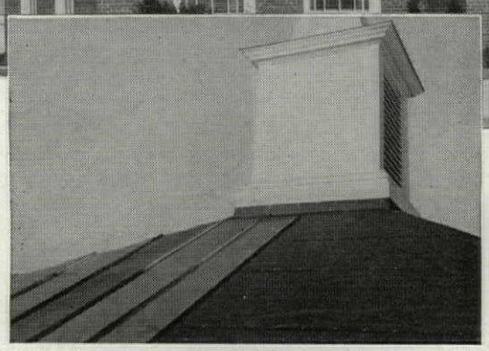
While utility was the prime consideration for the material to be selected, for the central roof section, beauty of design and how it would look after years of service, also entered into the picture. For, this building was to be erected in a fine residential neighborhood and it couldn't be labeled "commercial." Copper filled these specifications.

Although copper cannot now be used for roofing, we use the Automobile Club of Michigan installation as a means of reminding you of the merits of Revere Copper over other materials so that when copper once more is permitted for roofing you will again use it, and with confidence. Meantime remember, while limited, you can still get Revere Sheet, Strip and Roll Copper for flashing. For through-wall applications ask the Revere Distributor about Revere Keystone Thru-Wall Flashing.* He also will advise you of the availability of materials and put you in touch with Revere's Technical Advisory Service in the event you wish to discuss your technical problems.

*Patented

THIS BUILDING is another example of using "Copper Where it Counts." Architects were O'Dell, Hewlett & Luckenbach; General Contractor, Barton Malow; Lentz & Chaffee were the Sheet Metal Contractors, while the copper was supplied through Copper and Brass Sales, Inc., Revere Distributor. All are located in Detroit, Michigan.





ABOVE CLOSE-UP of the central roof section of the building housing the Automobile Club of Michigan, Grosse Pointe Park Division, shows how enduring Revere Copper was applied.

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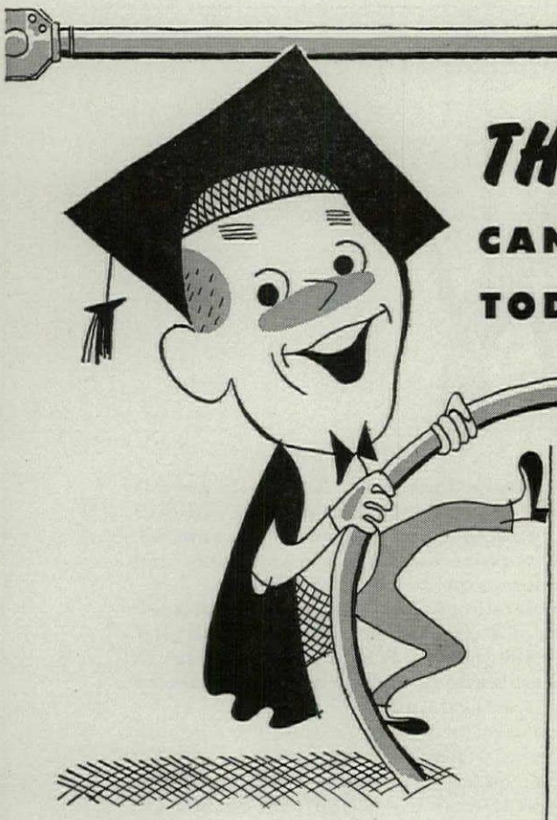
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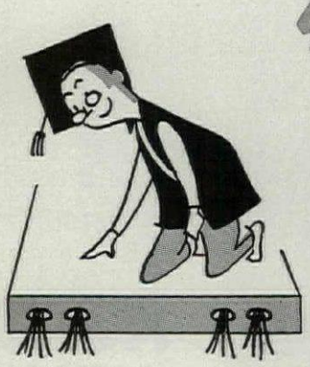
2. Q. *HOW CAN YOU PREPARE FOR YOUR CLIENT'S INCREASING DEMANDS FOR THE G-E REMOTE-CONTROL WIRING SYSTEM?*

A. (1) Get complete details on "remote control" from the G-E Remote-Control Wiring Manual. Get a copy from the G-E Construction Materials distributor in your locality or write to the address below. (2) Let G-E engineers help you in your planning. Write to us at Bridgeport for details on the Architects Residential Wiring Service.

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"A great opportunity is yours. The occasion confronts you. The future is in your hands — will you accept the responsibility or will you evade it?

"That is the only vital question I have to put to you. . .

"Do you intend, or do you not intend, do you wish, or do you not wish, to become Architects to whose care an unfolding democracy may entrust the interpretation of its material wants, its psychic aspirations?"

Thus, 51 years ago this month, Louis H. Sullivan exhorted

THE YOUNG MAN IN ARCHITECTURE

In this special issue, in their own work and in their own words, the architects of a new generation make their answer. That answer reveals how deeply they have taken to heart the lessons taught by Sullivan and by those who followed him—Wright, Mies van der Rohe, Le Corbusier, Gropius and the other pioneers of the new architecture.

But it also reveals a vastly stirring movement forward, a brave unwillingness to rest on progress already made, a ferment expressing itself in a dozen different trends. What could be more fitting for an "unfolding Democracy?" What could be more promising for its future?

YOUNG ARCHITECT'S OFFICE is elegantly spacious design lab



Born 1921. Yale School of Architecture, 1943. Worked for Douglas Aircraft, Spaulding & Rex and C. Gordon de Swarte. Recently elected member of Los Angeles Art Commission.

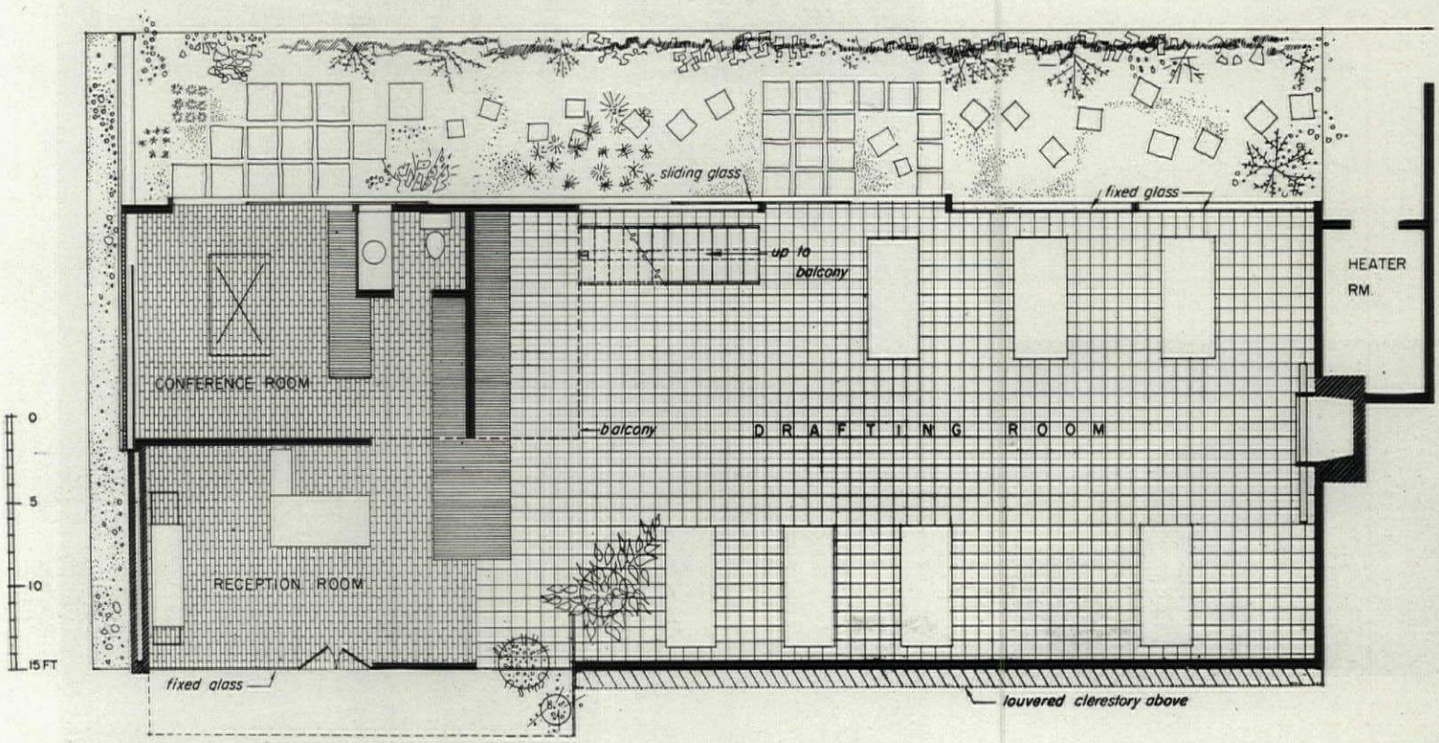
WILLIAM S. BECKETT: *"There was a Boys' Club called 'Jill's and Jack's' in Beverly Hills, and their building was for sale. We tore out most of the partitions, opened up large parts of the exterior walls, and were left with a high box big enough to accommodate our office and drafting needs.*

"This large space we divided very lightly with a few screens and levels—but without losing the sense of wide spaciousness. There is a reception room where visitors can wait without feeling either boxed in or embarrassed because they think they might be intruding. The drafting room is a big, high, simple volume relieved by a sliding glass wall that leads into the garden patio. All files, sample cases, specifications, supplies, working drawings and so on are stored in the two long cabinets, placed back to back. All details in the room are kept plain, simple and uncluttered—a deliberate attempt to encourage neatness and efficiency.

"I don't have an office of my own. My time is spent in the drafting room and on the open mezzanine, where we develop and design jobs before they are released to the drafting room for working drawings. However, a place was needed for conferences with clients and private tele-



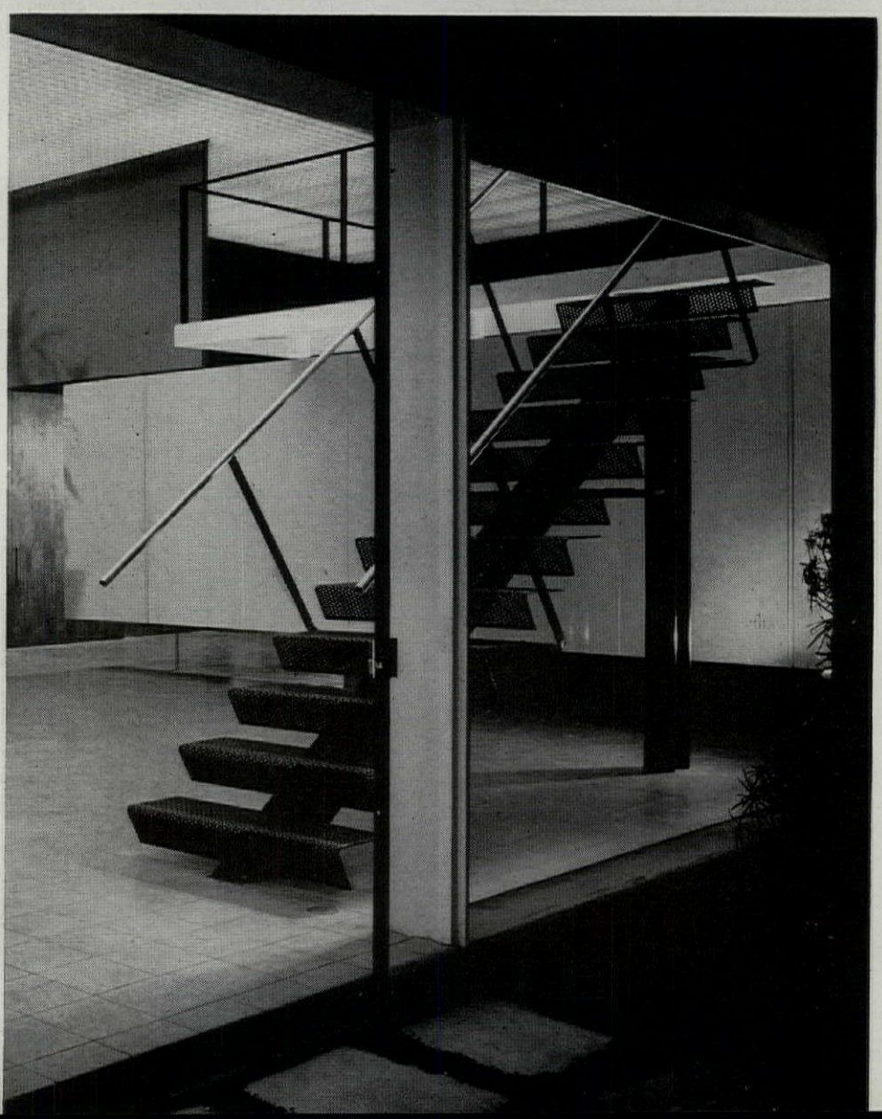
Photo: Julius Shulman

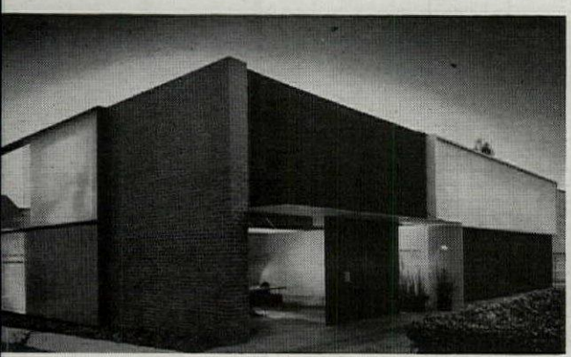


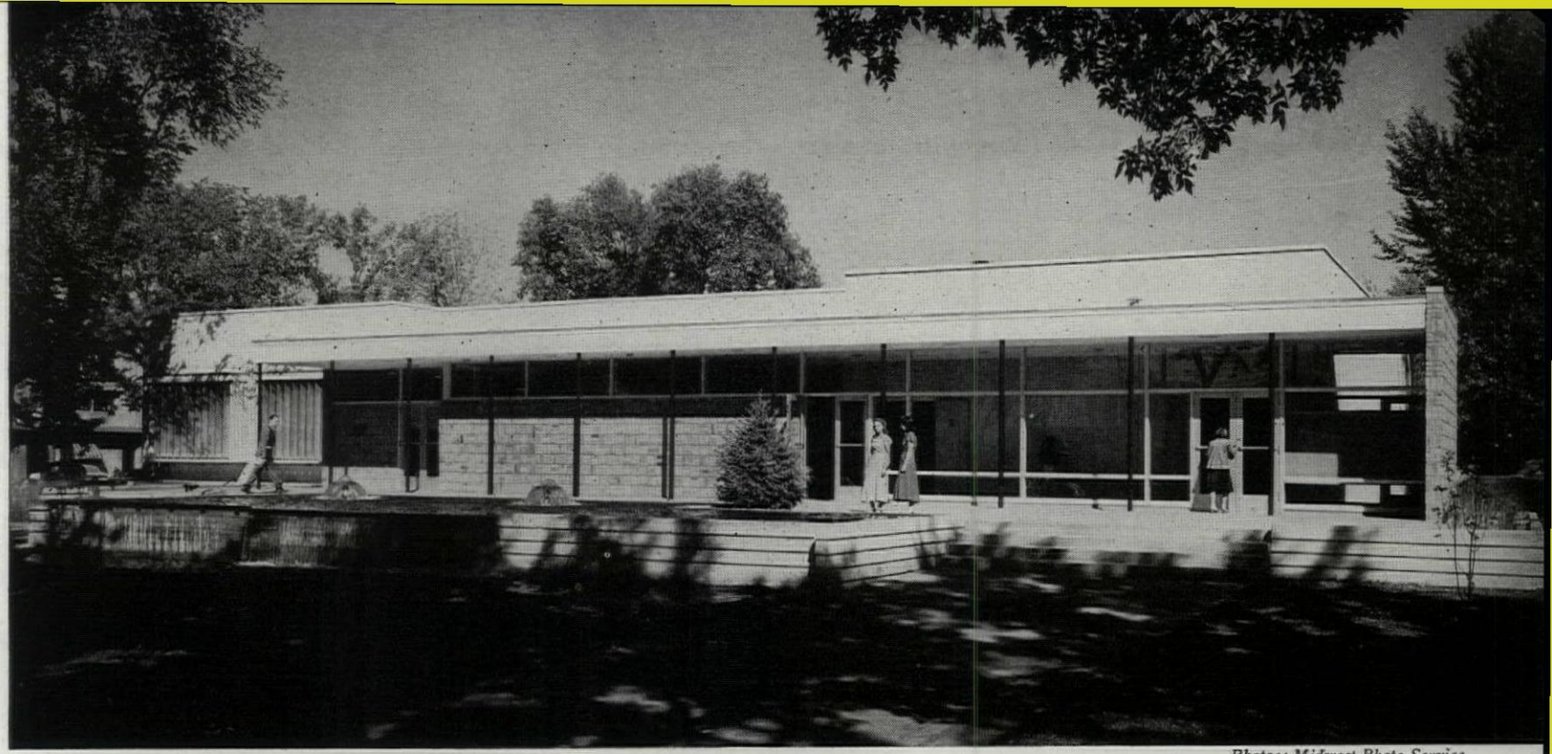
phone conversations; hence the conference room. It looks out onto the patio too, through a floor-to-ceiling glass wall.

"The building has radiant heating and a forced air ventilator system equipped to receive air cooling as well. Our total building cost was 81 cents per cu. ft., which includes all the equipment, an enormous amount of built-in cabinet work and all the furniture that we designed ourselves. The metal stairway, for example, cost only $185 — complete, including labor — which is less than the cost of a conventional wooden stairway (my secretary did, however, polish the hand rails herself)."









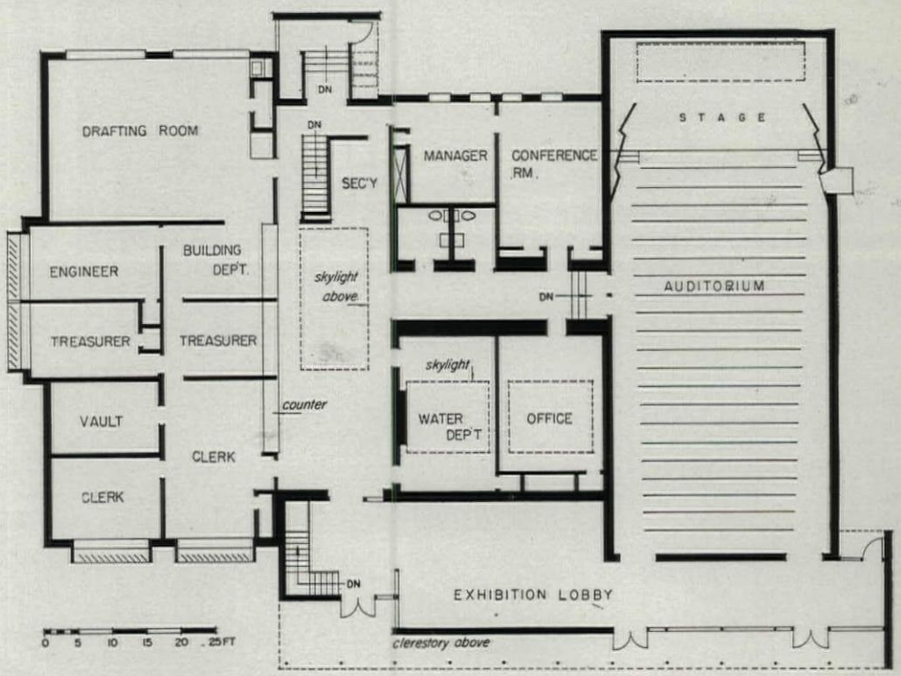
Photos: Midwest Photo Service

CITY HALL is an old school with its top lopped off, its long skirt concealed by a terrace





THOMAS E. MOORE born 1908. Yale 1930. Partner in Smith, Hegner & Moore 1946-1950. Now practicing on his own. ROBERT A. VAN DEUSEN born 1920. University of Michigan 1943, Harvard 1948. Designer for Tom Moore on this job. Now working in Boulder, Colo.



MOORE & VAN DEUSEN: *"A comparatively new city, Grand Junction, Colo., is not overwhelmed with tradition—its life is in the future, and its new city hall was to be expressive of a forward-looking city.*

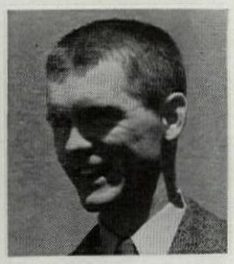
"The site was occupied by a two-story school, long since condemned and abandoned. Though the structure was unsafe for second floor classes, the foundations and walls were substantial and so it was decided, in the interest of economy, to remodel the old building. The roof and second floor walls were removed and the sagging floors reinforced. The new roof was pitched for drainage and the first floor was leveled by covering both with vermiculite slabs, from 2" to 5" thick.

"Landscaping with terraces, planting boxes, etc., raised the grade and reduced the apparent height of the building. Movable vertical louvers, a fountain and the pool are indicative of two important facets of life here in Grand Junction: control of the sun and need for water.

"The final cost was about $9.85 per sq. ft. ($110,000), exclusive of architect's fees, a saving of about $4.15 per sq. ft. under the cost of a new building."



HEXAGONAL THEATER will house new summer festival for the fabled old city of Newport

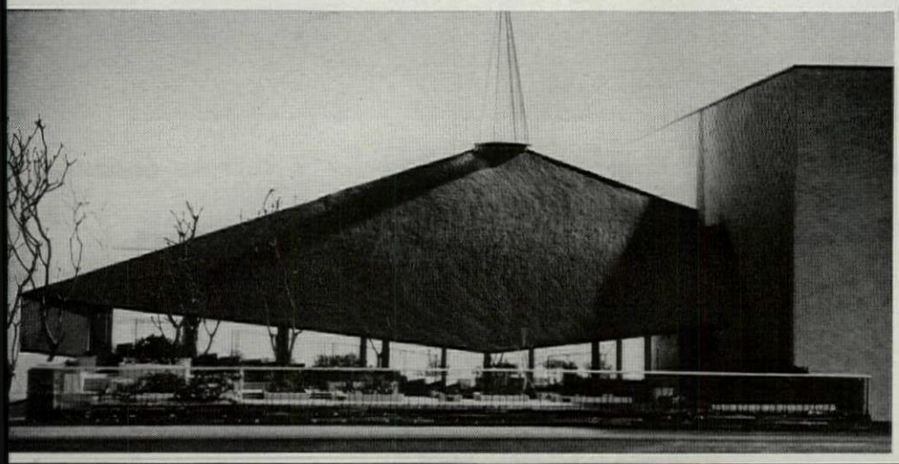


Born 1911. Harvard School of Design, 1936. Now assistant professor, MIT School of Architecture, and practicing in Boston.

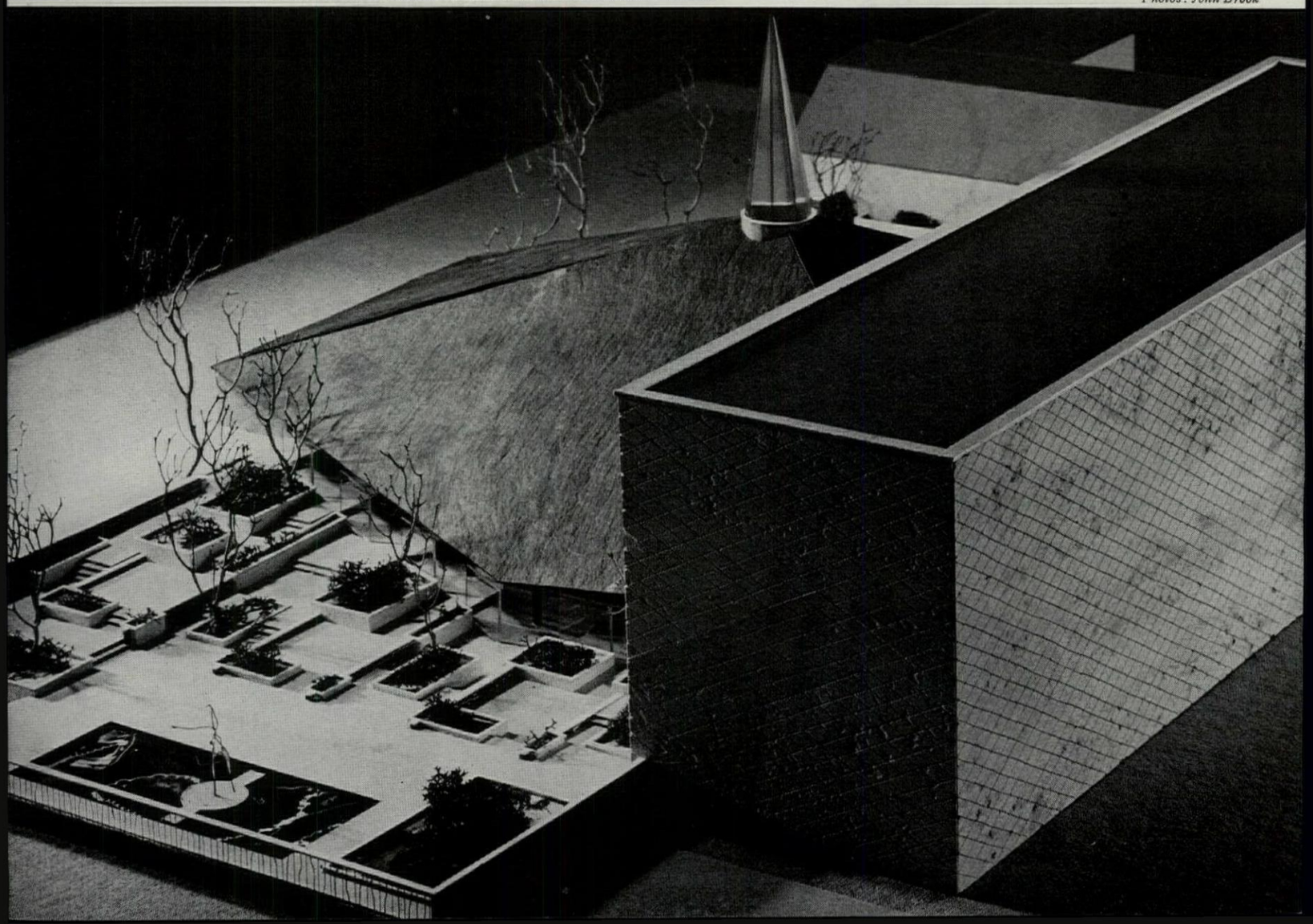
ROBERT W. KENNEDY: *"Newport, R. I., has heretofore been famous architecturally for the Victorian exuberance of its great ecclectic mansions, and as a citadel of society. But now the city has caught a festive new idea. Like Aspen, Tanglewood, Jacobs Pillow and other new summer Meccas for relaxation plus culture, Newport plans to have a summer Festival, marketing its unrivaled oceanside site to a new generation interested in seeing talent performing more informally than usual.*

"In our plans for this Festival, architecture will enter the complex of entertainment not only to house *the festivities but as part of the attraction. The proposed site is Bellevue Avenue, which is lined with the monumental marble mansions of the mauve decade. Belcort, one of the famous old homes, will be bought and converted to house some of the Festival's activities; the building's rich flavor will be conserved carefully, for nostalgic appeal.*

"A number of buildings will have to be added; the principal one will be a theater to seat 1,200, shown in model form. The



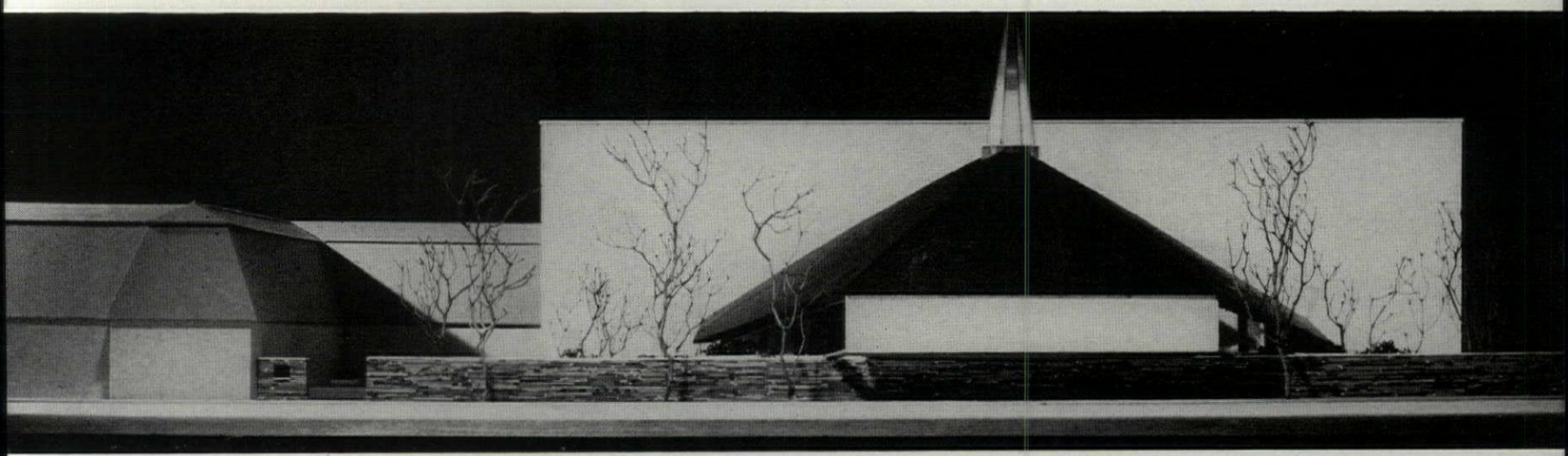
Photos: John Brook

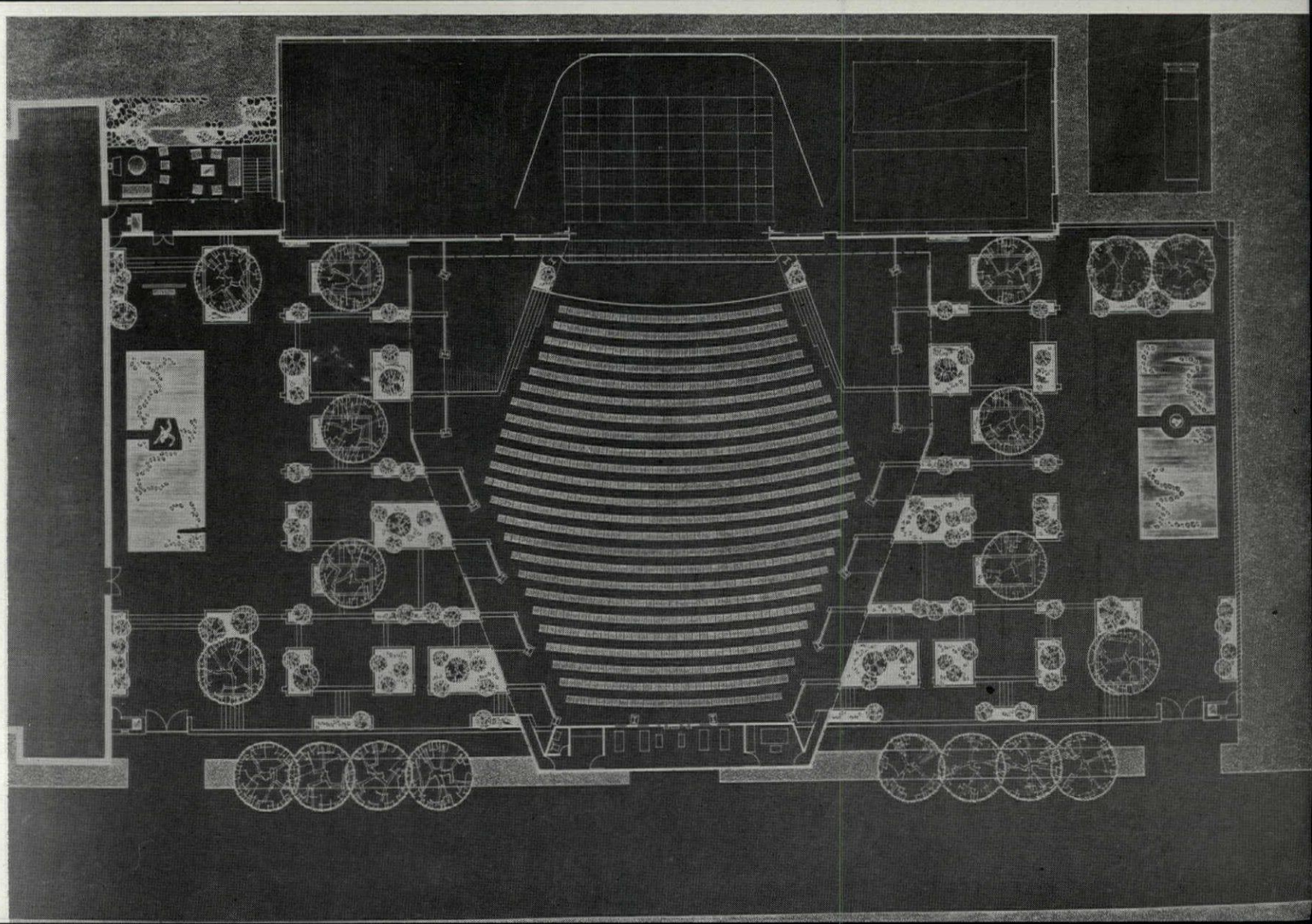


audience will sit in a hexagonal seating arrangement under an acoustically perfect tent of slate pierced by a glass spire for lighting, for ventilation, and for the important function of focusing attention on the Festival. The seating arrangement is on a continuous plane with the garden, with minimal visual interruption. The garden will be terraced, and so will the area under the roof (for good sight lines); the numerous entrances will fill the theater quickly, and also allow easy egress during intermissions. Structure will be steel—a set of bents arched into a compression ring.

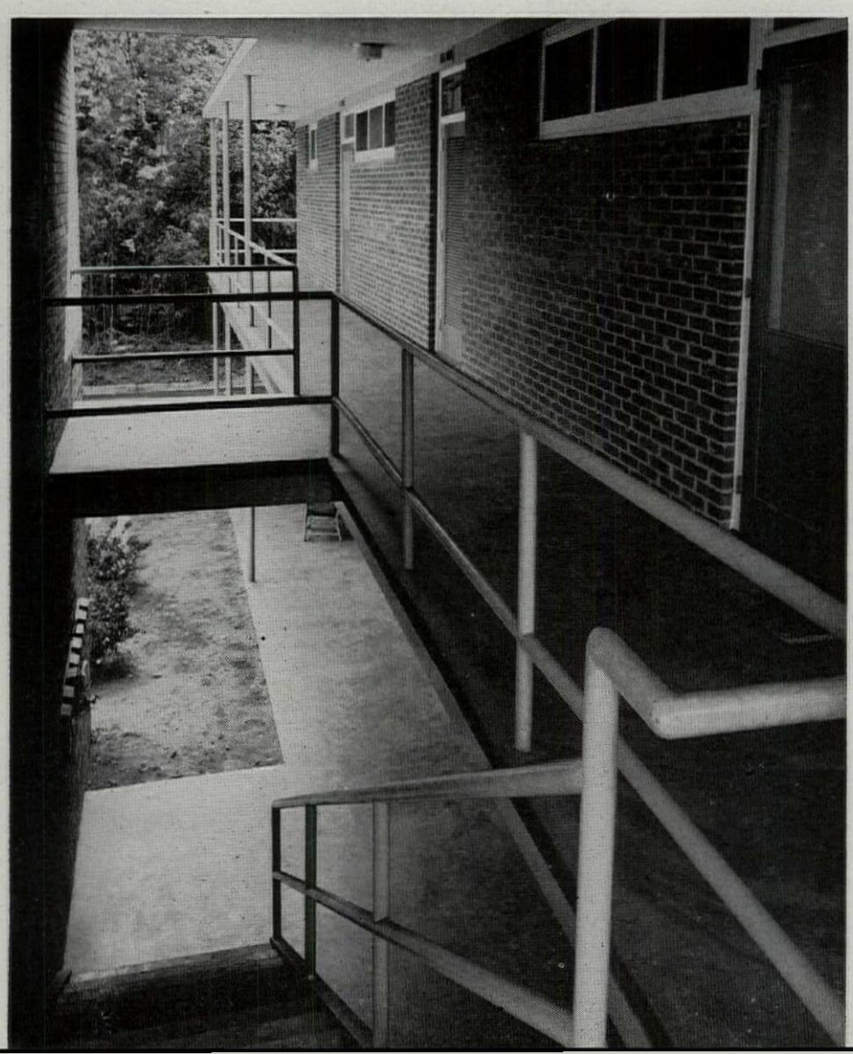
"The fact that people will walk through a gloriously restored Belcort on the way to the theater posed quite a challenge for the design of the theater itself. The response to the design challenge will be in a different language, of course, but had also to be a tour de force.

"It would be brutal to insert in the low-scaled skyline of Newport the conventional hulking, 100′ high stage house. Such a monster could be seen from everywhere on the island and even from the mainland. So we searched for a way of designing the best stage house technicians could ask for —but only 50′ high. The answer is to store props and other equipment to the sides of the stage, rather than above it. A series of monorails with motorized carriages will move the equipment on and off stage. This equipment is more expensive than the usual rigging, but acoustics are improved, fire hazards are reduced, and the overall building cost is lowered. The stage and stage house alone will be completely enclosed and heated."









GARDEN APARTMENTS





JAMES HARRISON FINCH (left) born 1913. Georgia Tech 1936, Princeton 1938. Designer for Hentz, Adler & Shutte 1938-41; Burge & Stevens 1946-49. MILLER DAVIS BARNES (right) born 1909. Georgia Tech 1932. Own practice 1934-39. Designer for Burge & Stevens 1939-49. Formed partnership with Finch in 1949.

FINCH & BARNES: *"Our problem was to design an 8-family apartment house on a small 98 x 127' lot in Atlanta, Ga. with off-street parking for all tenants and to keep the contract cost to $50,000 (or, as it worked out, to $9 a sq. ft.)*

"We used two slab-on-ground buildings of four apartments each. Separate except for the connecting balconies which provide access to the second floor apartments, the two buildings form an L with one side oriented to the south and the other to the east. (The connecting covered walks serve as sun shields for the west side of one building.)

"As we did not want to use brick above the large glass areas, we selected an asbestos-cement board for our outside finish as both economical and adaptable. It was installed with an aluminum drip mold in the horizontal joints and aluminum T sections in the vertical joints.

"The entire neighborhood exploded when we painted the panels in a series of bright colors to get an abstract pattern: earth red, yellow and two shades of green. We were threatened with lawsuits and violence.

"Our client stood by us and the colors remained, with red doors thrown in; the colors certainly make these building different.

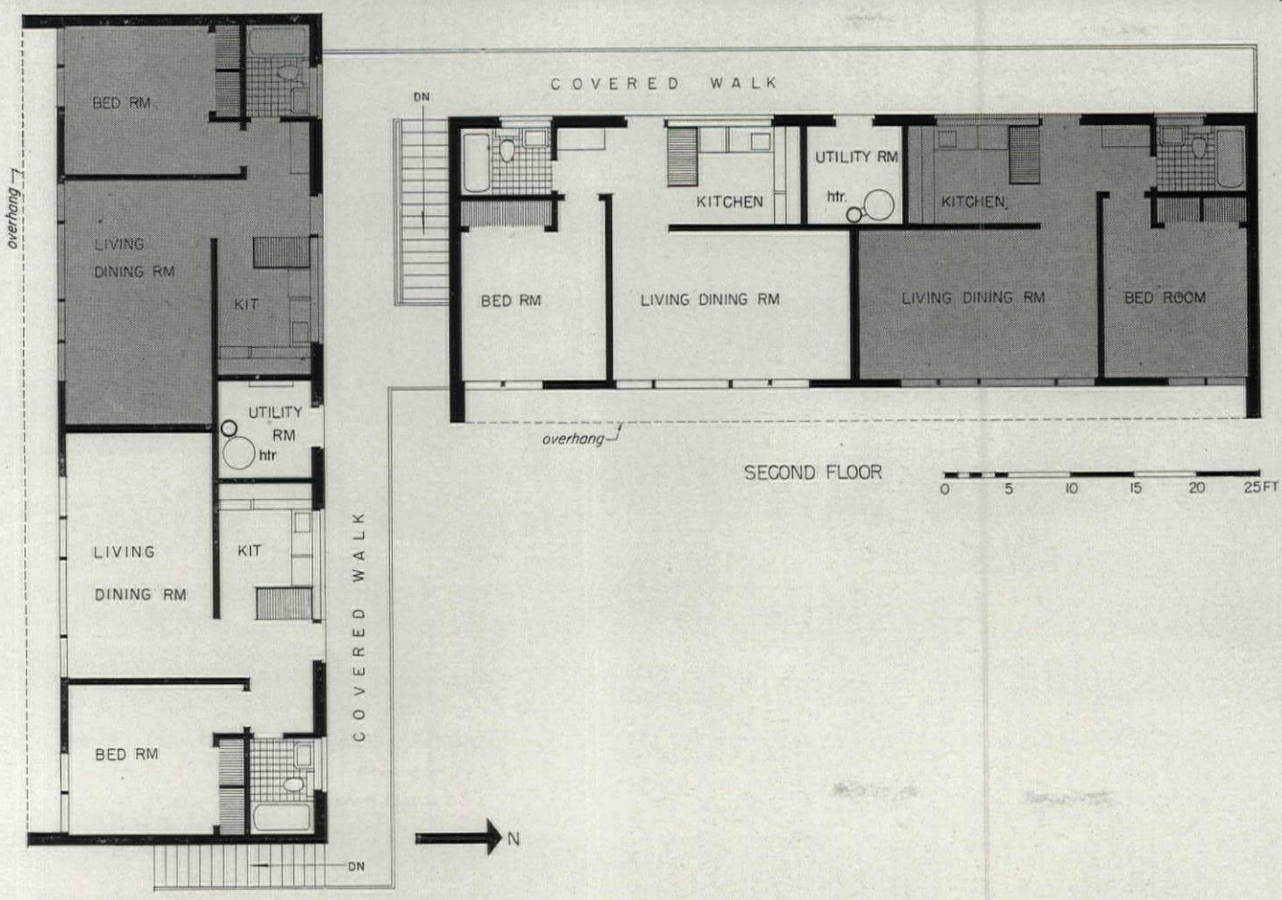
"The lowest bid was $55,000 and we had to cut $5,000 out of our plans. We eliminated a mesh rail along the balconies and substituted a pipe rail. We cut out concrete terraces for each ground floor apartment and a stair at the north end. For us the most serious elimination was a fence we had designed to screen the yards of the ground floor units. The substitution of a low hedge results in a serious lack of privacy. We still wince when we're asked why we opened the units to the street.

"The units rent for $90 a month, including heat and water."

use balconies to save interior space and reduce costs, use colors in place of expensive materials



Photos: Alexandre Georges



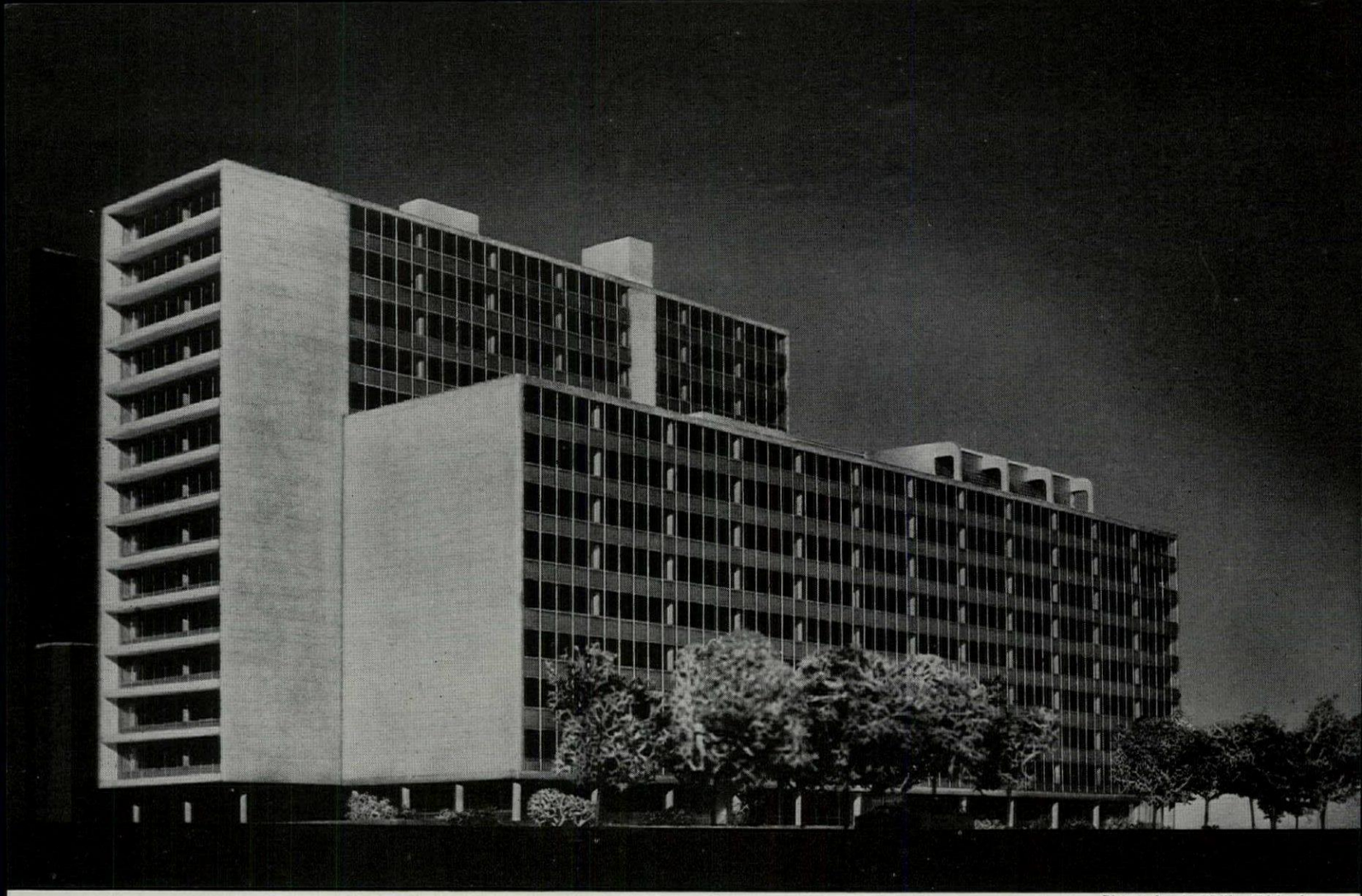
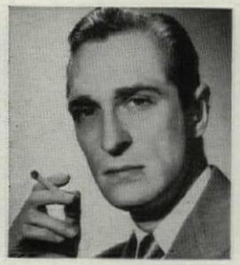


Photo (above) : William Richards



COLLEGE BUILDING designed for adult education, will add new beauty to an old civic center



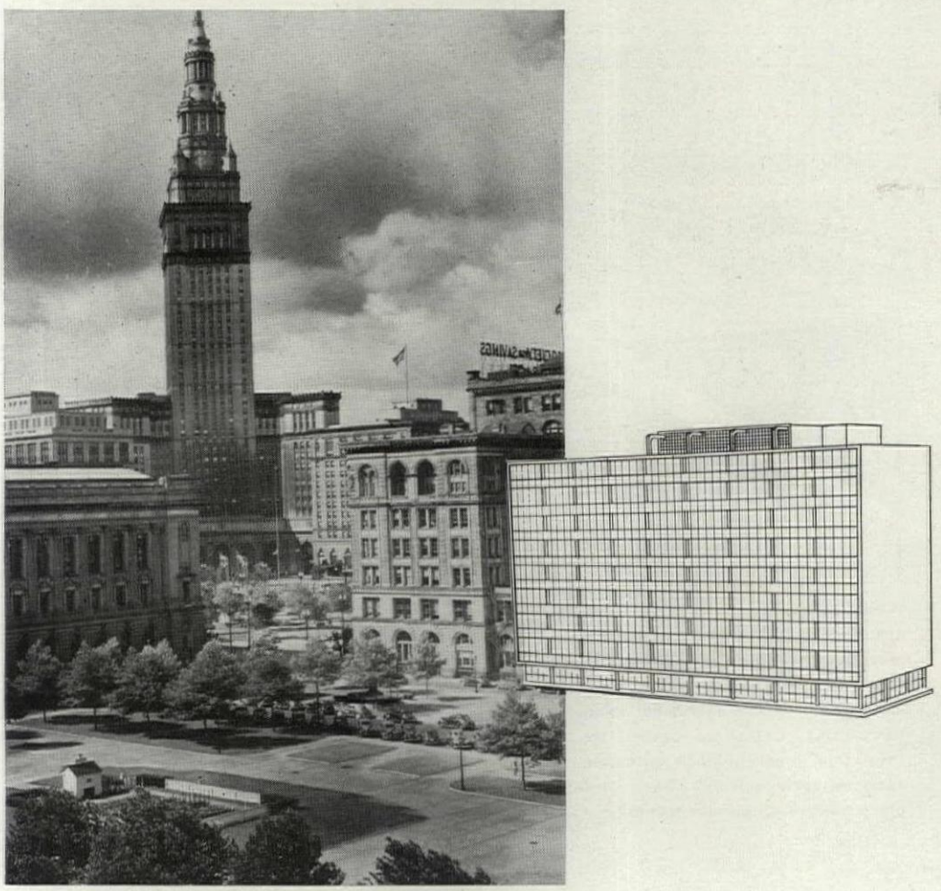


HERMANN H. FIELD, 41, Harvard '34; Swiss Federal Polytechnic Institute '36; Antonin Raymond & Associates, '41-'46; joined Cleveland College as new building planner '47; vanished on trip to Central Europe '49.

DENNIS E. BLAIR, 29, Lawrence Institute of Technology '42; Taliesin '44; Howard T. Fisher & Assoc., '45-'47; Skidmore, Owings & Merrill, '47-'49; employed by Garfield, Harris, Robinson & Schafer as Cleveland College designer '49.

←

Glass-walled front facing Mall conforms to height of surrounding buildings. Top-floor gym is set back to preserve this skyline, with bents carrying load of its high ceiling to outer wall columns. Tower section overlooks Public Square, matches its higher skyline.



First stage of new project will tie into existing College building (above); second stage will take over original site, but maintain a 34' setback from the Square, opening up the present wasp-waist between Square and Mall (left).

BLAIR: *"Cleveland College needs a new type of building—a friendly, efficient department store of learning where 17,000 customers from 18 to 80 can find anything from an evening course in tailoring to a full program of undergraduate study.*

"In planning this project, we had three major problems: 1) defining basic requirements in a virtually unexplored building field, 2) winning public acceptance of a contemporary structure in a classical setting which is dear to Clevelanders, 3) devising a means of expanding a multi-story building by stages without interrupting operation of the college.

The concept of the planning process and the leadership in executing it was that of Dean Herbert C. Hunsaker of Cleveland College.

HUNSAKER: *"A series of conferences and workshops, co-sponsored by the American Council on Education, the Association of Urban Universities, and Western Reserve University, were the backbone of the planning. They brought architects and educators from all over the country to the College to discuss its requirements. Since local architects, members of the College staff, students, alumni, trustees and representatives of civic groups participated, these meetings paved the way for approval of an advanced design by bolstering its logic with expert outside opinion.*

"The first conference, held in May, 1947, led to Hermann Field's employment as a full-time planner working closely with both the architects and the College staff. Before his disappearance in Central Europe in 1949, Field had completed much of the research and formed the basic program of requirements for the project. At this point, the architects, Garfield, Harris, Robinson & Schafer, employed Dennis Blair to develop the solution shown here—the end product of a collaborative planning program. One of the partners, Alexander C. Robinson III, has actively participated in the program since its inception.

BLAIR: *"The site is at the hub of Cleveland's classic-styled civic center, between the Public Square and the spacious, tree-lined Mall. Because Clevelanders are proud of this formal center, we tried to maintain its scale and spirit by matching the existing skyline and facing north and south walls solidly with limestone. We may yet win approval of an all-glass north and south wall and placement of columns outside the spandrels to gain more interior space and a better expression of structure.*

I think most citizens have accepted our idea that if the new building is good architecture in its own right, it will be a complement to the Mall regardless of the fact that it does not 'match' the existing structures. Modular structure permits classes to continue through 3-stage growth. Final cost: $6,000,000.

"Since the present College building occupies the Public Square end of the site, the first stage of the new project will extend north of it along the Mall, tying into the old structure without interrupting its operation. (The old College auditorium and an existing office building on the site will first be razed.) Later additions are merely an expansion of the stage I plan.

Community and administrative facilities are on the ground floor; classrooms occupy the middle floors; faculty offices, library and recreation space are on the top floors. Nine floors of escalators handle the bulk of traffic at peak periods between classes. They not only reduce operating costs, but may be installed by stages to suit the budget.

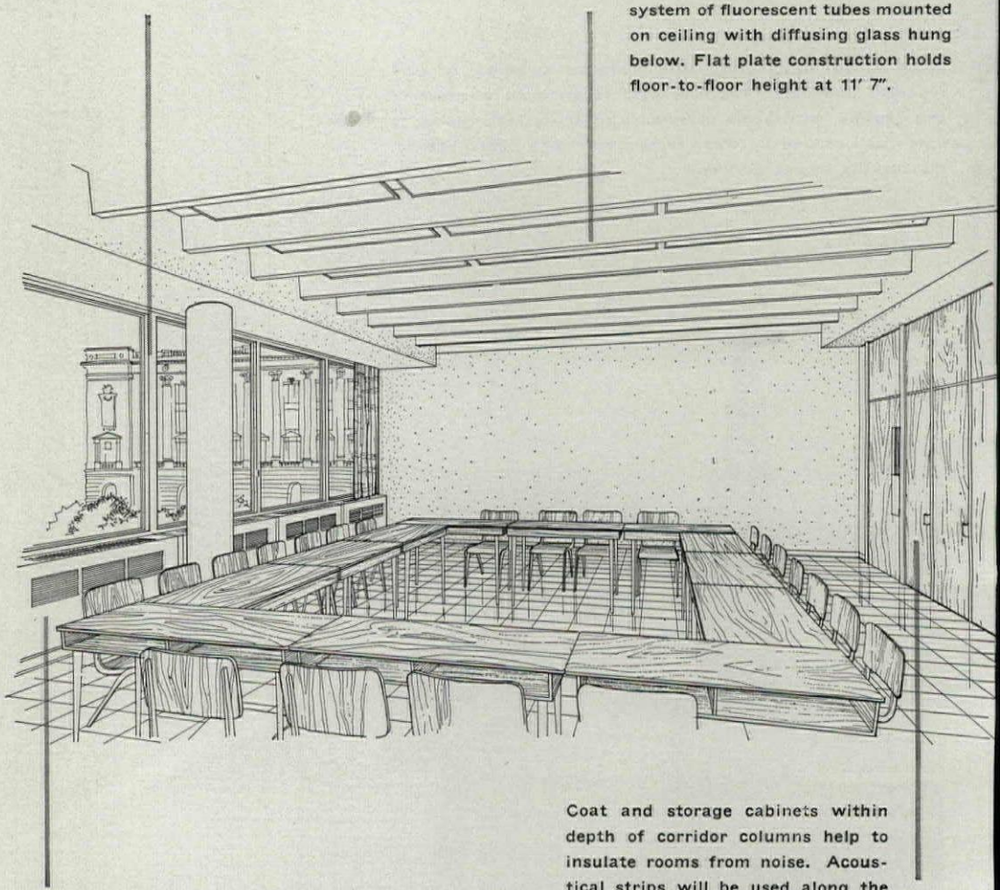
"Demolition of the present building and extension of the new 9-story wing to the established set-back from the Public Square will complete stage II and meet present space demands. We estimate that the final 14-story element fronting on the Square will be required about 1965. Shaded during the day by cantilevered balconies and blazing with light at night, the southern windows of this addition will advertise the College to the Square. Faculty offices will shift to upper floors, providing more classroom space on escalator-serviced lower floors.

"Since there may be a lapse of several years between these stages, each must appear complete in itself, yet permit economical expansion when the time is ripe. The combination of modular reinforced concrete construction and curtain walls with a grid expression satisfied this need. (Curtain walls on the west side of stage II can be salvaged to form the east wall of stage III.) Final west wall on the property line will be mostly glass block.

"The requirement of construction by stages plus consideration of existing skylines produced a massing of the final structure which may seem arbitrary. Stage III needs could be met by adding 8 more floors to Stage II. But this would require larger columns in Stage II, and if the final expansion did not take place, the added investment would be wasted. Stage II as presently planned eliminates this risk and preserves the Mall skyline."

Double-glazed vertically pivoted windows in aluminum frames permit washing from the inside. Mullions on 5′ 2″ centers accommodate 4″ concrete block partitions.

Exposed concrete joists form baffles and troffers for a modular lighting system of fluorescent tubes mounted on ceiling with diffusing glass hung below. Flat plate construction holds floor-to-floor height at 11′ 7″.



Coat and storage cabinets within depth of corridor columns help to insulate rooms from noise. Acoustical strips will be used along the top of classroom walls and furred down soffits.

Windows have individual air conditioning units beneath to permit maximum flexibility of partitioning. (Use of fewer units would have saved money but sacrificed some flexibility.) Units are backed by insulation, concrete block and outer spandrel surface of ¼″ ribbed wire glass held in aluminum frame.

Rendering of typical classroom shows how structural and technical elements provide flexibility for future expansion. Classrooms are of five sizes, ranging from 480 sq. ft. to 1,125 sq. ft., have lengths not more than half again their widths to permit informal seating arrangements essential in classes for adults.

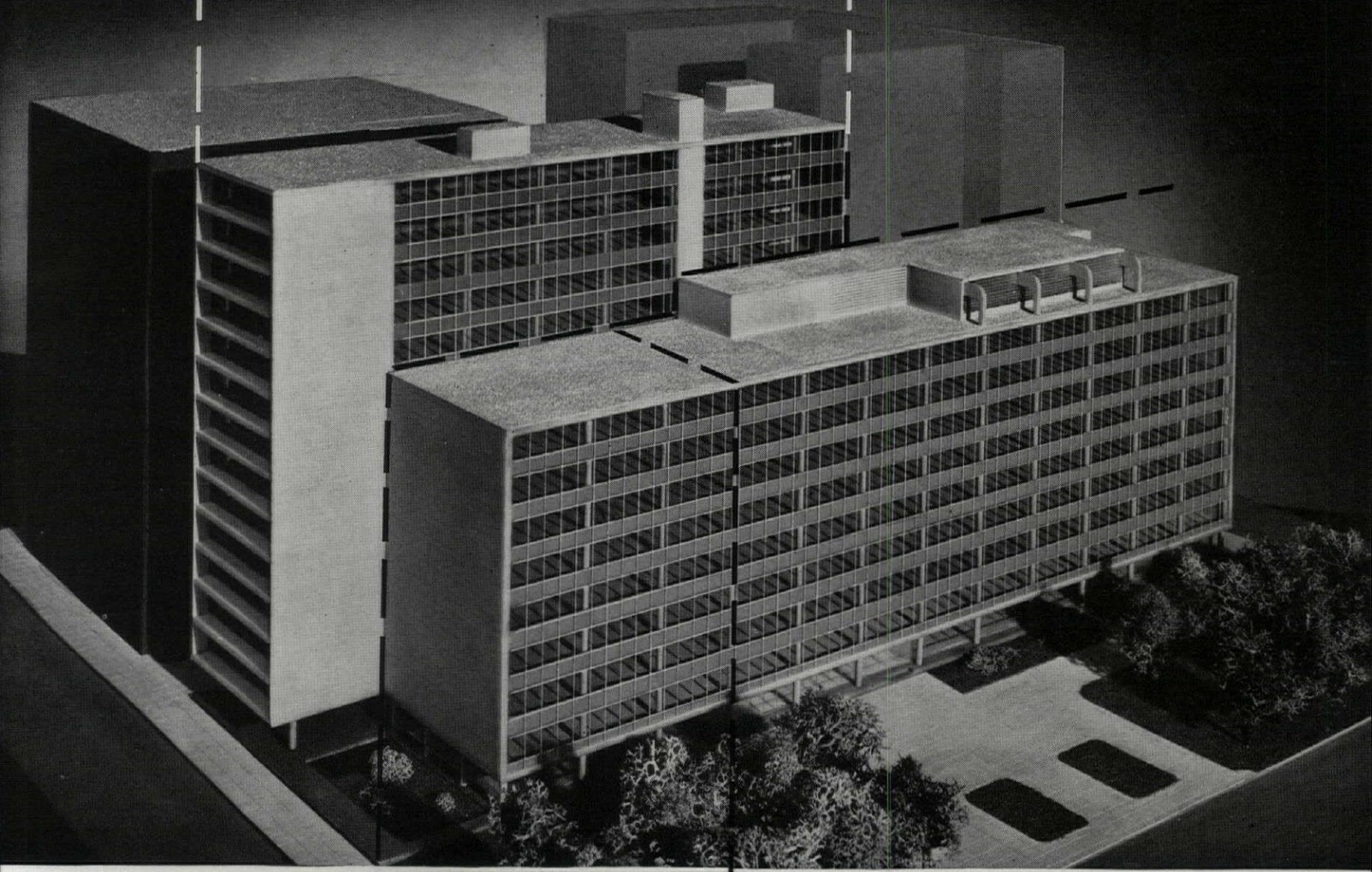
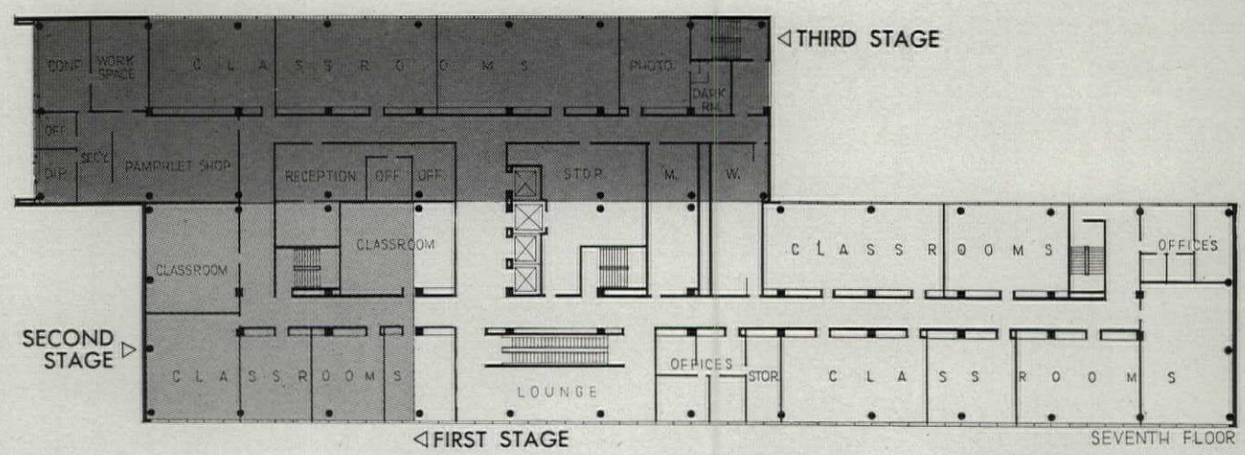
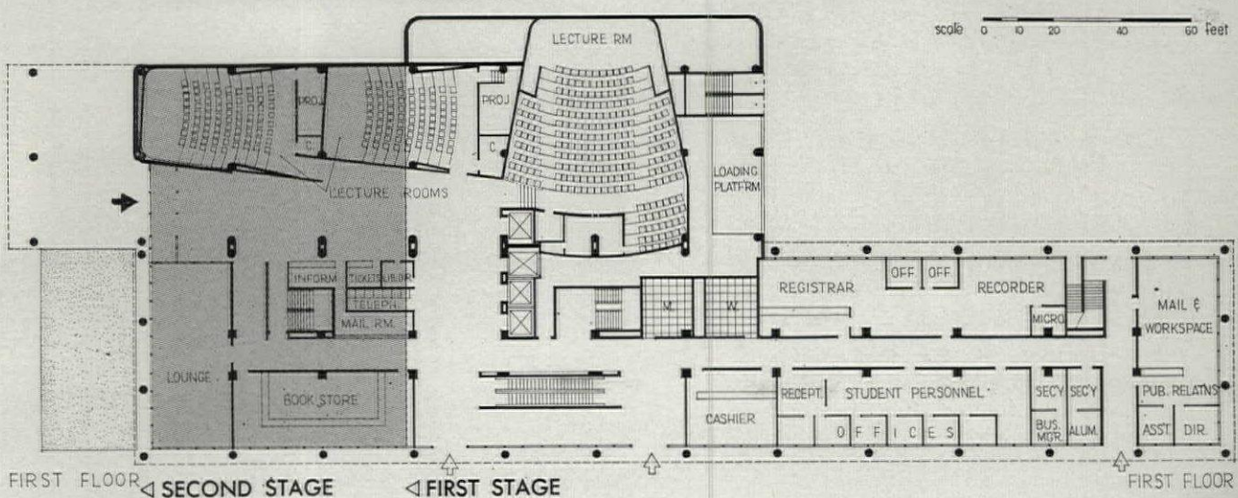


Photo: William Richards



Typical floor plan, final stage, shows economical expansion of utility core, variety of classroom sizes required for adult courses. Added elevator in stage III serves faculty offices on top floors; bulk of vertical traffic on nine lower floors is handled by escalators. Lounge overlooking Mall adds social appeal to adult education.



Ground floor in stage I contains administrative offices and a large auditorium for college and community functions, reaches final form in stage II with addition of two large lecture halls, bookstore, lounge, outside reflecting pool and enlarged public spaces.

DESERT HOUSE is roofed with a movable dome to shade it in summer, open it in winter



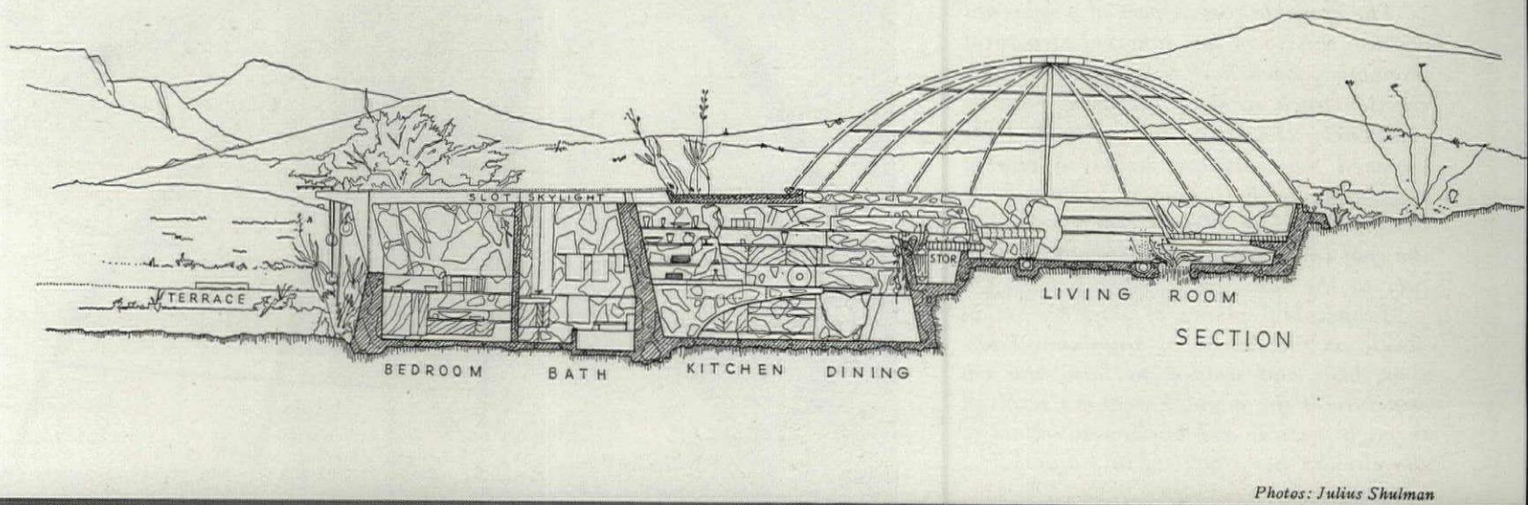


PAOLO SOLERI born 1920. Architectural degree from Polytechnic of Torino, Italy. One year with Frank Lloyd Wright. MARK MILLS born 1921. BS (Arch. Engineering) University of Colorado. Four years with Frank Lloyd Wright.

SOLERI & MILLS: *"Our problem was a small dwelling to moderate the violence of the desert at Cave Creek, Ariz. Our solution was to create two spaces of opposite character: 1) the main living space under a movable glass-domed roof, which reacts immediately to the desert's extreme changes in temperature and 2) the sleeping space carved deeply into the hillside and enclosed in masonry walls, which reacts slowly to temperature changes. Thus, a sympathetic space is always available.*

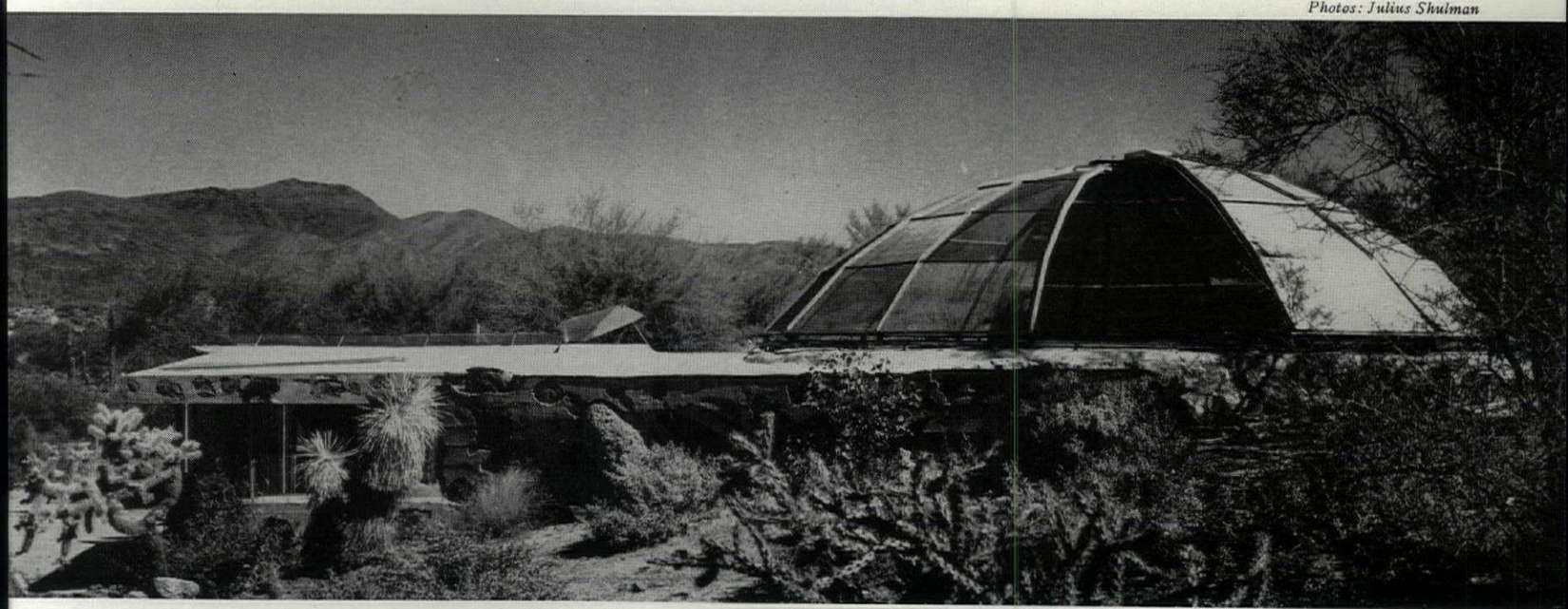
"The roof is made of two glass-domes which may be rotated inside one another. The half-dome on the outside track is aluminum painted. In winter solar heat can be had by turning or opening these dome sections. By sunset, the masonry walls of the sleeping rooms are warmed from the sun's radiation and hold much of this warmth through the night.

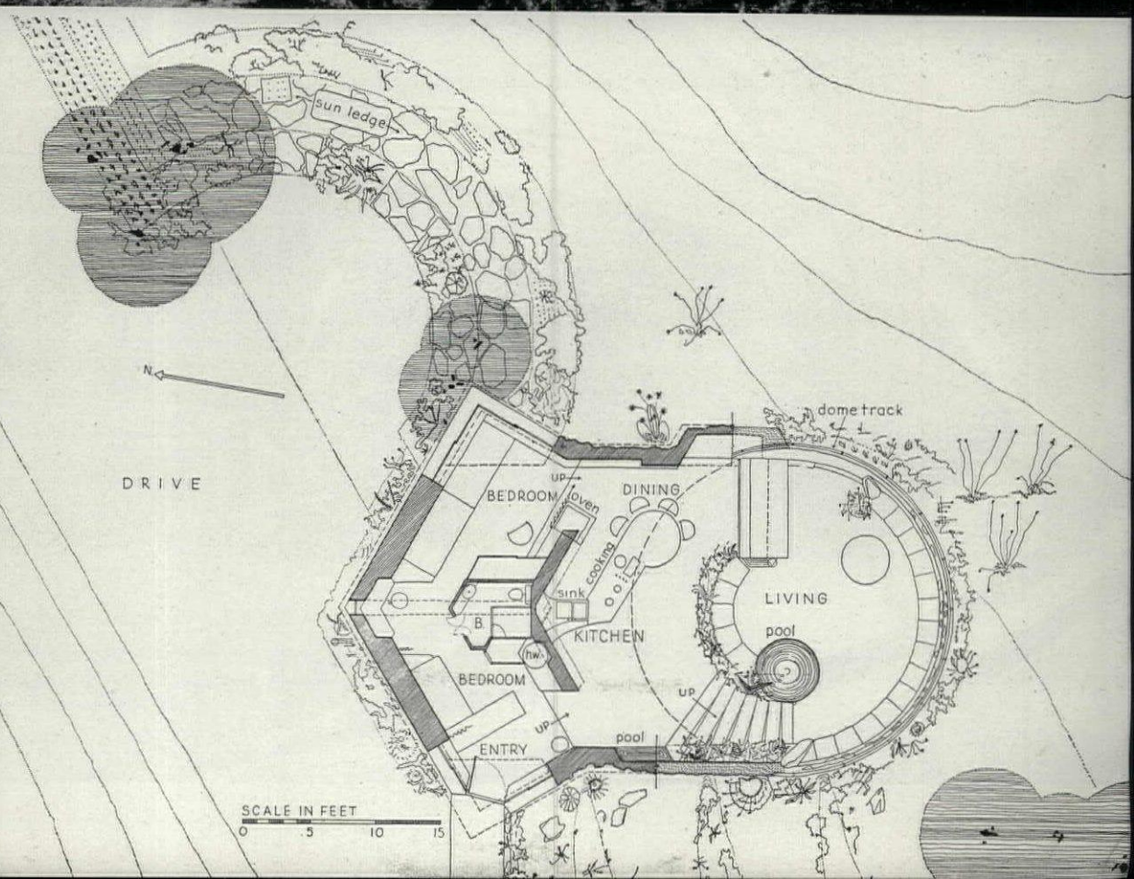
"In summer, coolness of the masonry walled portion is augmented by a water spray on the concrete slab roof. Around the glass dome, a copper water tube cools the air with a curtain spray. Beneath the oak stair treads connecting the two parts of the house, a concrete ramp is designed as an additional evaporative surface. Water from the living room pool flows over the grooved surface of this ramp into a wall pool overflowing to exterior planting. Sum-



SECTION

Photos: Julius Shulman

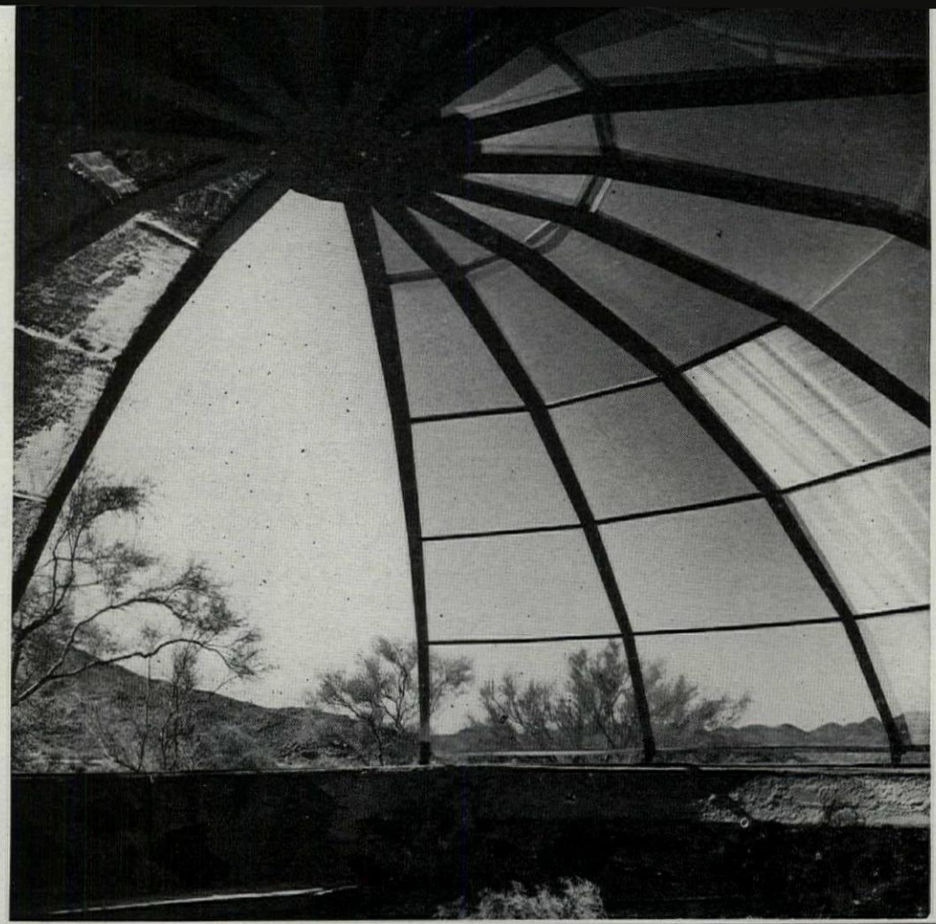




mer evenings are comfortable under the movable roof.

"The movable roof is part of a spheroid because this form has inherent structural economies. Each half revolves on its own circular track so that the space may be completely closed or half opened. Four screened segments are added to one of the revolving half domes, permitting a screened opening. With a gear mechanism the roof could move automatically in relation to the sun.

"Trapezoidal planes of glass are set in mastic on the flanges of aluminum T-section, bent and welded to form the rib structure of the dome. Forces are resolved through vertical and horizontal rollers to the circular bar track set in masonry."



A specially designed arch-ladder mounted on the perimeter rim makes any part of the dome surface readily accessible.

Julius Shulman



Morley Baer

HOUSE OF CONTRASTS plays textured concrete block against smooth redwood finishes



CELESTYN WISNIEWSKI (30), WILLIAM ARTHUR PATRICK (31), ANTHONY CAPPUCCILLI (30) and SEAN O'HARE (31) were all apprenticed to Frank Lloyd Wright.

THE DESIGNERS: *"We built this house to learn by doing. We believe that to design, the architect must know materials and methods, must be versed in the vocabulary as well as the grammar. By living on the site (near Redwood City, Calif.) as the building grew we were able to appreciate and solve the problems of design much more sensitively than on the drafting board.*

"The house is nested at the bottom of a ravine with a 34' slope. We welcomed the challenge of this difficult site. Out of it grew the cantilevered living area forming the carport below. This, in turn, gave us easy circulation: entry through the bottom of the house up a stair to the very center gives direct access to the living area, the kitchen area or the bedroom wing.

"It is a house of contrasts: rough textured gray cement block walls contrast with finely finished warm redwood. The boldness of the masonry contrasts with the lightness of the cantilevered section and the thin roof members. The smoothly waxed floors contrast with the roughness

of the ceiling (wood-fiber-cement insulating boards).

"The 6,000-odd concrete blocks used were designed and manufactured on the site. Special blocks were cast with amber glass perforations to provide decorative lights throughout the building. Others were glazed ceramically for the bathroom. Still others were made for use as fire and hearth blocks.

"The frame is steel-reinforced for resistance to earthquake shock. A typical exterior wall is made up of two blocks about 3¼" thick by 1' sq. placed back to back with 1½" air space between them for insulation. The walls were laid up dry; a groove cast around each block, and the joints grouted. The module is 3' x 3'.

"Floors are of polished concrete, colored integrally. Radiant heating pipes are cast in the floor slab. Furniture is almost all built-in as part of the design.

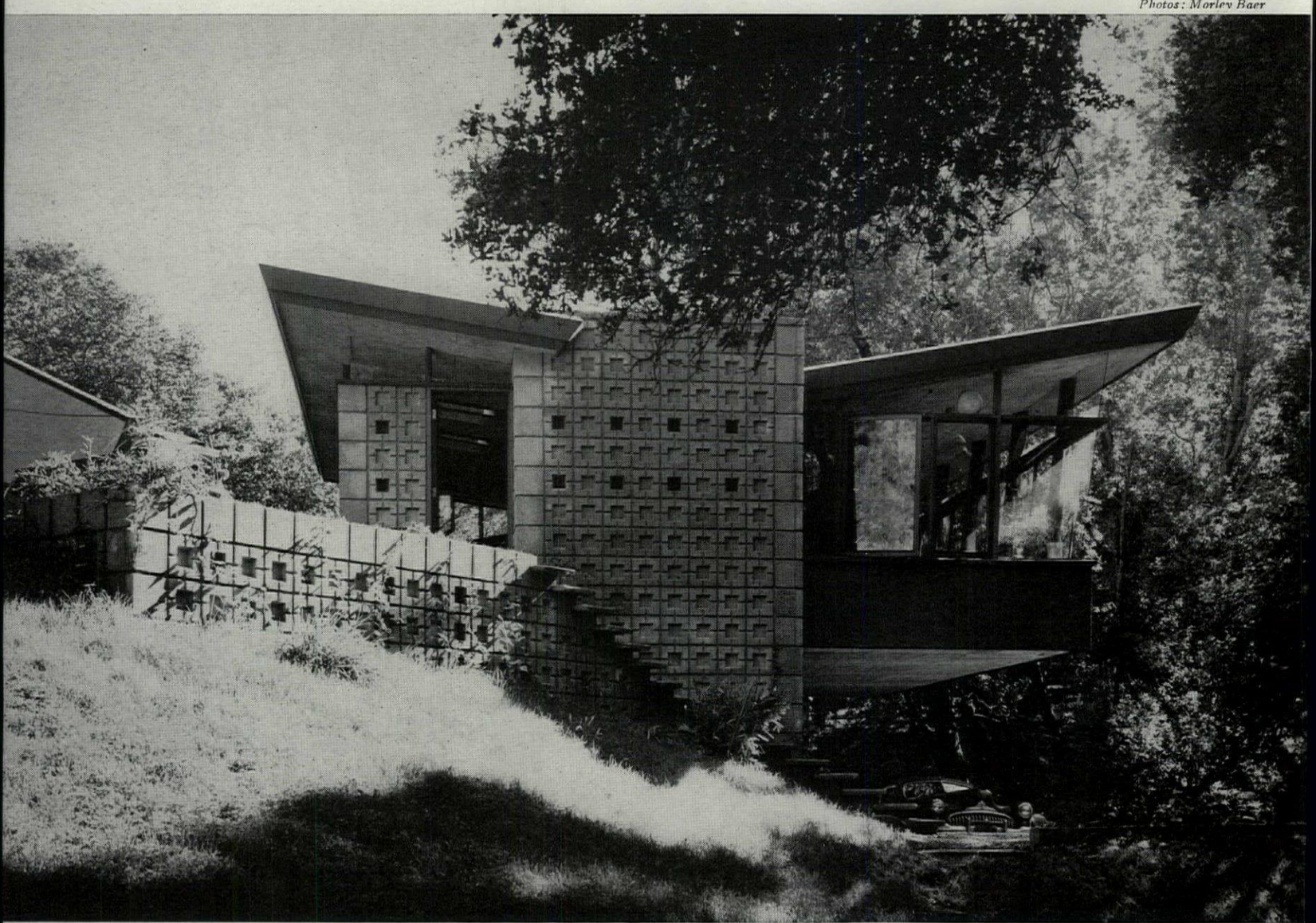
"We worked with areas rather than rooms. The living and kitchen areas are separated only by a change of level and by the 12' mass of the fireplace. The bathroom door is the only inside door in the house.

"Because of the open plan, it was, of course, important to avoid a sanitary white laboratory look in the kitchen. We used satin-black plastic surfaces with dropped-in stainless steel fixtures. Almost every kitchen function is built into the design, from range, grill and oven through dishwasher and even to flour and sugar sifters.

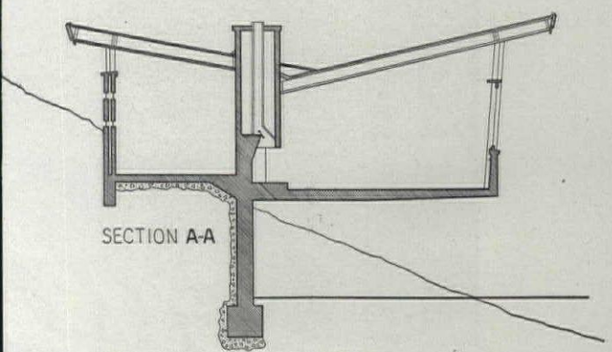
"The kitchen is a bright area, with daylight through skylights and a clerestory. There are nine of these skylights through the house, covered with a clear annealed plate glass which gives a soft high light and an unobstructed view into the surrounding lush foliage.

"The house was literally built around a tree. It enters the main living area (see photo, r.) and is visible from almost every part of the house. The entry stairs curve around this tree in a glassed-in well."

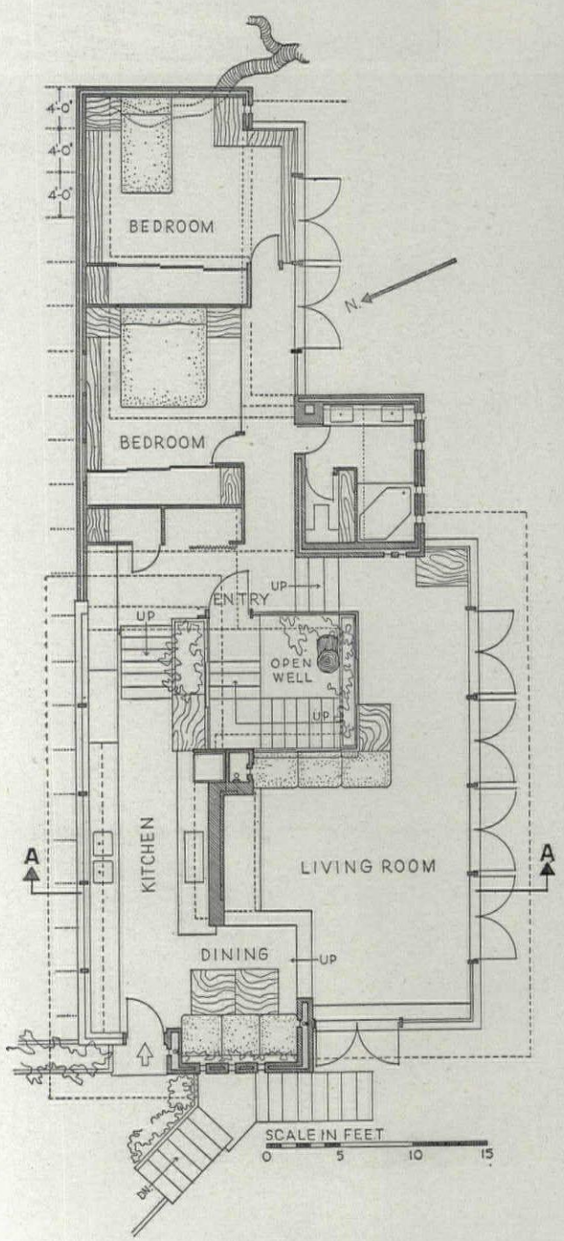
Photos: Morley Baer



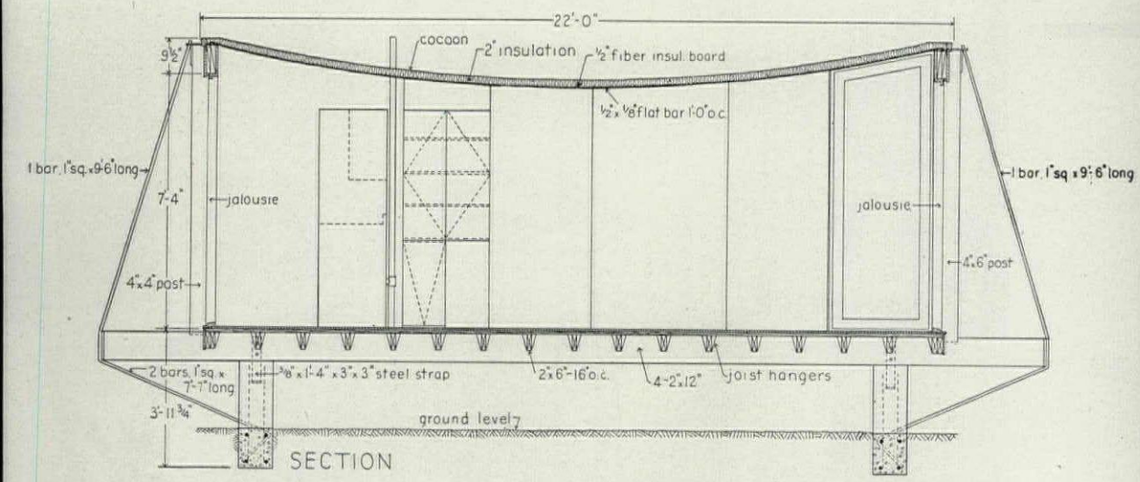
View of living room looking east is at right. Below is picture of interior garden court which forms entrance to house from lower level.

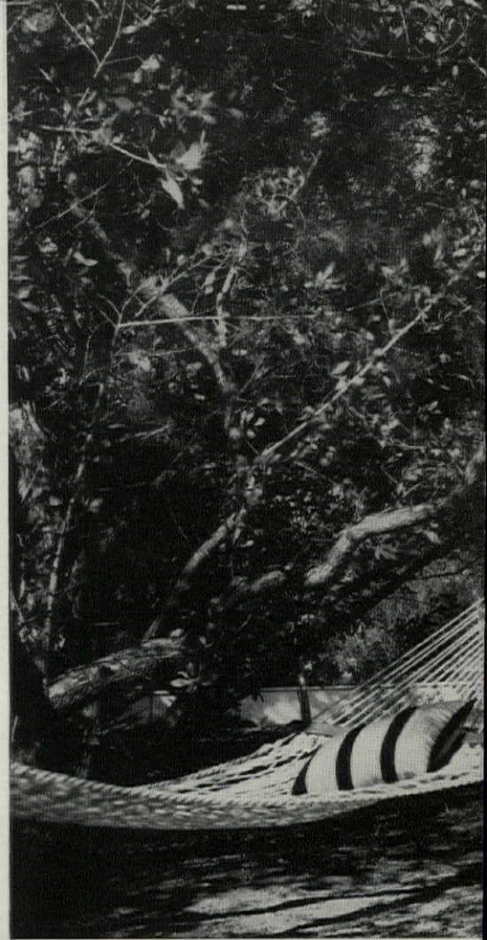






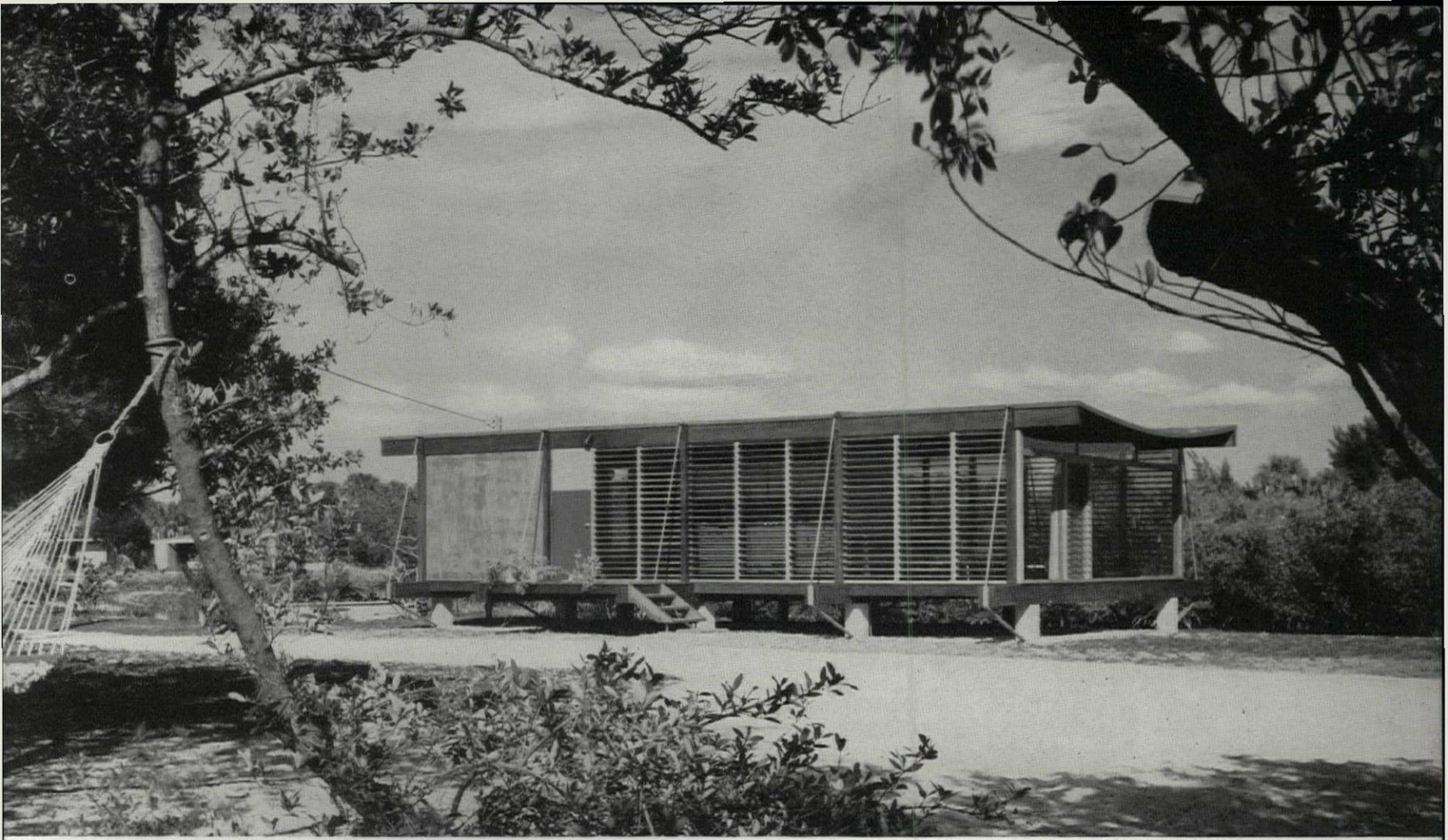


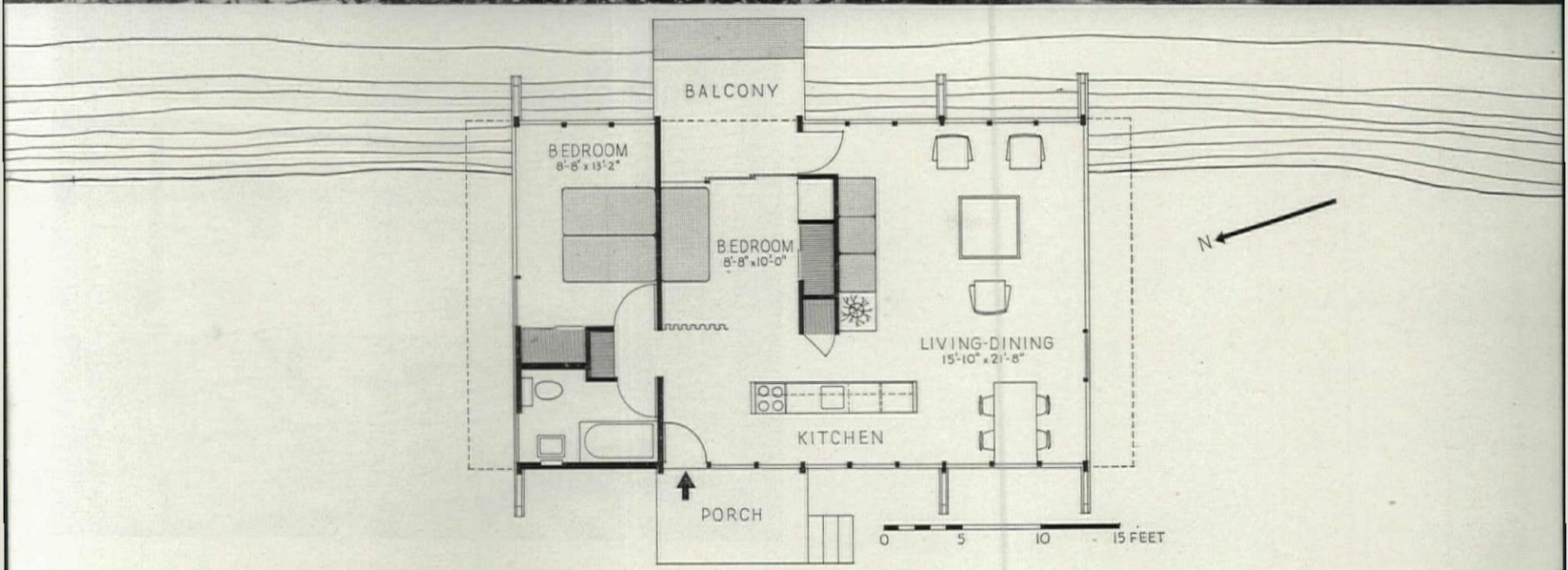




Photos: Ezra Stoller-Pictor







COCOON HOUSE uses the Navy's moth-balling material to weatherproof its catenary curved roof





RALPH S. TWITCHELL (60) studied at Rollins, McGill and Columbia, holds degrees in Arts, Architecture and Structural Engineering. Designer-partner PAUL RUDOLPH (32) received M.A. at Harvard School of Design, 1947, has been associated with Twitchell since 1940.

TWITCHELL & RUDOLPH: *"The form of this cottage in Sarasota, Fla., is the result of using steel in tension for the roof structure. Architects and engineers have long recognized the beautiful efficiency and expressiveness of steel in pure tension, but no one, to our knowledge, has solved the problem of making the resultant structure stable. But why should a roof structure be stable if a way could be found to keep it watertight? One of us (Paul Rudolph, who spent the war in the Navy) had seen the moth-balling process used to protect warships when they were put in storage in 1946. This process involves covering gun turrets, etc., with a wire frame, spraying the frame first with a mixture of Saran and vinyl plastics, and then giving the resulting 'cocoon' a final coat of clear vinyl.*

"From our point of view, the advantages of this 'cocoon' were impressive: It can be stretched to almost three times its normal length, return to its normal state, and still remain watertight. Navy tests have indicated that it will last for 30 years. It proved to be the answer to our flexible roofing problem, especially when 'cocoon' turned out to be only 15% more expensive than the usual tar and gravel finish.

"A post and lintel system of construc-





tion was used on the east and west sides of the cottage and filled in for the most part with wood jalousies for sun control, privacy and ventilation. The 22′ distance between these rows of posts (in realtiy they form a vertical truss) was spanned with ½″ x ⅛″ cold rolled steel flat bars in their catenary form, set 12″ on centers. Fiber boards and 2″ of flexible insulation were clipped to the top of the flat bars, and then 'cocoon' was sprayed on top as well as on the bottom of this sandwich, so that the ceiling surface can move and stretch just as easily as the roofing. Any color is possible in 'cocoon;' a slate blue was used on this ceiling.

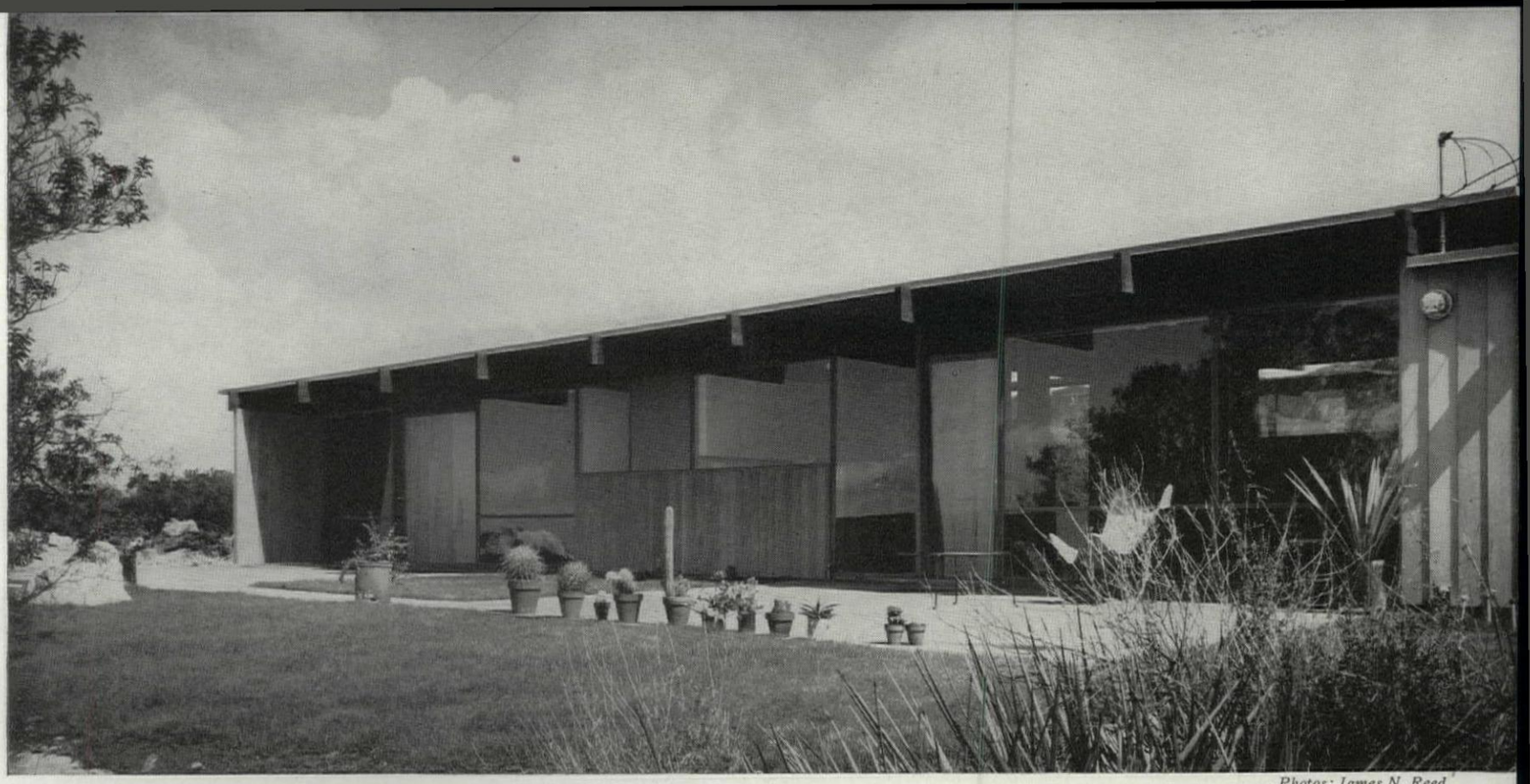
"A light steel truss was imbedded in the plane of the roof in the north and south ends to stiffen these areas and enable us to fill in the ends of the cottage with glass without fear of having it crack under the movement of the roof.

"Rain water drains off the roof because the catenary curves are 2″ shallower at the center of the structure than at the ends. The roof structure is tied to the transverse partitions below. These ties can be augmented with four temporary vertical tension members in the living-dining area whenever hurricanes approach.

"In a sense this is an anti-social building, for it ignores the neighboring assortment of non-commital houses. It can even be said that it dominates the bayou because of its placement, form, colors and materials. The surrounding structures are already covered with a profusion of lush growth; in this cottage, however, we wanted to demonstrate that harmony between the work of nature and the work of man can be brought about by clearly differentiating between the two.

"Of course, this cottage is a tour de force. *Building types requiring larger spans are perhaps more suitable for such a form of construction. But, unfortunately, most architectural experiments have to be made in small structures."*





Photos: James N. Reed

BUILDER'S HOUSES in $11,000-$13,000 price range exploit the economies of post and beam structure, show how handsome flat roofs can be





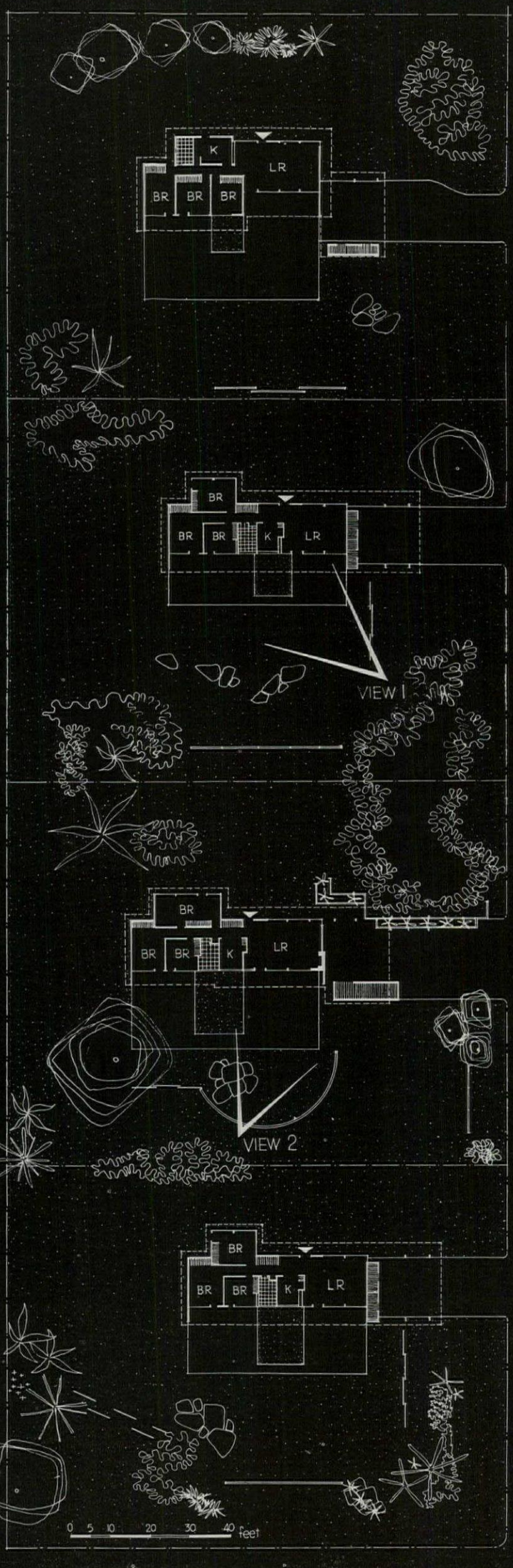
H. DOUGLAS BYLES, 28, B. Arch., University of Southern Calif., worked with Los Angeles Architects Whitney Smith and Wayne Williams. EUGENE WESTON III, 26, Art Center School in Los Angeles, formerly associated with Alvin Lustig, now with Byles in Los Angeles.

BYLES & WESTON: *"This project in Tujunga, Calif. demonstrates that a contemporary solution to the small house problem can be a salable item, that a considered use of site, plan and materials can better provide for today's living at a price competitive with the conventional house. However, inasmuch as economy is the watchword, the best use of the merchant builder's materials and techniques is necessary.*

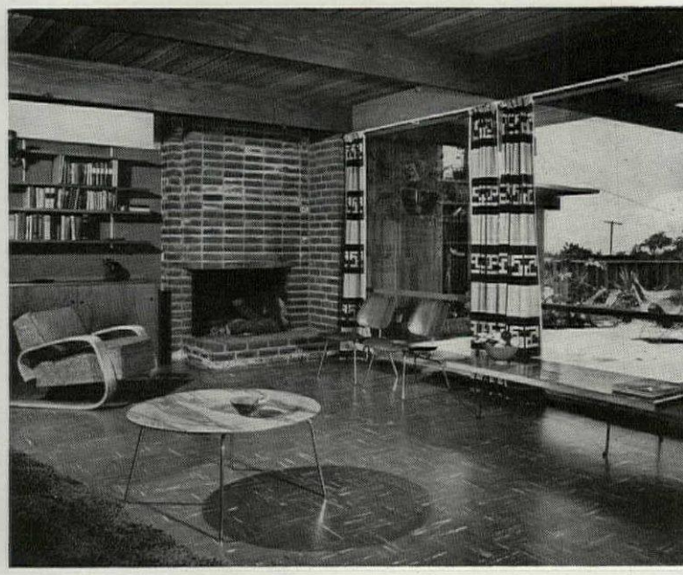
"The proof of this pudding is the fact that all these houses sold quickly at $11,000 to $13,000 depending on their size (1,024 to 1,134 sq. ft.).

"The site was extremely rocky and covered with dense native growth. In clearing the ½-acre lots, only the actual building and adjoining outdoor areas were disturbed. As much native growth as possible was left to act as a background and screen for each house. Rocks and boulders dislodged in grading were pushed into an arrangement that could act as a sculptural element, a space divider, or a play apparatus for children.

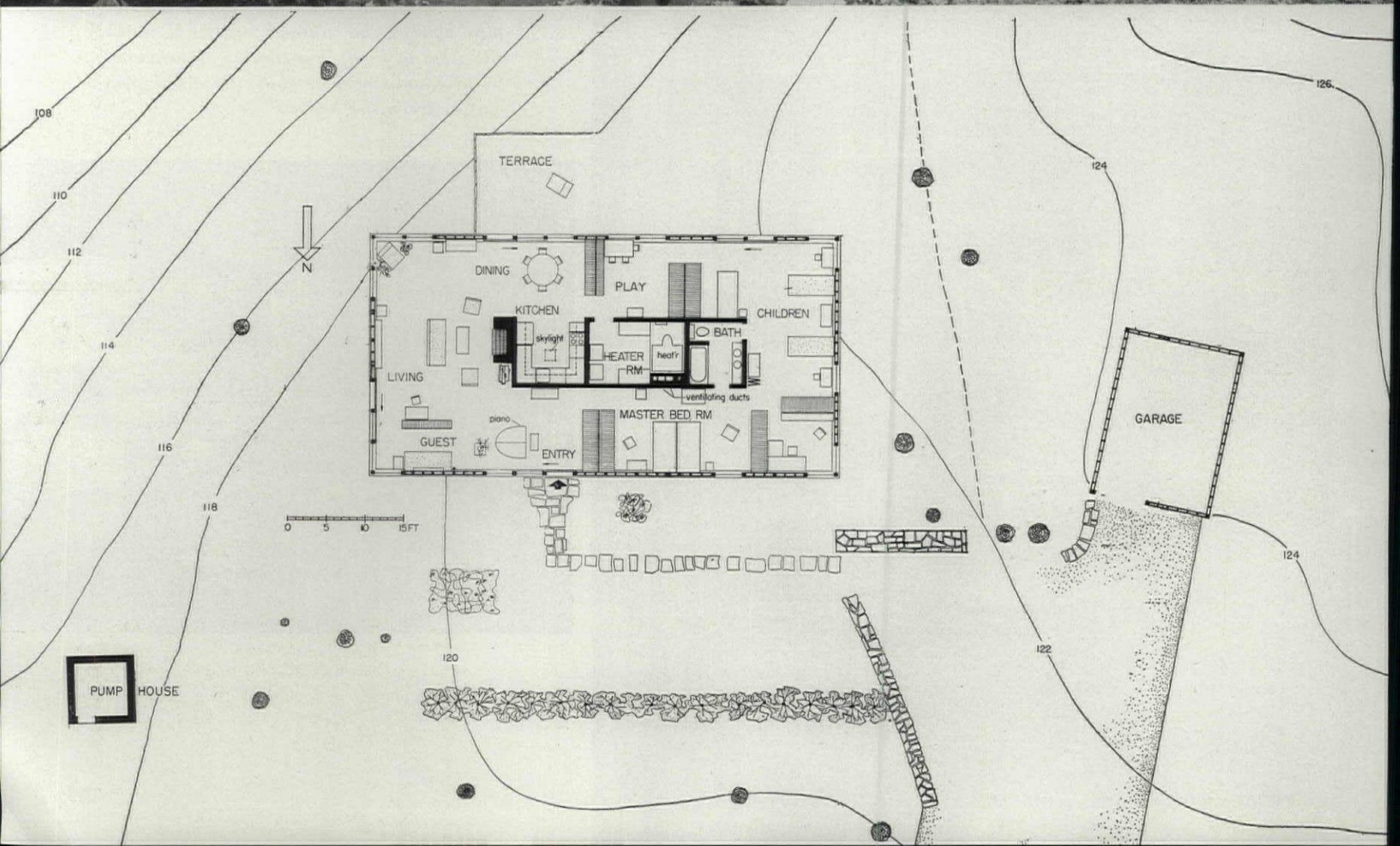


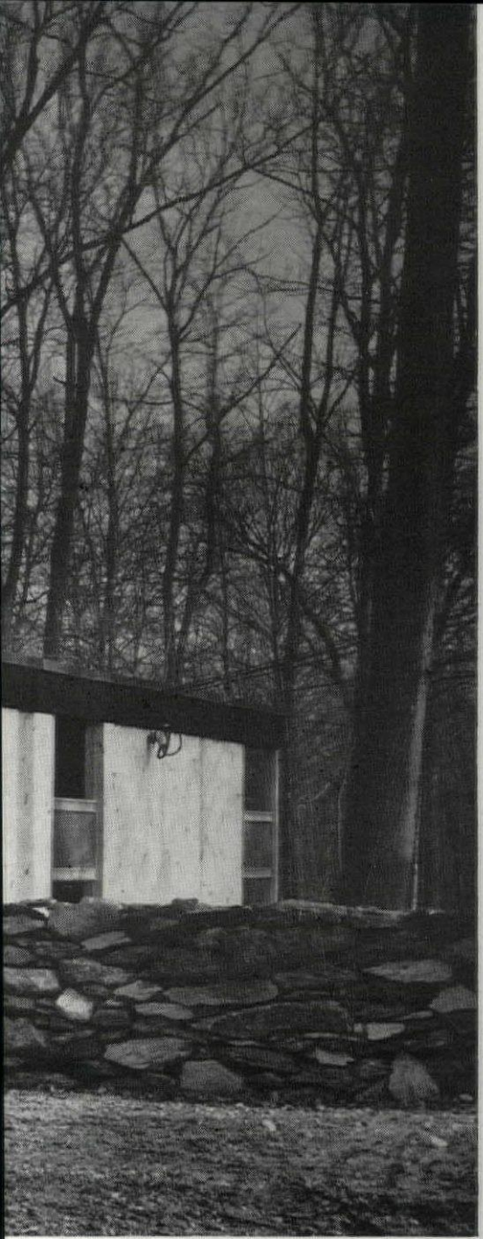


"Economy dictated a rigid post and beam exposed structural system of framing. Posts and beams at 7′ centers support a 2″ x 6″ tongue and grove roof deck over which a ½″ rigid insulation is laid and covered with a three-ply composition roof topped wth crushed gray rock. Keeping the bottom of the 3″ x 14″ roof beams level simplified the framing; the pitch of the roof was taken care of by tapering the tops of the beams ¼″ per ft. from the center. Wall surfaces were kept smooth to play against the grained structural units. All glass is fixed. Ventilation is provided by plywood transoms above the fixed glass and between the beams."






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TERRACE
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DINING
PLAY
KITCHEN
CHILDREN
skylight
BATH
HEATER RM
heat'r
LIVING
ventilating ducts
piano
MASTER BED RM
GUEST
ENTRY
0 5 10 15FT
GARAGE
PUMP HOUSE



Photos: Ben Schnall



ONE-ROOM HOUSE gives up privacy and slick finishes, gains spaciousness and flexibility



VINCENT J. SCULLY, JR.: Born 1920. Yale Ph. D. (History of Art), 1949. Now instructor in Yale's Architecture and History of Art Departments.

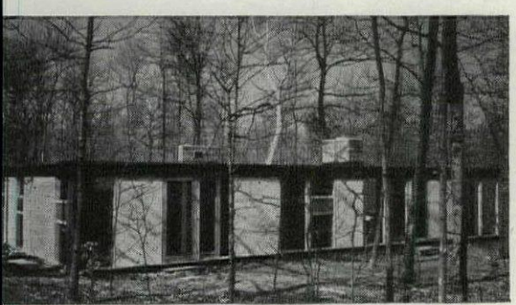
"Our program was to provide the largest possible living space for a family with three boys, and within a severely limited budget. (The final cost of this 61′ x 31′ house near New Haven, Conn. was $14,500; the cost of the whole project was $17,100.) We ended up with one large, simple and open pavilion which could be divided by flexible storage units—to be moved around for varying spatial effect or as more children came along.

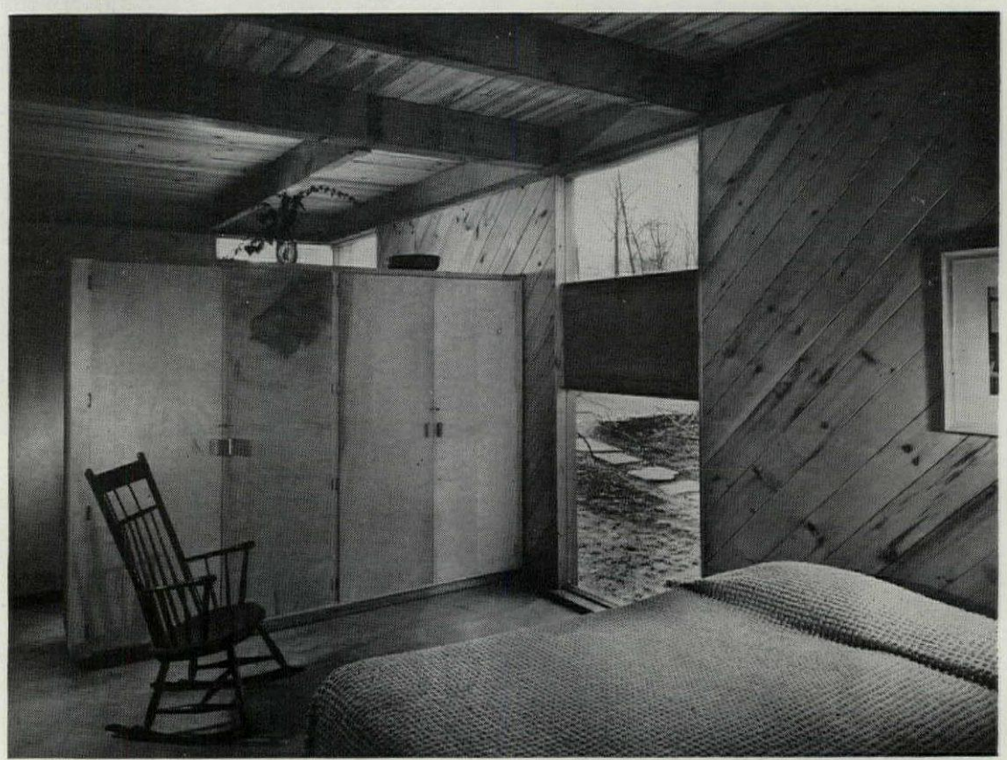
"The average house today, whether 'modern' or what have you, is over-articulated, over-finished in meaningless ways and over-gadgeted. We decided upon a simple, orderly shell, within which the creative disorder of our lives could develop freely.

"The necessary utilities are kept to a minimum because they are less important to us than living space. They are contained in an interior core of masonry. Ordinary cinder block was used for this because it was cheapest and because I like its color and its scale. The size of the block is a unit against which other proportions can be played.

"The exposed plank-and-beam roof system is supported on the 4″ x 4″ posts of the exterior walls. The beams are spaced irregularly for structural convenience and to create a rhythm in the space; and metal







straphangers, painted red, are used as decorative accents.

"The glass areas of the exterior wall are kept to a 4′ x 4′ module, and all the glass is fixed in place. There are four sliding glass doors; additional ventilation is provided in the sleeping areas by five plywood hoppers set in the fixed glass and screened. The solid areas of the exterior wall go on and off 4′ module as desired and use diagonal pine sheathing for lateral stability. There is no other wall finish, either inside or out. The concrete floor contains radiant heating pipes and was poured with the darkest gray cement available. There is no artificial coloring.

"Inside the one-room house, the movable storage units, 6′3″ high, are set up both to provide privacy and to create a sense of movement and variety within the space.

"There is additional storage space in the 15′ x 20′ garage and in the small cinder block pumphouse. These detached buildings are used as design elements to echo and contrast with the house itself. . . .

"A good deal of our furniture was made by me with the simplest techniques and often out of scrap; but it is not intended to be 'handicrafty'. It is as functional and expressive as I could make it and is intended to be used hard. We abhor the expensively slick and decorative kind of thing fashionable today.

"People criticize two things about the house: First, that there is not enough privacy; and, secondly, that it is not adequately 'finished.' The first criticism we feel is not valid, since actual experience shows how little enclosure is needed to get a sense of privacy; moreover, our space seems twice its actual size, and the sense of togetherness as a family unit becomes a positive asset in its own right.

"The second criticism we regard as evidence of some sort of snobbery and of an inadequate sense of the importance of things. For the inexpensive materials we used—fir, pine and cinder block—can with careful detailing, create an atmosphere of real elegance and true dignity."

THE NEXT FIFTY YEARS

Editor's Note: The following "debate" was manufactured from a series of detailed replies to a questionnaire submitted by THE MAGAZINE OF BUILDING *to a number of American architects in their 30's and 40's whose views the editors wanted to include in this special issue. As was the case in our "Great Debate" on the U. N. Secretariat (Nov. '50), the "round-table" technique of presentation has been used to dramatize different and opposed points of view in relation to various questions. An effort has been made not to quote anyone out of context, and the words attributed to the participants are strictly their own. Some of their comments have been illustrated with buildings or designs for which the speakers were either wholly or in some part responsible. The replies received by the editors were so thoughtful and of such unusual interest that several of them will soon be published in full.*

PARTICIPANTS:

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VERNON DEMARS
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GORDON DRAKE
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LANDIS GORES
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HENRY HEBBELN
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ALBERT HENRY HILL
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UEL C. RAMEY
Wichita, Kan.

EERO SAARINEN
Bloomfield Hills, Mich.

HUGH STUBBINS
Lexington, Mass.

EDGAR TAFEL
New York, N. Y.

WILLO VON MOLTKE
Bloomfield Hills, Mich.

M. YAMASAKI
Detroit, Mich.

Which one of the current leaders in modern architecture has given the younger generation most to go forward on?

BREGER & SALZMAN: Gropius . . . shows us objective frameworks of reference. In a formative period such as ours, frameworks are more important than catechisms.

JOHANSEN: We owe to Gropius the early efforts to synthesize industry and design. At the present time, however, we are concerned with the perfection of form and detail, and for this we owe most to Mies. . . .

JOHNSON: Mies has given the most for the younger generation since he is easiest to copy *well.*

JOHANSEN: Although Mies' influence is strongest now, we will move from this "classic phase" to one more baroque and romantic . . . in this trend, I'd expect the work of Wright to have increasing influence.

HILLMER: Wrights constant search for new and better ways to solve old problems should be imitated more than Wright's designs. The pallid imitations produced by many of these self-styled "Wrightians" make me sick. . . .

NOYES: The Wright approach seems not to be transferable without the Wright genius.

HILL: Too much of the *philosophy* of Frank Lloyd Wright is treated too lightly or forgotten . . . Breuer, Gropius and Mies van der Rohe—in that order—have had the greatest influence on the East Coast. . . . There is a tremendous *objective* appeal to this work, but the minute the human being is connected with it physically, in and out and moving in it, he immediately seems and feels out of place.

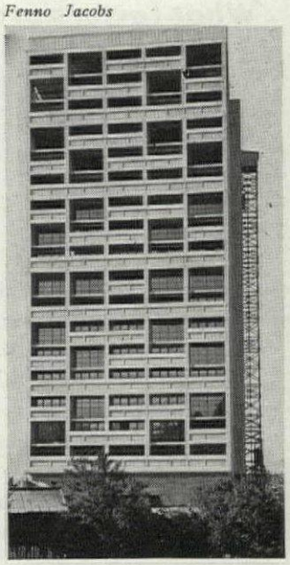
JONES: Is it not dangerous to build from a "vocabulary?" Wright, Mies, Gropius, and others have probably already given the young architect too much *vocabulary.*

KOCH: I have the feeling that a number of us, including myself, are not followers of any one of the men mentioned—Wright, Mies, Gropius—but synthesizers or eclectics picking parts from each. . . . I feel an equal debt to both Mies and Frank Lloyd Wright. . . .

HEBBELN: The influence of Wright was greatest in his early work, and was thoroughly digested by the second generation and transferred to us in its assimilated form. . . . I think the younger generation of architects has gained most from Le Corbusier and Mies.

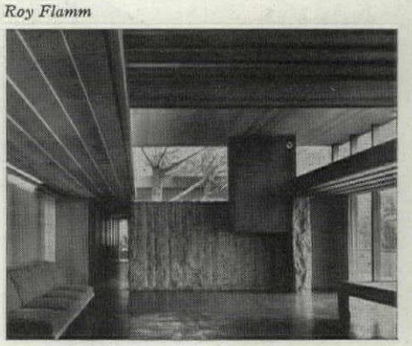
BARNES: The whole statement of Le Corbusier's architecture is highly rational, without secret or mystery. . . .

Fenno Jacobs



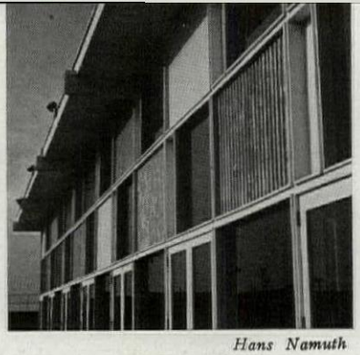
BARNES: "Without secrecy or mystery."

Roy Flamm



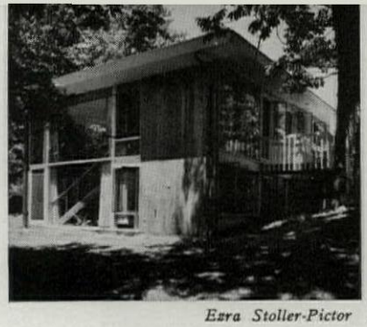
HILLMER: "Constant search."

BREGER & SALZMAN:
"Neither cold nor warm."



Hans Namuth

KOCH:
"A debt to Mies and Wright."



Ezra Stoller-Pictor

ANSHEN & ALLEN: (Yet) the philosophy of the "International School" is a reaction against ornamentation which results in the sublimation of structural techniques; Wright's philosophy is based on the full and integrated expression of each individual as a part of nature working with nature. . . .

PEDERSEN: Wright's work, while wonderful, is too personal to produce a basis for advancement . . . with the exception of Mies, the German work is too thin. . . .

NELSON: Mies has given a great deal to architects everywhere. As far as I can see, he is to a large extent a Wright product. Does one, in crediting Mies, therefore, automatically credit Wright? As far as Gropius is concerned, he looks to me like the 20th Century's greatest educator in the arts. Does one, in crediting Gropius, credit Gropius the architect, or Gropius the educator?

STUBBINS: Gropius has not built as much in this country as Wright or, perhaps, Mies and therein lies his power. . . .

DEMARS: We can only hope that the younger men will in due course arrive at their own synthesis of the truths which the modern masters have distilled from the fine chaos of our times—a synthesis, we shall hope—not a hash.

DRAKE: The few architects of today that do wonderful building . . . weren't handed these principles as a gift; they seized them through work, through struggle and through sacrifice. . . .

HILLMER: Wright should certainly provide inspiration . . . through the example of the eventual success which rewards the person maintaining a design integrity. . . .

DRAKE: . . . by the same token they give nothing to the younger generation except their principles. That's the way it should be. It's really up to the younger generation to go forward by themselves.

What factors are the chief obstacles to the architectural renaissance now under way?

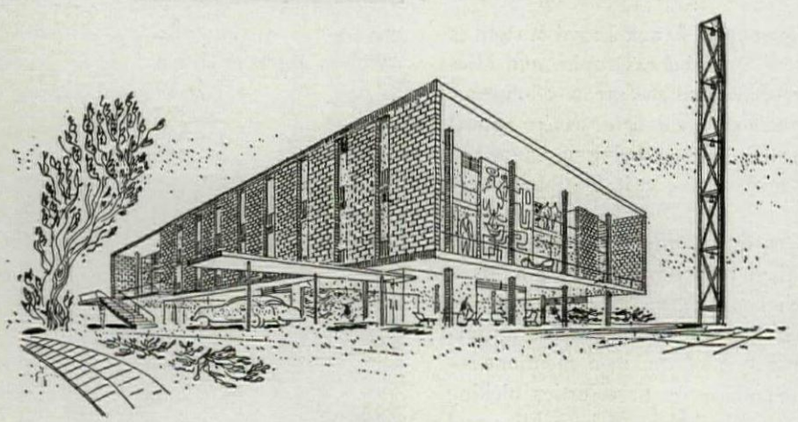
KOCH: A warped sense of values. I am unable to account for the Americans' willingness to live in esthetic squalor.

NELSON: I didn't realize that an architectural renaissance was going on. . . .

JONES: Do we have to go through with it?

NELSON: . . . if it is, I would imagine the chief obstacles to be the climate created by a predominantly materialistic culture.

DEMARS: The new architecture has met wider-spread acceptance than there are designers who know how to deal with it. Many are still fighting the revolution . . . many of us are looking again for the baby that we threw out with the bath water. Matthew Nowicki was aware of all this and seemed well on his way to doing something about it. He said: "Some time ago our design became a *style*. No matter how ingeniously we try to dodge the unpleasant issue, it comes to us with full force in thousands of creations of the contemporary designer."



SAARINEN: "Do you see what I mean?"

JOHNSON: There are no obstacles except the various theories of functionalism which keep people's eyes turned away from the *art* of architecture.

YAMASAKI: The political obstacles are obvious, but on the economic side the pressures will be very great to build buildings which, taking the short view, are money-making buildings.

STUBBINS: There are many minor obstacles such as bad labor practices, antique building codes, ignorance of petty officials and so forth; but the chief obstacle . . . is still the attitude of the people. This attitude is basically an inferiority complex with regard to culture and background. Many Americans have had the erroneous idea that money can buy culture.

JOHANSEN: Public taste lag among both individuals and lending institutions is the most important obstacle.

HILL: I do not believe that there is an obstacle other than understanding or the lack of it. There are factors which we must get around—a completely disorganized building industry . . . waste . . . building codes which are far behind the times. . . .

PEDERSEN: . . . high costs, which means that less money will be available for architectural work, more for less studied buildings; the insistence on speed in the design, detailing and construction; and, finally, a real lack of understanding (although not of interest) on the part of the public.

TAFEL: The chief obstacles are clients who have no faith in the creative ability of their architects . . . and magazines that try to dictate a new style . . . they show mainly what is photogenic, rather than what is architectural. . . .

ANSHEN & ALLEN: (and) our inability to rely on ourselves and trust our own common sense. We keep looking for an Emily Post to quote.

BREGER & SALZMAN: In a mental climate oriented towards war and destruction no *positive* art and culture can appear. Other obstacles are insignificant.

KOCH: The sense of living for the moment that goes with a war mood is perhaps partly responsible. . . . And yet Italy's renaissance was achieved between and during wars. Greece's highest period was not peaceful.

SAARINEN: I always remember once driving up to Orvieto. There was a town where every dwelling unit was a completely impersonal stone hut with no decorations, no individuality, no color, every one practically the same. Right in the center of the town was the cathedral like a jewel covered with inlaid stonework, one of the richest buildings in the world. Today we seem to be heading almost in the opposite direction from this. Do you see what I mean?

What developments in technology and large-scale planning will most radically affect the course of U. S. architecture during the next 50 years?

JONES: I suppose this is the point to introduce the atomic bomb. Either there has been a terrific waste of news print or it will affect our lives (and thus) . . . U. S. architecture.

VON MOLTKE: One of the results may be the accelerated decentralization of cities. Some new methods and materials may also result from the development of atomic processes.

NELSON: A crystal ball would be desirable. I have a deep-seated feeling (that would be hard to back up with facts) that the general direction for architecture is the direction it has been pursuing. That is, a steady tendency to peel off weight and bulk, to lighten structure as much as possible and to substitute transparency for solidity where the substitution can be effected.

HILLMER: If full advantage is taken of them, the new techniques of post-tensioned and pre-tensioned concrete will hold many exciting possibilities for the future. New and easier ways of using and handling steel and light-weight metals that are now just on the horizon will generally tend to free the imaginative architect of 1975 from some of the restrictions imposed on the architect of 1951. In my own work the new developments in glass and in the plastic glues will most influence my future designs.

JOHANSEN: The abundance and low cost of aluminum and plastics when their production is fully developed will have an influence upon the structure and appearance of our buildings.

STUBBINS: The thing that could help most is a new material and sooner or later we must invent a new building material . . . a composite wall. It must be waterproof, rotproof and verminproof. It must have insulating and sound absorbing qualities and must be available in a variety of colors and textures. One must be able to cut it, perhaps with a special tool. It must be pre-finished inside and outside and require little or no maintenance. . . . Its advent would have a terrific effect on building techniques, design and costs.

BREGER & SALZMAN: We have the bases for our technological and planning developments today, but perhaps changes in our economic and distributive systems and official recognition of new standards and techniques would allow the application and amplification of these developments. . . .

ANSHEN & ALLEN: . . . (but as for) large-scale planning the theory cannot progress further without being put into practice. To give Planning Commissions power to *prevent* misuse of land in the suburban areas *before* they become built-up would affect architecture more radically even than technological developments.

KOCH: Our overall housing accommodation gets worse and worse as our technology gets better and better. I think the NAHB-FORUM House Design Competition for all its fanfare and the attractiveness of the winning designs is a very depressing example of that. Why anybody should agree to put a single family house of the size required in that competition on a 60′ lot is beyond me.

YAMASAKI: Sometimes it is possible to incorporate better living by just better planning, but so often we are pressed to eliminate some element which involves more pleasant living because of an economic reason. . . . I believe that architects as responsible citizens can resist these pressures and do much to contribute to the better life.

What are the chances of a truly integrated building industry in the U. S. during the next 50 years?

HILLMER: I don't expect to see it . . . unless the unholy alliance between the contractors, the building trade unions and the manufacturer-supplier is broken. After all, it isn't particularly characteristic of that segment of U. S. business to kill the goose that continues to lay golden eggs.

DRAKE: We will achieve fabrication and building integration when the people who buy houses refuse to pay any longer for waste, confusion and inefficiency. . . . Architects will either work for this development or they will no longer exist.

KOCH: The chances are perhaps the best if we are threatened the most from outside, since our building industry is at present one of the weakest links in our defense. The idiocy of our present building methods is so apparent to anybody who looks into industrialized building that our ability to keep on affording what we are doing is almost incomprehensible.

DEMARS: See the Bemis Foundation's new book on Prefabrication.

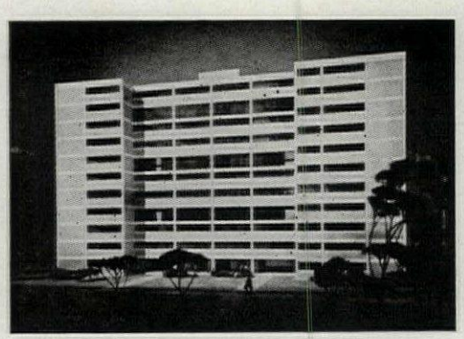
HEBBELN: A truly integrated building industry would probably take a dictatorship or a stable society, neither of which seems imminent. Prefabrication of parts and of structural elements—yes; of complete buildings—no. Economically I think the prefabrication of simple parts will win out; architecturally I think this will be fortunate.

JOHANSEN: The transition will be through development of a greater number and completeness of structural and building parts and equipment. Complete houses will be made for and acceptable only to families of lowest income.

STUBBINS: I don't think that the prefabrication of complete buildings is an answer.

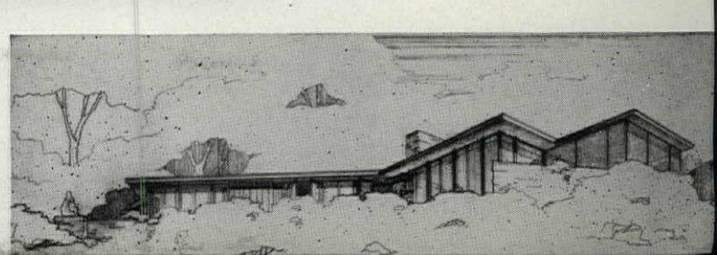
HILLMER: I expect to see more and more individuality in people's homes, not less. . . . If this can be obtained through prefabricated building parts which are well designed and offer real flexibility, then we may have partial integration. . . . It is the most challenging design problem we face today.

RAMEY: Prefabrication of building parts will come first, then prefabrication of structural elements. I doubt that complete prefabrication of buildings will ever be very successful or very popular.



YAMASAKI:
"Better living by just better planning."

TAFEL: "Clients without faith."



ANSHEN & ALLEN: We think the chances are good for prefabrication of building parts and of structural elements, but not for complete buildings. At present, we have the prefabrication of parts and structural elements—a perfect chaos of them. Building a building now is like trying to take pieces from many different puzzles and fitting them together into a "pretty picture." In the next 50 years there is hope that the puzzle-makers will get together on standardizing their parts to fit, say, a hundred different complete and integrated puzzles . . . without sawing and hacking.

Are esthetic "austerity" and "economy of means" desirable characteristics of modern U. S. architecture? Or is the trend toward a greater "humanism?"

JOHNSON: I think austerity will win out.

McMASTER: It is not a question of esthetic "austerity" and "economy of means" being desirable. They are characteristics of modern U. S. architecture because the economy necessitates them.

STUBBINS: I don't believe that esthetic "austerity" is a desirable characteristic. "Economy of means" is not always in the same category; working within strict limitations has produced some very good architecture. . .

BARNES: Why must "esthetic austerity" accompany it? Le Corbusier has proved that the two are separable and that beauty is *not* only skin deep.

STUBBINS: . . . There is definitely a trend toward a greater "humanism" and this is right . . . (but) there is danger in becoming over-romantic so that the architect again becomes an exterior decorator.

PEDERSEN: If by humanism you mean more natural materials and more chintz—the log cabin or Japanese effect—I'm against it. I mean that given buildings of all kinds Mies has more to offer than Wright. I fear that our design may lose its purity and become a cozy architecture, for this demand on the part of the public is strong.

NOYES: This word "humanism" is often used to justify a kind of corny lushness of materials, colors, etc., which amounts really to a lack of architectural discipline. Architecture with warm, living qualities does not depend on this kind of unrestrained romanticism.

HEBBELN: The important thing is not what materials, but how used: proportion, balance, relation. You cannot eliminate *art* from building.

VON MOLTKE: When I refer to humanism I do not necessarily think of romantic humansim. I feel that the graciousness of Mies' Farnsworth House represents humanism as much as Wright's Falling Waters.

RAMEY: "Austerity" and "economy of means" are characteristics of the early stages in the development of a great architecture. Humanism comes with maturity.

ANSHEN & ALLEN: The symbolic form of "economy of means" is much more expensive to build than a building which does not shout "austerity" and "economy" from its lean pipe columns and eaveless fenestration. The present trend toward this type of architecture is due to a subconscious desire to put on a "poor front" in order not to excite too much envy of the great richness of our country.

HILL: If the slab wall or the box of glass is arbitrarily applied to the human being, then it is esthetic austerity in its worst sense; if the introduction of rattan mats on walls and rough planks is a trend toward "humanism" it is still evading the basic issue and only emphasizes the defeat. If this continues, I believe it is the announcement of a most frightening and shocking lack of integrity and thought—the dignity of a man is lost.

JONES: Actually, haven't all three always been a part of *good* architecture?

GORES: It is far from original but perhaps still not irrelevant to remark once more that balance is in all things desirable . . .(these three) are not mutually exclusive goals.

BREGER & SALZMAN: "Cold" or "warm" are not the directions. An architecture that concerns itself with content, simple, varied or complex as it may be, is a desirable direction of *all* architectures.

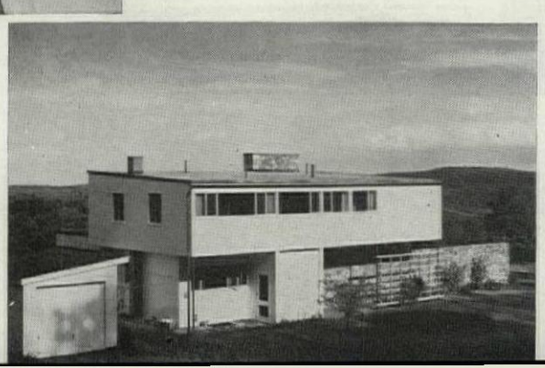
SAARINEN: It seems to me we have two fundamental worlds in which we live. We have the handicraft tradition which started some time in the Middle Ages and is still strongly with us, stronger in Europe than here. Superimposed upon that we have the industrial, the mechanized era. . . . Let us say the U. S. is 70% industrial era and 30% handicraft; Europe is the reverse. . . . Somehow in America there seems to be a growing cleavage between the impersonal building (which is everything except the individual house) and the house itself. . . Another thought: Isn't it curious the way certain architects who strive for an expression of the industrial era (such as Mies, Gropius and Le Corbusier) always tend toward light-colored materials—buildings that disassociate themselves from nature and in a way are in oposition to it. On the other hand, the works of those who lead in what might be called the humanistic revolt against the machine (Wright, Wurster and Aalto in his dormitory) are dark buildings that blend with nature. One could almost simplify the whole thing by just calling them the "light building school" and the "dark building school". The latter destroys nature less. . .

All this seems to add up to one thing: American civilization accepts in its urban communal life the architecture that goes with the industrial era, but there is a strong yearning for nature and for expression of individuality which makes the American want to leave the city and be in the country in a house put together with hammer and nails. There are two architectural trends which are not at all in conflict.



KOCH: "Painter . . . sculptor . . . . . . welder . . . technician."

NOYES: "No corny lushness. . ."



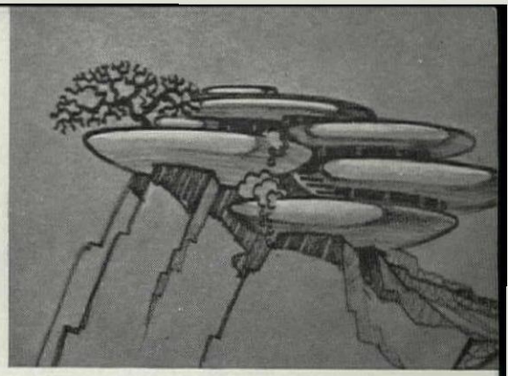
Photos: Ezra Stoller—Pictor; Roger Sturtevant; Julius Shulman; Lionel Freedman—Pictor; Damora



HILL: "The dignity of a man. . ."



JOHNSON: "Austerity will win."



ANSHEN & ALLEN: "Subconscious desire."

Are there new opportunities for integrating sculpture and painting with architecture?"

HILLMER: Neither painting nor sculpture have a very important place in our life today. I prefer walls without paintings and I prefer that sculpture, if you must use it, should be used in connection with planting and/or water. In other words, I believe it should be integrated with something living or moving. . . . Of course the best way of "integrating" sculpture with contemporary architecture is to melt them down and make bronze hardware out of them.

STUBBINS: I don't believe there will be any opportunities. . . until the architect, the painter and the sculpture are on speaking terms about each other's work.

GORES: Yes. Suggestions: open minds and hard work.

BREGER & SALZMAN: Integrate painters with painting, sculptors with sculpture — and architects can go on from there.

NELSON: The problem is how. The problem also, I think, is what does anyone mean by sculpture and painting at the present time. The traditional notion of nailing naked young men and women onto walls and other elements of buildings, or pasting murals to the insides seems to be pretty dead.

JOHANSEN: Perhaps having been through a period of austerity we can begin properly to relate painting and sculpture to architecture . . . but no murals or sculptured elements!

BARNES: The old opportunities are still there, with more chance for *seeing* the scuplture and painting.

JONES: The question probably should have been—"Do you believe that sculpture and painting will cease to exist?" That is a point with great possibilities for long hours of discussion. . . . Seriously, I believe they will.

HEBBELN: Yes, yes, yes . . . Le Corbusier's complete integration of architecture with sculpture and painting, and of the whole with the landscape, has been an inestimable contribution and Niemeyer, primitives, Japanese, Greek, anywhere you find a developed culture, a developed architecture.

MCMASTER: Architecture, sculpture and painting are entities within themselves and therefore cannot be integrated. Sculpture would be placed as a further space modulation. A painting used as a plane would be placed as a space modulator.

KOCH: The sculptor and the painter are perhaps more to blame than the architect for failing to get their thinking and way of doing things into building. Welding, glazing, concrete pouring, any number of techniques used every day in building are highly susceptible to sculptural, plastic and color treatment. Where the painter and the sculptor are willing to pitch in and be welders and technicians and are good at these trades and can speak the language of the men who do that sort of thing, the possibilities become much greater for real integration. I think in a small way a considerable amount was done at the Fitchburg library in this direction.

HILL: Painting is a more difficult problem than sculpture—the exactly right painting in the exactly right place so as not to compete with nature. Again, with the pattern of nature, the flow of space, sculpture becomes a vital part of the architecture. The piece itself defines its own space and as such becomes an integral part of the total concept.

Which U. S. school of architecture would you go to if you were starting out today?

GORES: The school I would *not* go to is any school which is the absolute academy of a monomaniac.

HILLMER: I am not at all convinced that *architecture* can best be taught within the framework of a university but I certainly don't know of an existing method which is better. . .I'd be very tempted to choose someone whose work I admired and respected and try to associate myself, even if only remotely, with him and his work.

STUBBINS: I would go to Harvard—first, because it is a small school; second, because a general cultural background is required for entrance; and third because its staff are mostly practicing architects, because it has a fine curriculum and is as integrated as any school I know. . .

TAFEL: Taliesin. Why not? Other schools are institutions, divorced from the actual spirit of architecture.

LEWIS: A school where at least one very great architect is permanently present. A teacher who has himself contributed to the tradition of architecture can best encourage a student to develop original thinking.

BARNES: If I were to choose a school today, I would choose one that gave good courses in engineering and was not headed by a "current leader in modern architecture."

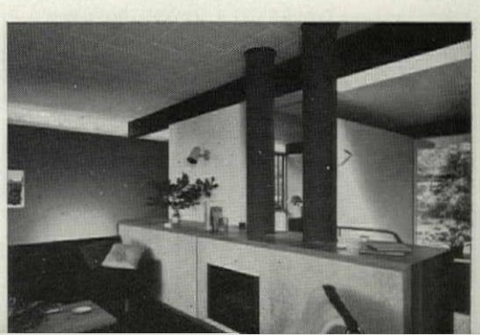
DRAKE: "Nothing . . . except their principles."

HEBBELN: "Anywhere you find a developed culture."

JOHANSEN: "Perfection of form and detail."







KOCH: MIT

JOHNSON: Yale, because it is a greater madhouse than the rest and has fine "gentlemen" working there. I think it is too much of a strain on a student to go to Mies or Wright.

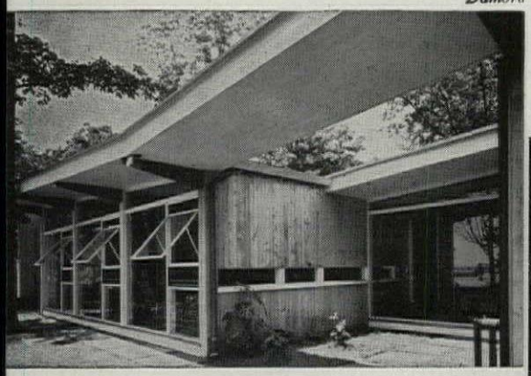
VON MOLTKE: You have to be fully mature before you can understand a genius.

DRAKE: I don't believe I would go to an architectural school. I think perhaps I would work for an architect I respected until I knew the tools with which one works in the profession. Then perhaps to a technical school, for study in materials and structure. Then I would work in the building trades for a time as a carpenter, a mason, an electrician and plumber. Then I would work for an architectural firm to learn administration and office procedure. After that was completed, I'd be ready for the study of architecture. . .

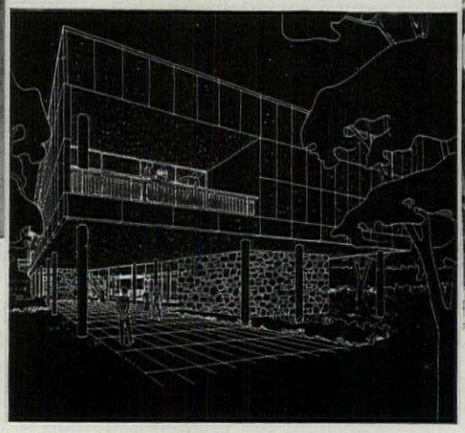
NOYES: I would look for a school which instills excitement in its students and imparts to them a lively sense of the relationship of architecture to the other arts and to the world. . . .

ANSHEN & ALLEN: If we were starting out today we would not go to any school, except for engineering, and then work with as many outstanding architects as possible in order to learn from the people who are actually, currently *doing* work, rather than learing *about* people who have *done* work in the past. In this way, one doesn't have that "academic gap" of twenty-five years or so—which is like a blind-spot in a rear-view mirror. . .

Damora

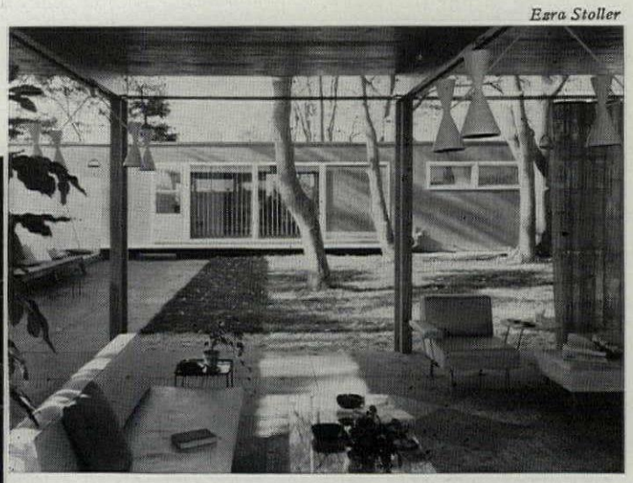


STUBBINS: "To better the lives of people."



VON MOLTKE: "Not necessarily romantic."

Ezra Stoller



NELSON: "Too good to be true."

What made you decide to become an architect?

HILLMER: I couldn't stand the sight of blood.

NELSON: Do you always come up with such hard questions? . . . . When I was in college I was completely seduced by the beautiful renderings made by the architectural students. This as a way of making a living seemed too good to be true. I have since found out that it *was* too good to be true.

ANSHEN & ALLEN: What made us decide to become architects? God only knows!

PEDERSEN: What a question!

KOCH: I think I became an architect because at Harvard, where I went to college, the closest thing to a carpentry course they had was architecture.

JONES: There must be a good answer to the question of why I became an architect, but it is probably unimportant and as well uninteresting. I can say I am having fun, and even knowing what I do now, would do it again.

RAMEY: My answer to this would be much too long. . .so suffice it to be said that I would not swap. . . .

HEBBELN: I always have been an architect, since earliest sandpile memories.

BREGER & SALZMAN: Refer to our analysts. . . .

TAFEL: I'd rather not start on this one. . .but it was real early in my life.

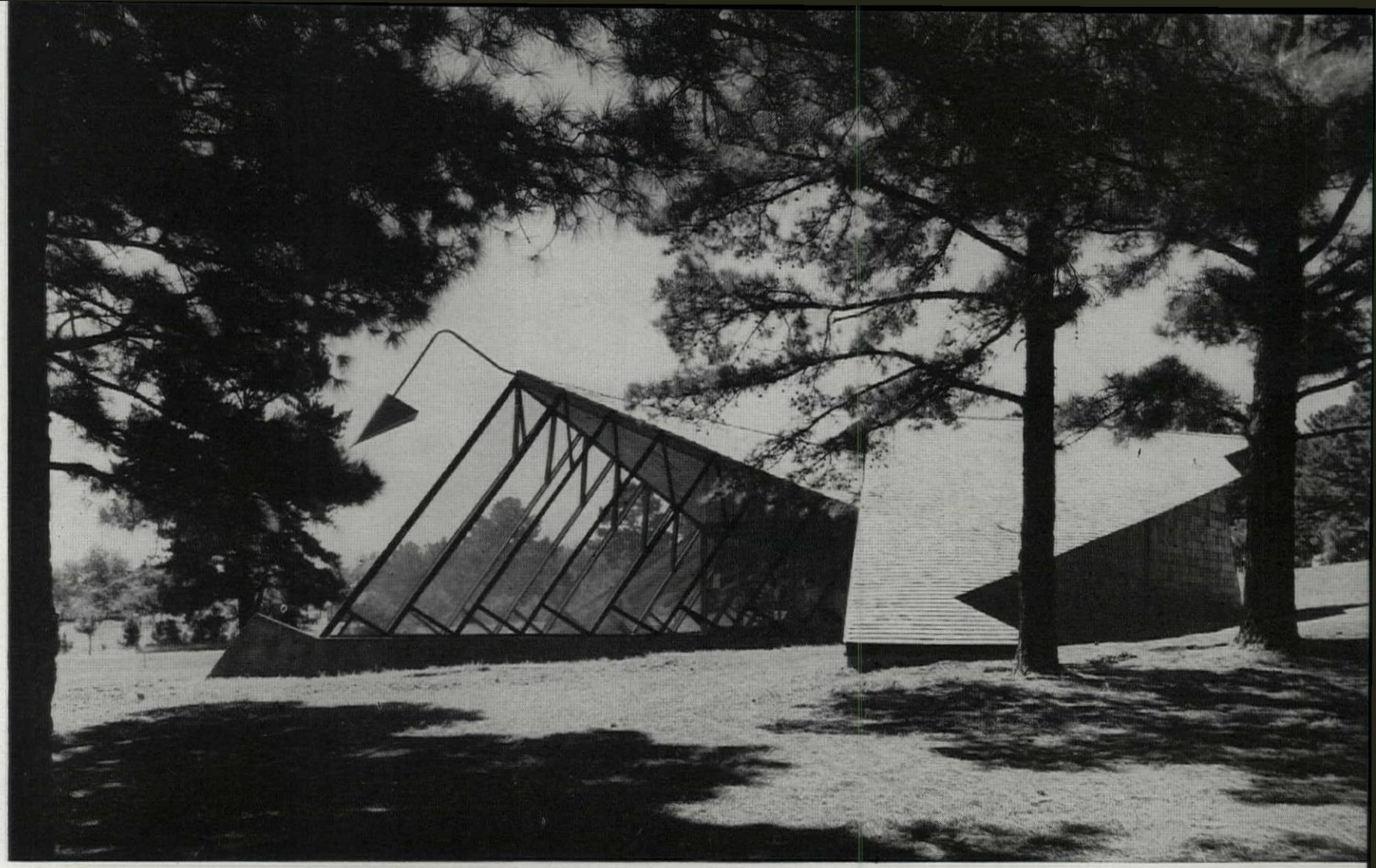
STUBBINS: I don't remember any crisis in which I had to decide which profession, if any, I would study. It seemed somehow quite natural to be an architect. Architecture interested me because there were opportunities for creative work, because of the variety of things to be done and because of the opportunity to better the lives of people through environment. This last I believe to be the deepest reason for the existence of the architect.

JOHANSEN: I had a background in painting and construction. I was impressed with the greater scale of architecture—the relationship of form and space to the human being. . .

LEWIS: An interest in Gothic: Its structural clarity and its wealth of detail within the finely proportioned discipline of the whole.

NOYES: I was interested in the arts. . .painting. . .all sorts of three-dimensional things. It occurred to me in my sophomore year at college that architecture would provide an outlet for all these interests. I didn't at the time have any conception of the breadth or complex satisfaction which I would later find. . .

HILL: I was told to see several architects; I did; and they all told me the same thing—don't do it! I now well understand this and give the same advice myself—if the advice is accepted, excellent, it should be; if it is not, better yet—then he should go on. Nothing will deter him if he is going to go on. He cannot help it. It is 94% business and 6% art—and that part will fill a life.



WEEK-END LODGE beside a lake looks like a graceful glider arrested in flight



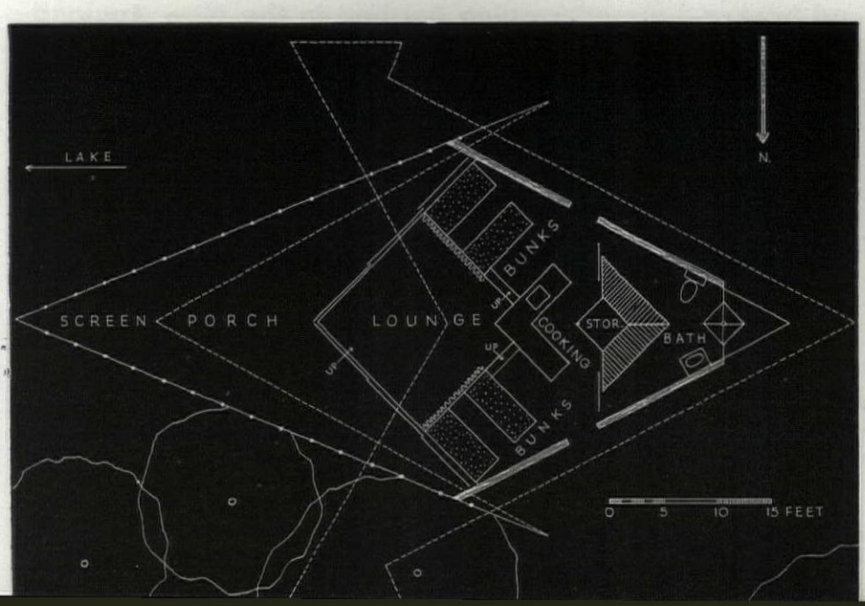
Born 1924. Educated at Tulane, University of Texas and at Bruce Goff's school at the University of Oklahoma. Associated with his father's architectural firm in Jackson, Miss.

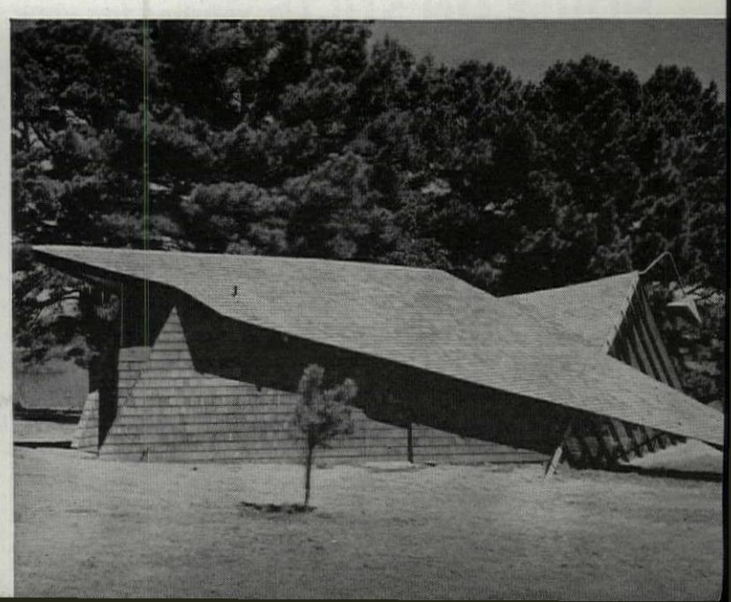
R. K. OVERSTREET: *"This lodge faces an artificial lake 20 miles from Jackson, Miss. The problem as I saw it was to provide a full view of the lake from as many of the living areas as possible and, at the same time, to allow as much privacy as possible from other lodges on adjacent sides and to the rear; in addition, I wanted to give a generous feeling of space inside and take fullest advantage of the southeast breezes in the summer.*

"The cooking, dining, sleeping and living areas all face the lake through a large screened porch on the east front. Combining them helped save hall and interior partition space, prevented 'boxing-off' of rooms, and generally gave a more spacious feeling to the diamond-shaped living area.

"In the summer, the six large sliding doors between the screened porch and the lounge are pushed back and the whole space becomes an outdoor living room. The only remaining divisions are produced by slight changes in the floor level, which follow the slope of the land.

"A large floodlight outside and above the screened porch provides illumination at night without enticing light bugs to come inside. Because the ceiling of the porch pitches steeply toward the lake side and because the porch is only partially roofed over, the owners can look out at the sky as well as the lake below."





Ezra Stoller—Pictor

HOUSE ON STILTS reaches for view and breeze—a modern plan finished in the New England



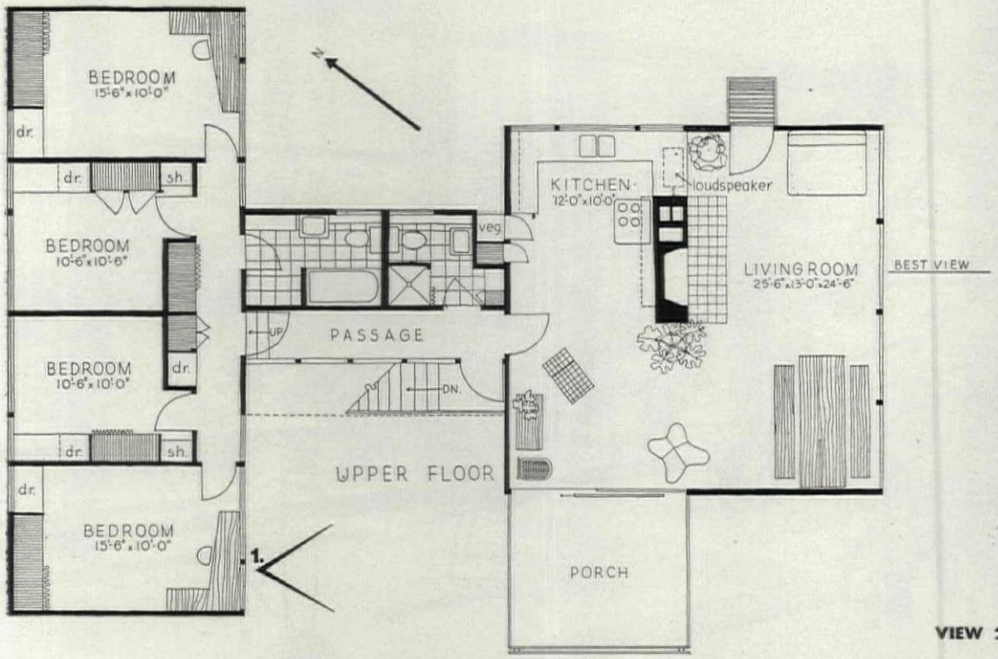


JULIAN UNDERWOOD, Harvard, AB 1941, B. Arch. 1948. Worked for Carl Koch. Since 1948 with Tallman LaBrode & Rounseville, New Bedford, Mass. SUZANNE STOCKARD UNDERWOOD, B. Arch., Smith 1942. M. Arch. Harvard 1943. Worked for Marcel Breuer and Carl Koch.

THE UNDERWOODS: *"We had three strong reasons for putting our house on stilts: 1) We are 300 yds. from the beach and have a first-class view of Buzzards Bay—provided we get up about 10′ to see it. 2) We wanted to get maximum summer breezes. 3) June and July are foggy and damp and we wanted to get above the bugs and dampness. Extra cost for building into the air as we did is about 12% above building on the ground, but it is worth it.*

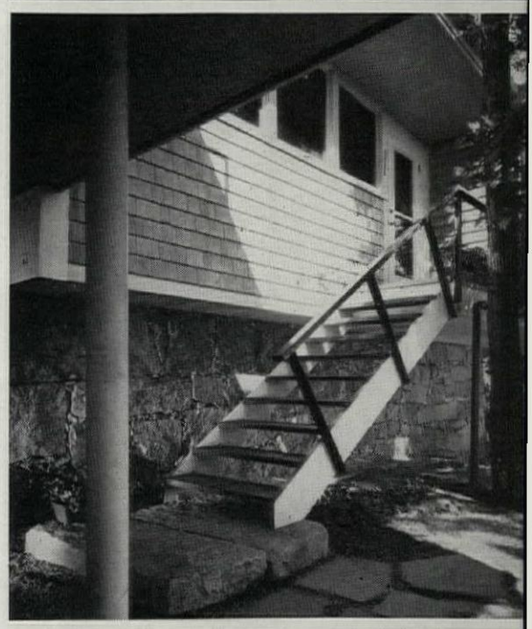
"The use of stilts is a relatively new idea in this area and so is the H-plan they support, but the construction and finish of the house are quite traditional and local in character. This has prompted some observers to refer to our house in So. Dartmouth, Mass. as 'modern colonial.'

"The benefits of the H-plan outweigh by a considerable margin its high perimeter cost and heat loss. It provides three interior zones: the large living-dining and sleeping zones are separated by the small utility and circulation zone. The stilt construction gives us a fourth zone beneath the house—a sheltered outdoor play and dining area and a carport. This by-product of the elevated design is particularly use-

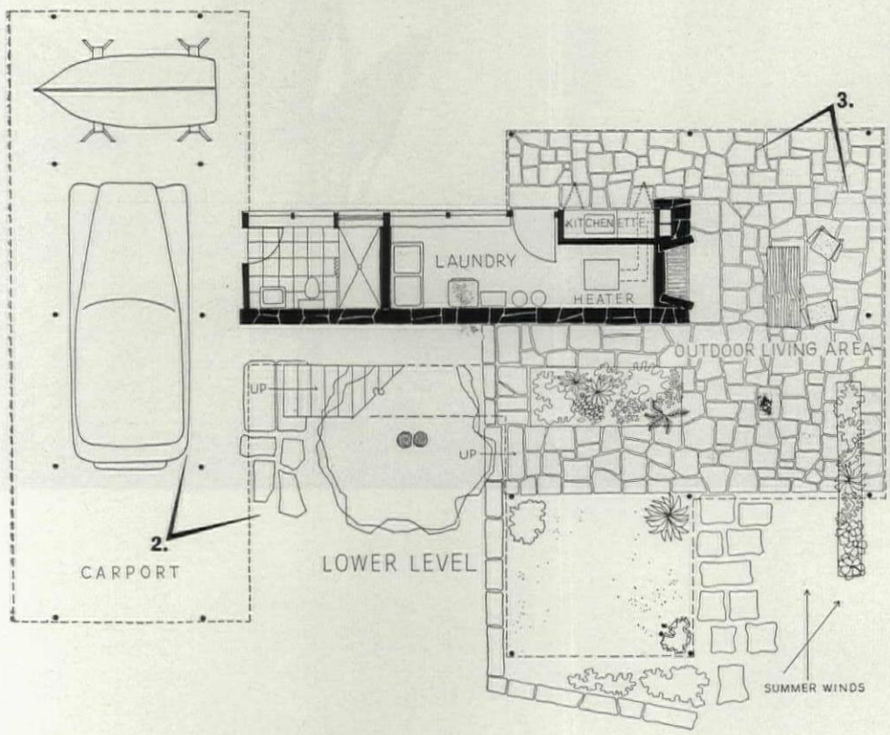


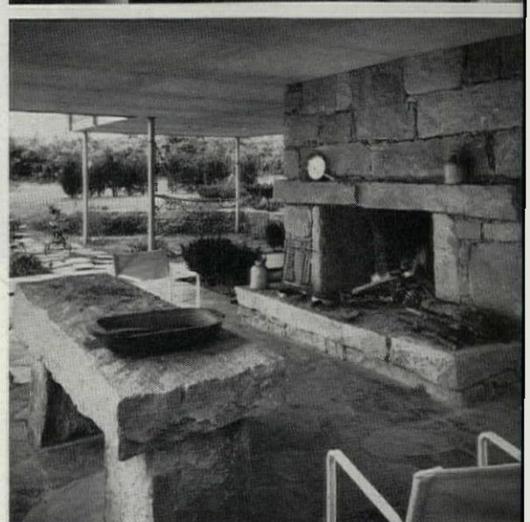
VIEW 1.





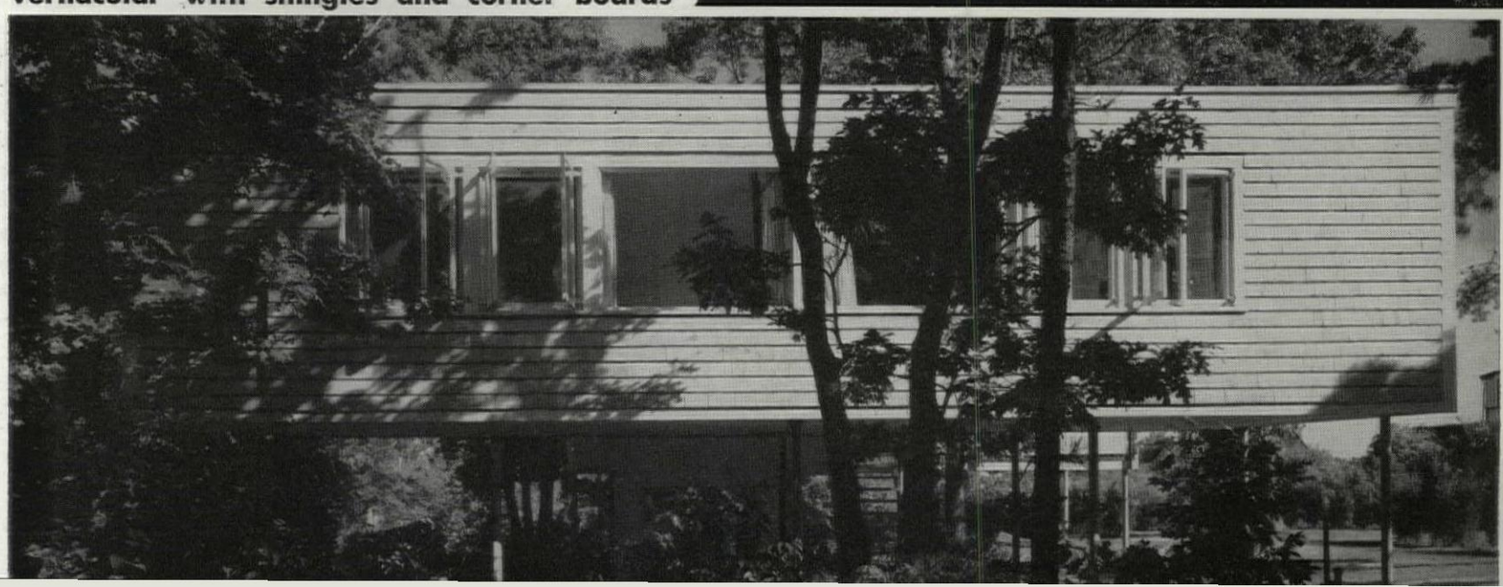
VIEW 2.





VIEW 3.

vernacular with shingles and corner boards





ful for our three children in rainy weather. When it is very hot, we all use it, for even the mildest breeze creates a wind tunnel effect that makes our ground floor about the coolest place in the community. And it's a housekeeper's dream; after mealtime we just hose it down.

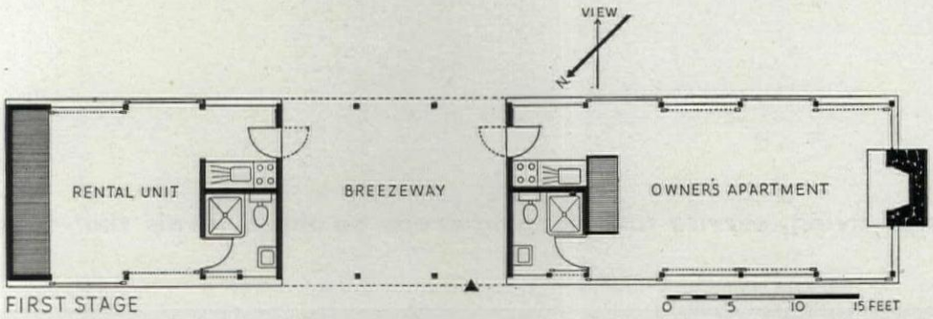
"Living up off the ground is very pleasant and entails far less exercise than one might think. Besides, we are against 'bringing the outdoors indoors' too actively. As confirmed New Englanders we want to be out in it, or we want no part of it. On pleasant winter days it could be too easy to sit behind a lot of glass and enjoy the view, thereby becoming fat and missing the best of it.

"The orientation has worked out very well. The largest glass area is to the southeast and the view, and on winter mornings the sun blasts into the living area. During winter afternoons it comes through the sliding glass door to the porch. In summer the trees cut off enough sun to control heat adequately.

"We are tired of vertical siding and don't think that modern architecture must identify itself with such clichés. We believe that a house looks better in materials common to its environment. Shingles were used on the sides because they are the local tradition, are cheap, and will require no maintenance for 40 or 50 years. As in most New England houses, the panels of shingles are set off with corner boards. Although we question the use of traditional materials that are out of line in cost, we succumbed to primeval charm in the case of the stone walls below."

"Our house with all grading, landscaping, underground telephone lines, septic tank, etc. cost about $32,000."

TWO-FAMILY CAMP under one big roof is designed to become a single residence



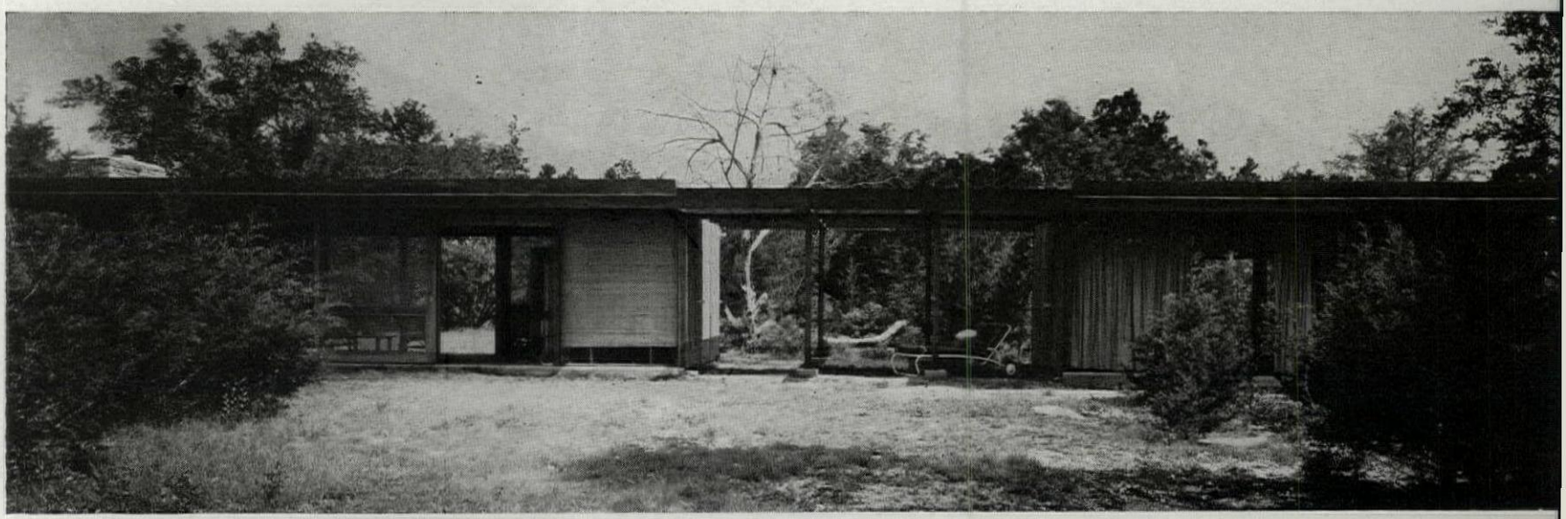
FIRST STAGE

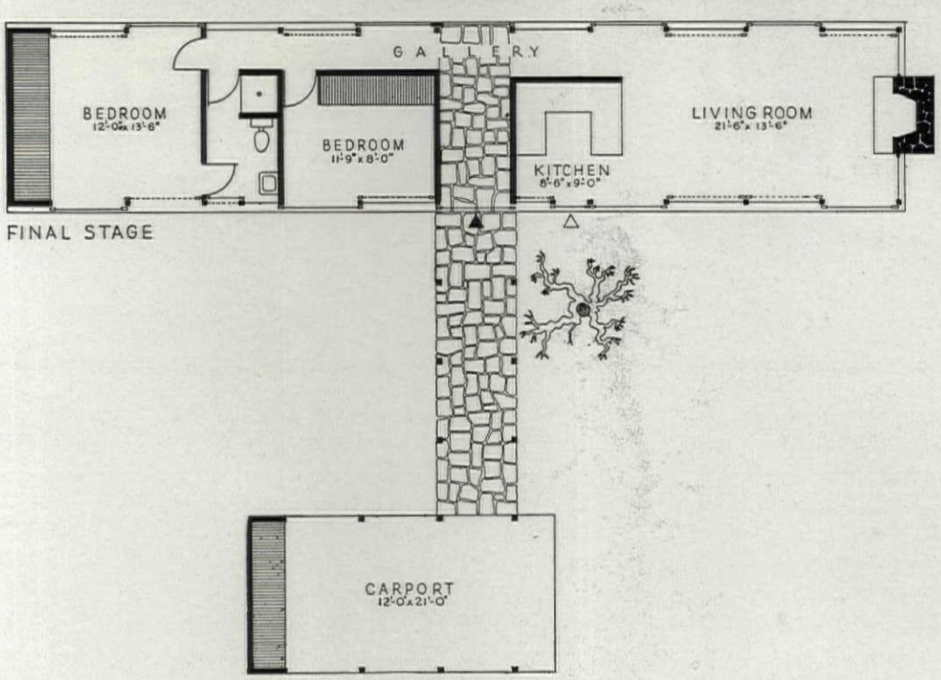




H. CONRAD KROLL, 25. B. Arch., University of Texas, now on its Architecture faculty.

CLINTON MOCHON, 26. M. Arch., Rensselaer Polytechnic, subsequent study at Cranbrook Academy, now on School of Architecture faculty, University of Virginia.





FINAL STAGE

KROLL & MOCHON: *"Our client posed an unusual set of requirements. She wanted a small vacation lodge for herself and a separate 'apartment' which would be rented for the time being (to help pay for her vacation retreat) but could ultimately be combined with the lodge to form a single larger residence. And she wished her big 5-acre site near Austin, Tex., to be a visual and actual extension of the inner area of her small lodge.*

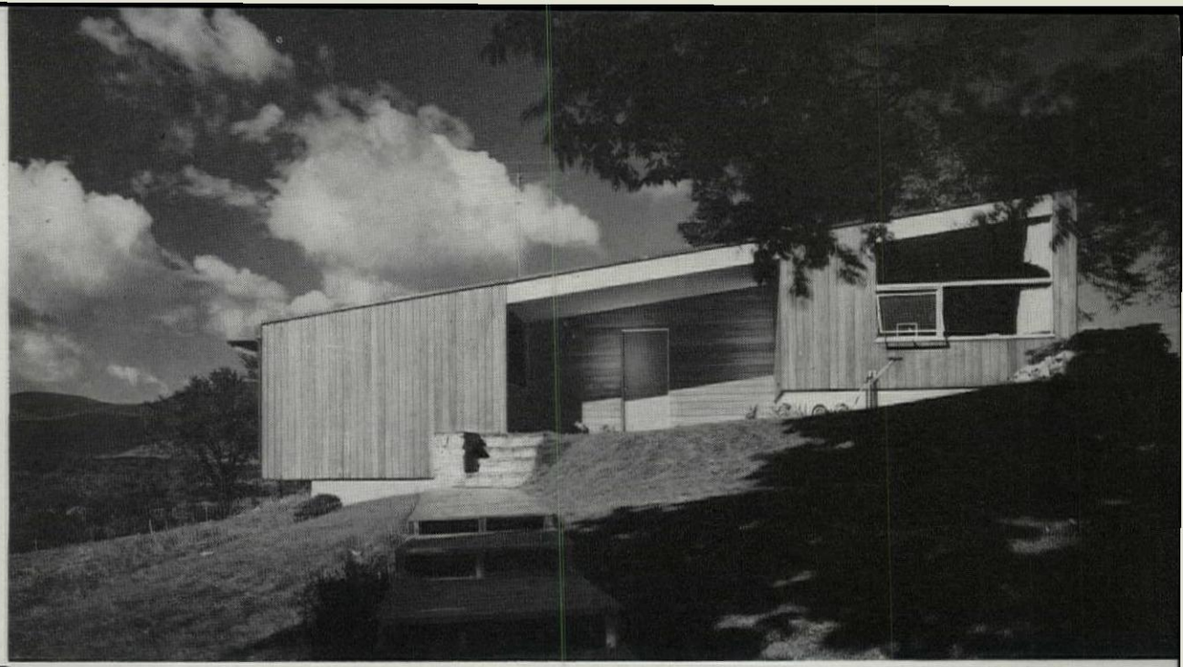
"To meet these requirements economically (the job cost $7,869 for 714 sq. ft., or $11 a sq. ft.) and produce a building which would give a finished appearance at each stage in its development, we built the two units and a separating breezeway under a single rectangular roof. The roof serves as a deck from which an elevated and more distant view may be had.

"Sliding glass doors in the post and beam frame (6' on centers) achieve the desired openness. Except for three solid panels for visual segregation of the units and for a storage wall, the house is without walls. Nature's seasonal changes are actually living murals in all the rooms."

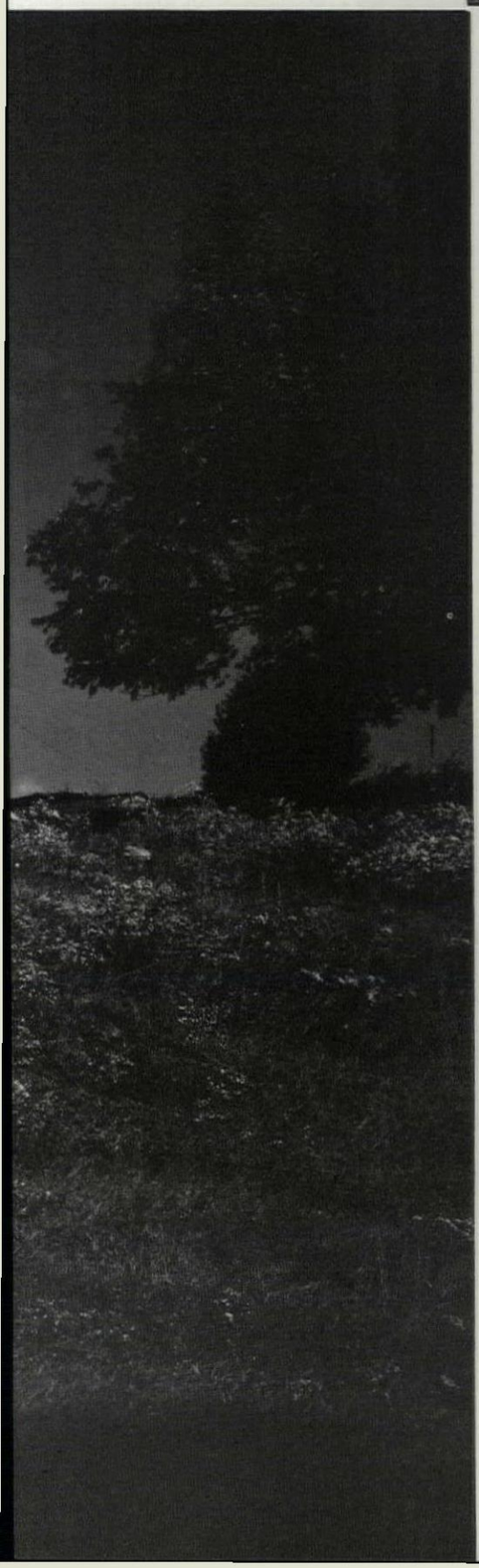
THREE-ZONE HOUSE puts its living, service and sleeping areas on three levels that follow

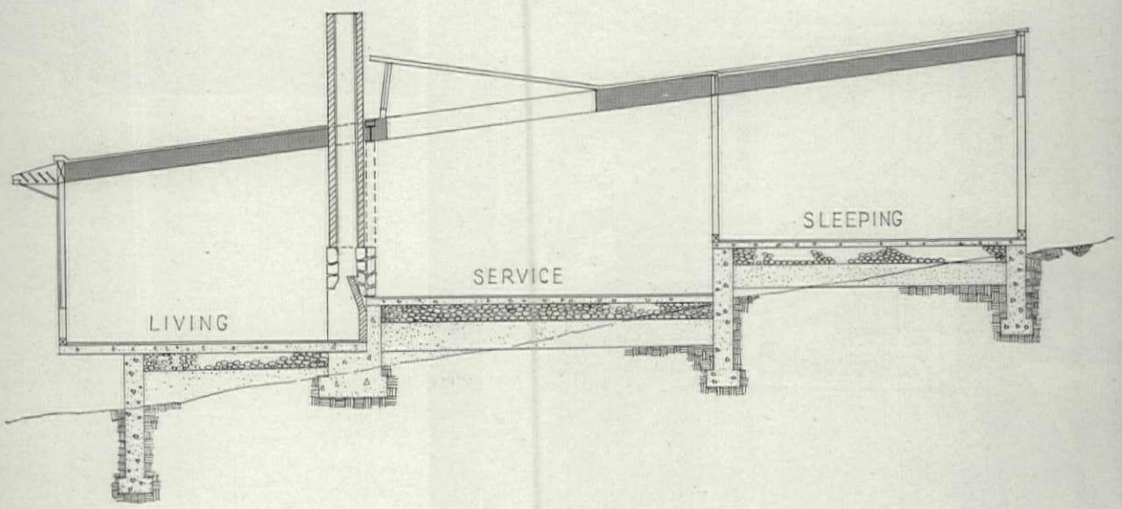


the contours of its hilltop site



Ezra Stoller





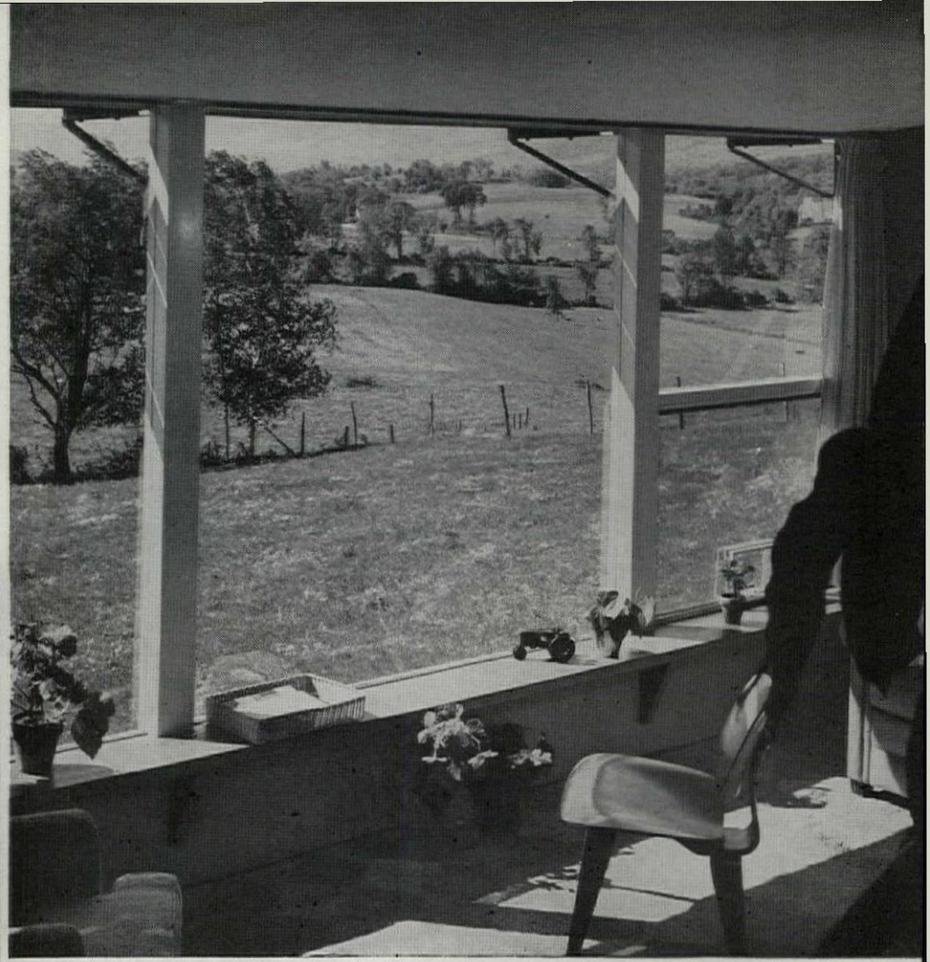


Born 1921. Williams College 1942, Harvard 1948. Worked for Hugh Stubbins Jr., Anderson & Beckwith and others. Now practicing on his own.

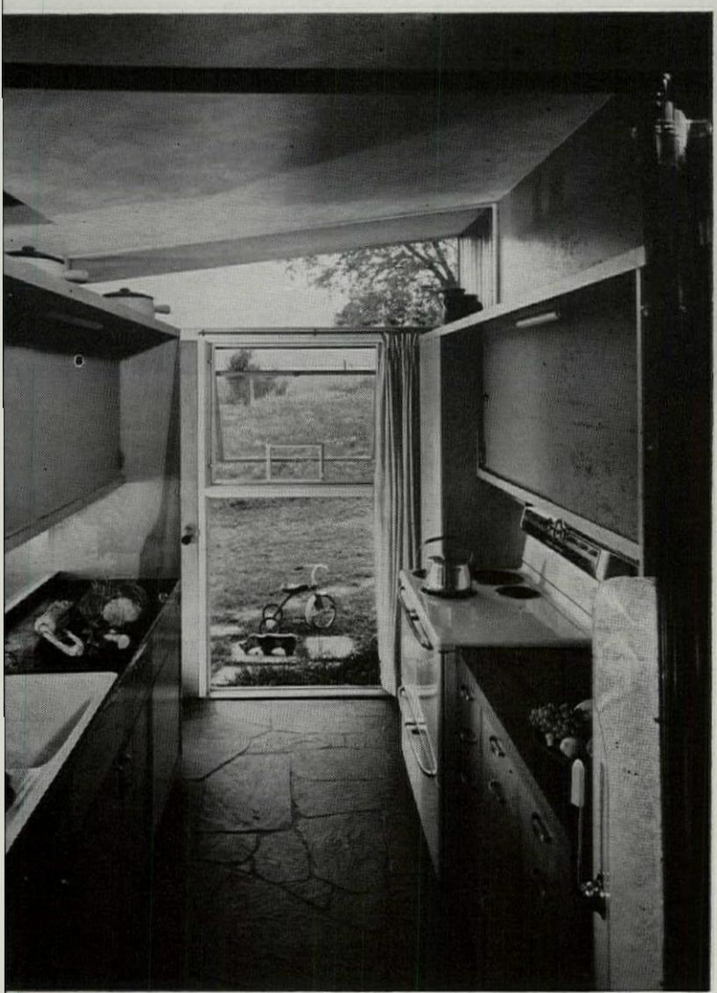
ULRICH J. FRANZEN: *"The young, energetic couple living in this house wanted a view. They also like to ski. So they bought this rocky, windswept and somewhat inaccessible hilltop site in Williamstown, Mass., overlooking the Berkshires.*

"We raised the house off its rocky base onto three radiant-heated concrete platforms. The three different levels divide the open plan logically into living, service and sleeping areas and echo the contours of the site naturally and economically, avoiding a divorce of the design from the spirit of the setting.

"Inside the house the clients required



Large living room window (right) is protected with eyebrow sunshades on metal brackets. View below shows kitchen and yard.



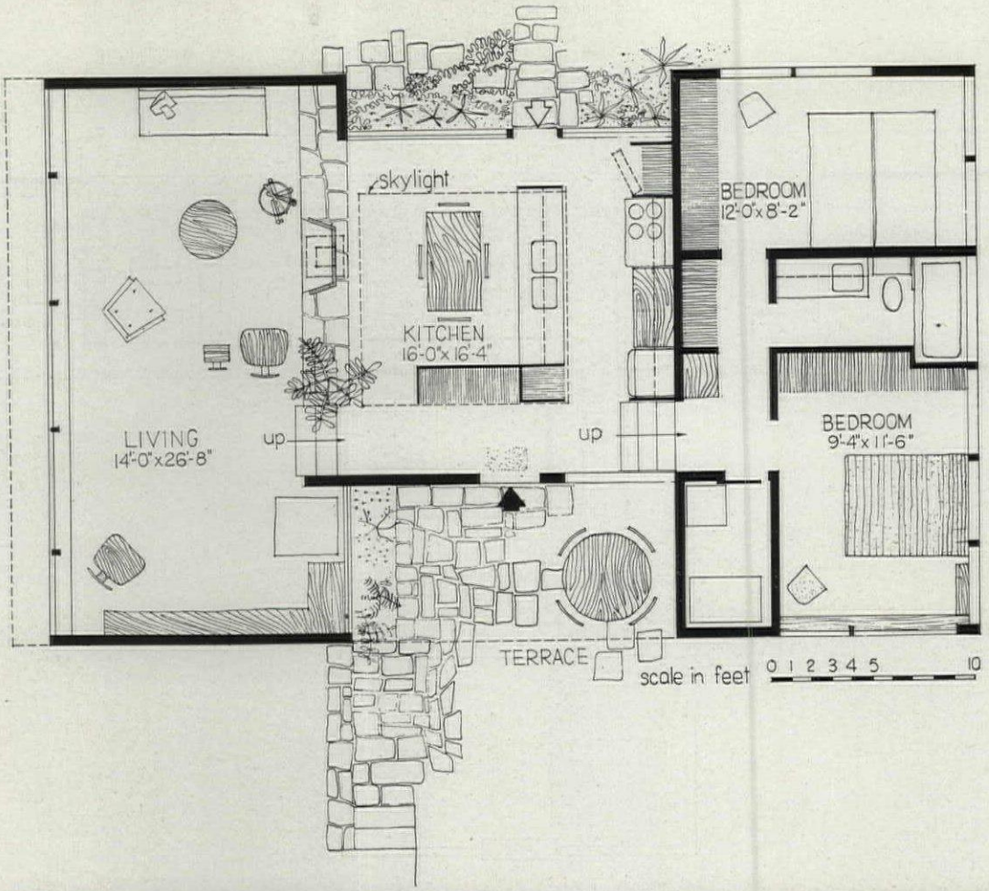
a setting for informal and servantless living. This is reflected in the openness of the plan in the living and service areas and in the compactness of the kitchen. The latter contains a pantry closet which stores small items in depth on thin vertical leaves opened like a book. (Bulk storage is accommodated in a separate garage.)

"We felt that it was very important to balance the profuse outdoor scenery with a distinctly separate and effective interior space and to achieve within the house a strong sense of shelter. It will be noted that all areas (except bedrooms and bath) are visually joined to provide spaciousness and a view within the house. Only the living room at the southern down-hill end of the house and the dining-kitchen wall at the rear are opened to the view through large windows. In the other rooms windows are smaller and set higher in the walls, giving the rooms some privacy from the site's overwhelming vistas.

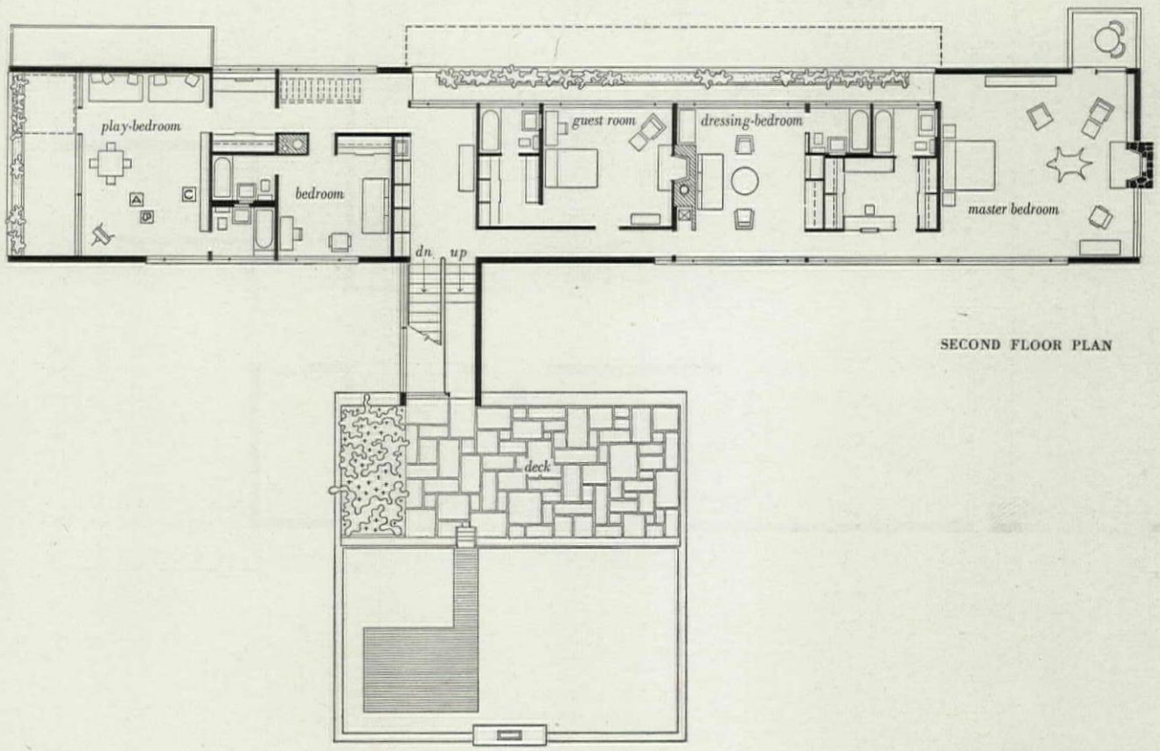
"Just as the sloping terrain dictated the shape of the house, so the rural atmosphere influenced over choice of finishes. The siding is ¾" vertical red cypress left natural; the living room is finished with the same wood in combination with fieldstone. Like the hall, the kitchen and bathroom are floored with flagstones.

"On a less difficult site and with the benefits of competitive bidding, the $16,000 cost for 1,200 sq. ft. ($13.33 per sq. ft) could have been materially reduced.

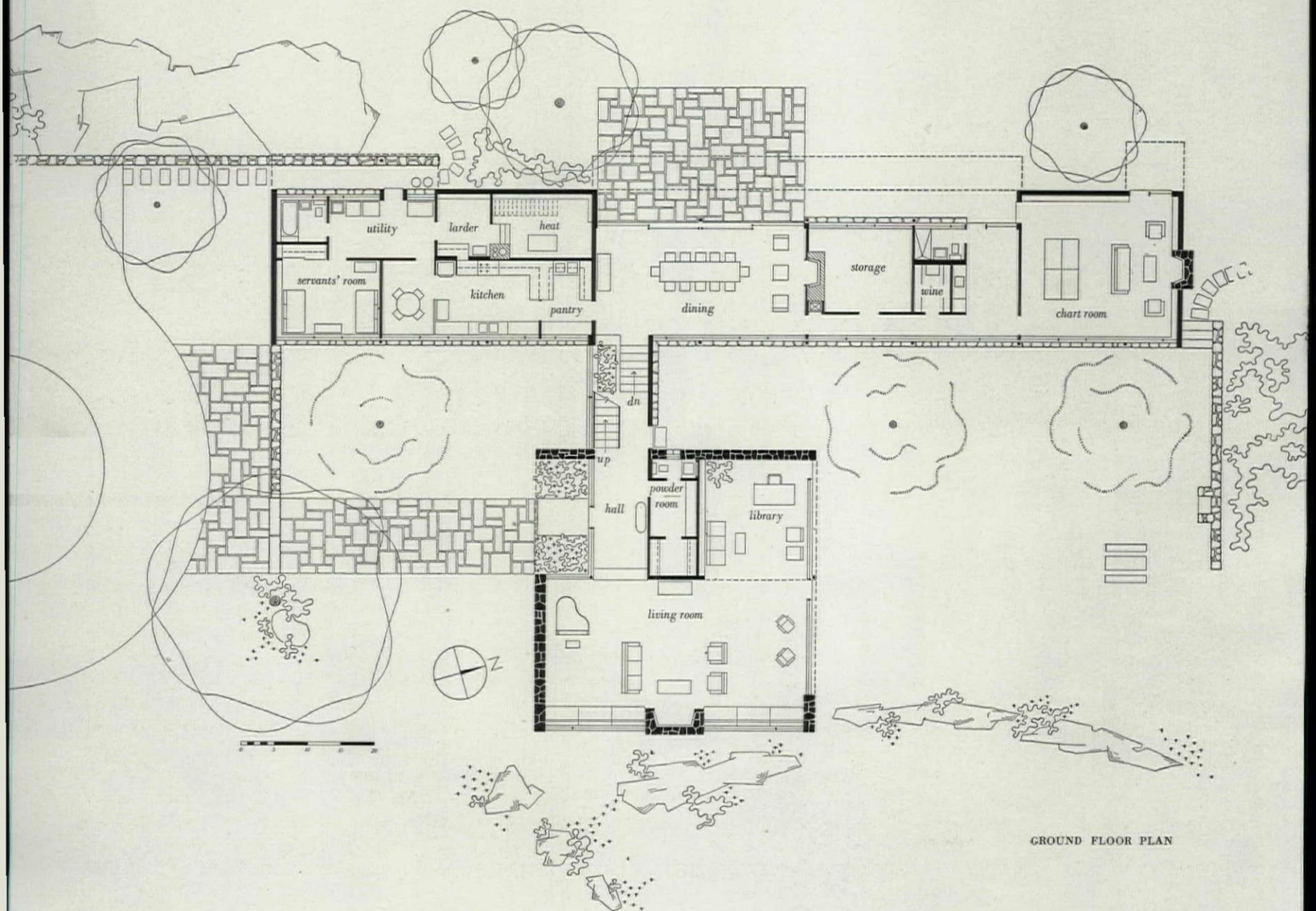
"The people for whom this house was originally designed had no children. For this reason the relative openness of the interior space was quite workable. For a family with children there would have had to be a good deal more visual privacy and a good deal more separation of areas in general. However, the basic scheme of the house—its three zones—could have been adapted to such requirements as well."


skylight
BEDROOM
12'-0"x 8'-2"
KITCHEN
16'-0"x 16'-4"
LIVING
14'-0"x 26'-8"
up
up
BEDROOM
9'-4"x 11'-6"
TERRACE
scale in feet
0 1 2 3 4 5 10





SECOND FLOOR PLAN



GROUND FLOOR PLAN



Ezra Stoller

COUNTRY HOUSE has spacious wings planned around compact circulation core

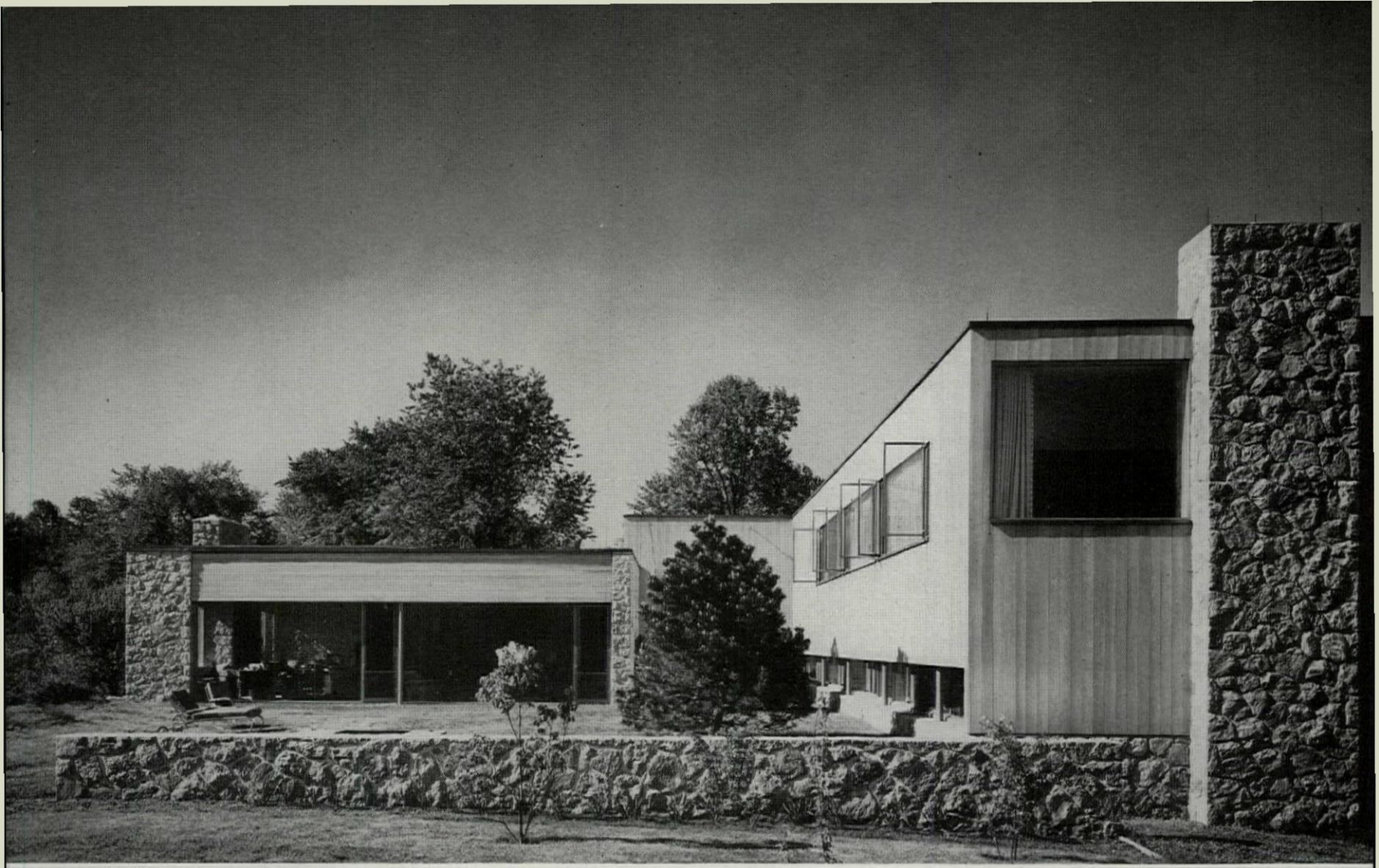


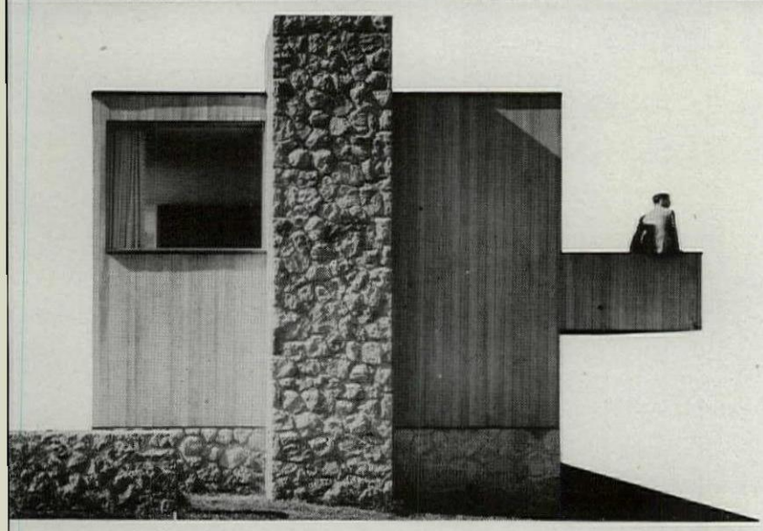
Born 1915. Harvard School of Design, 1941. Worked as Naval Architect on submarine design, 1942-46. Designer for Henry Dreyfuss, 1946-47. Now practicing independently in New York City.

EDWARD L. BARNES: *"This house is 140' long and as much as 80' wide. To make a house of this size at all livable you have to solve its circulation before you do anything else.*

"This traffic problem was solved by dividing the house into two units: a long, two-story wing with bedrooms upstairs and services on the ground floor; and a square living unit with a roof terrace above. These units were linked by a slender hall, which is the key to the whole scheme. It forms the horizontal *connection between the two wings of the house, and it forms the* vertical *connection between its two levels. In addition, it is right next to the front door, so that anyone walking in has immediate and direct access to all areas.*

"The second problem was to make the house work well for informal family living and conventional entertaining. The owner, Whitelaw Reid, Editor-in-Chief of the New York Herald Tribune, *occasionally has formal parties at this house in Westchester County; but it is primarily a place for him and his family. To get the kind of informality that you want in a family house, we permitted a good deal of interplay and flow of space; to get the kind of formality*





that you want in a country house, used for entertaining, we created certain distinct and separate wings and areas.

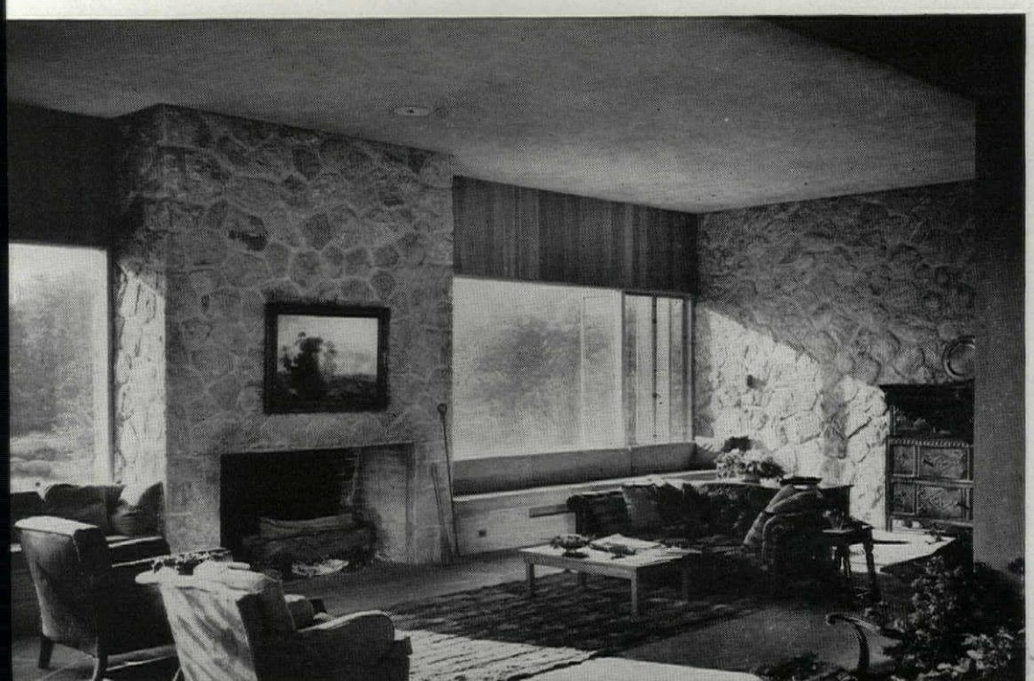
"Yet the 'style' of a family house can never be rigid or classic. It must be organic, in the sense that it must express the varied activities of family life and adapt itself to site and orientation. At the same time it should not ramble all over the countryside in search of different functions, or in attempting to clutch nature. In the Reid house the problem was to strike a balance between organic informality and formal order.

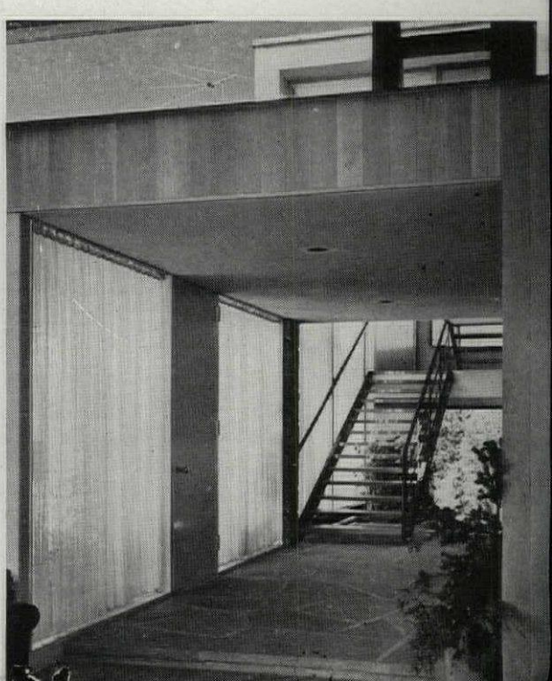
"The long north-south wing is framed in steel. Its strength is expressed in wide bays and deep cantilevers toward the west. The square wing toward the east is constructed of slab stone bearing walls with spandrel beams. The cypress siding is meant to look like a skin, not faked to appear as part of the structure.

"Throughout the detailing a careful distinction was made between the 'rough' work and the 'finish'. The rough work (including the steel) was dimensioned with tolerances. The finish was detailed with precision. It may be possible to detail both structure and finish with great precision in the case of multi-cellular buildings, or in pavilions with simple functions. But a family house is not a repetitive structure; its space requirements are complex, and it is generally built by craftsmen using hand tools. Although an architect may want to express the precision of a machine age, the facts of the situation are bound to lead him to a more flexible esthetic—one that admits both tolerances and precision, both complexity of function and simplicity of form.

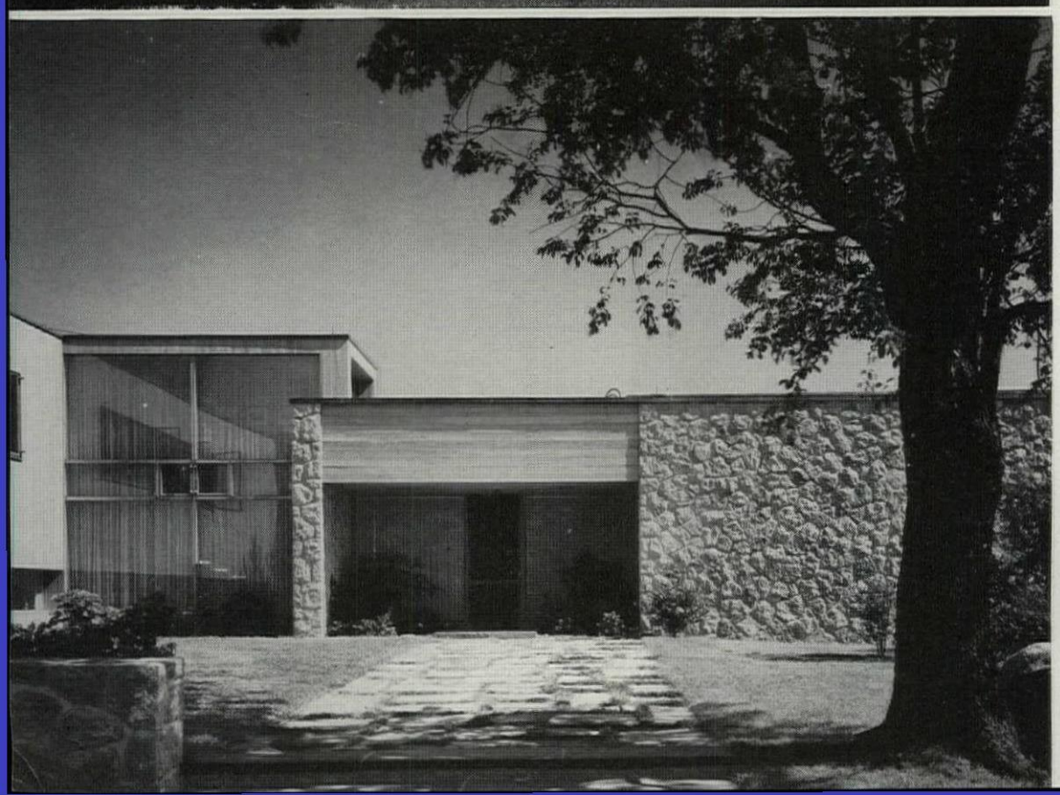
"This house was the first to come out of my own office. In its development, the discipline I received at Harvard under Gropius and Breuer proved invaluable."



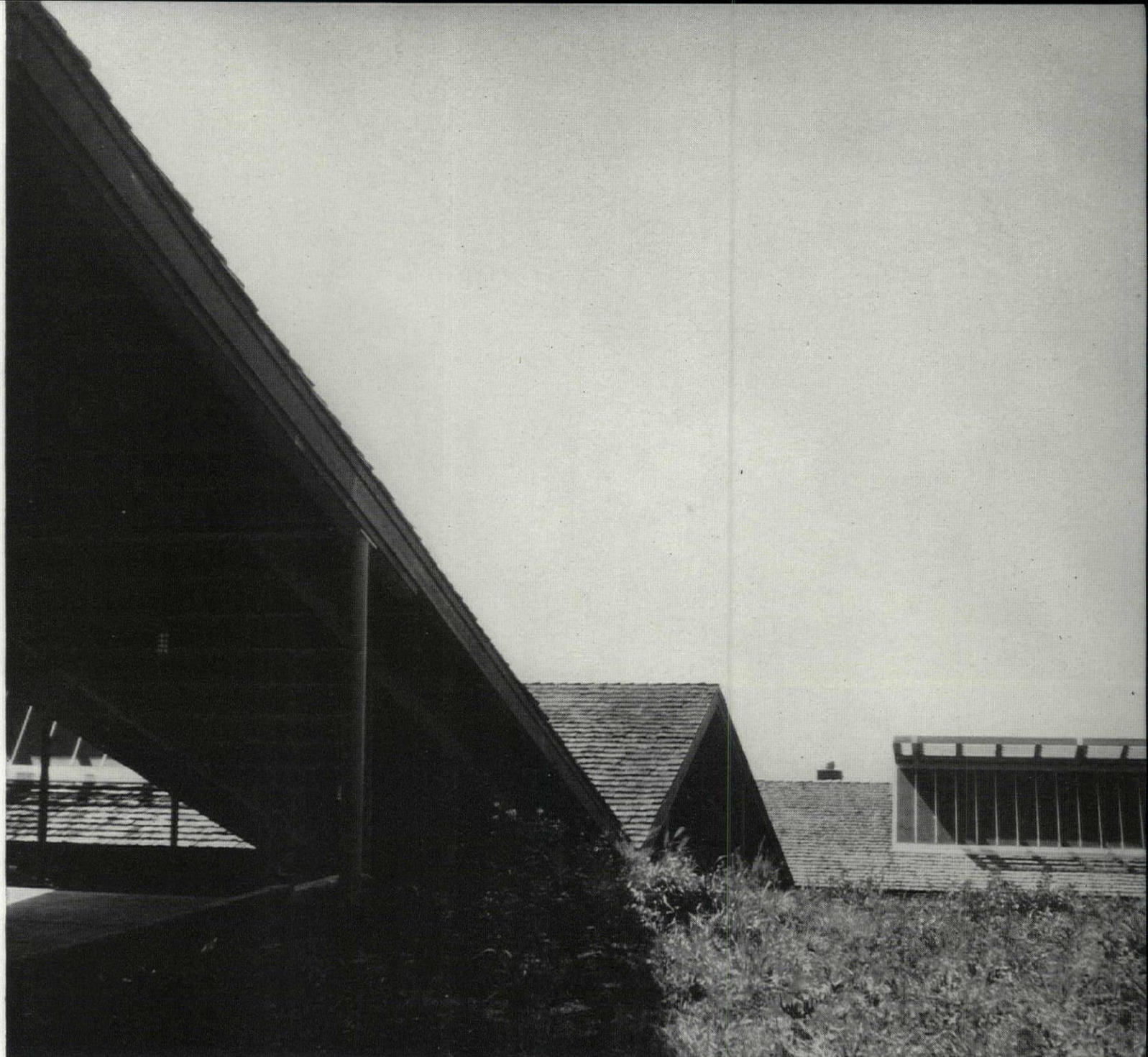








Stair hall (above) forms vertical connection between levels and horizontal connection between wings of house. It is located to the west of the main entrance, shown at left.



Randal Partridge

HILLSIDE SCHOOL designed to ride the contours and deflect high winds, reverses familiar rules

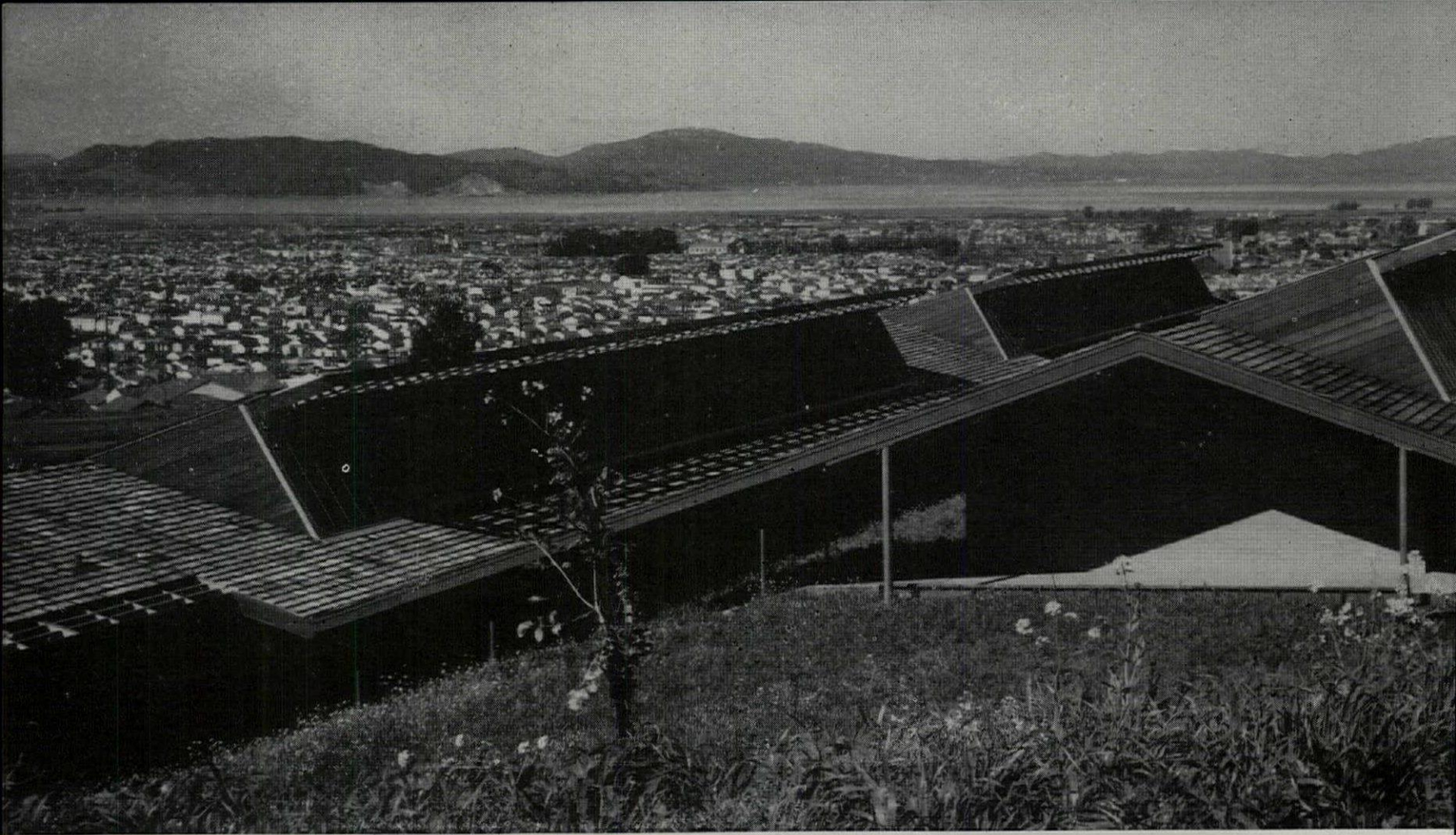


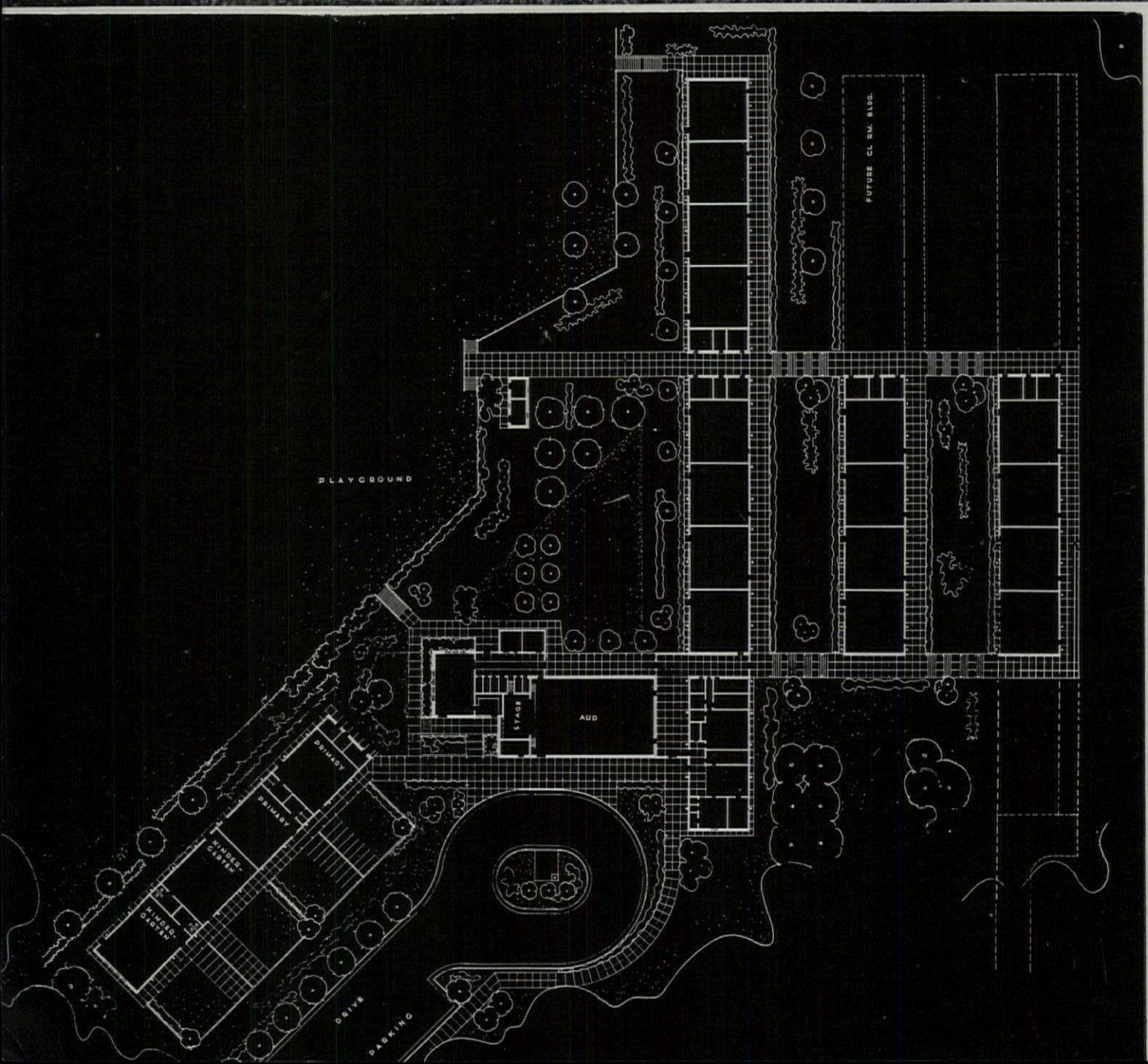
Born 1918. Graduate of Harvard School of Design. Asst. Technical Director and Chief Building Inspector, Richmond (Calif.) Housing Authority, 1942-44. Independent practice in San Francisco since 1946.

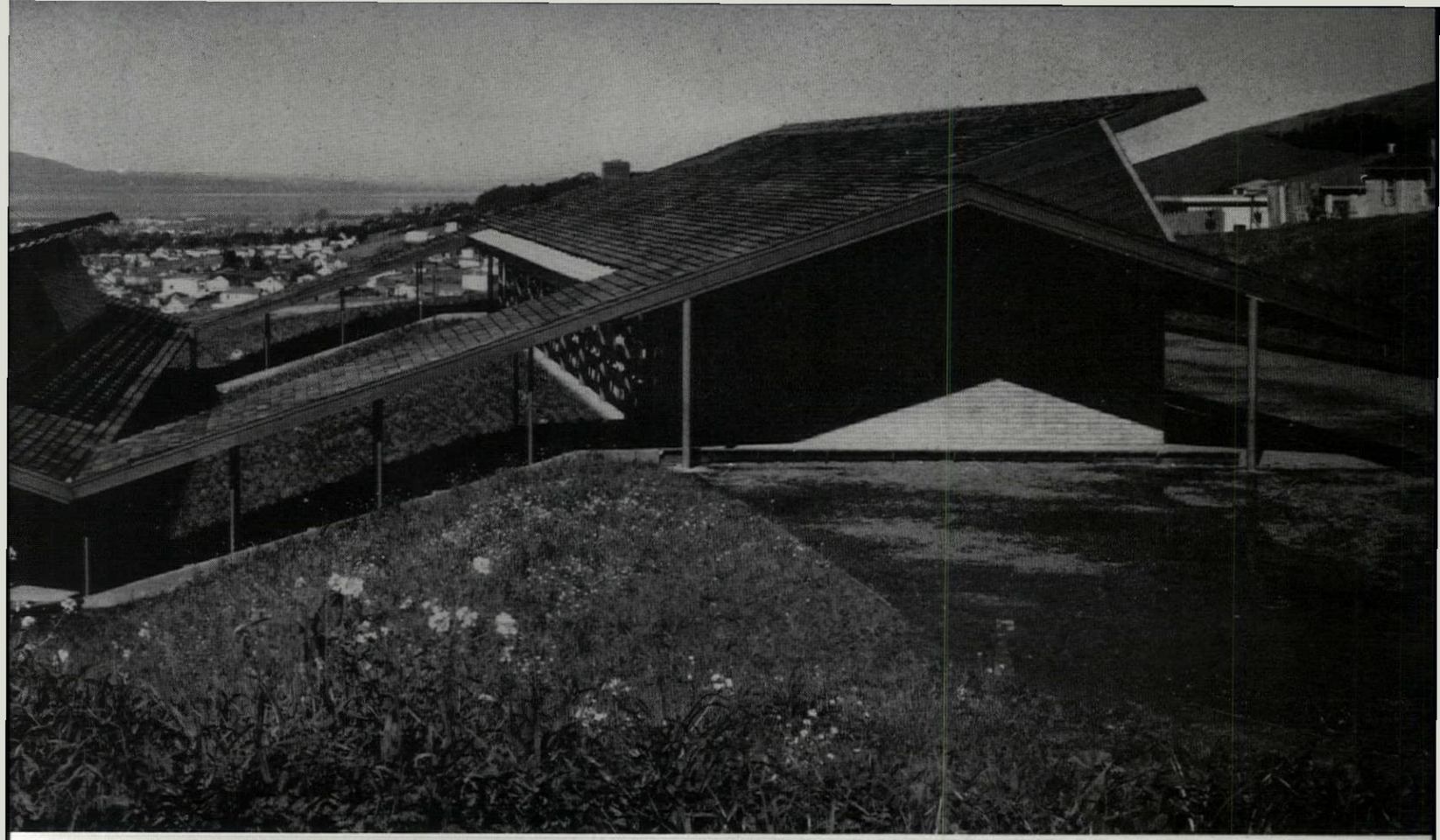
JOHN CARL WARNECKE: *"In the design of the Mira Vista School at Richmond, Calif., we had to wring fresh results out of dealing with contradictions. A stunning hillside invited a building that would seem to ride its contours; but to make this come true we had to do some careful shaping of the hill as well as the building. And that beautiful hill was perversely wrong-side to the weather; so, to get the advantages of 'finger school' planning, we had to reverse the usual pattern. Our fresh shape arrived by way of that double somersault.*

"The hilltop drops off gently to the southwest. By scooping out a series of shelves one above the other it was possible to rank up a succession of classroom rows against the hillside, each with a grand distant view towards the Golden Gate. More important, it was possible to manipulate the cut and fill in such a way that the intermediate slopes paralleled our desired roof pitch. It is this precise terracing which gives the impression that the structures were molded freely from the natural contours of the stepped hillside, and that the roofs of the climbing galleries connecting the successive buildings are 'effortless' continuations of the same roof planes.

"Just as the building shapes hug the ground, so too the materials blend closely with natural surroundings. The roofs, so important to the design, are covered with heavy shakes of natural redwood. The




FUTURE CL RM. BLDG.
PLAYGROUND
STAGE
AUD
PRIMARY
PRIMARY
KINDER GARTEN
KINDER GARTEN
DRIVE
PARKING

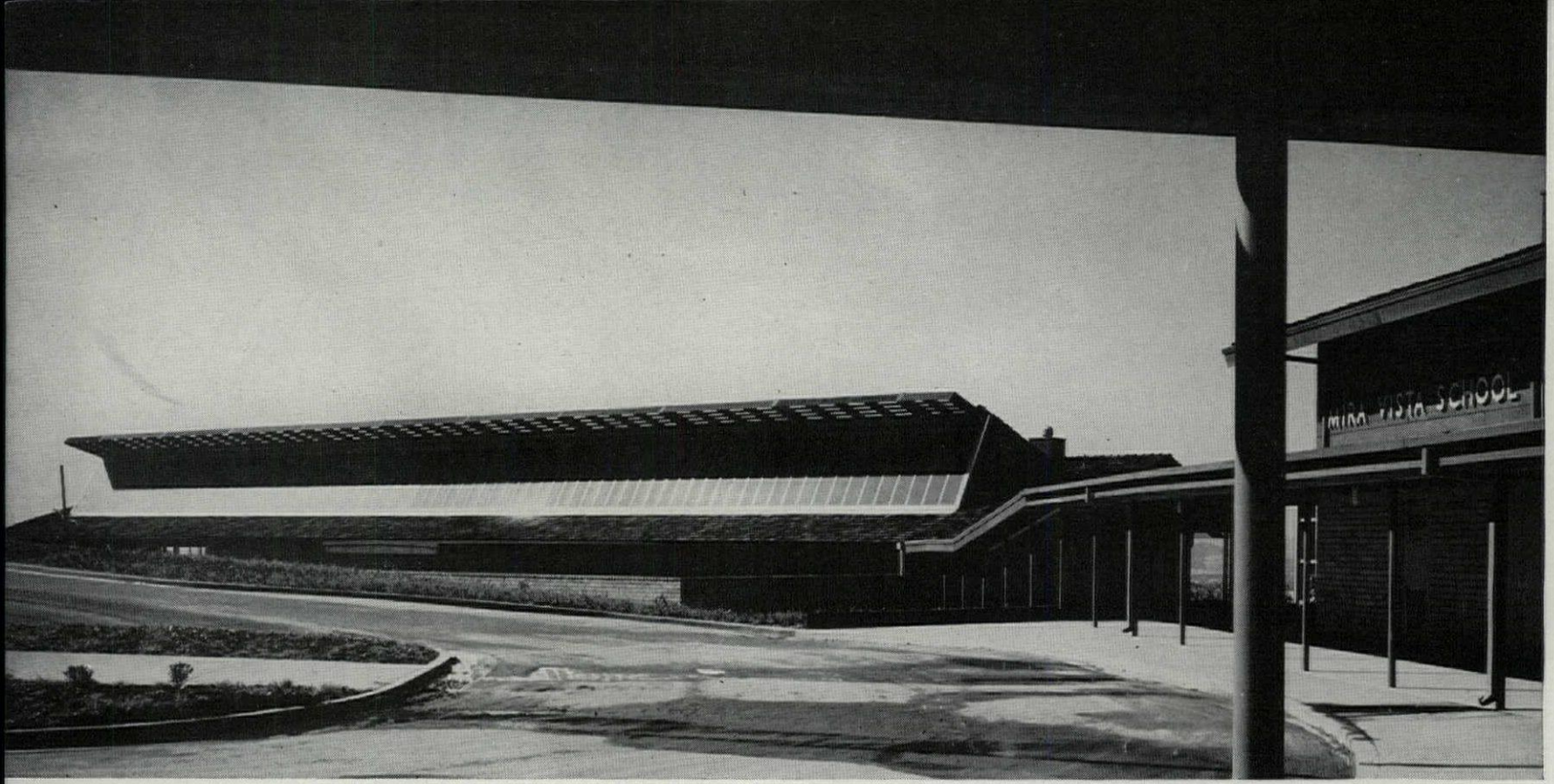


walls are of lightweight concrete blocks of integral buff color. (The buildings are on double flat slabs and are framed with light steel to permit wide openings for natural lighting.) And the ice plants covering the slopes are rich in texture.

"In our planning we had to make friends with the wind. When it comes, the Bay Region's bad weather comes with force from the southwest, straight at the hillside on which the school stands. In the usual California finger plan the open corridor alongside the classrooms is placed on the south side to act as a sun shield. We placed it along the north side (more accurately, the northeast) where the classroom can serve as a windshield, offering real protection to the children from wind-driven rain and fog.

"This rearrangement entailed no sacrifice of good natural lighting. The direct southerly sun was screened through louvered eyebrows. North light was brought in above the corridors by what amounted to studio-type skylights. Under these a large egg-crate ceiling cuts off direct view of the sky and consequent glare. And the children still get their direct window view to the Golden Gate. The skylights composed into interesting shapes along with the wide overhangs as an esthetic dividend.

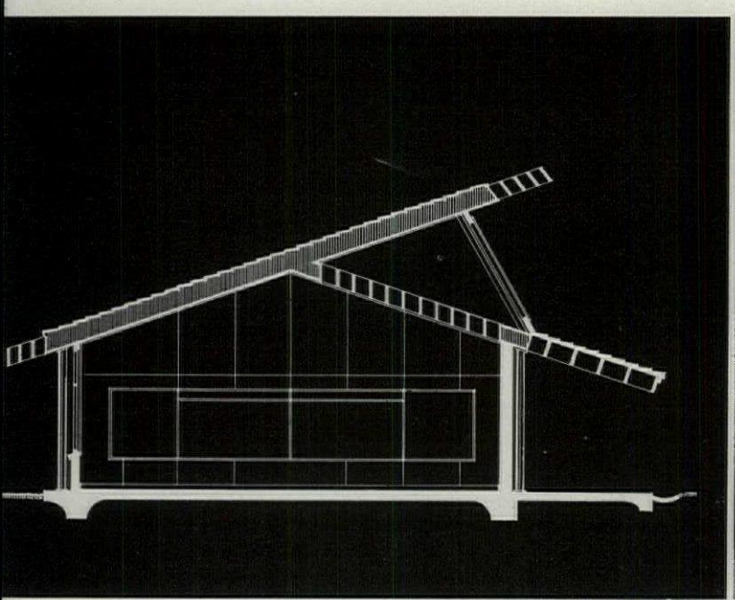
"Due to the hillside terrain, site preparation was expensive. Yet construction cost was held to $10.80 per sq. ft. for all buildings, and the actual cost of classroom buildings was only $10 per sq. ft. The use of integral colored blocks eliminated interior and exterior plastering and three-quarters of the painting normally required. These savings alone paid for the other high quality materials and finishes, and for the excellent lighting system. The plan was developed on a 4' module making maximum use of standardized building materials with minimum waste."

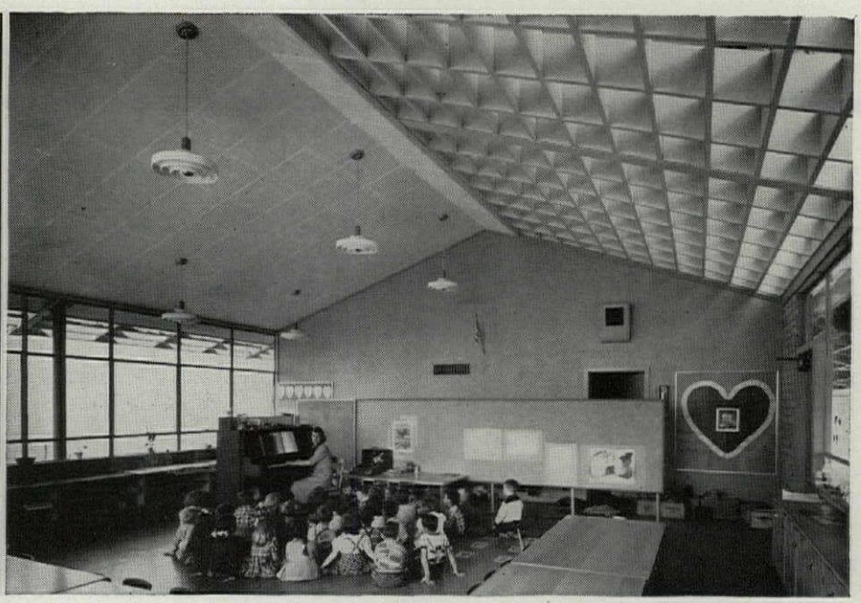


Kindergarten and primary classrooms are in separate wing adjacent to the school's main entry and playground. The playground itself, directly behind this wing, is formed of fill pushed down from above.

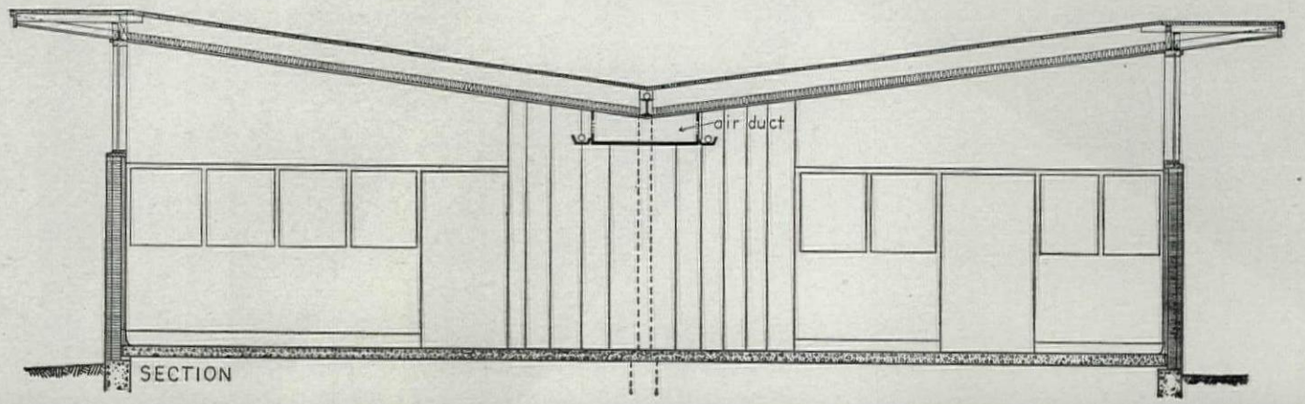
"Studio" skylights of main classrooms face northeast and rise above open corridors (whose roofs are covered with red wood shakes). Though open, corridors are protected by the buildings themselves against prevalling southwest winds.

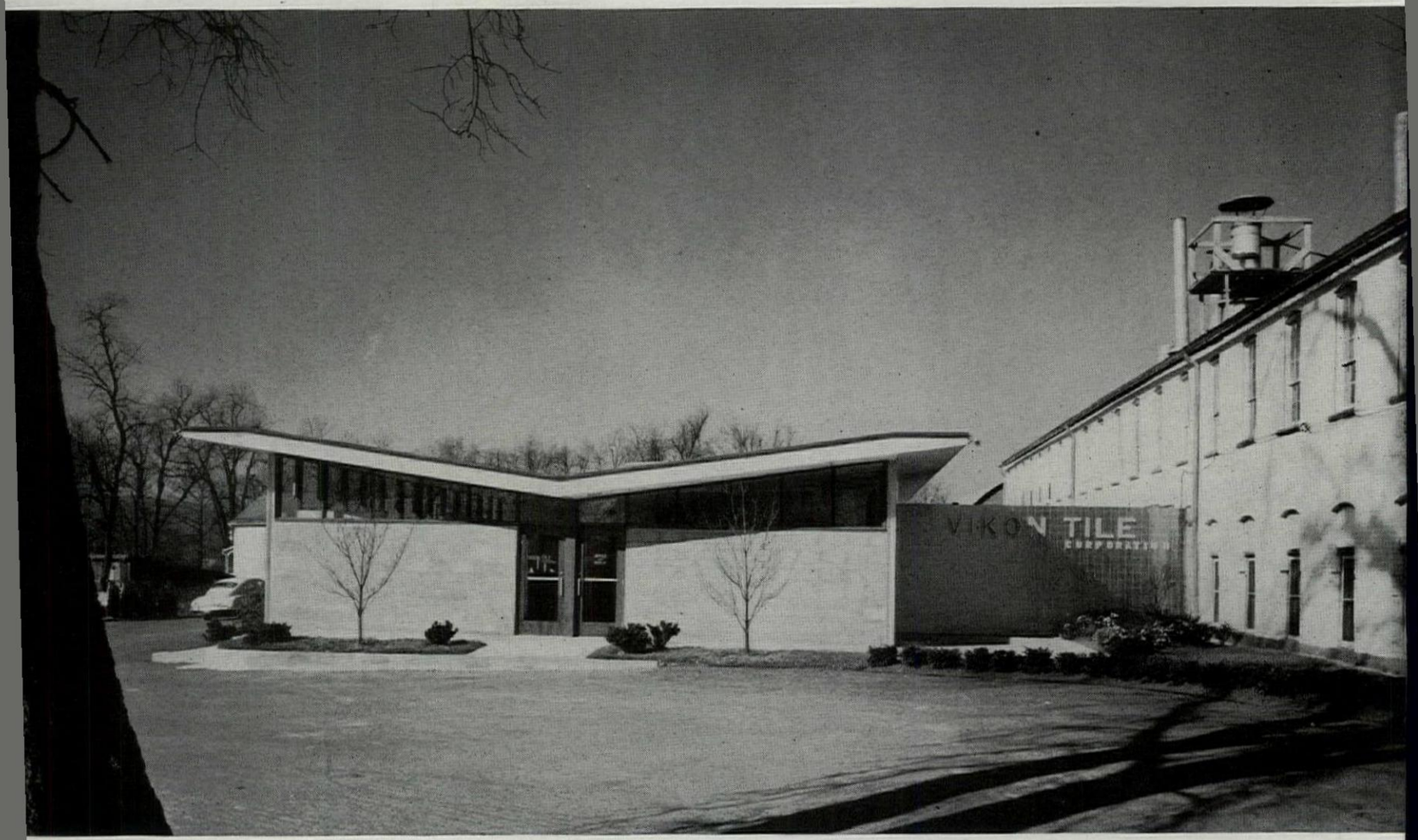
Light from studio-type skylight in single-slope roof is diffused by egg-crate device which forms gabled ceiling in classroom. Note the evenness of light distribution and the lack of glare. Ceiling is covered by acoustical tile with aluminum foil behind it for insulation. The school is framed in light steel (post can be seen outside window, at left in photo) and exterior walls are unplastered concrete block.











SHOWROOM AND OFFICE ANNEX uses a butterfly roof to improve lighting, acoustics



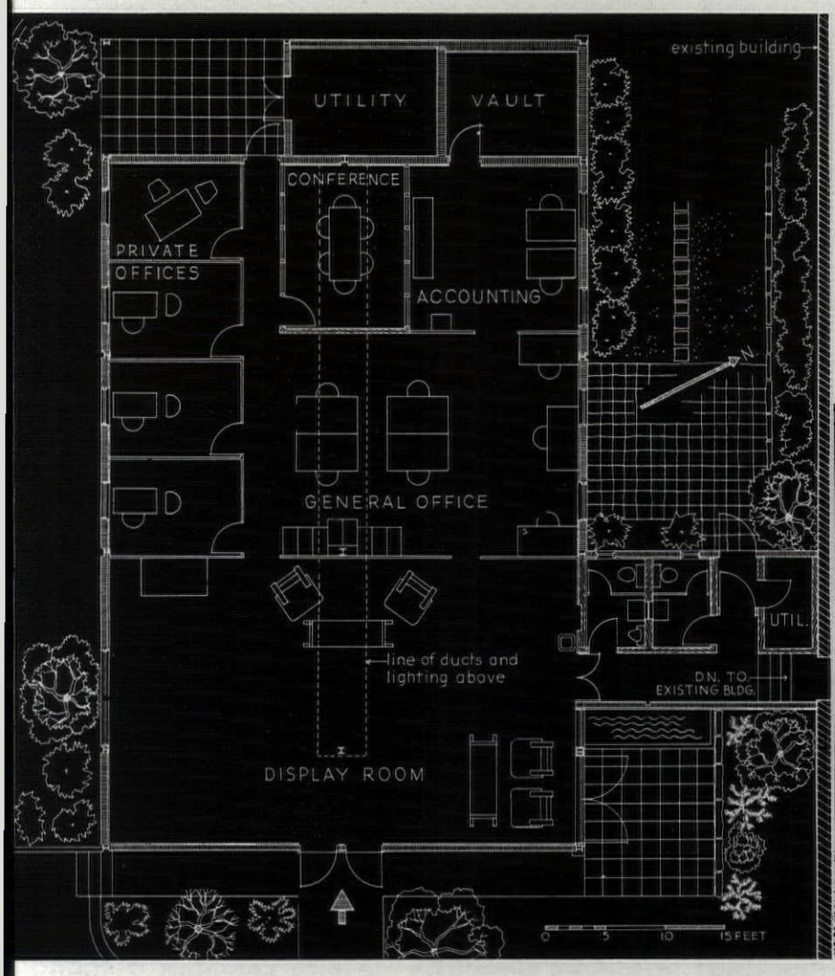
Born 1921. Yale School of Architecture, '43, Penn State Civil Engineering degree. Formerly associated with William A. Tydeman, Jr.

HUGH MOORE, JR.: *"Since this building for the Vikon Tile Corp. in Washington, N. J., is far from the shopping crowds on main street, and since it was not intended to attract impulse buying anyway, there was no need for an open showcase facade. With the exception of the glazed doors and the necessary 'psychological windows' we turned a bland wall on our visitor. We depend on the design of the building as a whole to draw him in, and once inside he understands that the wall serves as background for the displays which are lighted from windows*

"This also helps explain the inverted gable roof. The exterior wall provides 7′ of display space with 4′ of window above. To have finished the building with a level 11′ ceiling would have created an abhorrent monumental and impersonal atmosphere. The roof now springs from the central air conditioning duct just 7′6″ above the floor and extends out through the glazed wall to the sky beyond.

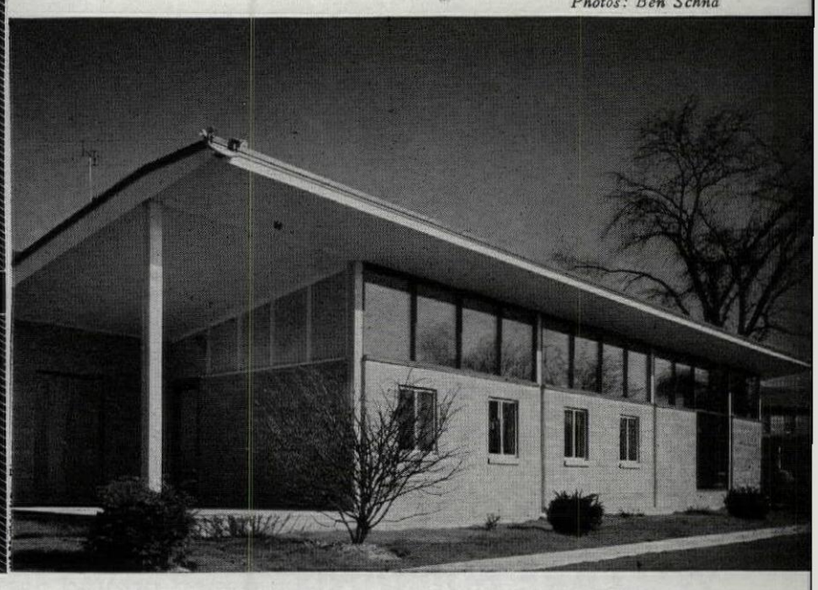
"In addition to the obvious advantages of good drainage (no drip at the eaves) the shape of the roof produces an acou-





Entrance lobby (above) is used for product displays. Note that office partitions are partly glazed to avoid light-obstruction.

Photos: Ben Schna



drainage

deflects sound away from the office areas. It permits light to penetrate deep into the interior and makes an otherwise broad rectangular room considerably more attenuated. Esthetically the V-shape roof is a mirror image of the gable on the adjacent factory and is parallel with it. When snow and ice pile up on the unheated eaves, the heated central part of the roof, essential to drainage, is clear.

"We separated the new building and old factory with a 20′ wide court, but linked the two with a corridor, lavatories and coat facilities. This preserved the southern exposure of the factory wall, and created a partially shaded court where employees eat lunch and take rest periods during a large part of the year. Unity with the factory is achieved not by slavish imitation but by careful adherence to scale and by allowing the broad side of the original building to serve as a contrasting backdrop.

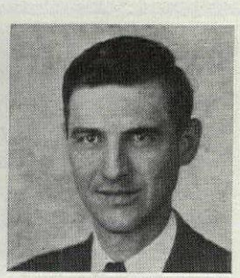
"All materials were treated frankly: Alternate bands of 4″ and 8″ concrete blocks, 2″ thick, were set up as veneer panels with metal ties to a 4″ thick masonry backing which acts as bracing between the exterior columns. The projection of the masonry beyond the column line both expresses the veneer quality and accentuates the ordered rhythm of the columns.

"Conventional construction methods and materials were used, and a simple, rectangular plan was followed. Therefore, costs ran below $10 per sq. ft. even though a high quality of finish was maintained. The unit cost includes air conditioning, double-glazed windows, cork flooring, a sprinkler system, walks and landscaping and the architect's fee."

Photos: Lionel Freedman

WELFARE BUILDING planned around garden court, achieves simplicity despite complex demands



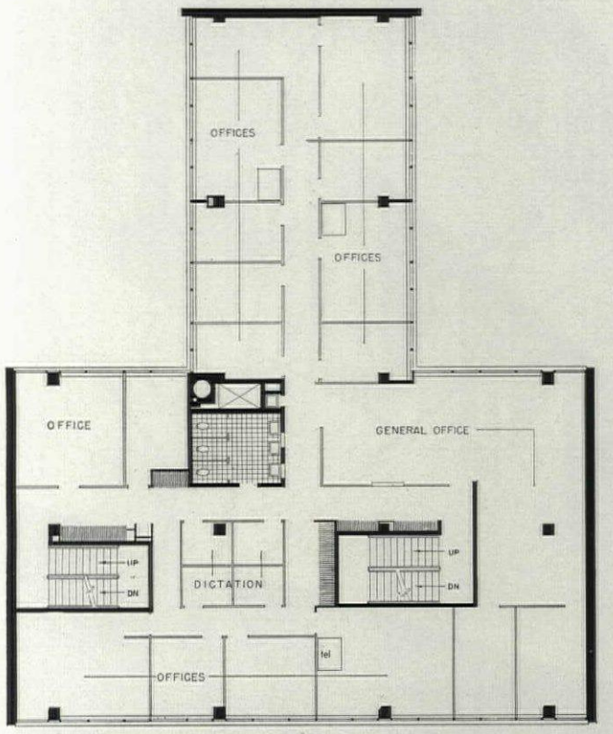


KENNETH GIBBONS (38), Yale School of Architecture, 1940. Taught architecture at Vassar. Partner (since 1945) WILLIAM H. HEIDTMANN (42), MIT School of Architecture, 1933. Their Manhattan practice handles stores, offices, houses, health & social welfare structures.

GIBBONS & HEIDTMANN: *"We are particularly proud of the sense of spaciousness and simplicity in this small and rather complicated building. It contains 16,000 gross sq. ft. on a 75 x 100' Manhattan lot and it houses a complexity of social welfare, clinic and office facilities—the Children's Aid Society's health, dental, foster care and homemaker services.*

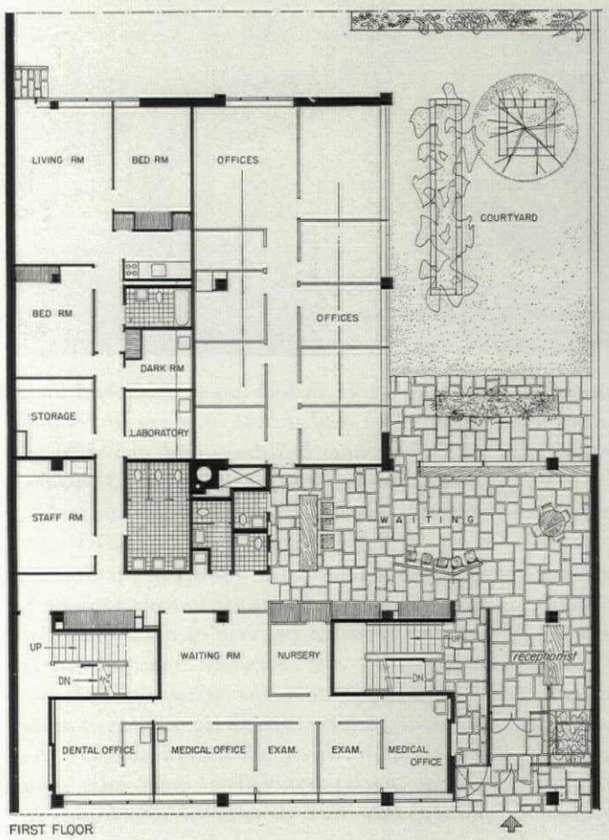
"Early in the planning it was decided that an open courtyard was essential to emphasize its non-commercial character and to provide that minimum of sunlight and green leaves which is due city dwellers and, more particularly, children. The landscaped interior court is seen from the street through the glass walls, tied through by the flagstone flooring and red brick wall of the waiting room. The most important rooms in the building including all those used by children face this court.

"Selection of exterior materials was determined by two considerations: elimination of maintenance costs and freshness and interest of color and pattern. Solid walls are red brick, smooth and dense to shed the dirt; spandrels are light gray brick cavity walls; first-story walls are green glazed terra cotta to discourage marking. Exterior metal is aluminum, in-

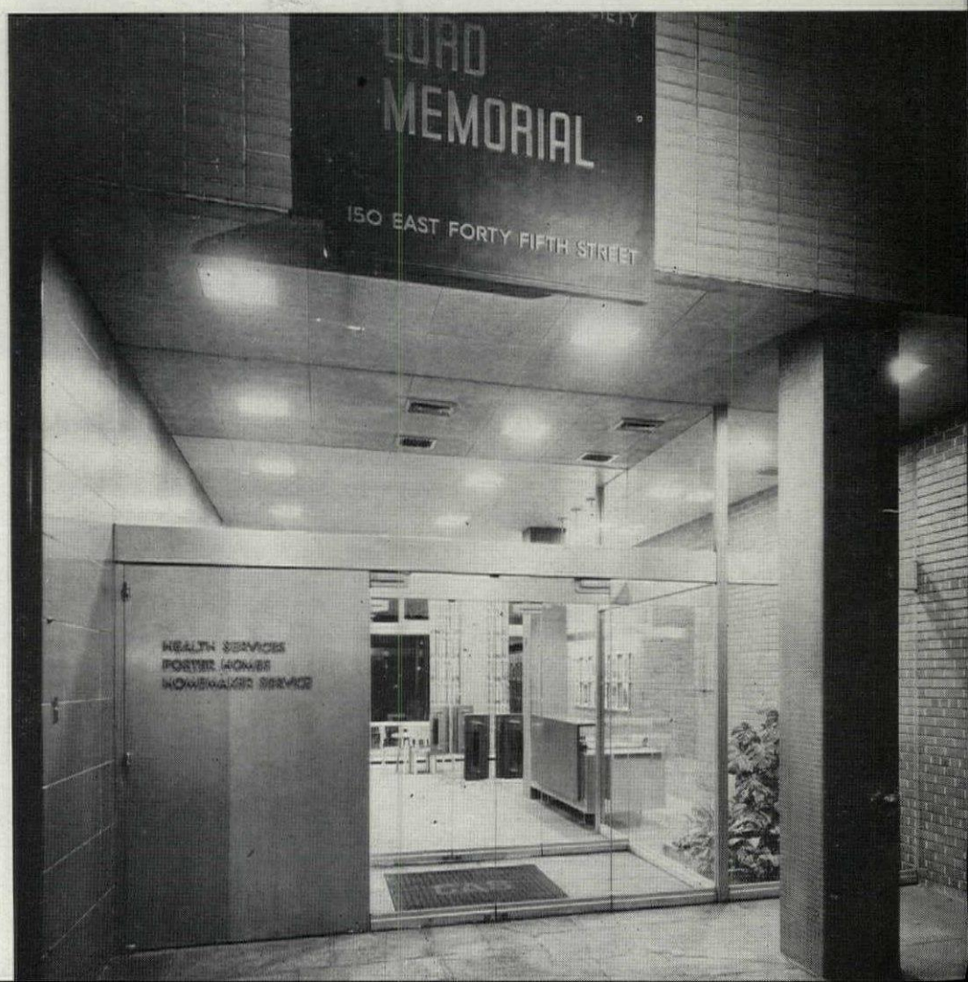


THIRD FLOOR





FIRST FLOOR





cluding even the structural angle lintels over the windows. We believe this is the first such use of aluminum lintels; but with the advent of aluminum windows this seems a reasonable step. It is hardly economical to swing a scaffold over the face of a building merely to paint lintels.

"Because of the complexities of the Society's functions and the limits of the site and budget, the plan is busy and the rooms are small. In the case of a private office, for example, 90 sq. ft. of high quality space was believed preferable to say 130 sq. ft. of indifferent space. To conserve space, the interior partitions are generally 2" solid plaster. They are frequently limited to 7' in height, with glass above, more to achieve greater openness than for the borrowed light.

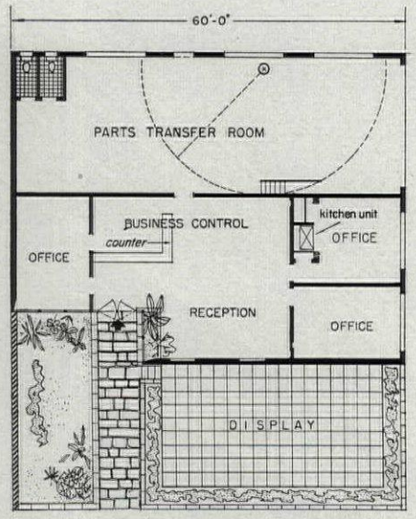
"We sought to make this building not merely a pleasant and efficient structure for the staff, but a warm and inviting place for the thousands of children who have occasion to visit it each year. And do the children appreciate our effort? We can only report a result unexpected by all concerned. Whereas children were boisterous and often rowdy and difficult to control in the old building, they are now no trouble at all. They move quietly around the room, talk in low tones, or sit and look about. The staff thinks they are impressed with their new building, and proud of it.

"The cost of the building was $400,000, without furnishings, or slightly under $25 a sq. ft. This unit cost is considered very reasonable when the following factors are taken into consideration: foundations were rather expensive because of deep rock and water (an old stream bed meanders through the site); the structure and mechanical services are designed for double the area, or three additional stories; the use of maintenance-free materials; and finally, the high density of development.

TRACTOR SHOWROOM displays its wares against a brilliant mural in the open



Born 1918. Studied art in London and San Francisco, engineering and construction at Healds College and University of California. Worked for Bruce Goff. In practice for himself since 1950.



BRUCE E. HEISER: *"In the rough and tumble of San Francisco's Harrison St. only a big, colorful, masculine display could register on either the eyes or the spirits of passers-by. The street is full of moving trucks and rings with the clatter of a light manufacturing and wholesale district.*

"Tractors are a rough and ready commodity themselves and can take the punishment.

"So we dispensed with the usual expensive plate glass front, put our tractors on an outdoor platform against a solid wall covered with a brilliantly colored outdoor mural. On that street the blaze of color by day and light by night competes effectively with all the hurly-burly, really stops 'em for a closer look.

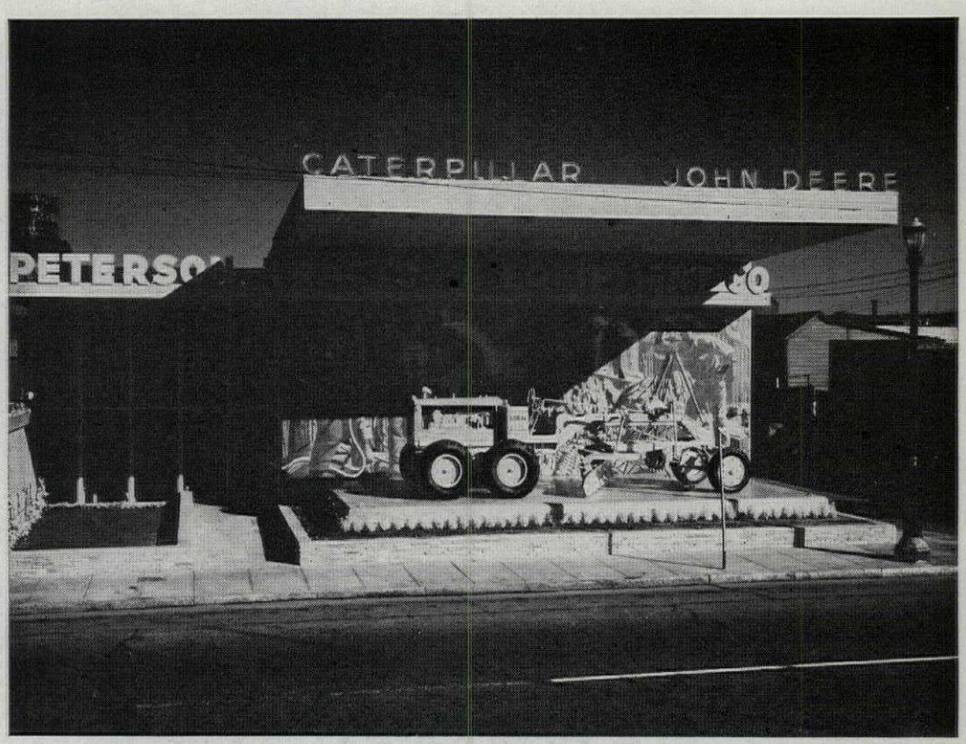
"Looking at the pictures, merchandising experts might argue that the big tumbling forms of the mural itself overpower even the bright yellow tractors, and render the 'merchandise' all but invisible. But a look at the actual scene would change their minds. On that kind of street—and how many there are in America!—not even a background wall of pure silver would give visibility to the tractors beyond a short distance against the competition of signs, cars, and poles. All that the mural does or can do at a distance is to make a big color splash and rouse curiosity leading to a closer look.

"Moreover, the mural as a backdrop is self-sufficient — it tells the tractor story even on those days when, for one reason or another, there are no goods out on the platform.

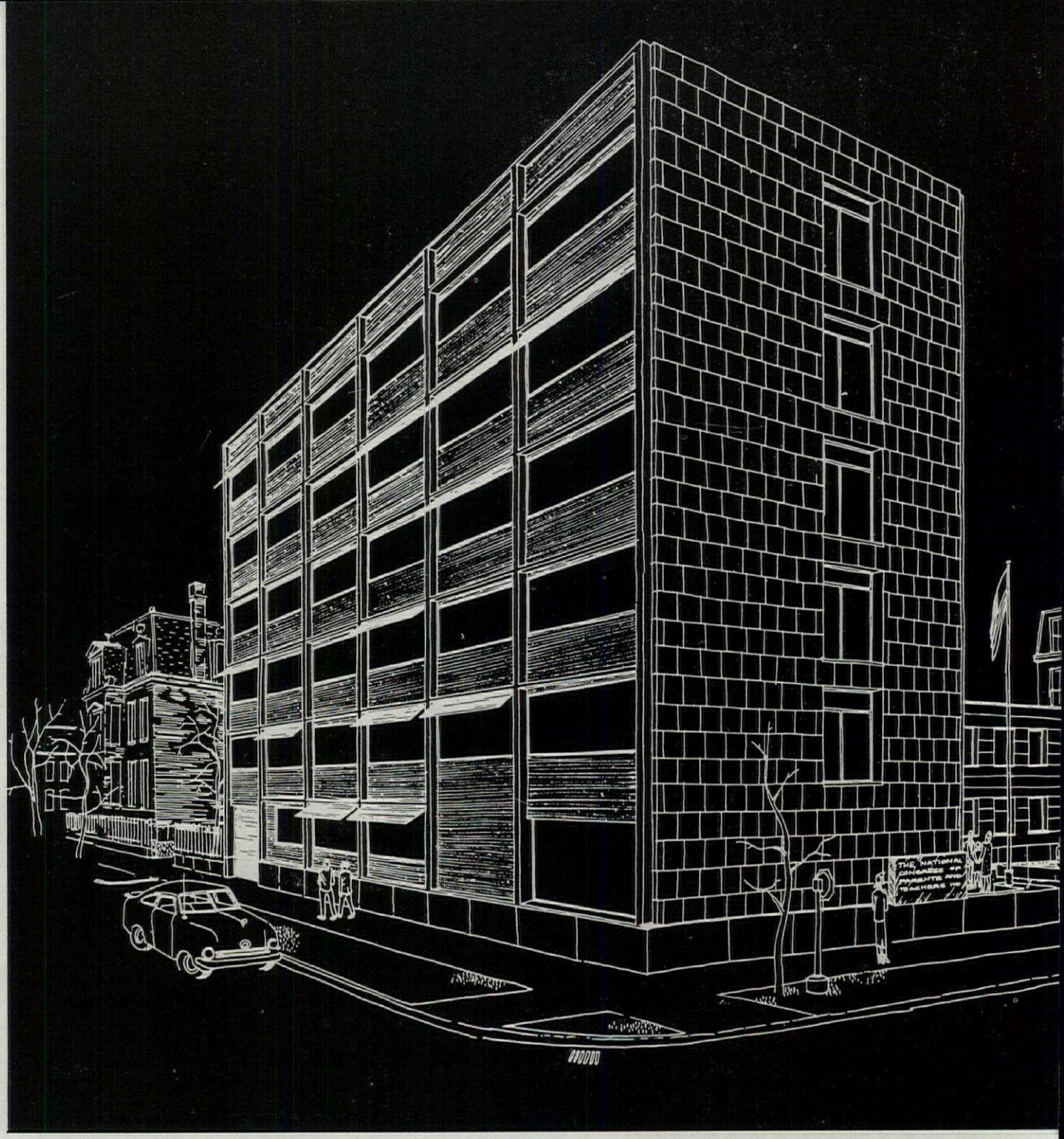
"We have been told that the mural should have been more sophisticated and abstract. That may be; and now that the prototype has been created, others are welcome to experiment further.

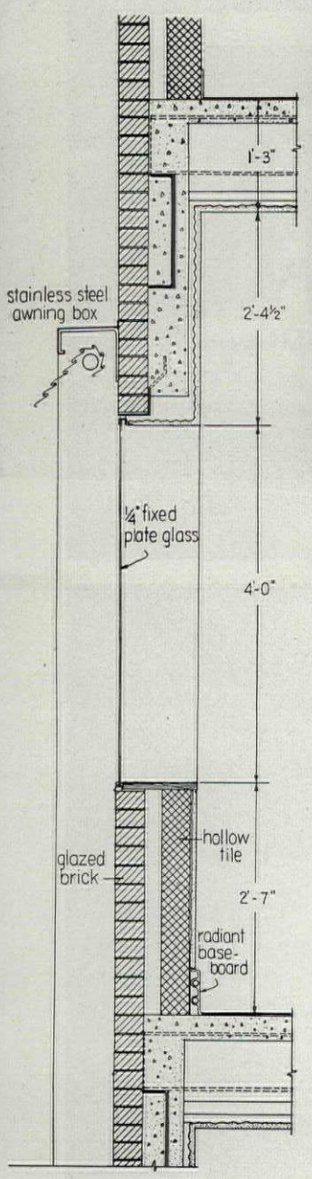
"But let them not lose the keynote which muralist Don Clever has struck. He has kept his popular audience with him; they feel at home here. They get a bang out of it. The architecture too, when you examine it, is pretty well to the point—direct and devoid of modernistic flim-flam.

"Most important, the owner is happy with his $45,000 building and his $6,000 mural."

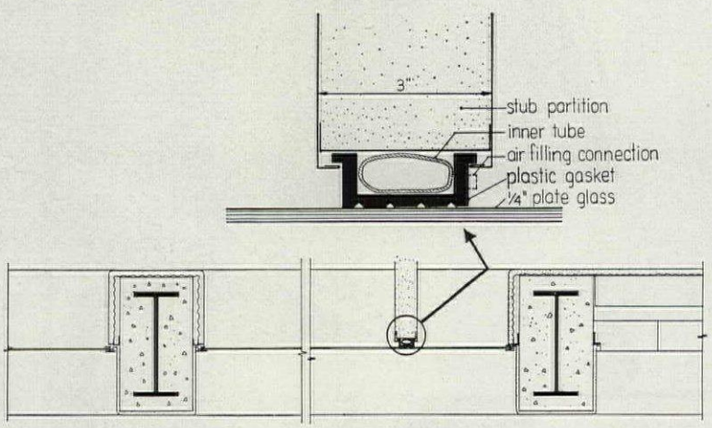








PTA HEADQUARTERS uses low windows with store-type awnings to raise

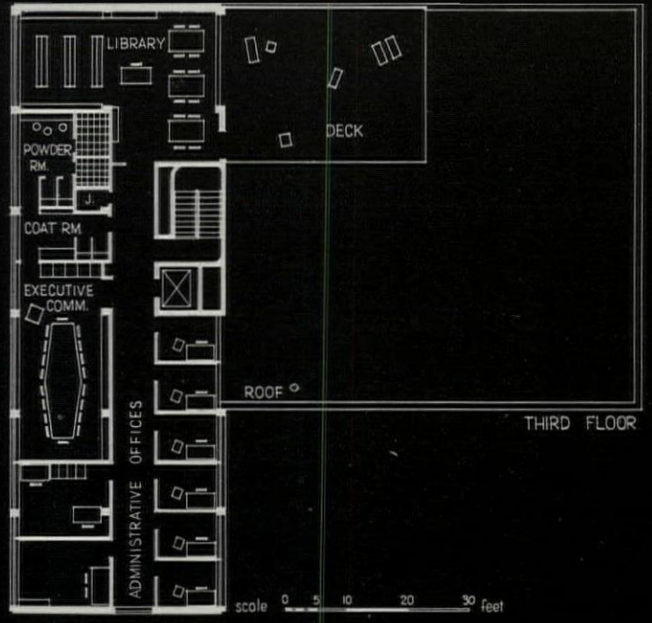




Born 1915. Graduate of MIT, 1938. Navy Engineer Officer, 1941-45. Designer for Skidmore, Owings & Merrill, 1946-47. Independent practice in Chicago since 1947.

HARRY WEESE: *"The National Congress of Parents and Teachers, largest secular organization besides the Masons, is raising funds among its six million members to build this central administration and editorial building in Chicago. In addition to the intricate planning problems of a*







comfort level, lower air conditioning cost

unique administrative organization, we faced the problems in symbolism of any institutional job. It is to the credit of the school boards who are building modern schools over the land that a contemporary approach to this symbolism was approved.

"We attempted to solve, in a simple workable way, the following problems: first, the integration of two separate operating staffs under one executive administration (one is the PTA Congress, the other the monthly magazine, the National Parent Teacher*); then the problem of utilization of volunteer and professional workers in an intricate blend; finally, provision of impressive and even inspiring greeting space for the visiting members of the vast and loose-knit world of PTA.*

"The long façade of the building will be strongly horizontal, alternating stripes of continuous glass windows with stripes of blue glazed brick spandrels. Limestone will clothe the ends, with a stack of windows to emphasize verticality. The cost estimate is about $20 per sq. ft.

"This will be a completely air conditioned building. The windows will be only 4' high, a size which reduces the air conditioning load and also makes the outer several feet of office periphery much more endurable in considerations of draft and glare than the usual high windows. We knew interior space would be lighted electrically most of the time anyway, so we decided to make that a frank factor in design. The only movable sash will be that required for window washers.

"For sun control we are using store-type awnings, which in summer will deflect excess light and heat before it gets into the room (awning boxes also serve as runways for window washing equipment). Windows are continuous and the exterior wall is smooth inside, with columns projecting outward in plan. Partition walls can be attached to any spot in the exterior skin-wall including the glass. A plastic gasket at the exterior end of the partitions takes care of this—as indicated in the detail drawing to the left."

THE CRYSTAL BALL

in which the professor foresees a new group of architectural giants, featherweight construction, 'thermal banquets' and architecture by the square mile

"Young men," said the professor, "seldom look far into the future, and indeed they can't. I, myself, can tell you more about your opportunities in 1975 than the brightest young architects, judging by the way they talk about the next 50 years."

He looked down at the manuscript in his hands, which was a rough draft of that very symposium which appears on page 165. He looked up at the young friends around him.

"For example I see certain names mentioned here again and again. They are today's 'giants,' the men you call the great 'pioneers.' Sad though it sounds, I predict that with possible exceptions these will *not* be the names topmost in the minds of young men in 1975. How do I know? Because they were not before 1925!

"It was then I was young myself. And a good time to be young it was, because architecture had only just discovered, in a big way, that it must participate in the 20th Century. And it hasn't yet penetrated very far—but here I am getting ahead of myself.

Giants of 1925—and 1975

"In 1925, Frank Lloyd Wright was already 57 but the only monograph in English on his work had been published that very year—over in Holland. Corbusier had been practising since 1911 but the first excited young Americans were just bringing back from a Paris exposition copies, paper-bound and in French, of his proclamation *Vers Une Architecture*. The others were known still less.

"I'm very glad to see all you young men so fascinated by these leaders, and for a special reason. The one great thing each of them has to convey to you, for keeps, is simply the special quality of his own human courage and greatness. *That* and that alone time can't kill."

Pausing a moment, and noting that none yet stirred, the professor took a breath and launched somewhat stubbornly on his next attack.

"There is one major mistake that most of you seem to make. You think that 20th Century architecture has already pretty well 'arrived,' at the hands of the great pioneers, and from here on out it's a question of refinement, or 'art.'

"I believe, on the contrary, that the needs of 20th Century industrial society have been barely scratched, by either the

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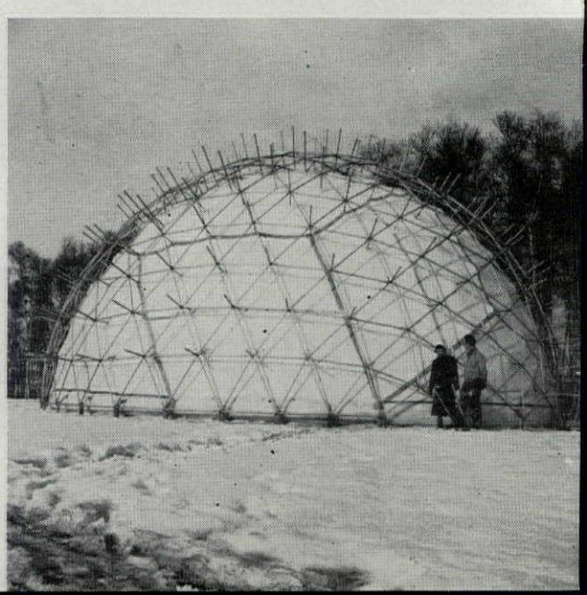
1925: *it was the height of a big housebuilding boom by small builders without architects.*

Julius Shulman



1950: *the architect began to care in a big way about houses for all the people.*

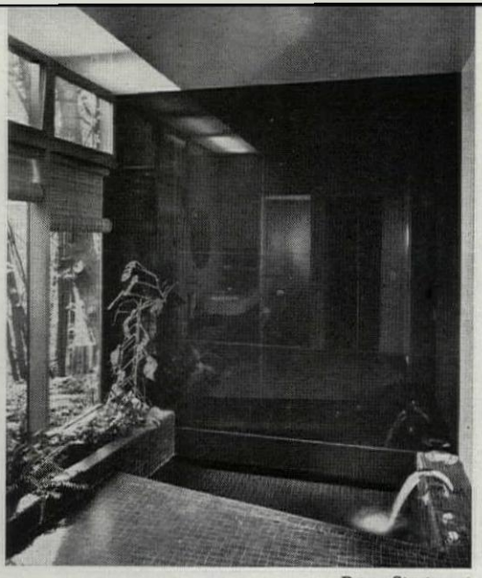
1975: *deployed featherweight semi-autonomous shelter structures, such as 'Bucky' Fuller's?*



1925: *the homeowner revelled in his fine new plumbing fixtures all lined up.*



Brown Brothers



Roger Sturtevant

1950: *the fixtures are absorbed into a room for private pleasure in the bath.*



1975: *by means of 'thermal banquets' might we regain medieval pleasures?*

New York Public Library

architecture of today or the building of today, and that there is a big opportunity ahead for major development. We can demonstrate this by talking a little about three things: first, structure and space; second, man-made climate considered not as engineering but as an art; and third, the relation of building and architecture to big geography.

Still needed: radically more efficient structures

"Back in 1925," continued the professor without a pause, "it dawned on the architects that engineers were producing vastly better structures. A young teacher at Michigan, named Lönberg-Holm began showing his students pictures of grain elevators, factories, and the backsides of big city buildings because their structure was more honest and direct.

"Le Corbusier saw that they were also more dramatic, more plastic. He *adapted* their forms to polite building and refined them.

"Wright tried something more with industrial construction: he set out to *swallow* it. All his life Wright has been *absorbing* industrial materials and industrial methods into the geometry of his Persian palace, the carpet of his far-flung Usonian village.

"Mies has taken the structural framework supplied by existing industry, cleaned it up, simplified it, *expressed* it.

"Now my point is that all these existing pioneers have in one way or another been making *adaptations* between architecture and existing structural methods permitted by industry. But some very few have begun on the new need, which is one of *radical exploration of new structural methods*. Matthew Novicki was perhaps on the way, engaged in direct collaboration with the more creative engineers on joint discovery. And it is this radical need which has attracted the fanatic adherence of the young architectural students who work with Buckminster Fuller. They are out to provide *better* space with something like one one-hundredth the weight of inert material.

"You see, with World War II a certain major era ended: the era of profligate waste. America has awakened to such hard facts as the exhaustion of her great Mesabi iron range, the depletion of nine-tenths of her forests. From here on out it will be our hard necessity to do *more with less*, and to hurry up about it.

"Our first great pioneers were mostly adapters but the limit approaches of what can be done by adaptation, and those who merely refine the ideas of those pioneers are going to be nothing but apple polishers. What we need is a vast new *structural creation*.

"The engineers won't be able to manage it—not intuitive enough about human needs and desires. It will take teamwork with creative architects."

And man-made climate—as an art

Here the professor did indeed pause for a while, then suddenly shot a new question:

"You have all of you heard a great deal about such things as 'thermal comfort'—have any of you ever imagined such a thing as a 'thermal banquet'?

"I thought not. But I have been thinking about it privately for quite a while. And it can be explained—quite rationally, too!

"If you really needed proof on how very little the idea of architecture as an art has penetrated into the modern 20th Century world, all you need to do is listen to the art architects talk about the mechanical engineers. Such scorn!

"To such art architects, bent on creating beautiful structures enclosing wonderful space, the very idea of heating engineers or other mechanical engineers, with their pipes, ducts, and statistical tables, is abhorrent. These art architects prepare a feast for the eye and through the eye for the heart and mind, the way traditional architects did who built the cathedrals. All else is secondary and unimportant to them—it's not 'art.'

"Yet the science of heating and lighting and acoustics and all the other technologies that add up to a 'man made climate' within buildings are a grand new achievement of the 20th Century, needing only *imagination* to convert them into genuine art.

"The fact is that a man who walks into a building is not just a disembodied pair of eyes. He brings his lungs with

him and his pores and his ears and nose; and every one of these senses keeps reporting to him 'this is—or is not—a good place.'

"No matter how beautiful the shell of an egg, it produces no life without a mother bird to warm it.

"The only part of this total environment of which architects have yet made an art is the flow of light through it—because that is visual, and for thousands of years architects have been mistaught that architecture is just one of the 'visual' arts. What rot! It's visual, social, and environmental.

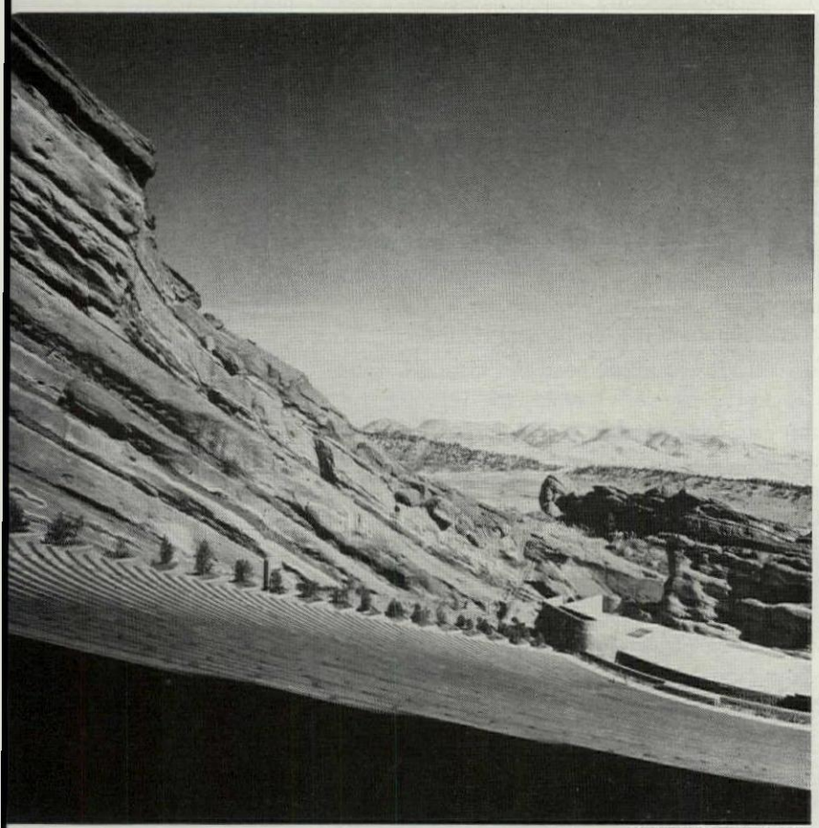
"Soon architects will be working with the mechanical engineer just as freely as they work now with creative lighting engineer Richard Kelley, and for the same purpose. In lighting the day is past when 'comfort' conditions are enough—the creative young architects and engineers are working on past it toward pleasure and joy. Soon the same kind of feast will be prepared for the pores. It will be not just 'thermal comfort', but a thermal banquet. When that day comes we shall be able to enjoy in our homes all the delights of a Turkish bath—sensations of warm, cool, thrills of sudden chill or heat, refreshing and reinvigorating, creating a new sense of what Dr. Winslow calls 'euphoria.'

"If you think that's all fanciful, please study your Giedion on the social pleasures of the medieval bath—but wherever Giedion says 'bath' please remeber that bathing is only one of many ways to enjoy warmth in buildings.

"If you stretch the notion some more to include all the senses, you may even catch up with the novelists. When Stendhal, in *Rouge et Noir*, wrote his wonderful description of a cathedral, he included the toll of the bell and the odor of the incense quite as naturally as he spoke of the depth of the nave and its luminous darkness.

"The duty of architecture is to produce not just spaces but places, for architecture, as a rich art, is all-surrounding, not poorly 'visual.' "

What about 'geo-architecture'?



Hedrich-Blessing Studio

And what about that idea of "geo-architecture"?

The professor chewed for a minute on his pipe.

"I once gave some students the problem to design with deliberate changes of heat for sheer pleasure just as they now design with changes of light for sheer pleasure. They did right well—except that many of them thought I was asking only for 'climate control'—the design of a house to make the best of *existing* conditions of climate.

"It was hard for them to get through their heads that your pores don't know the difference between a breeze produced by a fan and one produced by outdoor pressure differentials.

"It seemed to them somehow that controlling natural breezes was 'art' while making some was 'science' and less worthy. I say that our science is merely another extension of man's way with Nature. And that brings me to my last little point, the relationship of architecture to big geography.

"When industry, during the last quarter-century, began producing plate glass and radiant heating in quantity, Lady Architecture walked right through the plate glass window, and she has kept on walking. The cartoonists' jokes about bringing the outdoors in and the indoors out show how well she likes her new freedom. She keeps right on walking, further and further.

"Even the English, who talk the best game of 'landscape' architecture, discovered at last that a tree could be a part not only of the landscape but of architecture itself. It was through American houses such as Philip Johnson's that they saw how you could build outer walls of stone fences and trees.

"Between now and 1975 the idea will be further anchored down and the landscape will be not only the 'site' for architecture but an integral part of man's 'dwelling.' When you think how horrible most of our man-made setting is today, the assignment is formidable.

"Some young man began writing the other day about 'geo-architecture.' That's getting a little fancy about my idea. But it's in the cards. In 1925 none of the big groups we now take for granted even existed—there was no Rockefeller Center, no Stuyvesant Town, no Levittown. Neither was there a correlated *network* of shopping centers, new industrial *districts*, built as single operations. Those operations take in such ever increasing chunks of land that the land itself becomes the most important and integral part of the picture. Perhaps our climax so far is the TVA, where the 'building unit' was far bigger than the biggest dam. The 'building unit' was nothing less than a valley 40,000 miles square, the home of 2 million people."

New masters of imagination for tomorrow

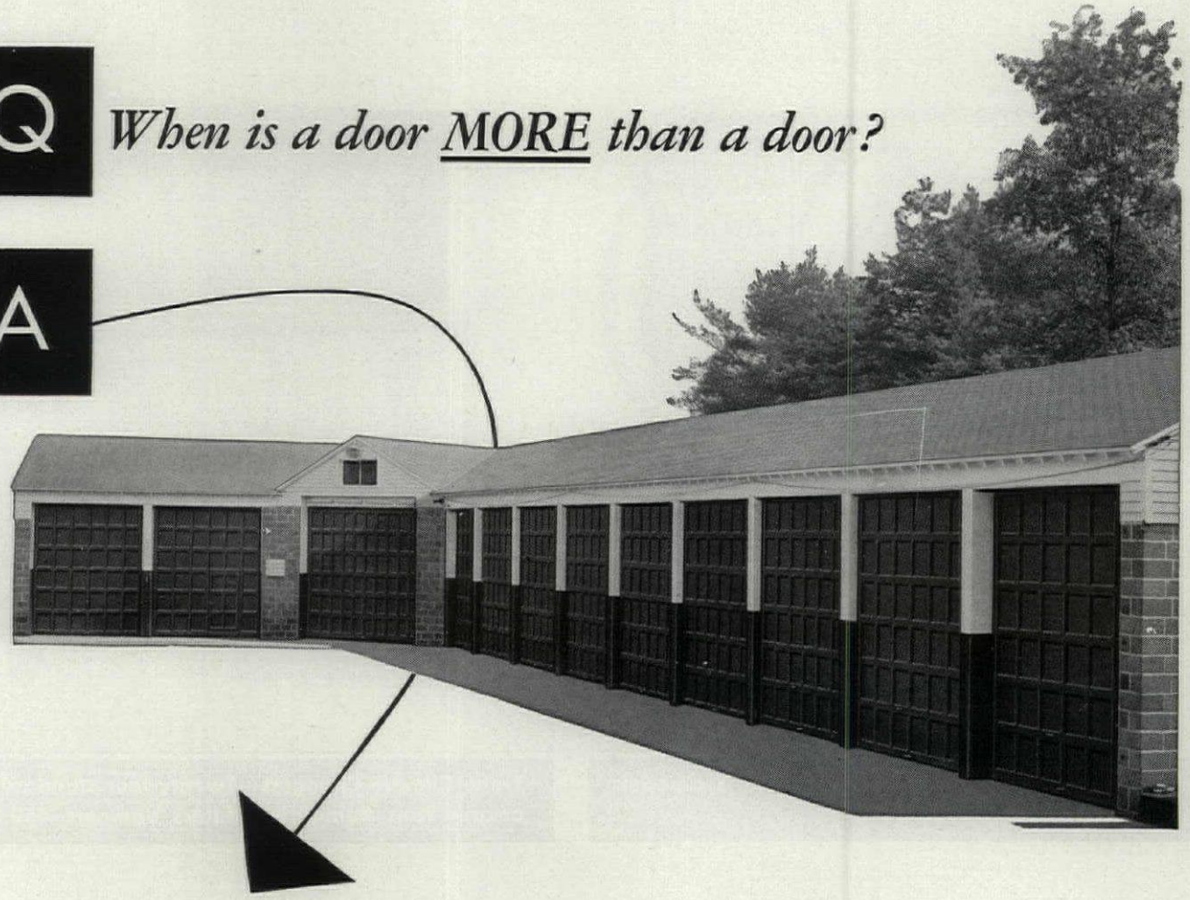
"So now you have my guesses. I say that architecture must help find a new order of construction, doing more with a small fraction of today's material. I say that it has expanded again from being a 'visual art' to being truly an all-encompassing environmental one taking in all the senses. And that rapidly vast areas of geography are becoming literally a part of man's constructed home. There is room for new giants of imagination."

The professor listened.

"Yes I agree with you about the supreme danger of atomic energy—but that's the negative side of a tremendous power opportunity."—D. H.

Q *When is a door MORE than a door?*

A



When it's a Rō-Way

A Ro-Way Overhead Type Door is far more than just a means of entrance and exit. For one thing, it's a handsome complement to the building design—with its clean, simple lines blending beautifully with the architecture. It's often an integral part of the building itself—forming a "wall" as illustrated above. It's a lasting investment in smooth, easy operation—with exclusive features like Power-Metered springs, friction-reducing track, ball bearing rollers with Double-Thick Tread.

It's *always* a guarantee of owner satisfaction—with its smoothly finished, selected lumber, its heavy gauge hardware that's Parkerized *and* painted, and its solid construction in every detail.

When *you* want a door that's more than a door—for commercial, industrial or residential application—specify Ro-Way. It's all you could ask for in an overhead type door.

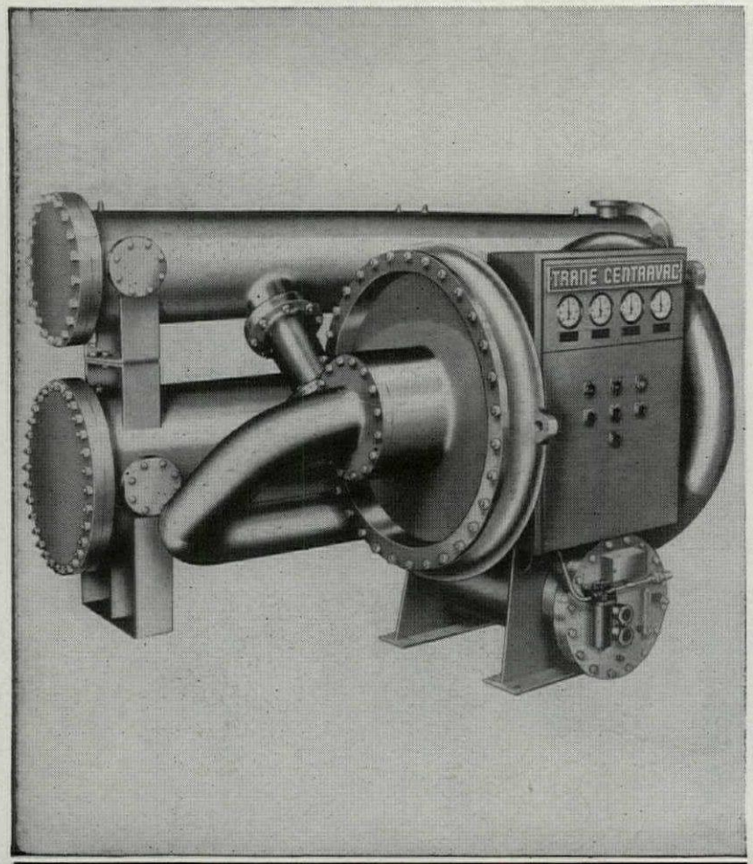
Rō-Way
OVERHEAD TYPE DOORS

ROWE MANUFACTURING COMPANY 984 Holton Street, Galesburg, Illinois

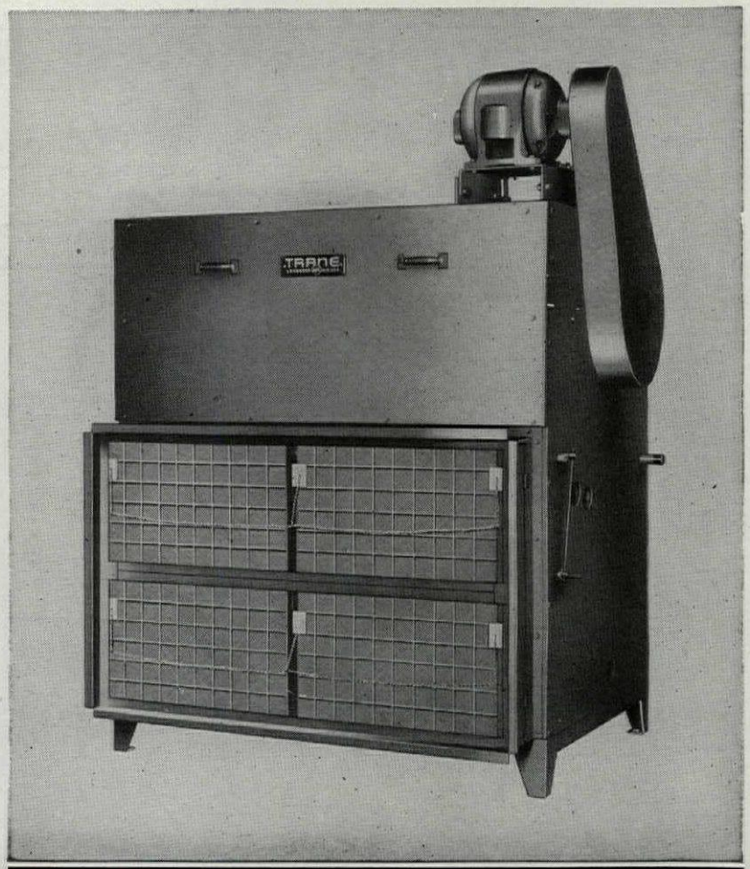
SEE OUR CATALOG IN SWEET'S

Nationwide sales and installation service. See your classified telephone directory for names and addresses of Ro-Way distributors.

there's a Ro-Way for every Doorway!



The Trane Hermetic Centrifugal Refrigerating Unit—Six models starting at 45 tons.



Trane Climate Changers—Twenty-four standard combinations of coils, fans, humidifiers, filters, dampers, 450 to 16,250 cfm.

Industrial . . . Commercial . . . Institutional . . . Process

Trane Air Conditioning Serves Everywhere in Buildings

A unit or a central system . . . chilled water or DE refrigerant . . . one zone or many—Trane makes products for use in air conditioning systems of every type.

Refrigeration Units—Centrifugal or reciprocating, Trane makes *both* types. The new centrifugal unit is a complete hermetic source of chilled water in one package. Together with the new 1951 Trane Reciprocating Compressor and Condensing Units, Trane offers a complete line of refrigerating products for unbiased equipment selection.

Central Equipment—An expanded line of Centrifugal Fans teams up with the famous Trane Heating and Cooling Coils for an infinite number of balanced combinations. Fans up to 109", coils up to—what size do you want? Can deliver wide ranges of temperature and cfm.

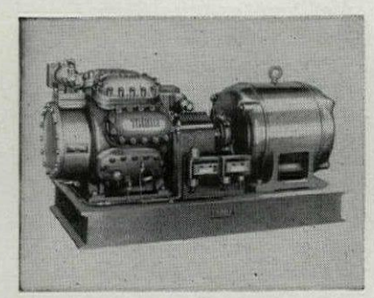
Zone Units—The extensive Trane Climate Changer line provides all functions of air conditioning—singly or in any combination. Elements can be added after installation. This line also includes the Multi-Zone Climate Changer capable of conditioning up to six separate zones with just the right degree of heating or cooling in each from a single unit.

Big Building Systems—UniTrane and Custom-Air systems of air conditioning provide complete flexibility in meeting the varied requirements of multiroom, multistory installations. Individual control of room units and filtering of all outside and recirculated air are only two of the unique advantages of these exclusive Trane air conditioning methods.

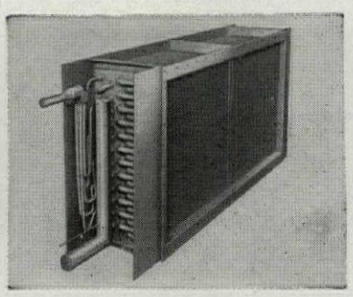
For zones best handled by self-contained air conditioners, Trane makes a brand new line of packaged units requiring only the simplest electrical and water connections for installation.

Whether it's industrial, commercial, institutional or process, Trane Air Conditioning Serves Everywhere in Buildings.

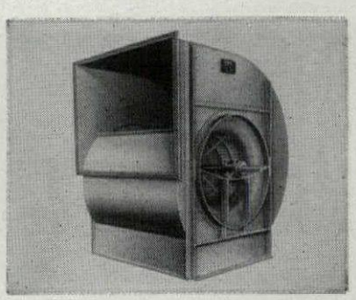
Whatever your heating, cooling, ventilating or air conditioning problem is, look for the answer in the complete Trane line.



Trane Reciprocating Compressor and Condensing Units—Six models up to 50 tons.



Trane Cooling Coils—For use with chilled water or DE refrigerants.



Trane Centrifugal Fans—In Class I and II construction—BI and FC design.

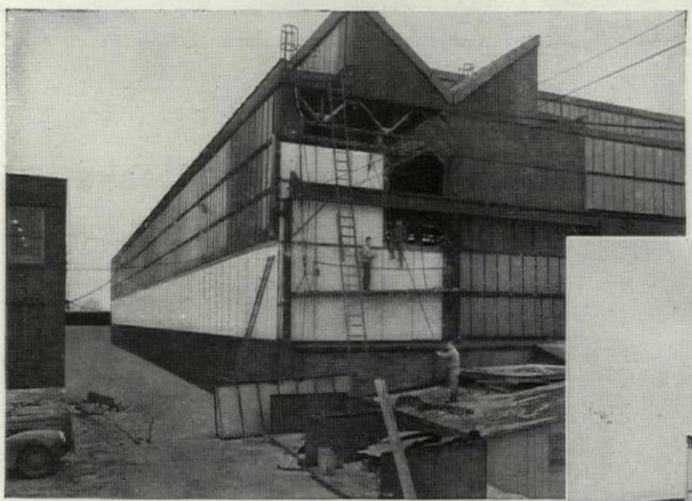
TRANE

MANUFACTURING ENGINEERS OF HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT

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Eastern Mfg. Division, Scranton, Pennsylvania
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OFFICES IN 80 U. S. and 14 CANADIAN CITIES

Cemesto* curtain walls need no exterior or interior painting

Cemesto combines amazing structural strength, high insulation value, exterior and interior finish—all in a single handy panel that's quick and easy to apply!





Babcock Press of Canton, Ohio, replaces metal siding with durable Cemesto Panels

Contractor: A. G. Stafford Co., Canton, Ohio

Above: View of workmen replacing printing plant's worn-out corrugated steel siding with Cemesto Insulating Structural Panels.

Right: Same building—now with permanent, weathertight, maintenance-free walls of Cemesto Panels.

Now, build *insulated* curtain walls for only slightly more than the cost of ordinary *un*insulated construction! Cemesto Insulating Structural Panels quickly, thriftily build *permanent* curtain walls that require no exterior or interior finish . . . *can't* corrode . . . *never* need maintenance!

Widely used for ROOF DECKS and PARTITION WALLS, as well as CURTAIN WALLS—Cemesto Panels offer many advantages and economies. They not only speed up work and cut costs in construction of all kinds—but they also *insulate as they build!*

Cemesto Panels Offer Many Unique Advantages. Cemesto Panels consist of a core of Celotex cane fibre insulation, to which a *non-combustible* cement-asbestos facing is bonded on both sides by a vapor-resistant, moistureproof adhesive.

These rigid, pre-formed units are light and easy to handle, yet have remarkable structural strength. Their smooth, hard, stone-gray surfaces have a light reflection value of 58% . . . provide attractive exterior and interior finish . . . no costly painting required! And their insulating core is protected by the exclusive (patented) Ferox® Process against fungus, dry rot, vermin and termites!

Cemesto Panels Insulate As They Build. Because of their high *built-in* insulation value, Cemesto Panels make any building cooler, more economical to air-condition in summer . . . warmer and thriftier to heat in winter. They make possible more comfortable, healthier working conditions. And this pays off in improved employee efficiency . . . reduced accidents . . . increased production!

Cemesto Panels are Amazingly Versatile. Cemesto Panels resist fire, weather and wear. Can be worked with ordinary tools on the job, or pre-cut at the mill for faster application. Quickly, easily attached to steel framing with metal clips, or to wood framing or wood members with nails. And they are easily demountable, *fully salvageable.*

Cemesto Insulating Structural Panels make possible important economies in the design, construction and maintenance of every type building . . . from giant industrial plants to modest homes. Almost 20 years of varied use in all climates, all over the world, have proved their stability, permanence and performance. Discover how they can help *you* build better, faster . . . *and at lower cost.* Mail coupon below for complete information!

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Please send me FREE your 40-page Manual giving full technical data on Cemesto Panels, plus latest design and application recommendations. I am particularly interested in
☐ Curtain Walls ☐ Partition Walls ☐ Roof Decks.

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Buildings with glass and metal walls are being inspired all over the country by the UN's pioneering example.

"Every architect designing a glass and metal skin for a big building can save his client thousands of dollars by studying what is being done now to the UN Secretariat to make it weathertight. I know—because I'm profiting by the UN experience to save my own client a great deal of money." So said a very famous architect.

The Secretariat can teach lessons not only in weatherproof detailing, but equally important in the causes of leaks in buildings which follow the current direction of vertical slab design.

Beating the leaks in a glass and metal wall like the U. N.'s

What is the actual pressure effect of high velocity wind and rain when it hits an immense, smooth surface like the UN Secretariat's wall (500′ high x 287′ long; maximum depression for window glass about 4″)?

To what degree can conventional detailing be incorporated into such a wall without danger of leaks?

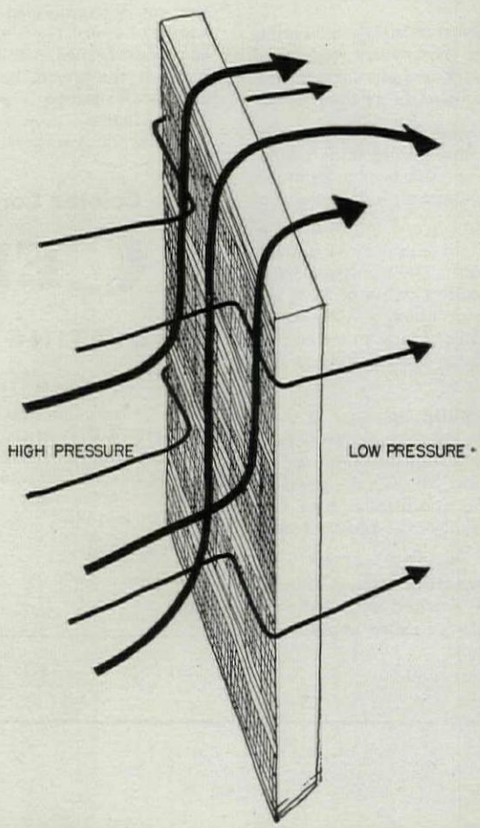
These questions were asked by a hurricane. First indication of unusual conditions to be borne by the Secretariat was Nov. 25, '50, when a historic, freakish east storm screamed against the seaboard. The storm was saluted by rising roofs in the New York suburbs of Long Island, West-



Photos: J. Alex Langley

Tests indicate updrafts in extreme winds have driven rain up into large weep holes and it has flooded over head of window into balance box, there to find a way out into the lower pressure area inside the building (see drawing right). There has been some leakage also through top of doublehung window.

Question is whether pressures against side of enormous exposed slab like UN Secretariat can be calculated by same formulas used in smaller situations. Results of construction in wall have indicated the answer is no. Big winds hit exposed river-side site in Manhattan and distort themselves in escaping around and over building. Abnormal high pressure area to windward is matched by extreme low pressure area to leeward.



Stainless steel weatherstripping at meeting rail, subjected to extraordinary pressures, also has allowed some entrance of rain, since last fall's hurricane. One hypothesis is that spring was depressed and dented in installation by cinders blown from nearby steam plant.

Some rain has also boiled in flat sill and penetrated weatherstripping at bottom of window. Again weatherstripping may have been dented or depressed by dirt during insertion, or in subsequent opening and closing of window.

chester, and New Jersey—where insurance companies paid off more claims than ever before—and by shattered glass and leaking windows in a number of big N. Y. City office buildings. Because the monumental UN slab stands on the east shore of Manhattan, the wind hit it first and hardest, in gusts as hard as 94 mph, according to weather department records. The 8 x 10′ fixed sheets of ¼″ plate glass walling both long sides of the first floor lobby caused trouble first . . . the terrible wind, probably helped by flying debris from other construction on the site, blew in one of the sheets. When that happened, says Lou R. Crandall, head of Fuller Construction Co., who was watching, a set of the glass plates on the other side, to leeward, was sucked out by the tremendous pressure difference between the now ventilated inside of the building and the low pressure lee. At once, more of the big sheets of glass began to shatter.

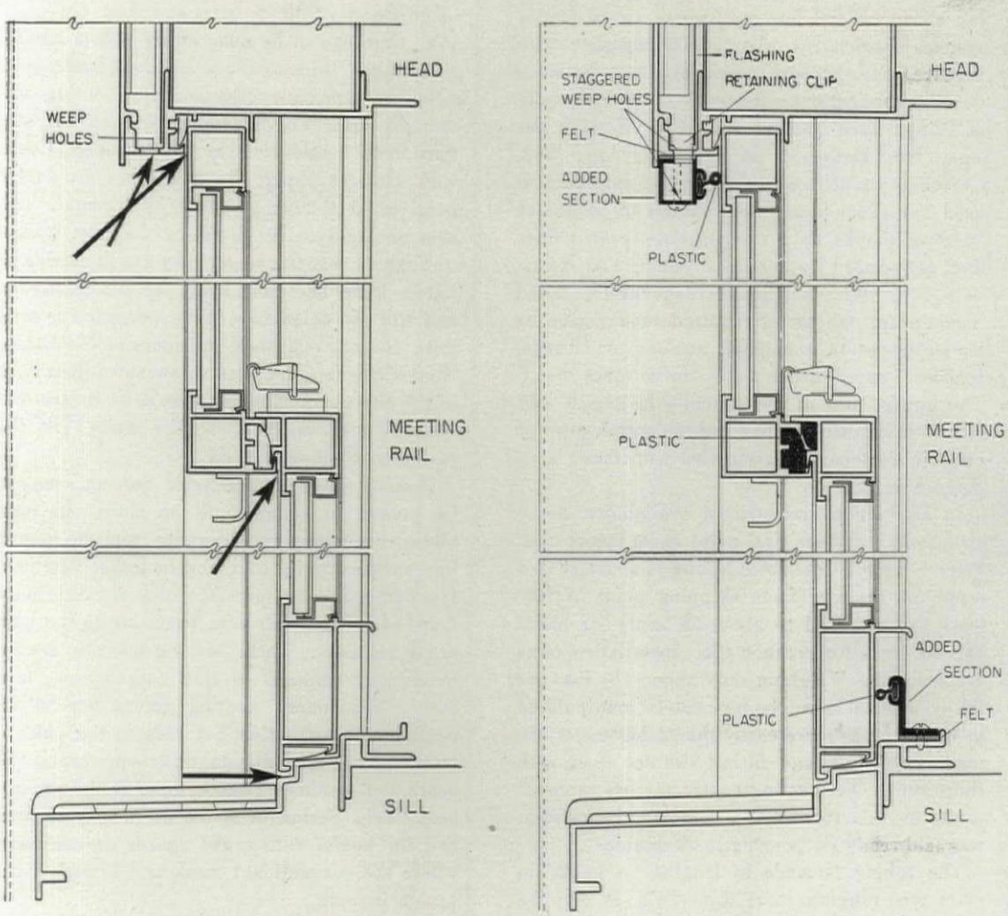
The windows, as was happening all over the city, also leaked. But there was a difference between the UN building and the rest of the city's towers. The UN had a new wall that was virtually all window—the famous outer skin of metal and glass. So as a wall it leaked more, and has leaked again in other subsequent storms.

The window manufacturer, designers, and builders started an investigation immediately. The lobby's glass walls could be replaced easily and reframed, but the question of the window wall was more intricate. Windows of the same design, 40,000 of them, had been in use elsewhere since 1935 with excellent performance records. The details of the part of the wall which might be admitting the water were not unfamiliar, except for unusually large weep holes in the bottom of the spandrels—designed for easier drainage, according to the detailers.

So the big question was: do the formulas for calculating the high, windward-side pressure, and low, leeward-side pressures that apply to smaller buildings apply also to this building—and other gigantic metal and glass slabs now on drawing boards? The answer seemed to be no, but actual measurements on the building were not complete. The bigger the area of the test, said a mathematician, the more extreme the conditions, beyond any usual formula. The shape was important, said an aeronautical engineer: the further from a square shape you design in the vertical surface you present to the wind, the greater will be the pressures built up on that surface (a long narrow wall, 100′ high and 900′ long, could be expected to have more pressure generated against it than a wall of equal area, dimensioned 300′ long x 300′ high). The people who worked in the Secretariat became deeply interested in the aerodynamics and had interesting observations to report too: in a light wind a paper airplane launched from a window on the upper floors would sail out, make a curve around the corner of the building, and return to the opposite face at almost the same window. As in other skyscrapers, rain in a wind often did not rain *down* near the wall of the building, but actually rained *up*, driven by strong updrafts of wind seeking to escape over the top of the wall. Maybe this rain was actually being driven up through the weep holes in the bottom of the spandrel sections; if so, what happened to it in there?

Professor Walter Voss was brought down from MIT to set up a testing program which would find out. The most press-

(Continued on page 212)



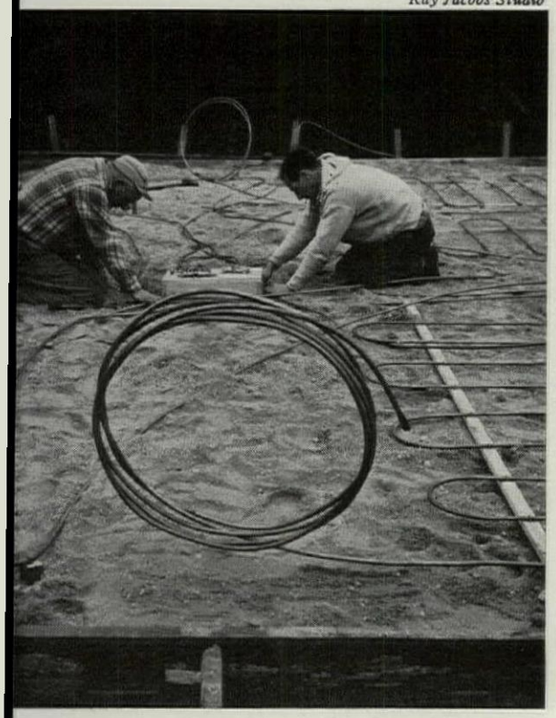
Recommended alterations to windows and spandrel include adding (left, in heavy outline) a section to the bottom of the spandrel which would baffle the weep holes so rain could not be driven directly up into them. This would also make the dam more than 2″ deep against pressure differences inside and out. Head gasket of plastic would guard top window, even if left unlocked.

Continuous plastic strips are recommended to be placed in void in the lower sash meeting rail, with 3″ blocks at the ends in the upper sash meeting rail to engage the parting strip. Tests have indicated this will seal this intersection up to wind and rain velocity of 90 or 100 mph.

Sill gasket is prescribed to stop any leaks at bottom of window. Aluminum channel would be screwed to sill inside, and would support plastic gasket against bottom of window. Plastic to be used is estimated to have life of at least 15 years, probably with good service beyond that.

DUCTILE STEEL TUBING, a low cost replacement for copper in radiant heating

Ray Jacobs Studio

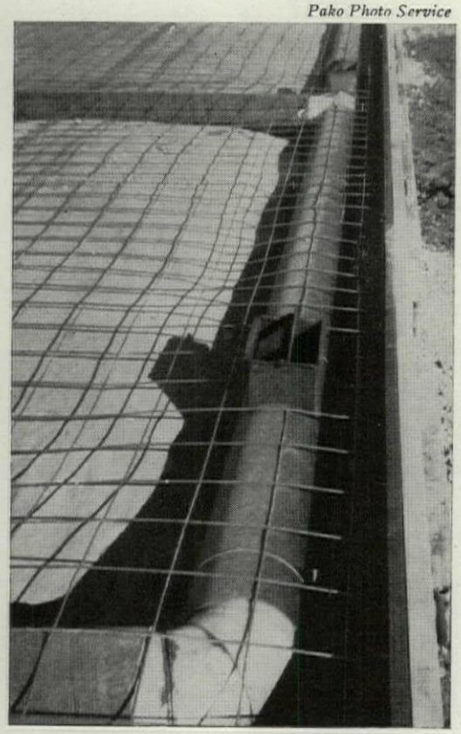


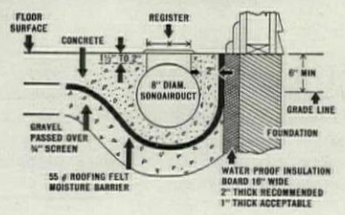
Biggest housebuilder Bill Levitt and biggest corporation General Motors had something new for housebuilding last month. To replace a disappearing commodity, copper tubing for radiant heating in floor slabs, they are enlarging the supple cold rolled steel tubing made by GM for auto gaslines and Frigidaire cooling coils, and will plant it in the slabs of Levitt houses to carry circulating hot water. The war squeeze is on steel as well as copper, of course, but not as hard; and there is another advantage to the butt-welded steel tubing: it costs only half as much as copper. It has some of the characteristics of copper, notably delivery in coils, and GM is also ready to preform panels. Irwin Jalonack, the Levitts' top technical man, has already poured two test slabs and made plans to use the tubing in the next crop of houses.

Almost as ductile as copper, the tubing can be shipped in 120′ lengths in neat 2′ wide rolls. It can be formed easily and requires far fewer welds than other steel tubing, which is available in lengths only up to 20′. (Each welded joint is not only an additional labor expense but a point of brittleness in the coil.) The tubing is made in four outside finishes—plain, coated with terne alloy (93% lead, 7% tin), copper fused or copper plated. The latter three provide the corrosion resistance demanded by many consumers. According to heating engineer Jalonack, where the water is recirculated, as it is in most panel systems, there is a negligible amount of internal corrosion. Also, once the pipes are embedded in concrete, they are no longer exposed to oxygen and cannot rust externally. Because *talk* (editorial and word-of-mouth) is a big selling factor in his project, Bill Levitt decided against the plain steel (which might rust a little lying around on the site but would cause no real damage) and against the copper plated pipe (which might sound bad after his "all-copper" sales point) in favor of the shiny silvery terne coated tubing. The design of the panels would not be affected by the change in material and Levitt had the bending equipment already set up at his materials handling aortic artery, the North Shore Supply Co. But for the builder without the mechanical means, General Motors would preform the tubing to specifications at its Rochester Products Div., Rochester, N. Y., providing quantities of coils are adequate to make a production run. Price of the new tubing, cut and delivered to the job, is about 8½ cents per ft. for the ⅝″ outside diameter size in orders of 10,000 ft. Handling costs amount to about 10% more than copper. Only possible hitch: short steel supply.

FIBER TUBING, economical substitute for metal duct work in warm air heating

Pako Photo Service





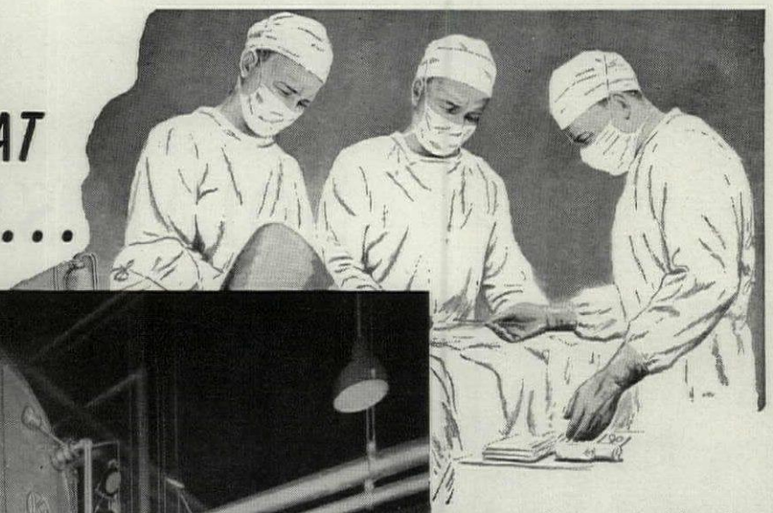
Because of the simplicity of installation, heating efficiency and low cost, warm air perimeter systems (which run about $600 complete with furnace) have become increasingly popular since the test applications conducted at the University of Illinois (see Radiant Warm Air Heating Design, THE MAGAZINE OF BUILDING, Aug. '50). Curtailed use of metal in residential construction need not affect future installations of perimeter systems, thanks to a new asbestos coated fiber duct introduced by Sonoco Products Co., Hartsville, S. C. With this fire resistant tubing, called Sonoairduct, the metal required in a perimeter layout is cut to a nominal amount for fittings, registers, small grilles, and the furnace itself. The largest part of the system—the supply and return lines, usually handled by metal pipe or ceramic tile—can be assembled with these laminated fiber ducts.

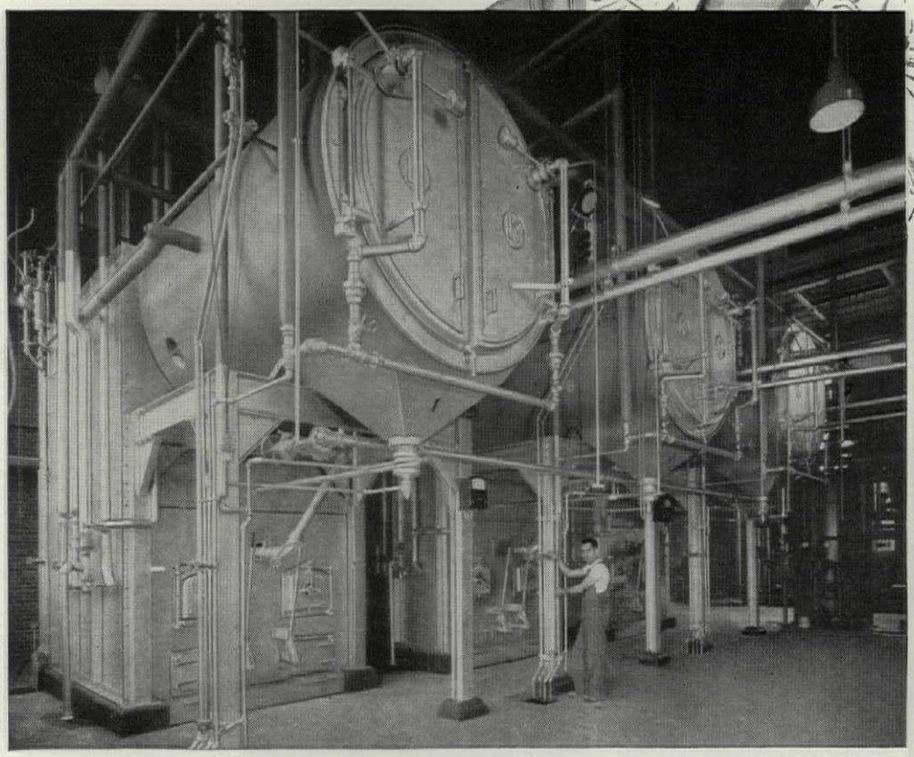
In addition to unrestricted availability, Sonoairduct has another vital point in its favor: cost. Price for the 8″ diameter tubing is about 18 1/3 cents for lin. ft. (f.o.b. shipping point in 100′ lots) as compared to about 28 cents for metal and 54 cents for ceramic tile. Installation costs are low, too. Weighing only about 1½ lbs. per lin. ft. in the 8″ size, the pipe can be manipulated in long lengths more easily than other materials, making leveling and fitting simpler than with short runs. One heating contractor has reported to the manufacturer that a complete duct system was laid ready for pouring in 20 minutes.

The tubing is made in lengths up to 25′ in diameters ranging from 2 to 24″. It may be shipped in lengths as ordered by the contractor or in standard 18′ lengths and then cut on the job. Cutting can be done either with a hand or power saw. Fiber collars 12″ long and special adhesive tape are available for joining long straight runs. For bends, elbows and T's, standard metal accessories are recommended. Coated with asbestos paper, the new tubes are said to hold the heat more efficiently than metal. They also are said to be cured by the heat passing through so that the longer they are in service the harder they become. They are plastic treated and will not delaminate when subjected to moisture. Roger Follansbee, president of Mechanical Homes Systems, Inc. and midwestern distributor of the new product, goes so far as to suggest that Sonoairduct can do "virtually every job that round metal pipe will do."

Present usage of perimeter heating seems to be limited to homes built on slabs. In small houses the tubing runs radially from the plenum like spokes from a hub, and in larger basementless homes and commercial structures, continuous loops of tubing distribute warm air to the numerous registers. These heating systems are not necessarily confined to slab construction, however. "Perimeter" heating refers not to the method of distribution but only to the point of delivery, i.e., the outside walls—preferably beneath the windows (where there is the greatest heat loss). Perimeter systems also may be planned for homes with crawl spaces or basements where the conventional trunk and branch distribution is used.

WHERE DEPENDABLE HEAT IS VITAL...





In a modern central heating plant at St. Mary's Hospital, LaSalle, Ill.; three KEWANEE Hi-Test Boilers are capable of producing 18 million Btu hourly.

Operated at 125 lbs. these boilers furnish heat for the hospital *and also power* for the laundry, kitchen, sterilization equipment and other hospital needs.

One boiler supplies steam for all operations in mild weather. The third is used as a "stand-by."

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UNUSUAL DEPENDABILITY... plus an efficiency which produces steam most economically... makes Kewanee Boilers the first choice for hospitals, schools and other important institutions. Regardless of the method employed for distributing heat, a sound system starts with a good boiler. Make sure when you build or modernize ... specify KEWANEE.

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SOLAR SHADING TAKES

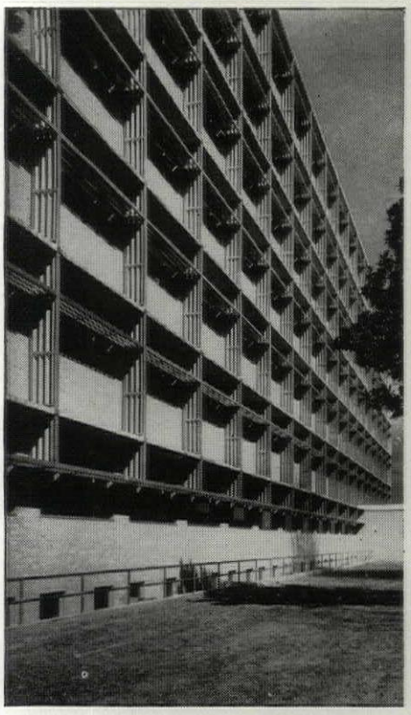


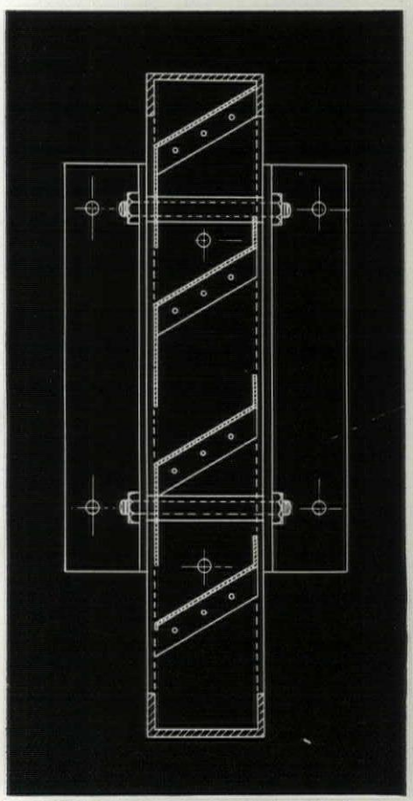
Georgia Baptist Hospital, Atlanta, Ga.; Stevens & Wilkinson, Architects; Henry C. Beck, General Contractor. Alcoa Aluminum used for solar shading, windows, exterior solarium walls, gravel stops, doors and interior trim.

Entrance lobby. Maintenance-free Alcoa Aluminum used in doors, railing, trim and windows.

Detail, vertical solar shade.

THE HEAT OFF OPERATING COSTS





Cross section, vertical solar shade.

The architects had both the needs of the patients and the problems of the treasurer in mind when they designed this hospital. Plenty of cheerful, healing light comes into every room, but hot sun-rays, that boost air-conditioning costs, stay out. Blocked by clean looking, cleanly designed aluminum solar shades.

The architects estimate that solar shades reduced the original cost of air-conditioning equipment by 30% and will cut its operating costs by 15%. And being made of maintenance-free Alcoa Aluminum, the fixed shading will never need painting, will never stain the light, bright exterior of the building.

Almost daily, architects are finding more ways to use aluminum's resistance to corrosion and stain; its reflectivity, conductivity and economy, to make buildings work better and cost less. Although rearmament needs now limit the civilian supply of aluminum, Alcoa is continuing to work with designers in developing new aluminum applications. For information on any application of aluminum and on availability and government regulations pertaining to aluminum uses, call your local Alcoa sales office or write ALUMINUM COMPANY OF AMERICA, 1887F Gulf Building, Pittsburgh 19, Pa.

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THE TENANTS of Atlanta's handsome new Darlington Apartments get big dividends from modern design! Besides spacious rooms and large window areas, they have their own shopping centre in the unusual triangular lobby.

The builder and architects get a dividend, too—Gold Bond Plaster, Lime, Metal Wall Base, Arch Corner Bead and Best Bros. Keene's Cement were used exclusively, with the responsibility for the performance of all these products centered in *one* reputable manufacturer—National Gypsum Company. There are over 150 Gold Bond Products—each one fully described in Sweet's, and available at your Gold Bond Lumber and Building Materials Dealer.



You'll build or remodel better with Gold Bond

DARLINGTON APARTMENTS, ATLANTA, GA.

Architects ..... Wm. G. Lyles, Bissett, Carlisle and Wolff, Columbia, S. C.

General Contractor.... Long Construction Co., Div. of Long Corp., Atlanta, Ga.

Plastering Contractor.. Atkinson Bros. Plastering Co., Atlanta, Ga.

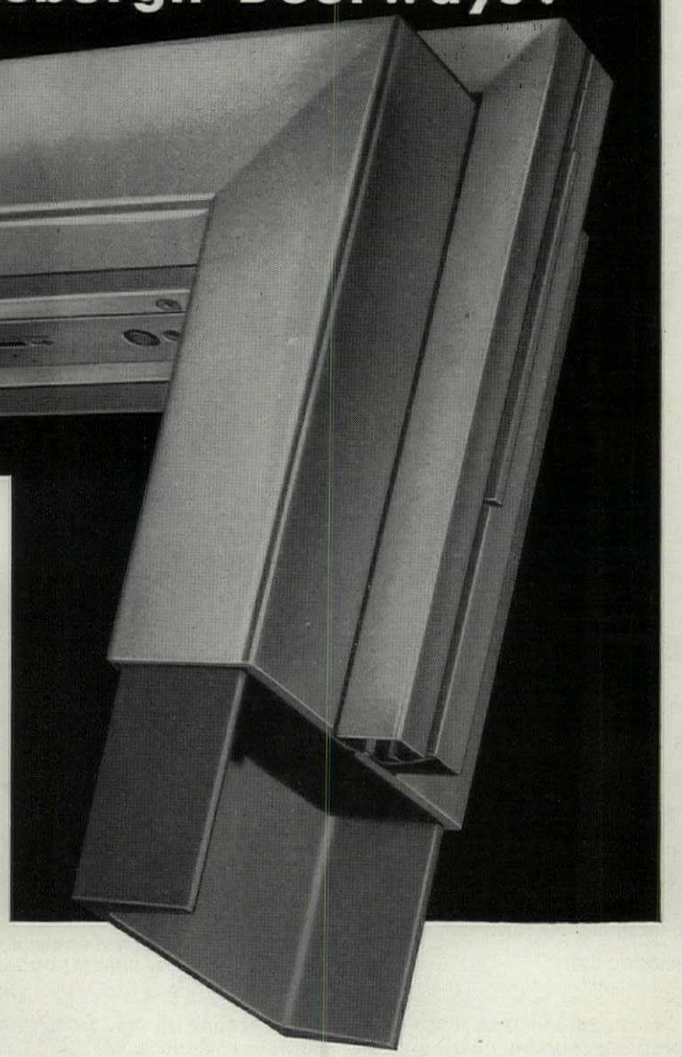
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Want to cut on-the-job costs?
Choose Pittsburgh Doorways!



In remodeling this furniture store, Architect Charles Kendall of High Point, N. C., included a Pittsburgh Free-Standing Doorway.



This cut-away view of the Free-Standing Pittsburgh Doorway shows the 6"—10.5 lb. steel channel which is continuous through the massive, extruded aluminum frame. Perfectly mitered corners enhance the rugged beauty of the frame. The Pittco Premier 72-A store front sash illustrated is one of the many members that can be attached to the substantial frame casing.

● Because they are factory-assembled to precision standards—reach the site in one "package"—Pittsburgh Doorways cut labor costs substantially. They eliminate time- and labor-consuming details of fitting, locating and calculating in the field. In fact, all that's necessary is to unpack the frame, bolt it into the building opening and hang the sturdy Herculite Doors, for whose strength the frames have been especially engineered.

That is why we suggest that, when you are considering doorways, you give serious thought to two important factors: *quality fabrication* and *total-installed cost* . . . not just the list price. And when you do, you'll select Pittsburgh Doorways *every time!*

We'd like to send you complete information on Pittsburgh Doorways. So, why not write today to Pittsburgh Plate Glass Company, 2167-1 Grant Building, Pittsburgh 19, Pennsylvania?

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PPG

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

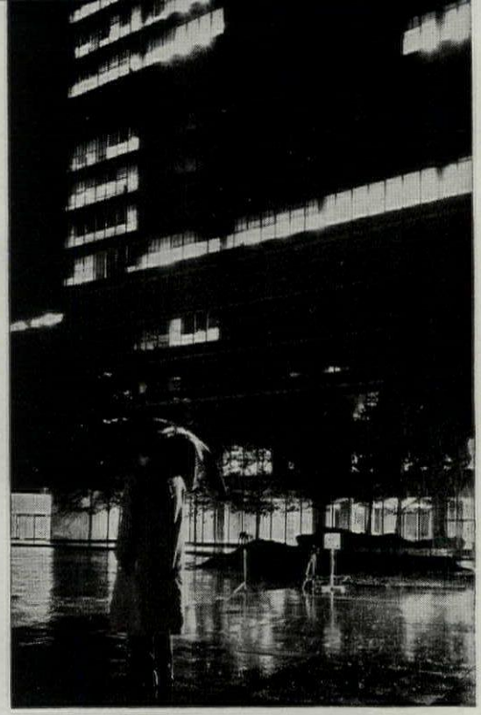
PITTSBURGH PLATE GLASS COMPANY

(Continued from page 205)

ing requirement was to design alterations to the wall now in use which would enable it to stand up under conditions more strenuous than had ever been faced. He took sections of the wall and tested them under severe laboratory conditions (probably severer conditions than ever faced, even in the big storm) by building a pressure box of which one side was the typical window wall section; he increased pressure inside the box to simulate various wind velocities, introduced water to simulate rain. No windows, except submarine windows, had ever been tested more mercilessly.

He observed that at high velocities in his strenuous test set-up the wall leaked through head, sill and meeting rail. The stainless steel weatherstripping had been placed on the job in the open, of course, with a nearby New York steam plant spewing tons of soot and cinders toward the job daily; perhaps cinders had been caught under the weatherstripping and formed avenues for water. Substitution of new solid plastic weatherstripping could fix that.

But in a 63 mph wind, the pressure difference between the outside and inside of the building would be sufficient to pull a column of water up 2″, theoretically, especially if air conditioning created a negative pressure inside; so he also added a sill gasket inside the glass, and another at the head, outside, providing a 1″ back pressure column. Even if the window were unlocked and slightly open, this would be a precaution against leaking at those points.



But there was another trouble. The glass spandrel at the UN had been designed as all spandrels are designed, so that interior condensation could drain down and out weep holes at the bottom. The back-up wall and the balance box of the window were flashed to protect them against water *draining down*, but this water was probably *driven up*. In the pressure box test, at extreme velocities, water flooded over the head of the window and caused leakage through balance screw holes which were left open for observation. Voss' suggested remedy for that was to add a section to the bottom of the spandrel to baffle the weep holes so water could not be driven up into them, and thus also provide more than a 2″ dam for a guarantee.

There is more testing still to be done before any construction is started. Work is nearly completed at the General Bronze Co. on a large test set-up which will use an airplane engine to blast air and water at full size wall sections to get more nearly actual directional effects of wind and water combined. And perhaps even more important, studies of the UN building itself should reveal just what are the pressures and peculiar water hazards created by winds blowing on such a mammoth exposed slab.

The UN building, which had already advanced office building design in the biggest office building city, and apparently had licked a major design problem in the expansion relationship between glass and metal, was also going to advance man's knowledge of the behavior of the elements.

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ELECTRIC RADIANT CEILING CABLES

So Economical to MAINTAIN and to OPERATE!



"The Electric Power Board of Chattanooga welcomes the use of electricity including radiant ceiling heating for heating homes designed for its use. Our records prove that it costs less to install, less to maintain and operates in comparable brackets to other heating methods.

It is safe, clean and low-cost—ask any of our 9,000 all-electric users."

Robert E. Reeves
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THERE is no faster, or cheaper method of installing a complete modern heating plant to furnish maximum comfort and convenience, than with Ceil Heat. Now, everyone can enjoy carefree, automatic heat with the revolutionary electrical ceiling cables that provide *invisible* radiant heat from above—just like the sun.

THOUSANDS OF USERS—In Tennessee and nearby states where Ceil Heat was first installed users report that it has withstood the severest winter of a lifetime—has kept their homes cozy-warm even on the coldest days.

NEW FREEDOM OF DESIGN—Ceil Heat makes it easier for architects to design more beautiful, more efficient homes by utilizing space formerly needed for registers, radiators, pipes, furnace, fuel storage, and cellar.

EASY TO ESTIMATE • EASY TO INSTALL—Just staple the cable to the ceiling base according to simple Ceil Heat engineering directions, and cover with plaster. Quickly installed by a local electrical contractor. Simple to calculate heat loss and cable required.

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CEIL HEAT IS THE STANDARD—Radiant ceiling heating is now used in homes from coast to coast. There is no finer system for uniform, low-cost carefree warmth. And, Ceil Heat sets the standard. Perfected solely by Ceil Heat Div., Homes, Inc. Sold only through electrical distributors to approved licensed electrical installers.

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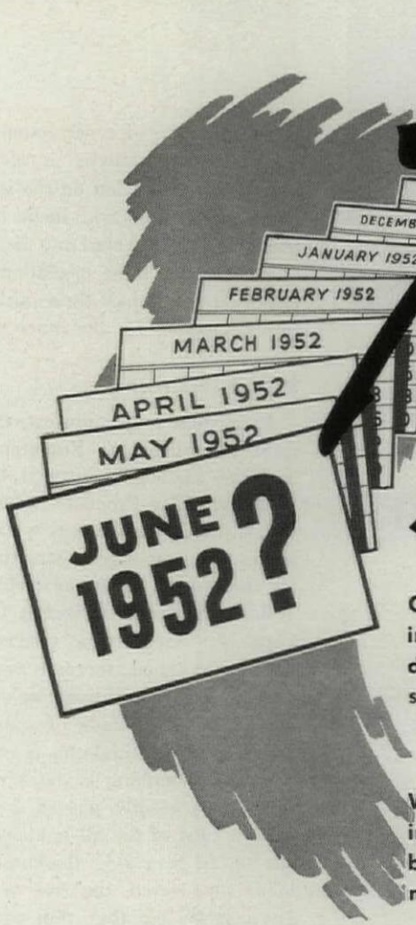
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Think ahead... JUST ONE YEAR!

Can you predict the building picture a year from now? Increasing building for defense and re-allocation of materials for defense production must be considered; manpower and time shortages will enter the picture.

WHERE WILL YOU BE?

With Gunnison Homes, you can build twice as many homes, in half the time, without the uncertainties of a conventional building! Field erection is easy, fast, standardized, requires a minimum of skilled labor!

Dealerships are still available in certain areas. For complete information, write Dept. F-4.



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Manufacturers of Gunnison *Coronado* and CHAMPION Homes...

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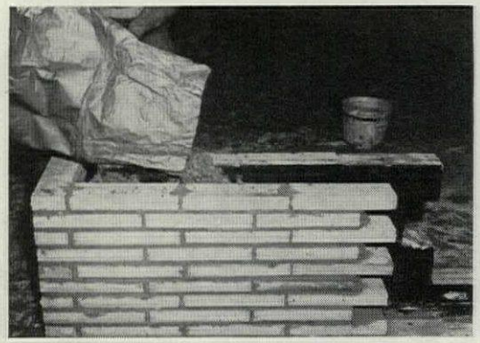
UNITED STATES STEEL CORPORATION SUBSIDIARY

NEW ALBANY, INDIANA

"Gunnison," "Coronado" and "Champion"—T.M. Gunnison Homes, Inc.

CAVITY WALL features new low cost insulation

It probably was not long after man learned how to build with masonry that he found that two walls—with a space between—were better than one. In known use for thousands of years, cavity walls have always been good—but not perfect. The hollow cavity helped prevent heat loss and moisture penetration, but even in temperate climates the insulation provided by the air space alone was not enough. Recent attempts to improve this type of construction have been either expensive propositions involving furring and lathing for insulation on the interior surface, or pennywise failures with ineffective insulating materials blown or shoved into the cavity. Too dense and too heavy, these insulations sag, settle, seep and soon defeat half their initial purpose: moisture protection for the inner wall.



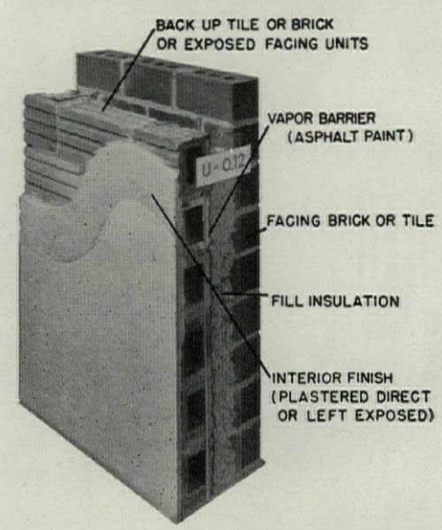
To assure complete fill of the air space, insulation is merely dun ped from bags into the cavity about three times during the progress of the wall.

Build a better wall

As its first major project, the year-old Structural Clay Products Research Foundation dug into the $1,250,000 kitty staked for it by the Structural Clay Products Industry, and came up with a better, cheaper cavity masonry system for homes and commercial structures. Much credit for the success of the new wall could go to the development labs of Owens Corning Fiberglas Corp. for creating a pouring-type insulation which has good thermal resistance and low enough density to support its own weight without bogging down. Made of inorganic glass fiber nodules, the material also is rot, termite and fire resistant. Handling is quick and easy. The insulation is simply poured from bags into the cavity. Cost of the fill is about 10 to 12½ cents per sq. ft. in a 2½" thickness. Because of the labor time saved, the cost of the SCR wall is appreciably less than that of a cavity wall requiring furring and lathing.

Structure the same

Basically the structural design of the brick and tile cavity wall is unchanged so there should be no difficulty meeting local code requirements. Instead of furring and lathing, the plastering can be done directly on the back-up material or, where the architecture permits, the interior masonry may be left exposed. Placement of wall ties, flashing, window and door frames, joists, wall plates and anchorage, and provision of weep holes for adequate drainage are the same as in conventional cavity walls. However, because of the pouring method of insulation, special care must be taken by the mason to smooth out the mortar squeezed from the joints on the inside of



(Continued on page 220)

Natural DAYLIGHT is cheapest and Best!



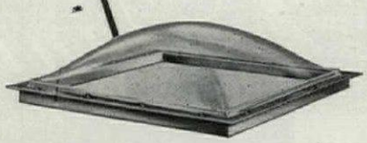
This single Wascolite unit added 100 sq. ft. of valuable office space. The installation of one 36" x 36" Wascolite transformed a dark narrow hallway into a pleasant working area flooded with natural daylight.

WASCOLITE
(Patent Pending)

Plexiglas
DOME SKYLIGHT UNITS

By actual tests, WASCOLITES let in 62% more daylight than conventional skylights. They are neat, clear and beautifully designed. Strong, shatterproof, waterproof and practically self-cleaning, they reduce maintenance costs to a minimum. They are completely prefabricated — can be dropped into place in a matter of minutes. WASCOLITES open up unlimited possibilities for daylight engineering in industrial plants, schools, hospitals, residences and all types of buildings.

Send for A.I.A. folder for the full story and name of your nearest WASCOLITE representative.



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Manufacturers of WASCO Copper — Fabric Flashing — Copperseal

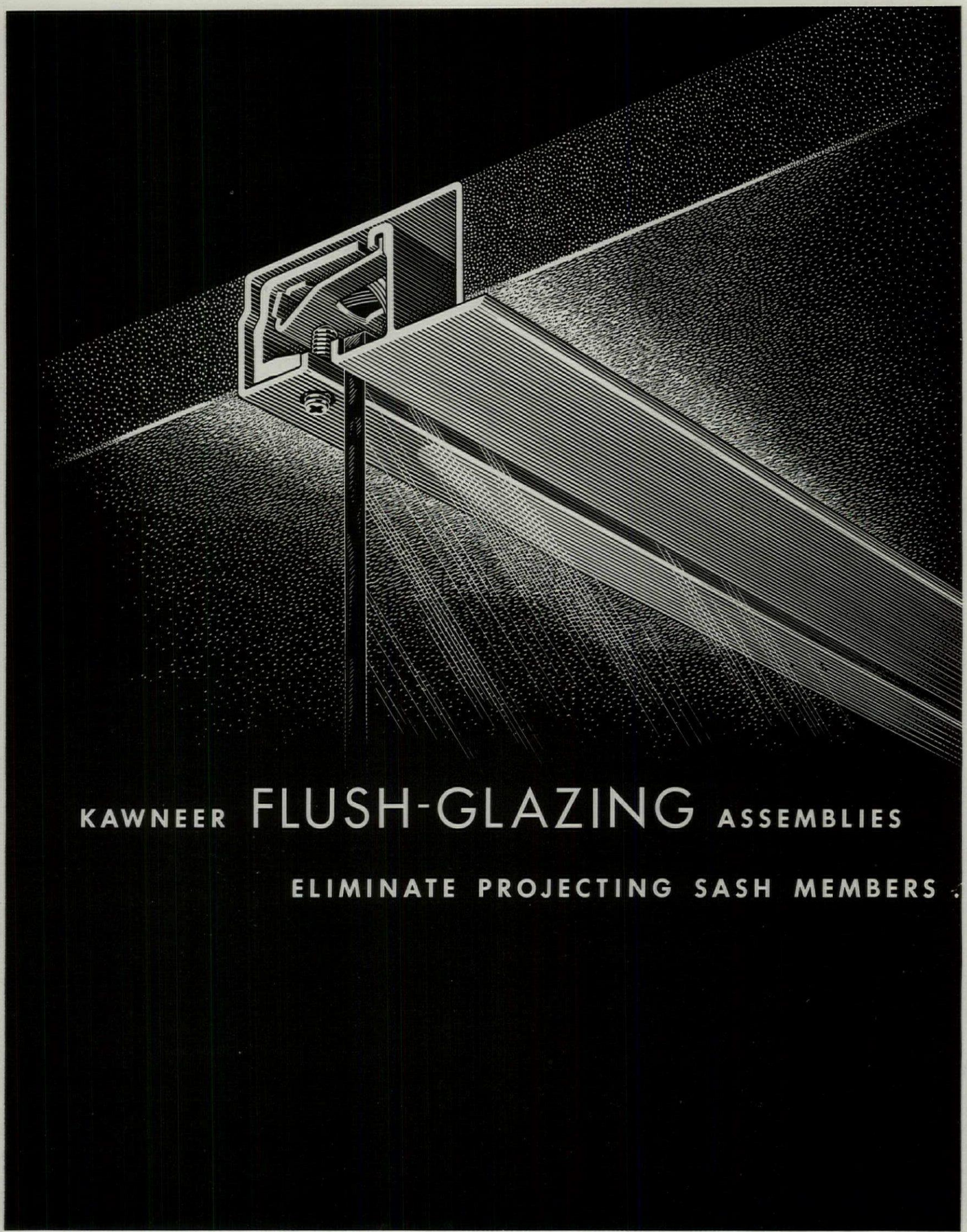


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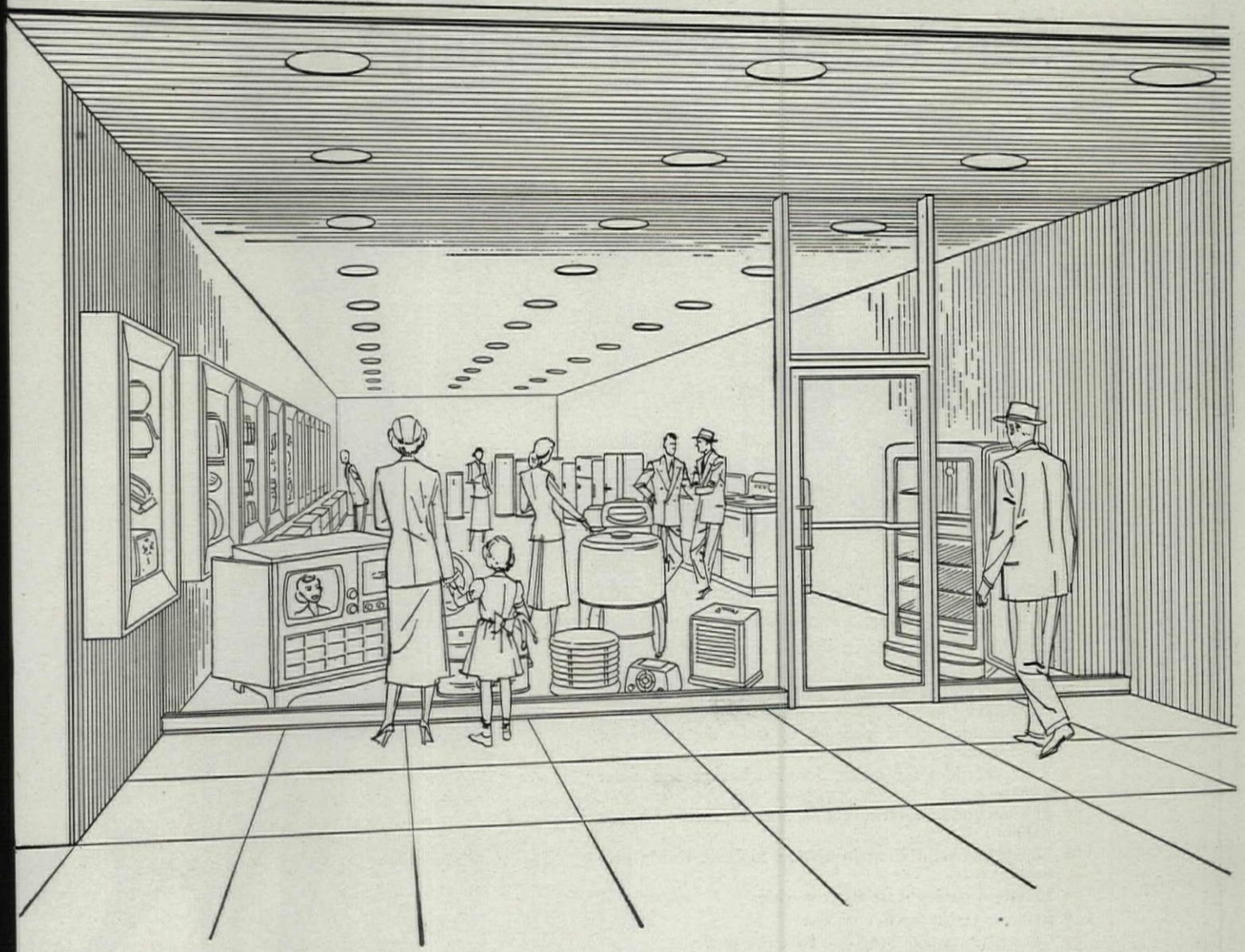
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You can put inviting and attractive interiors on full display when you specify Kawneer Patented Flush-Glazing Sash.

The face of this sash is flush with surrounding wall and ceiling surfaces, thus eliminating any obstruction to vision. To the eye, the sash face and the surfaces on both sides of the glass appear to be a single smooth plane, continuous and uninterrupted by glazing assemblies.

In addition to affording full vision flush-glazing, this outstanding setting insures maximum safety and reliability, because it holds glass *firmly yet resiliently* in place. For information, consult your Portfolio of Kawneer Details or write Dept. MB-73, 1105 North Front Street, Niles, Michigan; or Dept. MB-73, 930 Dwight Way, Berkeley, California.

THE Kawneer COMPANY

ARCHITECTURAL METAL PRODUCTS

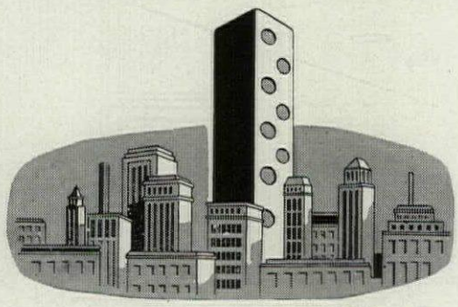
Store Front Metals

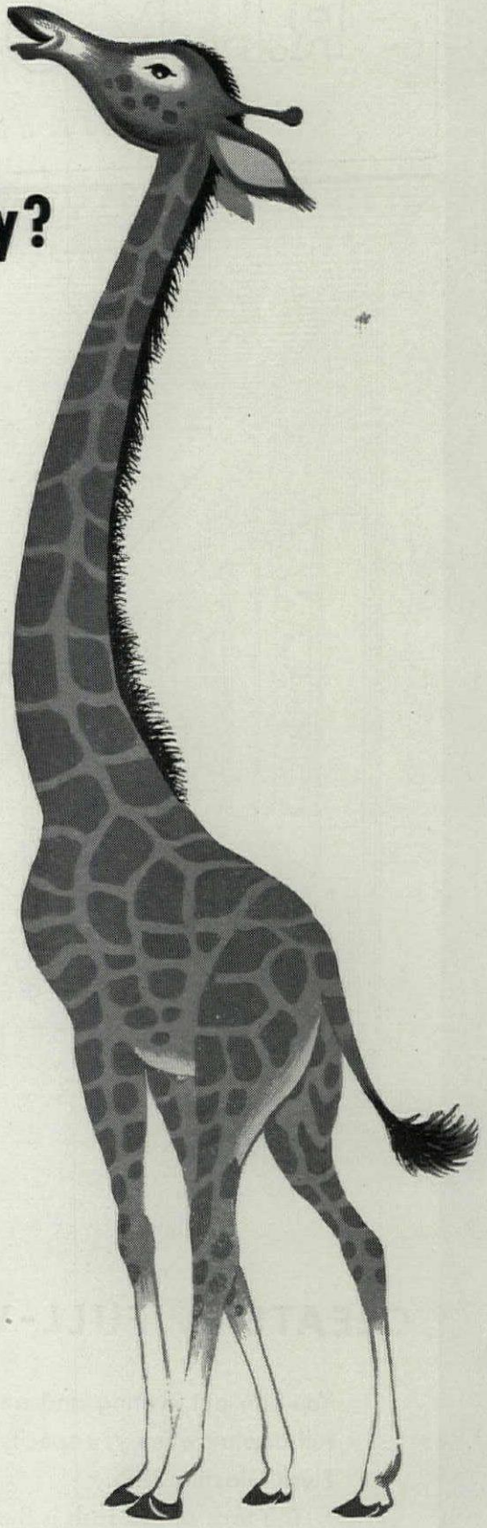
Aluminum Facing Materials • Modern Entrances

Aluminum Roll-Type Awnings

Want to carry power vertically?

THEN...*Chase Square Copper Tube Bus Conductor is the way to handle it*





Chase Square Copper Tube Bus Conductors have 10 important features that make a *big difference*—mean *better* vertical power transmission in *multi*-story buildings. These are:

- Square, tubular shape, which means more rigid construction
- Greater mechanical strength to resist the stresses of short circuits
- Four flat sides for secure floor anchorage and easier assembly
- Efficient and economical connections to power-and-light panels
- No downward-sliding insulation to leave thinly protected areas
- Excellent current-carrying capacities
- Extreme resistance to corrosion
- Generally require only one tube per phase
- Minimized "skin effect"
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For complete information about Chase Square Copper Tube Bus Conductors, write to Dept. MB-651, for the Chase Bus Conductor Handbook.

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Even the
BANK OF NEW YORK
—BANKS ON YORK

Take two multi-story buildings . . . Add that they were not designed for air conditioning, but that now air conditioning is wanted . . . Add that the most efficient use of funds is a must.

The sum total is a job unmistakably calling for York skill. As a result, the Bank of New York and Fifth Avenue Bank is now air conditioned by York—12 floors in its 48 Wall Street building and 13 floors in its 52 William Street building.

You are well acquainted with the difficulties of such an installation. And the choice of York to handle it points up York leadership again.

• • •

This is a timely illustration to cite because of two major developments that will increasingly affect the industry:

1 As new commercial construction is superseded by new defense work, there is a proportionately greater call for air conditioning in the modernization of existing buildings.

2 Air conditioning is being used more and more in the development of defense production techniques of still higher efficiency—a necessity and an exacting assignment.

In either situation, when you have an air conditioning problem you can profit by the things we have learned. Here's the York story to remember:

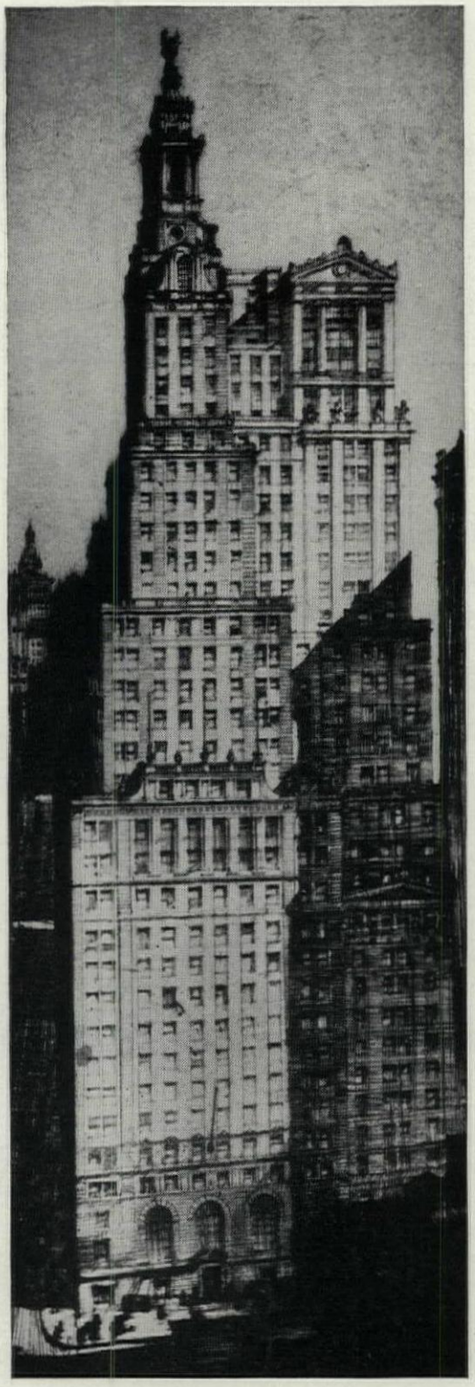
YORK offers you assistance with the most complete nationwide organization of trained engineers anywhere in the world.

YORK has had more experience in mechanical cooling than any other organization . . . 75 years of it . . . experience in doing jobs not easily solved by precedent.

YORK's CERTIFIED MAINTENANCE CONTRACT relieves you of post-installation responsibility, and relieves the client of maintenance for a known-in-advance service fee.

YORK works through you . . . wherever possible all contract air conditioning is channeled through architects, engineers, contractors.

Check today with your nearby York Representative listed in the classified directory, or write York Corporation, York, Penna.



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refrigeration
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The big advances come from YORK

Headquarters for— **Refrigeration and Air Conditioning**

the cavity so that the fill will not catch on the rough ledges as it is spilled into the air space.

Checks heat loss

A 10″ wall subjected to heat transfer tests at the Engineering Experiment Station, Pennsylvania State College, consisted of a high density brick exterior, a 2¼″ air space, and 4 x 5 x 12″ horizontal cell back-up tile to which ⅝″ of gypsum sand plaster was applied. The cavity side of the interior wall section was given a single brush coat of asphalt paint. (Although no conclusive data is available yet on the need for a vapor barrier in this type of construction, the Foundation felt that its application provides positive insurance against condensation. A water emulsion type coating is suggested because it can be applied cold to a newly laid wall.) Tests were made before and after the cavity was filled with the pouring-type insulation. Thermal transmittance of the insulated wall was found to be 0.12—less than half that of the same wall with furring and lathing. Temperature of the inside plastered surface on the insulated section was about 8° higher than that of the uninsulated.

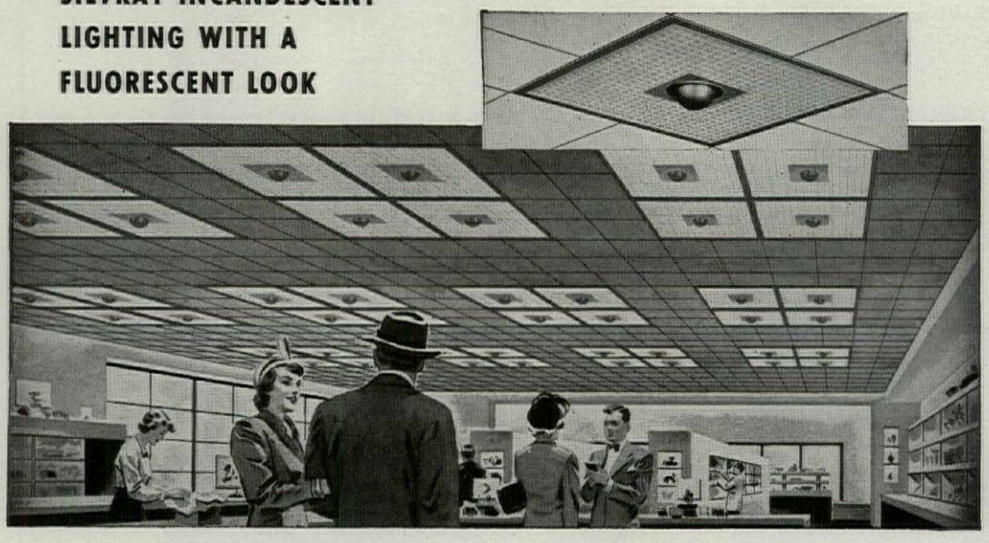
Resists the wind and the rain

Panels of the insulated cavity walls 8′ high x 16″ wide were given water permeability tests at the Armour Research Foundation. Each hour for 120 hours, 5½″ of simulated rain smacked the wall along with a 50 mile mock gale. The exterior brick was purposely built to permit an average leakage of about 1⅓ gal. per hour. No moisture was detected on the interior face throughout the tests. The insulation, which accumulated water equal to only about 15% of its own dry weight, did not settle. It looked as if the biggest bugaboos of cavity walls—proper insulation and moisture resistance—had been overcome and Structural Clay Products Research Foundation blew a loud bugle at the AIA show last month.

Information: Structural Clay Products Institute, 1520 Eighteenth St. N.W., Washington 6, D. C.

Why architects are switching to Skylike®

SILVRAY INCANDESCENT LIGHTING WITH A FLUORESCENT LOOK



Introduced only a few months ago, Silvray SKYLIKE lighting is already installed in showrooms, schools, stores, offices, laboratories, and other interiors.

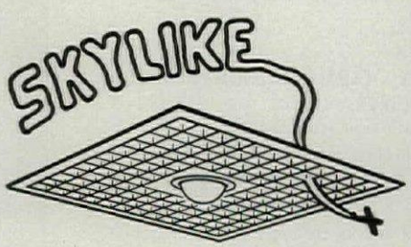
Architects have been quick to recognize SKYLIKE lighting as a unique combination of the best features of silvered-bowl incandescent units with the modern appearance of fluorescent-type troffers.

Only Silvray SKYLIKE fixtures provide all these advantages:

1. High initial and maintained light output.
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9. Floor-service relamping—no ladders or scaffolds.
10. Hermetically sealed silver reflecting surface.

SKYLIKE systems are flexible and easy to plan. Units fit 24″ x 24″ ceiling tiles . . . can be fully or partially recessed, or surface-mounted—in rows or patterns.

For easy conversion to directional or accent lighting, a semi-silvered-bowl lamp and a simple accessory are used to replace the original lamp.





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ELECTRIC RANGES have dual purpose ovens

Two of Frigidaire's new electric ranges have large single ovens that permit preparation of different foods at different temperatures at the same time. To do this, the oven is converted into two separate ovens with a movable partition. The upper section has two heating units so that it may



be used for broiling as well as baking or roasting, and the lower part is equipped with a single bottom heating unit designed for baking or roasting. Each section has separate controls. A cake can be baked in the lower section while a steak is broiled in the upper. Simply by moving the partition to the bottom, the two sections form a huge 6,160 cu. in. oven. The RO 50 and RO 60 (which will sell for about $337.75 and $364.75) also feature an electric time signal with two different speeds for short and long cooking periods, and a spacious storage drawer.

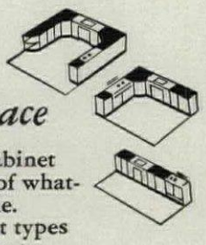
Manufacturer: Frigidaire Div., General Motors Corp., Dayton 1, Ohio.

(Continued on page 224)

when a kitchen needs a friend...

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friendly to space

Yes, Curtis kitchen cabinet units make the most of whatever space is available. With 20 basic cabinet types and a total of 70 sizes to choose from, you can create a kitchen of any size or shape. The dimensions of all units have been standardized to coordinate with other standard kitchen equipment.



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Curtis wood cabinets are the result of years of research and experience to develop comfort-creating, step-saving, modern kitchens. Counters are of correct height. Toe space is ample. Greater storage space is achieved by special Curtis construction. Labor-saving cabinets "fit around" corners—pan trays, ventilated vegetable drawers, snack bars, are easy to reach, easy to clean.





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Fenestra Door Unit in Batesville High, Batesville, Miss.
Architect: Hanker & Heyer.
Contractor: Consolidated Contractors.

SAVE MONEY with this Door-Frame-Hardware Unit!

It comes as a *package* . . . with frame and handsome hardware. It's amazingly simple and quick to install. Fenestra* Standardized Hollow Metal Doors *stay* working and looking like new through years of rough, tough use. They cost less to buy than flimsy doors!

HERE'S WHY THEY COST SO MUCH LESS:

1. **Low First Cost**—Fenestra's great manufacturing facilities, engineered for volume production and elimination of waste of materials and man-hours, can turn out more high-quality door units . . . in less time . . . at lower cost.
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These Fenestra Standardized Hollow Metal Doors are in local stocks. Compare the *performance,* the *quality,* the *complete cost* with *any* door on the market. They're another Fenestra Building Product engineered to cut the waste out of building.

Doors with Underwriters' B Label are also available. Just call your Fenestra Representative (he's listed in your phone book). Or write Detroit Steel Products Company, Dept. MB-6, 2251 East Grand Boulevard, Detroit 11, Michigan. *®

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NERVASTRAL SEAL-PRUF

the ideal waterproof sheeting for "1001" industrial applications

Nervastral Seal-Pruf sheeting is not only completely waterproof, but offers a pliability and elasticity that makes it easily adaptable to a variety of industrial installations.

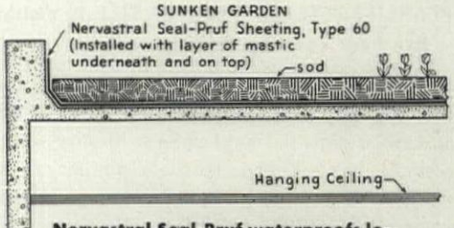
WATERPROOFING QUALITIES

Nervastral Seal-Pruf satisfies every type of waterproofing specification, because one ply will withstand a minimum of 40 pounds pressure p.s.i. against outside water.

ELASTICITY

The excellent coefficient of elasticity in subzero temperatures of Nervastral Seal-Pruf permits it to follow expansion and contraction of structures without breaking.

In addition, this unique sheeting is highly resistant to alkalis, acids, salt water and chemicals, and it is not affected by the laitance of Portland cement.



Nervastral Seal-Pruf waterproofs locations under sunken gardens—prevents ingress of cold air to rooms below, and condensation on ceilings.

Nervastral Seal-Pruf affords an ideal medium for:

MEMBRANE WATERPROOFING

of foundations, retaining walls, basements, subways, tunnels, etc. which must be watertight.

SPANDREL BEAM WATERPROOFING

DAMPPROOFING CONCRETE FLOORS AT GRADE

WATERPROOFING SUMP and ELEVATOR PITS

WATERPROOFING BOX and VALLEY GUTTERS

WATERPROOFING and SHOCKPROOFING HEAVY MACHINERY FOUNDATIONS

Nervastral Seal-Pruf not only gives complete protection from water penetration, but helps to absorb shock and cut vibration.

DAMPPROOFING HUNG CEILINGS

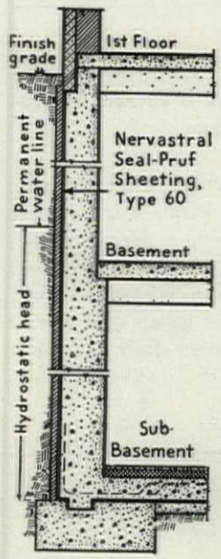
Nervastral Seal-Pruf supplies an efficient moistureproof barrier, prevents condensation.

PROTECTING STEAM LINES EXPOSED TO ATMOSPHERE

Nervastral Seal-Pruf effectively waterproofs outside steam lines and equipment.

The versatility of Nervastral Seal-Pruf is complemented by outstanding *economy* and *ease of application*. The actual cost of this unique material is less than that of metallic flashing, and a single layer does the job...reducing labor cost.

Nervastral Seal-Pruf provides the same degree of waterproofing as copper, but, unlike copper, it does not require a mastic underneath, as it adheres to Portland cement grout.



Deep foundations are thoroughly waterproofed with Nervastral Seal-Pruf.

Write for full information and learn how NERVASTRAL SEAL-PRUF can do a superior job for you *at less cost.* We'll be glad to make recommendations based upon our extensive experience and your specific needs.

The following authorized distributors of **NERVASTRAL SEAL-PRUF** stand ready to fill your orders promptly, and make recommendations based upon your particular requirements

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Grays Ferry Brick Co.
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Acme Builders Supply & Fuel Co., Inc.
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Buffalo 15, N. Y.

McCrady-Rodgers Co.
McCrady-Rodgers Bldg.
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Pittsburgh, Pa.

Askue Supply Co.
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Cleveland 4, Ohio

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Cincinnati 7, Ohio

Houston Waterproofing Co
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Houston 9, Texas

Waldo Bros Co.
202 Southampton St.
Boston 18, Mass.

State Supply Co.
241 East Street
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Hoiss-Kuhn-Chuman Co.
2723 West 47th St.
Chicago, Illinois

NERVASTRAL SEAL-PRUF IS AVAILABLE IN TWO TYPES:

Type No. 30
28 mils thickness. Rolls, 72-ft. long — in widths 36" — 30" — 24" — 18" — 15" — 12" — 8". Other special widths provided on request.

Type No. 60
for heavy engineering construction.

Nervastral Seal-Pruf

Reg. Trade Mark

RUBBER & PLASTICS COMPOUND CO., INC.

30 Rockefeller Plaza
New York 20, N. Y.

RUBBER & PLASTICS COMPOUND CO., INC.
30 Rockefeller Plaza, New York 20, N. Y.

Gentlemen: Please send me further information about NERVASTRAL SEAL-PRUF. I am particularly interested in the following applications:

.....

.....

Name .....

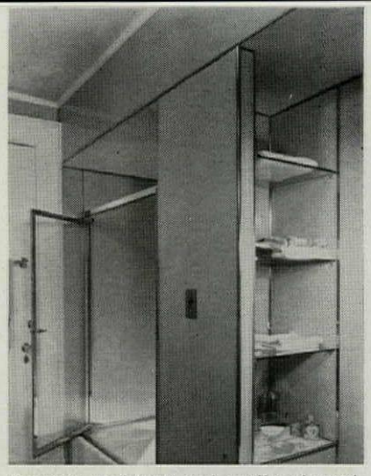
Company .....

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

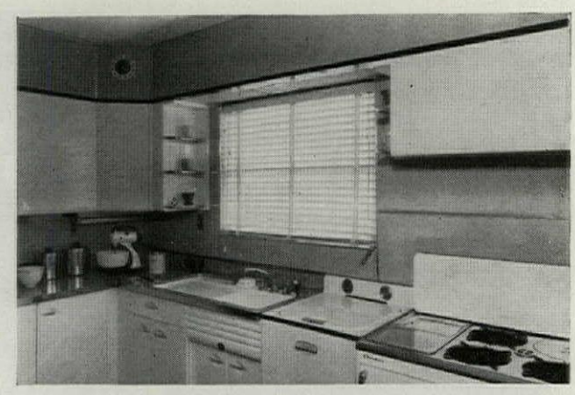
LAMINATED WALL BOARD is durable material for outside and inside use.

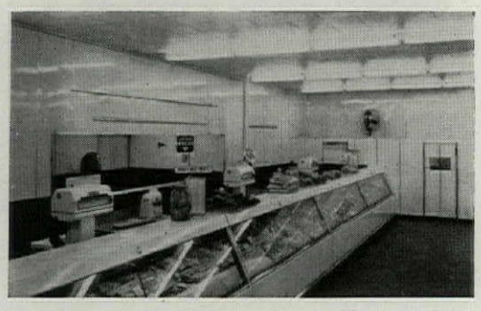
By fusing a porcelain enameled light gauge steel sheet to a ⅛" thickness of hardboard, Baltimore Steel Corp. has come up with a rugged, moderately priced building material. Exhibited last month at the AIA convention, Mirawal can substitute efficiently for heavier gauge steel curtain wall materials and serve successfully as interior wall facings where a sanitary tile-like surface is desired. Furthermore, its hardboard base acts as a sound deadener. Interior Mirawal, backed by a waterproof sealer, weighs about 1⅓ lb. per sq. ft. It sells for about $1.25 per sq. ft. installed, a price competitive with plastic coated wall board. The exterior paneling has a base of galvannealed steel and weighs 2 lbs. per sq. ft. It costs about $1.75 installed, considerably less than other porcelain-on-steel or all-ceramic products. Both the outside and inside types are made in 11 standard colors in a satin finish said to be fireproof, acid resistant, and stainproof. (Special colors can be obtained on large orders.) The panels are 2′ wide and come in 4, 6, 8 and 10′ lengths. Anodized aluminum moldings finished to match or contrast with the wall material are available from the manufacturer. Miratile, a sister product recently introduced, is made in 4½" squares in nine colors.

Manufacturer: Baltimore Porcelain Steel Corp. Box 928F, Baltimore 3, Md.



Scratch resistant and easily cleaned, these porcelain-on-steel-on-hardwood panels make practical colorful walls for rooms which get hard use.

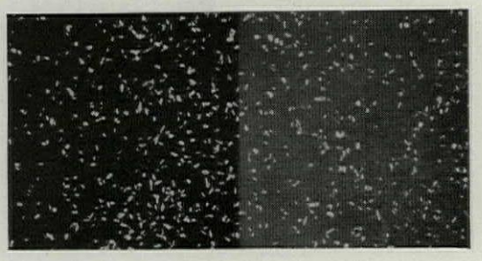




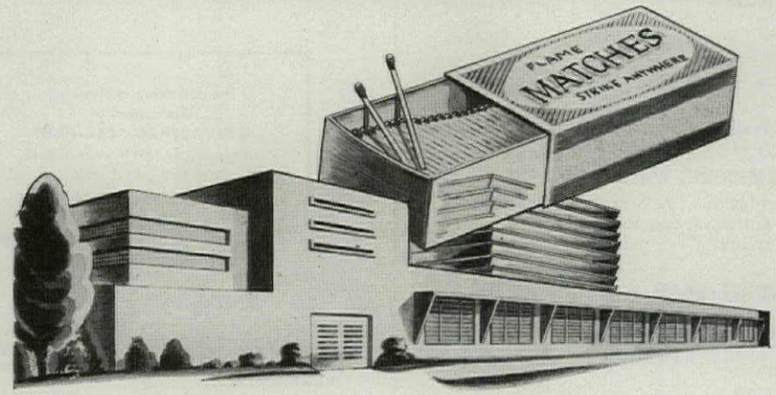
PEARL-SPATTERED PLASTIC TILE is distinctive floor covering material.

Unusual styling and durability make Pearltone floor tile adaptable for many commercial as well as novel residential applications. Beauty salons, cocktail lounges and milady's powder rooms where decorators specify this new material will assuredly scintillate underfoot. Reminiscent of the lacquered chairs and *papier maché* boxes inlaid with mother-of-pearl during the late Victorian era, the floor tile is made of synthetic pearl fragments emerged in a monotone vinyl composition over a cork base. The plastic provides good

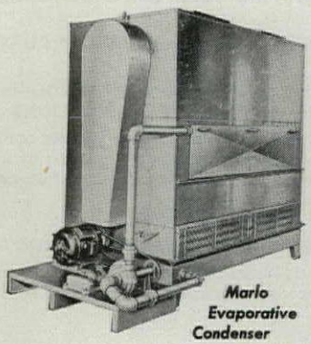
(Continued on page 228)



DON'T PUT MATCHBOXES ON YOUR BUILDINGS!



specify all-metal Marlo Cooling Towers and Evaporative Condensers



Marlo Evaporative Condenser

Avoid the fire hazard of wood—by specifying all-metal Marlo Cooling Towers and Evaporative Condensers that offer complete safety—plus these important advantages:

DESIGNED FOR INDOOR or OUTDOOR INSTALLATION
Compact Marlo Units can be installed easily indoors, or on the roof below the skyline . . . never spoil the beauty of your buildings.

ECONOMICAL
Marlo Units assure maximum water savings . . . up to 95% of normal cooling water demand.

QUIETER
Interior surfaces are coated with special sound-deadening mastic; all motors and pumps are resilient-mounted.

MORE DURABLE
Marlo Cooling Towers and Evaporative Condensers are doubly-protected inside and outside against corrosion.

Write for full details for "roughing in" for your specific requirements.

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MANUFACTURERS OF

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COOLING TOWERS • EVAPORATIVE CONDENSERS • INDUSTRIAL COOLERS
AIR CONDITIONING UNITS • MULTI-ZONE UNITS • BLAST HEATING & COOLING COILS

Announcing the 1951

Award

of the Concrete Reinforcing Steel Institute to

CARL A. MENZEL



Carl A. Menzel (left) receives the 1951 C. R. S. I. Award from Henry G. Turner, Jr., President of the Turner Construction Company and Chairman of the Award Committee. The presentation was made on April 19, at the 27th Annual Meeting of the C. R. S. I. held at The Homestead, Hot Springs, Virginia.

. . . in recognition of his contribution to the development of the A305 reinforcing bar

● The Concrete Reinforcing Steel Institute's Award Committee, composed of representatives from *The American Concrete Institute, The American Society of Civil Engineers,* and *The Associated General Contractors of America,* has given the 1951 C. R. S. I. Award to Carl A. Menzel. Mr. Menzel received the Award for his contribution to the development of the new ASTM-A305 deformed reinforcing bar. This bar, which represents the first accepted standard on reinforcing bar deformations, has substantially greater bonding strength than plain or conventional deformed bars. It makes possible less costly, sounder, more permanent reinforced concrete structures requiring less steel. The new bar is now recognized in the revised ACI "Building Code Requirements," and is being rolled by every large producer.

CONCRETE REINFORCING STEEL INSTITUTE
38 South Dearborn Street, Chicago 3, Illinois

CARL A. MENZEL is well known to the engineering profession for his research and development work in concrete and concrete products. In 1932, he received ASTM's Dudley Medal, and in 1948, ACI's Wason Medal for research in concrete problems. He is also the author of many papers on the subject. Mr. Menzel is a graduate of the University of Illinois.

CONCRETE REINFORCING STEEL INSTITUTE CRSI FOUNDED 1924



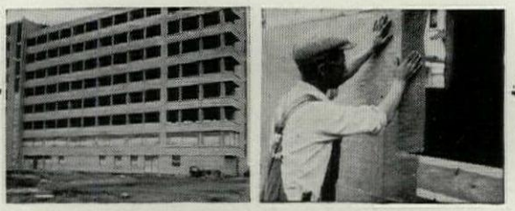
PLAN FOR Canvas Awnings

Canvas Awnings are a functional part of every modern store front. They give vital protection to window displays . . . provide cooler interiors.

In plans for construction or remodeling, include facilities for Canvas Awnings. Modern design permits operation from concealed, recessed boxes so that awnings may be installed without impairing streamlined effect.

Your local Canvas Awning dealer offers a wide choice of painted and woven fabrics. His experience and advice are always available. Installation costs are low.

THE CANVAS AWNING INSTITUTE, INC.
and NATIONAL COTTON COUNCIL
"There is No Substitute for Canvas Awnings"



dependable low-cost protection

FOR BUILDINGS OF ALL SIZES

BIG BUILDINGS need SISALKRAFT: As protective covers for materials . . . for curing and protecting concrete slabs . . . for "closing in", etc.

SMALL BUILDINGS and HOMES need SISALKRAFT: As waterproof membrane between subfill and concrete slabs . . . as sheathing paper . . . moisture-vapor barrier . . . wind, dust, dirt barriers . . . under all flooring, and for many other uses. SISALATION Reflective Insulation combines insulation and vapor-barrier . . . most economical!

WRITE for free SISALKRAFT Architectural Specifications Portfolio, samples included.

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NEW and EASY



. . . and they describe *exactly* the

MOR-SUN

COUNTER FLOW FURNACES

NEW: . . . newly designed for PERIMETER and SPIDER design radiant warm air heating

EASY: . . . designed for easy installation in basementless slab houses

FREE! *Write for the story of MOR-SUN Counter Flow heating systems for basementless slab houses.*

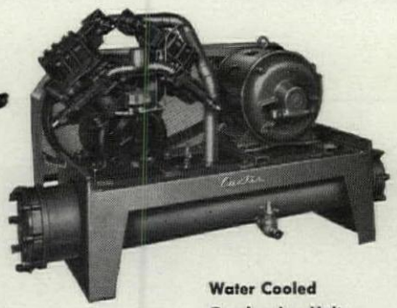
MOR-SUN PRESSED STEEL FURNACES
"Sells on Sight"

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FURNACE DIVISION
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Patent Pending

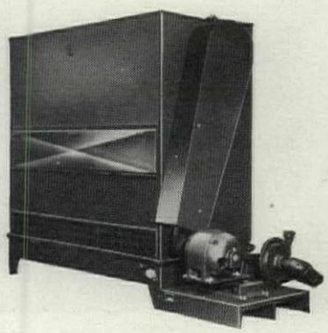
Specify CURTIS AIR CONDITIONING with CONFIDENCE

Here's Why ...



Water Cooled Condensing Units —through 40 Tons

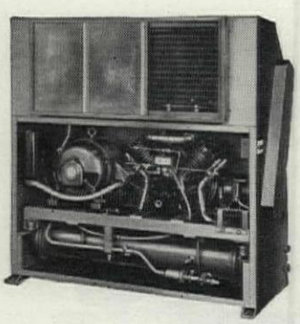
- Many years of outstanding performance records have given Curtis units an earned reputation for trouble-free operation.
- There are 97 years of successful engineering and manufacturing experience "built in" all Curtis equipment.
- Curtis packaged units are completely assembled, eliminating expensive on-the-job labor.
- No expense has been spared in building Curtis units . . . yet they're competitively priced.
- Curtis units will handle any air conditioning or refrigeration requirement.
- A new 1951 Curtis Architects Manual will be sent upon request to licensed architects. Use your own letterhead, please.



Evaporative condensers to match—cooling towers— and air handling units



2, 4, 6, 8 Ton— Packaged Types



Central Type— 10-15 Ton

See the Curtis Catalog in

Sweet's Architectural File

97 Years of Successful Manufacturing

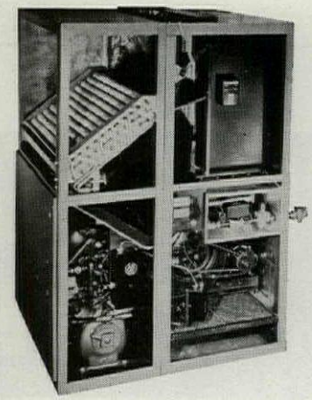
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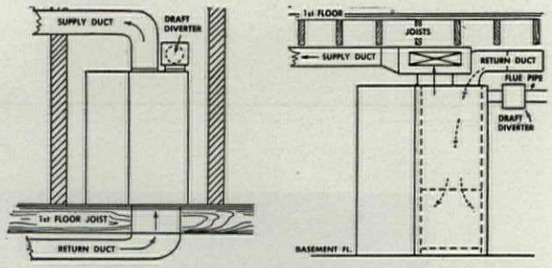
Curtis

Curtis Refrigerating Machine Division
of Curtis Manufacturing Company
1914 Kienlen Avenue, St. Louis 20, Missouri

wearing qualities; the cork, comfortable resiliency. Because of the dispersion of the iridescent pearl element, traffic marks and other stains are not readily perceptible. The tile requires no waxing for maintenance, and dirt is removed easily with soap and water. Pearltone is available in seven background colors: red, yellow, blue, green, brown, gray and black. It costs about 95 cents per sq. ft. and is made in 6, 9 and 12″ squares ⅛″ thick.

Manufacturer: Dodge Cork Co., Lancaster, Pa.



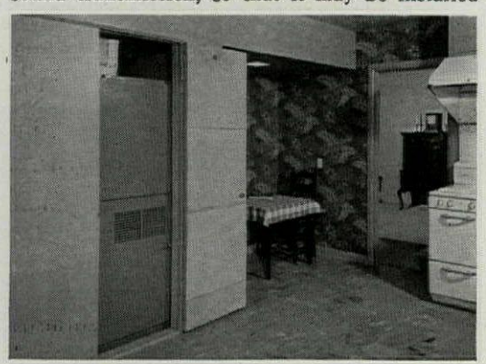


In summer the Weathermaker draws air through the filter (bottom right in cutaway view) diagonally up through the cooling coil (upper left). Switched to cold weather operation, the unit draws air through the heating section (upper right). Compact in design, the year-round conditioner may be installed in a utility room (above left) or basement (above right).

YEAR-ROUND RESIDENTIAL AIR CONDITIONER to be distributed nationally.

Spiraling demand for winter-summer residential conditioners (See *In the wind for developers: Air Conditioning*, THE MAGAZINE OF BUILDING, April '50) has dictated the increased production of Carrier's 38B Weathermaker to three times the number of units made last year. Development of a new burner assembly and a sharp speed-up in production schedules will permit complete nationwide distribution of the year-round air conditioning unit by the end of this year. New models with burners designed for manufactured gas are now being tested and soon will be ready for production. With these alternate models, the 38B introduced last year for use with natural gas now will be adaptable for installations in areas with part or all manufactured gas.

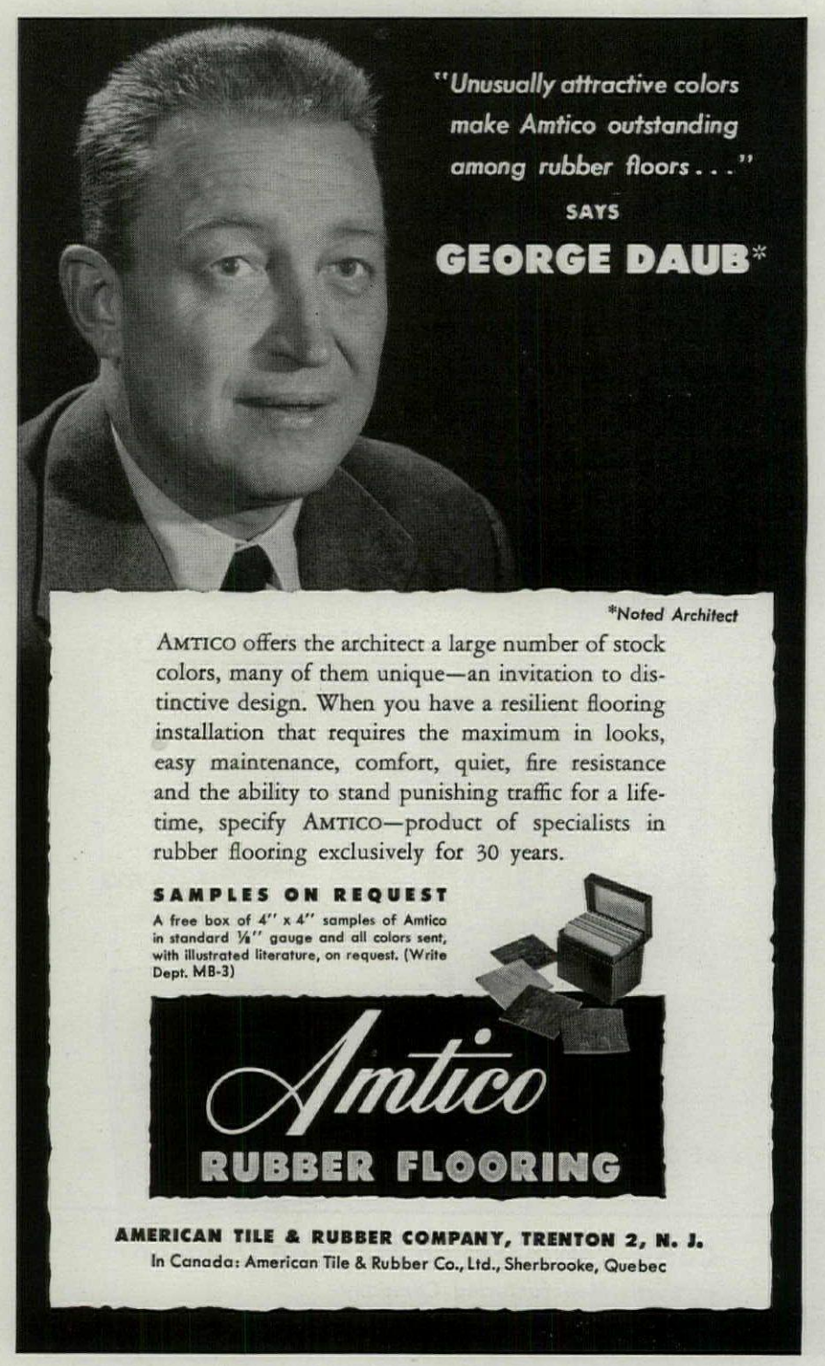
In one compact package operated by a single thermostat, the 38B provides filtered air circulation, summer cooling and dehumidifying, and automatic gas heating. A single control switches the unit from cooling to heating. Suitable for commercial as well as residential applications, the unit has received American Gas Assn. approval. The cabinet is insulated against heat and sound transmission, so that it may be installed



in a basement recreation room or closet near the living quarters. It is available in three capacities for different climatic conditions: 5 h.p. cooling and 190,000 Btu heating;5 h.p. cooling and 140,000 Btu heating; and 3 h.p. cooling and 140,000 Btu heating. Installed prices range from $2,400 to $5,000 depending on size of conditioner, installation, and whether a water recirculation device is required. Dimensions for all three combination capacities are: 43″ deep, 52″ wide, and 70″ high. Flue connections can be made to the top or, where there are limited space problems, to the side. Return air may be brought through the back or bottom of the unit.

Manufacturer: Carrier Corp., 300 S. Geddes St., Syracuse 1, N. Y.

(Continued on page 232)



KEEP YOUR HOME BUILDING PROFITS UP

. . . WHEN THE SALES CURVE IS DOWN

SWITCH TO PREFABRICATION NOW . . . BUILD THE BETTER P&H WAY

YOU can enjoy smooth selling ahead—even in today's declining home market—if you *switch to prefabrication* now, and build the *better* P & H way.

End your worries over government loan curbs, high costs, material shortages. You can fill housing needs *immediately, profitably,* by building the new 1951 P & H factory-engineered homes.

Build profitably—Whether you now build 5 homes or 500, you can enjoy *volume sales, project savings, minimum risk, prompt delivery, financing,* by following the P & H Builder Profit Plan.

You can sell quality homes priced for every volume market—selected from the *complete* P & H line—floor areas from 672 to 960 square feet . . . two bedrooms or three, full basement or utility, left hand plans or right, end placement plans for narrow lots.

Design variety—Home buyers are tired of *row house monotony.* They want the infinite individuality your projects gain with such P & H special features as gable and hip roofs, gable and hip porches, yard-wide eaves, trellises, jib supports, window boxes, classic panels, shutters and door designs. This page shows only 12 of the 60 elevations, *all reversible,* in the complete P & H line. *And* the bricks are no advertising "gag." The wide P & H gable ends and eaves are adaptable to your own brick and stone veneer designs.

Easy approval—Government and financial agencies, local building authorities and city councils *all* recognize the enduring quality and lasting value of P & H construction, *engineered* by Harnischfeger Corporation.

Financing available—When local financial resources are limited, you can get construction loans or term mortgages through Harnischfeger Corporation's service subsidiary, Builders Acceptance Company. *Write today* for free booklet on the P & H *Builder Profit Plan.*

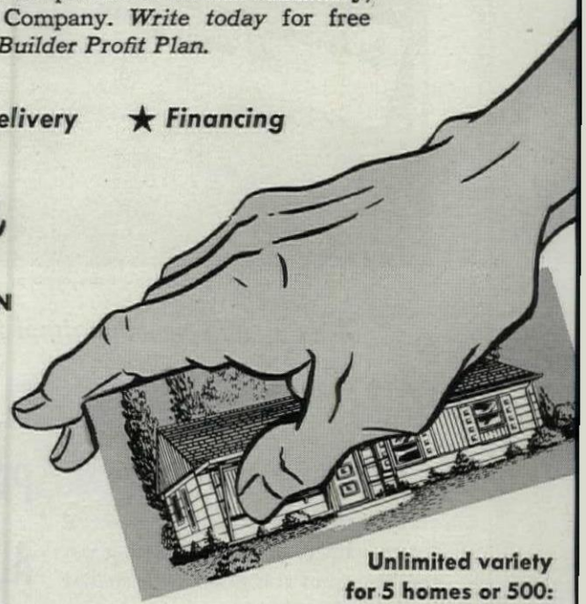
★ *Volume Sales* ★ *Project Savings* ★ *Minimum Risk* ★ *Prompt Delivery* ★ *Financing*

P&H

Harnischfeger Corporation

HOUSES DIVISION

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Unlimited variety for 5 homes or 500: New, Larger P&H-A-340



Specify shellac



INTERIOR DESIGNED BY MELANIE KAHANE

Gives a satin-smooth natural finish to

- *Won't scratch or mar*
- *Will not darken with age*
- *Outwears other finishes*

FLOORS
PANELING
ALL
WOODWORK

As you set the stage for graceful living with natural wood, bring out the beauty of the grain with shellac ...the most durable, finest beauty treatment for all wood surfaces.

shellac is easy to apply, easy to maintain, dries fast, simple to retouch and keep beautiful.

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Please send, without obligation, "Standard Specifications on the Use and Application of Shellac".

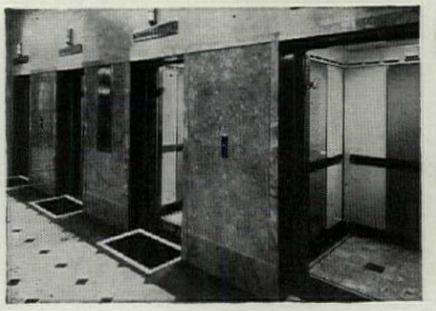
Firm Name.....

Address.....

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

Signed.....

WHEN A BUILDING NEEDS A LIFT

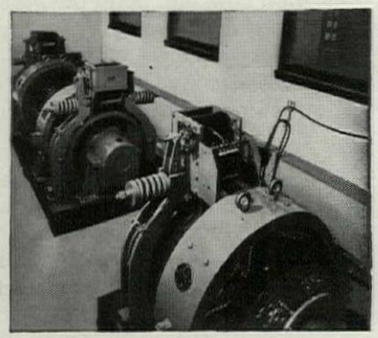


Fast, quiet operation, smooth starts and stops, and above all, dependability are features both building owners and the public want in elevators. New elevators in Seattle's Medical-Dental Building embody all of these requirements in an attractive design, the result of combined engineering skills of Montgomery Elevator Company and General Electric. When your building needs a real lift, specify G-E elevator motors and control. *General Electric Co., Schenectady 5, N. Y.*

Above: Smooth operation, perfect automatic leveling, fingertip control, electric door operation, attractive cabs add up to faster, more comfortable vertical transportation. Each of the four cabs, which serve ten floors, has a capacity of 3000-lb at 800 fpm.

★ ★ ★

Right: G-E shunt-wound, gearless traction motors, rated 45 hp, 270 volts, provide dependable, limited maintenance service. They have 36-in. sheaves with U-grooves for one-to-one roping, and are equipped with solenoid brakes.

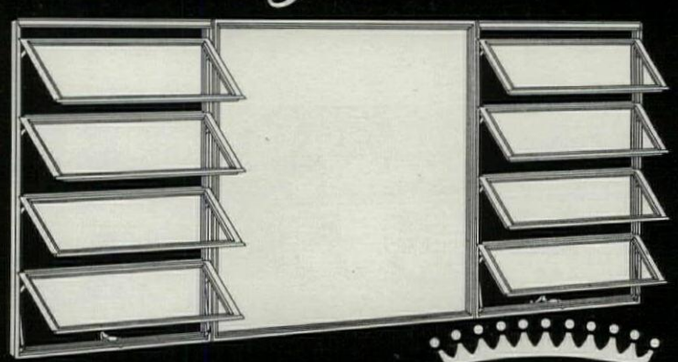


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GENERAL ELECTRIC

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LEMCO *Monumental*



Series 62
EXTRUDED ALUMINUM
AWNING WINDOWS

***NOW AVAILABLE* in limited quantities.**

Write or wire today for additional information.

AMERICA'S OLDEST CASEMENT WINDOW MANUFACTURER

Croft STEEL PRODUCTS, INC.
16 MARKET STREET · JAMESTOWN, N.Y.

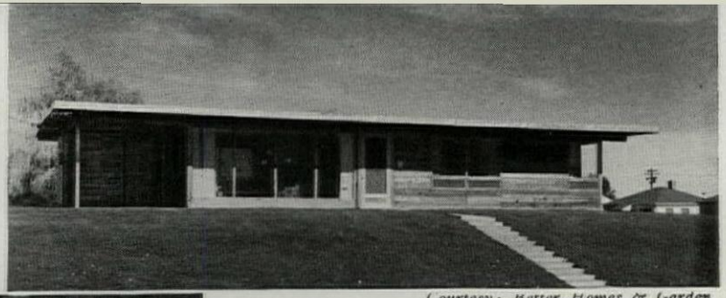


The exceptional durability and resistance to indentation of Armstrong's Linotile® has made this resilient flooring first choice for areas subjected to concentrated traffic or heavy furniture loads. Linotile's smooth surface and extra dense composition provide a combination that keeps maintenance costs to a minimum.

General Offices, The Best Foods, Inc.
1 East 43rd St., New York City

ARMSTRONG'S LINOTILE

ARMSTRONG CORK COMPANY • LANCASTER, PENNSYLVANIA



Courtesy: Better Homes & Garden

This contemporary log cabin built of precisioned cedar timber needs no interior or exterior finish. Cost of all the wood parts for the 1,100 sq. ft. house—including wall and roof planks, trim, partitions, and cabinet work—came to $3,100.

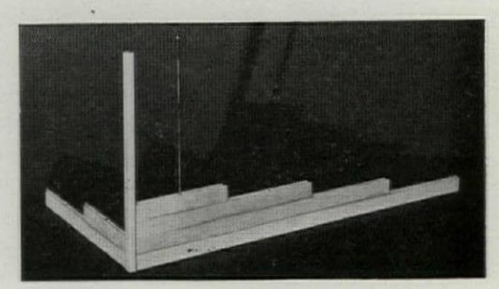
CEDAR TIMBER CONSTRUCTION SYSTEM cuts labor and material costs.

Although designed primarily for the do-it-yourself crowd of young and muscular home builders, Apex Easy-Bild lumber holds many attractions for the more adroit and equally dollar-conscious construction trade. The more costly local labor, the more economical is this construction system rivaled in simplicity only by the children's game "Lincoln Logs." A complete building material in itself, Easy-Bild forms the finished outside and inside wall surfaces, partitions, and ceiling. Cut from solid red cedar in 4, 8, 10, 12 and 16′ lengths, the 4 x 8″ planks are tongued and grooved on top and bottom for snug, accurate alignment. Holes are mill-drilled every 4′ so the timbers can be slipped down on ½″ diameter rods anchored in the concrete foundation at corresponding intervals. The rods, bolted at the top, pull the planks firmly together and tie them to the foundation. Rods are secured by nuts placed in the concrete foundation while it is still wet, or by patented wedges. Cost of the 8′ rods needed for a house about the size of the one pictured above is about $18.

Not only does this building method eliminate nailing, it also obviates the necessity for lathing, plastering, painting and even insulating. The 4″ cedar walls are said to have a thermal resistance equal to that of standard frame construction plus 2″ added insulation. To bolster the characteristic moisture and decay resistance of the cedar, the planks are treated with a preservative during the milling process. The antitoxic chemical does not alter the appearance of the wood, however, and where paint or stain is desired, this dip coat serves as a primer. Easy-Bild arrives on the job fully seasoned and sanded. If the house is planned on a 4′ module, assembly is simple. Amateurs have set up the external walls and roof for a 1,000 sq. ft. house in about 200 man hours.

The timbers cost 70¢ per lin. ft. f.o.b. Denver, Colo. They are also available in 2 x 8″ size for interior partitions. Minimum order is a carload—10,000 to 12,000 lin. ft.—enough material for walls and roofs of three small houses with floor areas of 750 sq. ft. each. Wall material for a three bedroom house in the Denver area has been running about $850.

(Continued on page 238)





Problems of Interior Design

solved with "*Automatic 400*" CEILING SPRINKLERS

PROBLEM • The maintenance of utmost fire safety without sacrificing modernity of interior design.

SOLUTION • "Automatic 400" Ceiling Sprinklers — they blend perfectly with the appointments of the most tastefully arranged interior.

RESULT • Beauty where you want it . . . protection when you need it.

Full information, including installation photographs in color, is contained in our NEW BULLETIN 67. Write for your copy today!

"Automatic" Sprinkler
FIRST IN FIRE PROTECTION

"AUTOMATIC" SPRINKLER CORP. OF AMERICA—Dept. M, P. O. Box 360, Youngstown 1, Ohio

Please send me without obligation, your Bulletin 67 on the "Automatic 400" CEILING SPRINKLER

Name_____

Company_____

Street_____ City_____ Zone____ State_____

How compact





can an air conditioning system be?

That's what they were asking themselves in Dallas back in 1940. There was never any question that the new Mercantile National Bank Building would be air conditioned. All they asked was how.

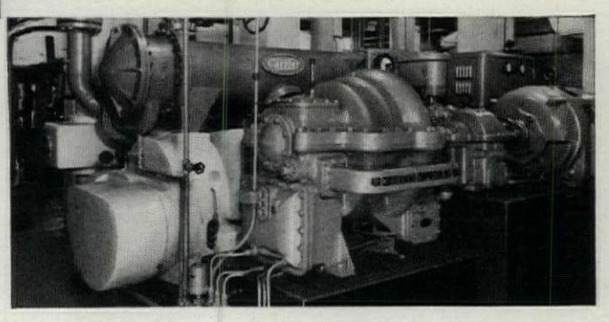
And they asked everybody . . . studied all the types of air conditioning installations that could be used in a multi-room building. One stood out. This all-weather system:

1. *Took from 75 to 85% less space than the other systems.*
2. *Permitted individual room control of temperature.*
3. *Had no moving parts in the room unit.*
4. *Centralized all mechanical elements for easier servicing.*

This was the system they selected — the Carrier Conduit Weathermaster System. Since then this same bank has built two additional buildings — the Mercantile Securities Building and the Mercantile Commerce Building.

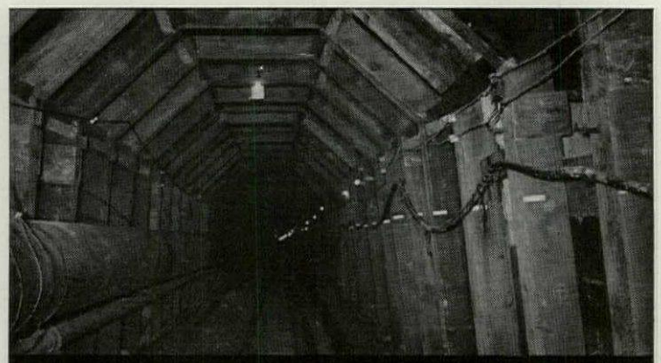
The Carrier Conduit Weathermaster System was selected for both. We think that's pretty good evidence that the owners believe that *is* the best way to air condition a modern office building. Carrier Corporation, Syracuse 1, New York.

***Above:* the Weathermaster unit as installed in executive office.**
***Below:* the Carrier Centrifugal Refrigerating Machine.**

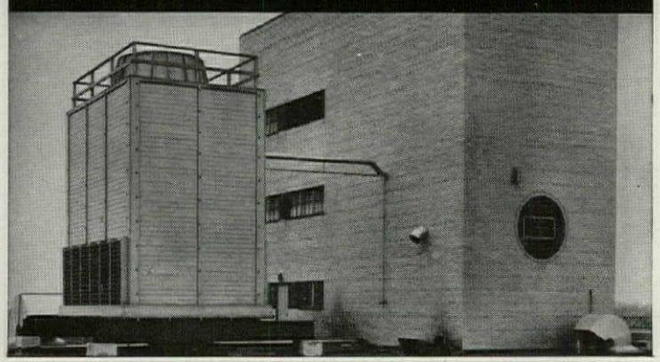


Carrier

Air Conditioning Refrigeration Industrial Heating



Solve Protection Point Problems with *Wolmanized* Pressure-Treated Lumber



—Avoid costly ROT and TERMITE Damage

At those points where foresight will save important future dollars and labor, be sure you're getting *real* protection—be sure the lumber you use is pressure treated. It's especially effective for structures subject to outdoor exposure and water contact (as in the lower illustration).

Wolmanized* pressure-treated Lumber assures lasting protection. High pressure (150 p.s.i.) drives the preservatives deeply into the fibers of the wood.

Millions of feet of clean, odorless, paintable, non-leaching Wolmanized pressure-treated Lumber have been in use, for years and years, under the severest conditions. Our engineers will be glad to discuss specific application. Or, for further information, write for "Service Records for Wolmanized pressure-treated Lumber."



AMERICAN LUMBER & TREATING CO.

General Offices: 1636 McCormick Bldg., Chicago 4, Ill.

Branch Offices in Boston, New York, Baltimore, Jacksonville, Fla., Little Rock, Ark., Los Angeles, San Francisco and Portland, Ore.

* Wolmanized is a registered trademark of American Lumber & Treating Co.

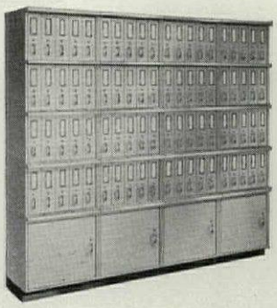
Wolmanized PRESSURE TREATED **Lumber**

Stops Rot and Termites

Hospital Architects!

You will be interested to learn that we have acquired the business, good will, trade name and unfilled orders of

Schwartz SECTIONAL SYSTEM



This acquisition was due to a fire on February 13 of this year which completely destroyed the plant of the Schwartz Sectional System, Inc., in Indianapolis.

It permits us to present all the features of the Schwartz Sectional System combined with those of the Grand Rapids Sectional System, together with our modern construction methods enabling us to produce the finest in prescription room equipment.

Grand Rapids
STORE EQUIPMENT COMPANY
Hospital Pharmacy Division Grand Rapids 2, Mich.

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THE MAGAZINE OF BUILDING
540 North Michigan Avenue
Chicago 11, Illinois



Trifari Jewels—Showroom—New York City. Satinwood Flexwood. Architect—Kahn & Jacobs.

How FLEXWOOD SOLVES "WALL DECORATING" *problems . . .*

PROBLEM. How to have "style" and "sparkle" in a jewelry showroom—along with a rich, warm, comfortable atmosphere.

SOLUTION. Curved walls provide smartness and grace, enriched with exquisitely matched Satinwood Flexwood—resulting in a perfect background of beauty.

Many problems with columns, flat walls, broken surfaces—are solved magnificently with Flexwood.

SEND COUPON BELOW. See exactly how Flexwood* helped solve specific problems.

flexwood

CHOICE WOOD IN FLEXIBLE SHEETS

United States Plywood Corporation
55 West 44th Street, N. Y. 18, N. Y.
In Canada: Paul Collet & Co., Ltd., Montreal

Flexwood is manufactured and marketed jointly by United States Plywood Corporation and The Mengel Company.

*Reg. U. S. Pat. Off.

← *Prima Vera Flexwood.*

United States Plywood Corporation, Dept. W-8
55 West 44th Street, New York 18, N. Y.

Please send me, without obligation, Flexwood's Case-History Book; shows how Flexwood helped solve 17 actual architectural problems.

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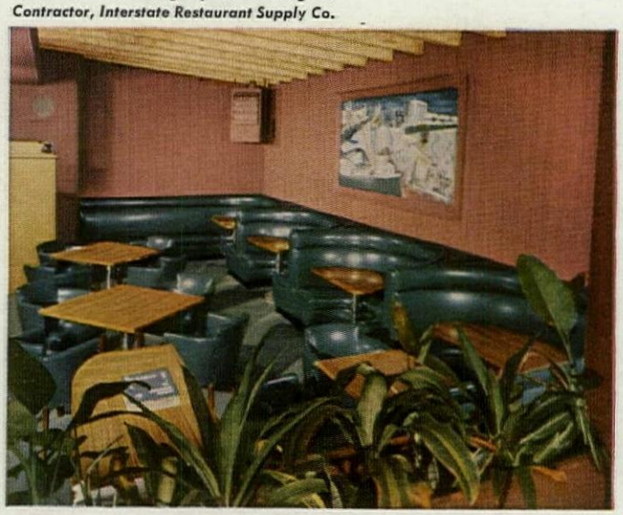


The Cactus Room, Sumner, Washington. Designed and equipped by Kalberer Hotel Supply Co., Seattle. "Boltaflex" covered booths built by the J. H. Carr Furn. Mfg. Co.



Seating Capacity --UNLIMITED

Jerry Wald's Studio Club, Hollywood, Calif.
"Boltaflex" furnishings by Duro Seating Co.
Contractor, Interstate Restaurant Supply Co.



YES, when upholstery is made of VINYLITE Brand Resins, look for unlimited wear by all conventional yardsticks!

Look for unlimited range of colors, too, in smooth or embossed finishes, to suit imaginations *not limited* by stereotyped ideas on furniture covering and styling.

"Boltaflex" upholstery made from VINYLITE Resins is tough and durable. It is waterproof, stain-resistant, alcohol-proof!

In addition, it has a phenomenal ability to withstand aging—without cracking, flaking, or chipping. It is washable with soap—though wiping with a damp cloth usually does the job. It strongly resists oils, greases, alkalies, most strong acids.

Upholstery materials of VINYLITE Resins can meet fire-resistance requirements of New York City and Boston. Extremely workable, they shape and drape well around corners, curves, edges—tufting and channeling beautifully—fitting snugly.

These rich, colorful, durable, economical upholstery materials are an outstandingly safe investment for hospitals, cafeterias, institutions, restaurants, cocktail lounges, homes. For more facts and a list of many fabricators of upholstery materials made from VINYLITE Brand Resins, write Dept. JD-14.

Vinylite BRAND **RESINS**

TRADE MARK

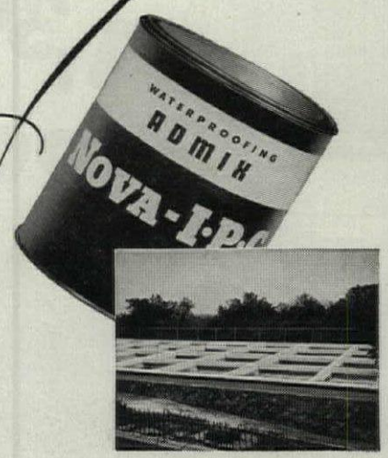
BAKELITE COMPANY, *A Division of Union Carbide and Carbon Corporation,* 30 East 42nd Street, New York 17, N. Y.

HOMASOTE *presents the*

NOVA-I·P·C

METHOD OF PROTECTING BUILDINGS FROM THE WEATHER

For all types of MASONRY, STUCCO and PLASTER

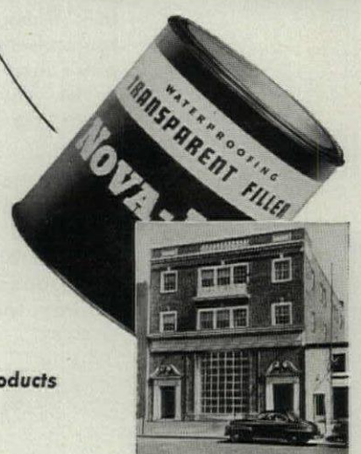


The meaning of "I.P.C" is *integrally protected concrete*—when you use Nova-I.P.C Admix. If directions are carefully followed, you will be *safe* whether you are using mass concrete—above or below grade; cement plaster coats—interior or exterior; stucco; mortar between brick, stone or blocks; slush coats on cinder blocks or other porous surfaces; cement grout; gypsum plaster. This unique product speeds up the work and lowers the cost, produces harder and denser concrete, reduces shrinkage, aids in curing mass concrete.



"I.P.C" means *integrally protected coating*—when you use Nova-I.P.C Masonry Paint. The protection is inherent in the coating, because the base of the paint is Nova-I.P.C Admix . . . Use this paint for any porous masonry surface—specifically for brick, stucco, cinder block, concrete block, concrete or stone. Properly applied, your building is safe from weather and may be cleaned with a garden hose. Unlike other masonry paints, Nova-I.P.C may be applied when there is fog and dampness in the air. Six pastel shades and snowy white are available.

Nova-I.P.C Transparent Filler tightens up porous mortar joints and masonry by penetrating to a depth of 1½" or more—builds up a seal *within* the surface and gives complete protection from the weather. Contains no petroleum, wax or paraffin to cause discoloration. Protects large buildings from getting dirty.



PLASTER—Use Nova-I.P.C Admix in both the brown and white coats. Save ¼ of the amount of gauging plaster and follow with white coat the next day. White coat will not blister, takes on a beautiful sheen.

SLABS ON GRADE—Use Nova-I.P.C Admix in slab and eliminate membrane and washed gravel. Only bank run sand and gravel needed. Slab can be finished faster and will not dust—with a big saving.

Write today for full details of specifications, applications and list of famous installations. *Kindly include the name of your lumber dealer.* All three products are long established and fully proved.

Another group of Novasco products

NOVA SALES Co. **TRENTON 3, N. J.**

A wholly owned subsidiary of the Homasote Company, manufacturers of the oldest and strongest insulating-building board, Wood-textured and Striated panels.



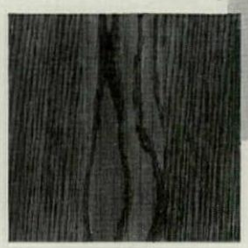
Proved by 1,300,000 Pair of Feet

PARKAY Hardwood Floors in Model Home Withstand Grueling Traffic

Over 1,300,000 visitors trod the Parkay ready-finished hardwood floors in the model home sponsored by Living Magazine at the 1950 Chicago Fair. At conclusion of the 90-day exhibit the architects — Tsuruoka, Osborne, Martini & Melun, Evanston, Ill.— wrote the following: "...although the flooring was not refinished during the Fair and had only minor daily attention, it wore beyond our expectations and retained its fine appearance . . ."

Here's proof that Parkay—$3/16$" thick— offers all the wear of standard floors—that its factory finish makes for lasting beauty. And remember—Parkay's speedy application to any sound subsurface with special adhesive saves valuable time on both new and remodeling jobs alike.

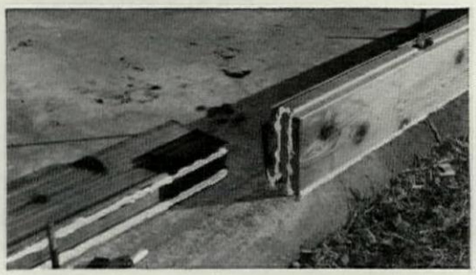
Parkay flooring, made of choice American Oak, is available in two styles — 9" x 9" Tiles and 9" wide Broadboard. For complete details see Sweet's Architectural File or write direct for free samples and literature. Parkay, Inc., Louisville 9, Ky.



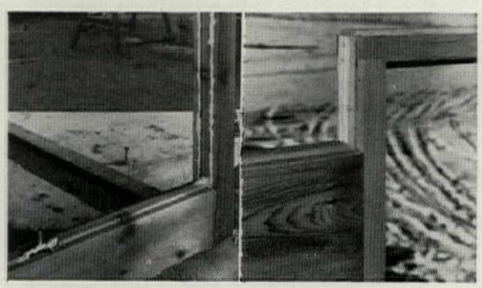
PARKAY

READY-FINISHED HARDWOOD FOR FLOORS AND WALLS

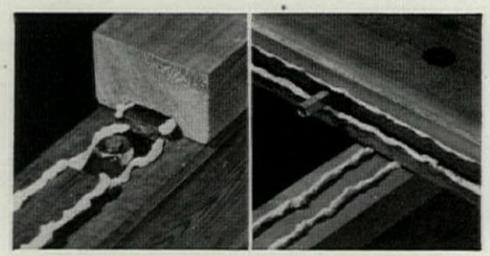
PRODUCT NEWS



The planks may be erected on a slab (as pictured above) or over a conventional basement foundation. As each predrilled timber is passed down over the rods it is calked along the grooves for protection against the weather. Corners (below left) are formed by a 4 x 4" vertical member milled to fit the end-matching of the 4 x 8" horizontal wall members. Lag bolts tie the corners together. Door and window frames (below right) are held in place



by the tongues and grooves of adjoining and top and bottom timbers. Fixed sash windows of all-cedar construction with adjustable ventilators may be obtained from Apex or purchased locally. The threaded collar (below left) beneath the top plate ties the timbers tightly together. Flat roofs are bolted into the wall in the same way as the wall logs are fastened to the foundation (below right) and



covered with paper, tar and gravel. For a pitched roof (below) the rafters are fitted into the top timber and the roof handled as in conventional construction.

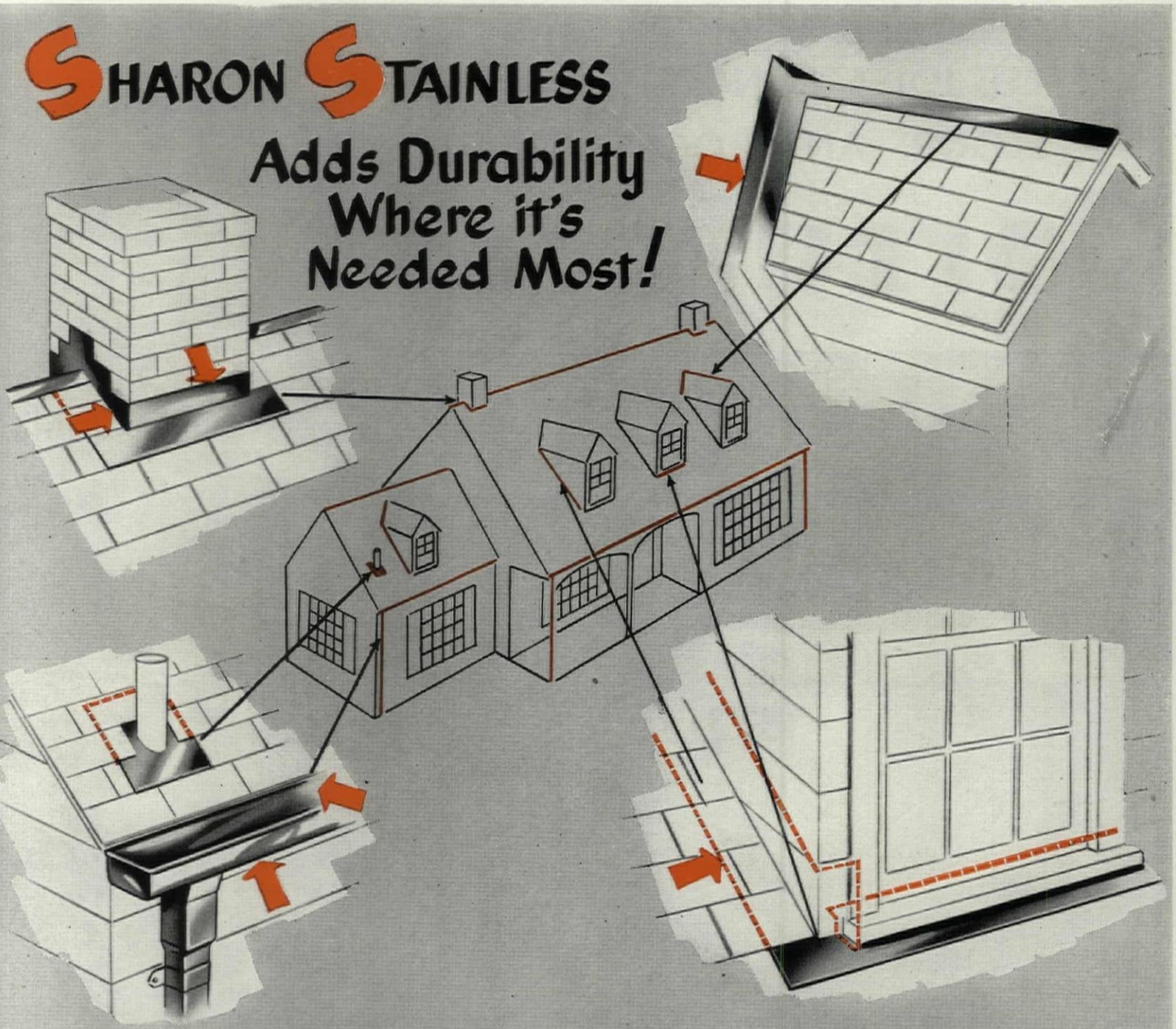
Manufacturer: Apex Wood Products, Inc., 602 Umatilla St., Denver, Col.

(Continued on page 240)



SHARON STAINLESS

Adds Durability Where it's Needed Most!



Architects and builders have long been concerned over the "critical areas" — the valleys, ridges, flashing, and gutters that fail under the normal attacks of the weather. The use of stainless steel in these areas has proved to be a desirable improvement. Stainless strongly resists rust and corrosion, making it ideal for ocean front or industrial areas. Stainless has an extremely low coefficient of expansion — tight joints stay tight. There is no excess "working" due to temperature changes. And, stainless has a natural beauty that needs no paint — yet it can be painted where desired.

Stainless is stronger — enables fabricators to use lighter gauges, and fabricate larger sections right in their own shops. This same unique combination of qualities that makes stainless so desirable for peace-time uses makes this precious steel much in demand for defense purposes. At present our distribution is dictated by essential needs. In the future we will fill your need for stainless steel.

STAINLESS STAYS NEW FOREVER

SHARON STEEL CORPORATION

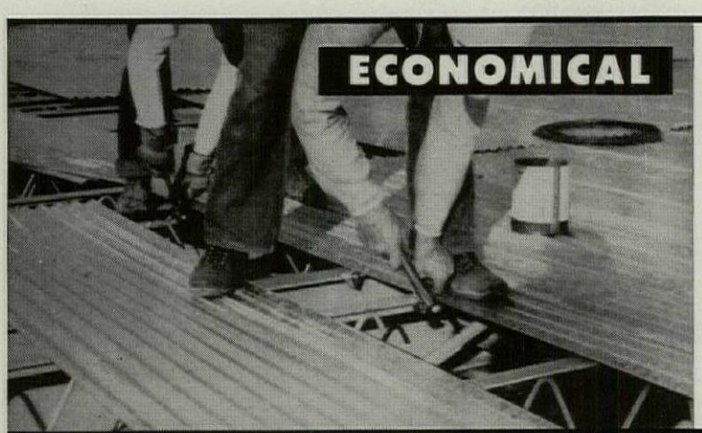
Sharon, Pennsylvania

SHARONSTEEL

DISTRICT SALES OFFICES: Chicago, Ill., Cincinnati, O., Dayton, O., Detroit, Mich., Indianapolis, Ind., Milwaukee, Wis., New York, N. Y., Philadelphia, Penna., Rochester, N. Y., Los Angeles, Calif., San Francisco, Calif., Montreal, Que., Toronto, Ont.

THE ONLY FORM FOR STEEL JOIST CONCRETE FLOORS AND ROOFS

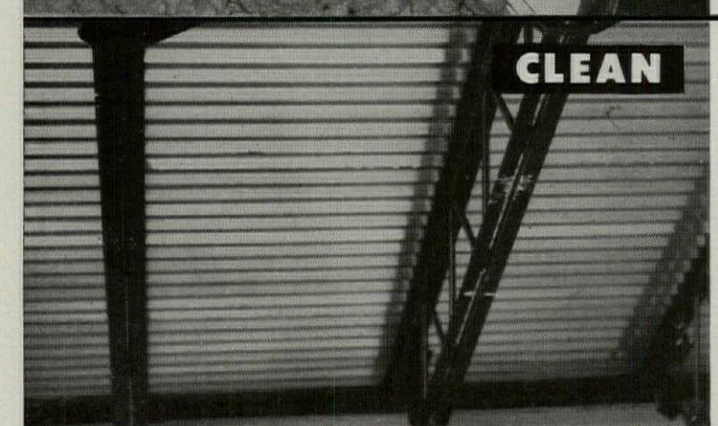
Corruform



CORRUFORM sheets are easily placed. Fasteners are positive for all common joists and beams. Lapping is automatic. No sag or material waste. Concrete is placed and finished by common practice.



CORRUFORM is nearly twice as strong as ordinary steel of equal weight. Tough tempered to spring back under abuse. Provides a secure form for trades and concrete — no side pull on joists, beams, or walls.



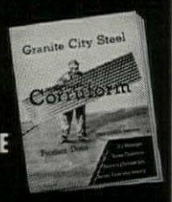
CORRUFORM is true and level. No cleanup necessary on floors below, no unsightly leakage. Bright, decorative corrugated pattern for exposed ceilings. Corruform is available plain, galvanized or vinylprimed for painting.

SPECIFICATIONS

Standard weight Corruform with 2 3/16 inch wide, 1/2 inch deep corrugations. Weight .72 lbs. per sq. foot. Guaranteed average strength of 100,000 psi. — single test minimum strength 95,000 psi.

GRANCO STEEL PRODUCTS
(*Subsidiary of* GRANITE CITY STEEL CO.)
Granite City, Illinois

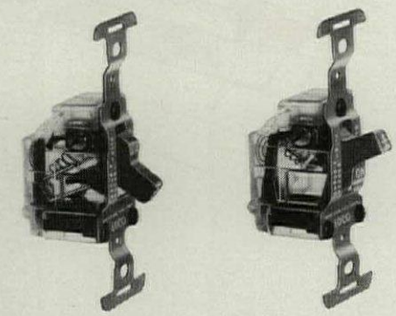
SEND FOR FREE AIA FILE TODAY



PRODUCT NEWS

DELAYED ACTION SWITCH turns lights off after one minute.

Looking like an ordinary light switch, the Edco delayed action switch controls light in the same manner as a regular switch but when the toggle is snapped to the off position labeled *delay*, the light stays on for almost a minute—long enough for someone to walk about 75′—and then goes out. This automatic action is accomplished through a patented spring loaded neoprene diaphragm which operates in a sealed aluminum chamber. In home construction the Edco switch



can be installed on porches, in garages, bedrooms, hallways, basements and stairways. For business applications, it is less expensive and easier to operate than industrial switches working on a timing device. Price to builders is about $1.67. *Manufacturer:* Electric Deodorizer Corp., 9993 Broad St., Detroit 4, Mich.

AIR DIFFUSER cuts noise of high velocity air distribution systems.

Savings in metal through use of smaller ducts may be a shining advantage of high velocity air distribution but quietness has not been one of its virtues. Anemostat's high pressure aspirating diffusers recently put on the market should help tone down much of those systems' whistle and whoosh at the receiving end. Designated as HPW-1, the new design has a control valve and sound trap which absorbs and attenuates the duct noise, and is capable of reducing it from 90 to 40 decibels at a background sound level of 30 decibels—a noise level considered acceptable for hotel rooms. It is a preinduction type unit which draws in room air, creates a half and half combination with the primary air, and then discharges the mixture into the room. Because of this method of induction and aspiration, more than 200 cfm of total air is discharged for each 100 cfm of primary air. The new diffusers can handle high temperature differentials up to 30° F. in cooling and unlimited in heating since the temperature difference between primary air and ambient of room air is limited only by the dew point to avoid condensation. Air volume may be controlled manually or automatically. The diffuser's six vanes are short and are pitched to prevent drafts. The overall design is similar to that of other Anemostat aspirating units. The mixing chamber has been modified so that the HPW-1

(Continued on page 243)



you'll get 50% more lamp life*...

with CERTIFIED BALLASTS

● Recent experience has shown that fluorescent lamps last 50% longer when powered by CERTIFIED BALLASTS rather than poor quality ballasts that are commercially available.

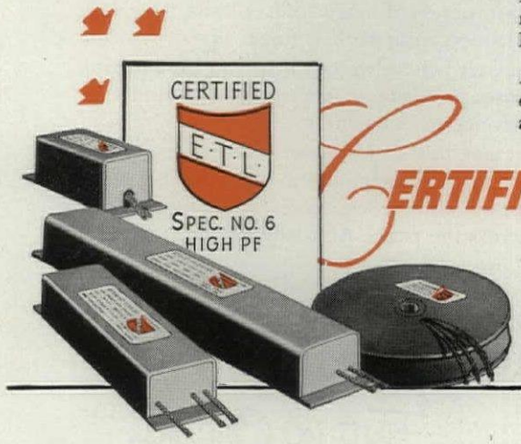
This, together with the fact that CERTIFIED BALLASTS assure rated light output and long, satisfactory ballast life makes CERTIFIED BALLASTS a *must* in selecting fluorescent equipment.

CERTIFIED BALLASTS are made to exacting specifications, then tested and checked by Electrical Testing Laboratories, Inc.

*Lead lamps on a two-lamp ballast.

● Complete information on the types of CERTIFIED BALLASTS available from each participating manufacturer may be obtained from Electrical Testing Laboratories, Inc., East End Avenue at 79th Street, New York, New York.

Participation in the CERTIFIED BALLAST program is open to any manufacturer who complies with the requirements of CERTIFIED BALLAST MANUFACTURERS.



CERTIFIED BALLAST MANUFACTURERS

Makers of Certified Ballasts for Fluorescent Lighting

2116 KEITH BLDG., CLEVELAND 15, OHIO



. . . and for help with the temperature control, we'll talk to Honeywell!

The architect in Virgil Partch's cartoon has a mighty sound suggestion, because Honeywell *can* help architects and their heating engineers provide the proper thermal environment for any client – anywhere – in any kind of structure.

We have a lot of literature on the automatic control of all phases of heating, ventilating and air conditioning. Information you should have in your files.

And we have a lot of very well informed control engineers–in our 91 different offices–who have a lot *more* information right at their finger tips.

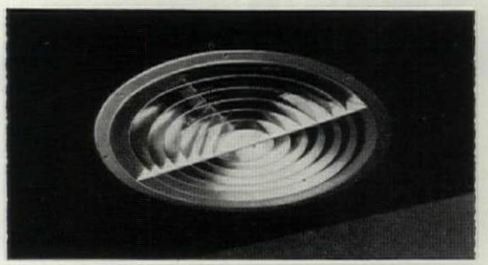
We sincerely believe we can help you on any project that poses problems of control of any kind – for *control* is Honeywell's business.

So, why not *talk to Honeywell?* Why not *write* to Honeywell for complete information on the pneumatic heating control equipment discussed in the column across the page? And why not do it *now?*

MINNEAPOLIS **Honeywell**

First in Controls

brings the air pressure it receives from the high velocity system down to that of standard air conditioning before emitting the mixed air into the

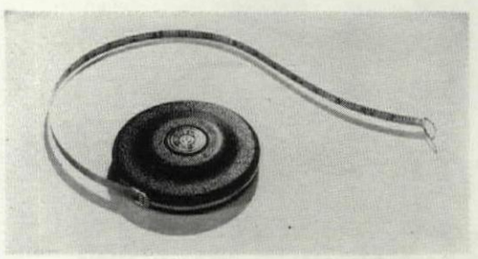


room. The new model is made in three sizes: No. 15, carrying a list price of $166.40, has a neck area of 32.81 sq. in. and is rated 80 to 170 cfm primary air capacity. No. 17.5 sells for $203 and has a neck area of 42.75 sq. in. and has a rating of 105 to 222 cfm. The largest unit, No. 20, costs $220. It has a 60 sq. in. neck area and is rated 145 to 312 cfm. All sizes are furnished with aluminum cones and steel hardware. Standard models are sprayed with a satin aluminum finish but may be obtained in specified colors at an additional charge.

Manufacturer: Anemostat Corp. of America, 10 E. 39th St., New York, N. Y.

FIFTY FOOT STEEL TAPE rewinds automatically.

No crank or reel is needed to haul in the Master Longboy 50′ steel tape rule. This measuring device rewinds with a constant retracting torque—whether the full length or only the last inch is out. Simple thumb pressure on the center plate button starts the rewind and release of this pressure stops the action instantly. Carpenters, masons, plumbers, electricians and others in the building field may measure in a single step—and without end-mark errors — almost any distance normally encountered in construction. The rule weighs 23 oz. and measures 5″ in diameter. Its steel case is sealed against dirt and dust. The



3/8″ wide high carbon spring steel tape is nickel plated to protect it against moisture damage. When the black markings on the tape become worn after long service, it can be replaced without discarding the case or the internal self-winding mechanism. The Master Longboy 050 retails for $12. Alternate 50′ tapes are priced at $6. A 100′ model selling for about $16 will be on the market soon.

Manufacturer: Master Rule Mfg. Co., Inc. Middletown, N. Y.

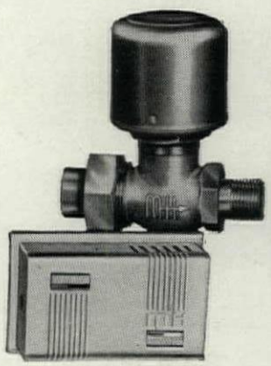
(Technical Literature, page 246)

8½″ x 9″ reproductions of this Partch cartoon are available on request.



For help with any control problem, talk to Honeywell!

Radiator valves, for instance . . .



Here's a remarkable advance in pneumatic valve design—Honeywell's new "Midget." With it you can solve one of your biggest problems—efficient use of space when locating radiators and convectors.

Whenever you work on any large building that calls for pneumatic heat control, you'll find plenty of use for this new radiator valve that's only *one-fourth* the size of the conventional valve.

You'll like the compactness that makes it ideal for concealed convectors or baseboard radiation—for any application where you're pressed for space. Your clients will like its neater, streamlined appearance; its lower installation and maintenance costs.

The Midget Radiator Valve is superior in *performance,* too. Special internal features such as interchangeable parts enable it to give true modulation of heat delivery for any size radiator or convector you would want to use.

Development of this amazing new valve is just one more example of how Honeywell leads the way in improved design in the pneumatic heating control field. When it's used with the Room Grad-U-Stat—or any of the other dependable, accurate Honeywell pneumatic thermostats that are available—you have the finest kind of pneumatic heating control system yet designed anywhere.

☐ Please send me complete information on the VO501 "Midget" Radiator Valve and other pneumatic temperature controls.

☐ Please send me a reproduction of the Partch cartoon.

Name_____ Firm Name_____

Address_____ City_____ Zone____ State_____

Send this coupon today to Dept. MB-6-103, Minneapolis 8, Minnesota

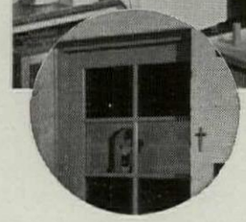
MINNEAPOLIS **Honeywell**

First in Controls

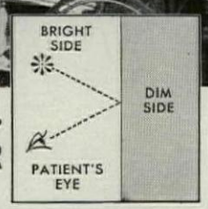
For Supervision without Distraction

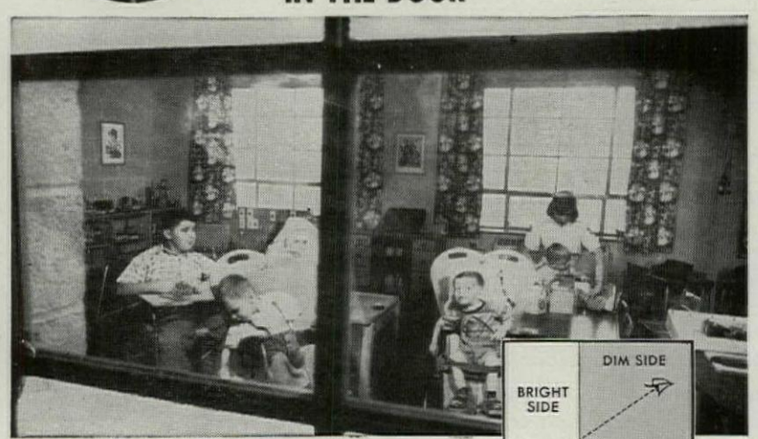
Use MIRROPANE



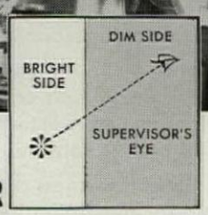


From the Inside...
THIS IS A MIRROR
IN THE DOOR





From the Corridor...
IT'S A WINDOW IN THE DOOR



At Cleveland's Rose Mary Home for crippled children all instructional and therapy rooms can be observed from the corridor without opening a door. Yet the children in these rooms continue with their treatments *never knowing anyone is in the corridor watching them.*

*Mirropane** transparent mirror is used to glaze a panel in each door, providing this valuable supervisory aid. From the less brightly lighted corridor side it's a clear glass window. But from the more brightly illuminated room side it's just another mirror—and each room makes use of many mirrors for instructional purposes.

This principle of sight unseen is one you can use in many places—not only in hospitals and schools, but in public institutions, stores, banks, offices, entrance doors. Wherever you wish to provide a means for observing people without their suspecting it, *Mirropane* can be highly useful as well as decorative. Write for full information. *®

MIRROPANE LOF GLASS

TRANSPARENT MIRROR • PRODUCT OF LIBERTY MIRROR DIVISION
LIBBEY · OWENS · FORD GLASS CO. L-161 NICHOLAS BLDG.
TOLEDO 3, OHIO



LONG WEARING

The entire office floor of the new Vikon Tile Corporation building is covered with Dodge Vinyl-Cork Tile.

The tough, 100 per cent vinyl surface resists cuts and scratches caused by dirt and grit—outwears ordinary floor material many times over.

DODGE CORK CO., INC. • LANCASTER, PA.



INSULITE* structural insulation

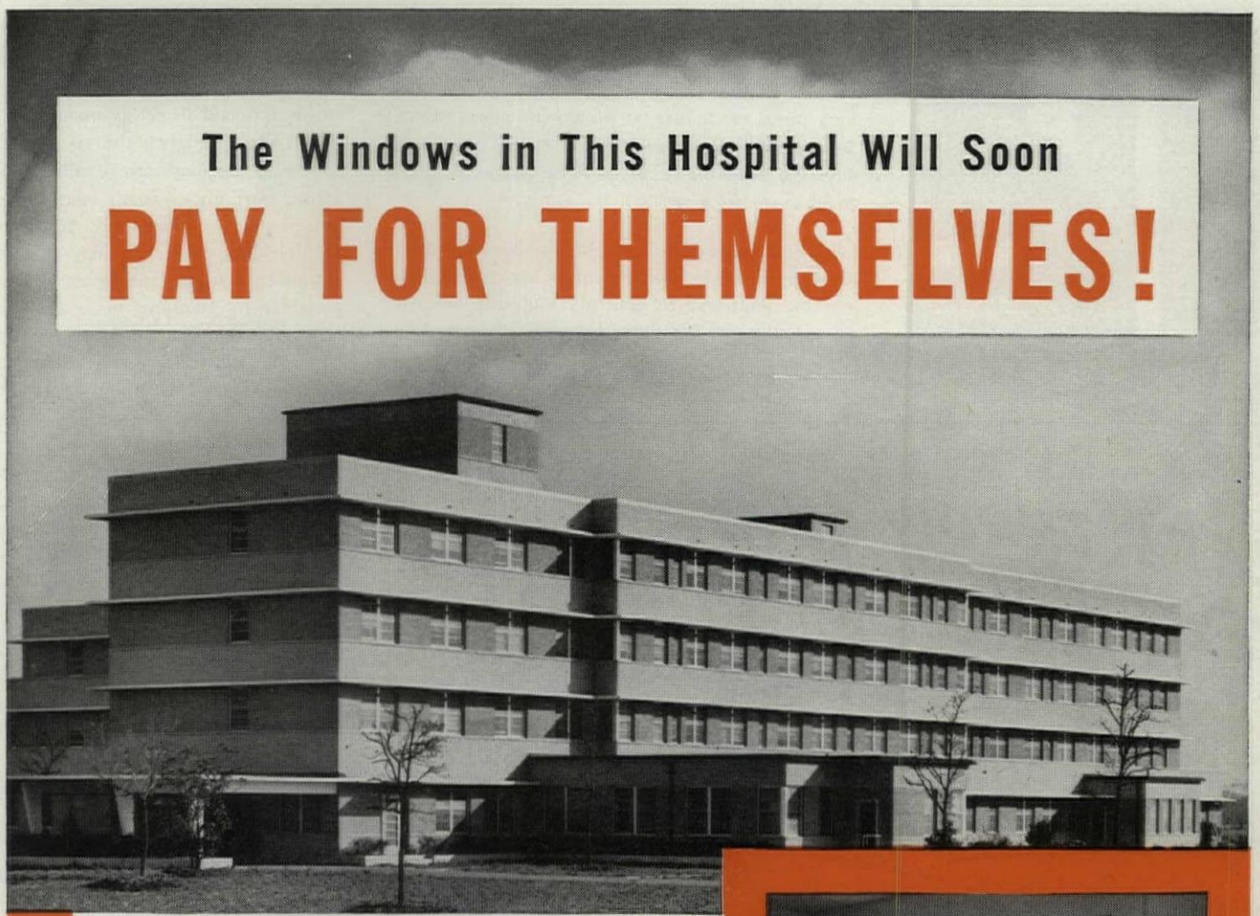
INSULITE is made from hardy Northern wood —best for strength, best for durability... *best for making structural insulation board!*

Made of Hardy Double-Duty INSULITE BUILDS · INSULATES Northern Wood *® 6

INSULITE DIVISION, MINNESOTA AND ONTARIO PAPER COMPANY

The Windows in This Hospital Will Soon

PAY FOR THEMSELVES!

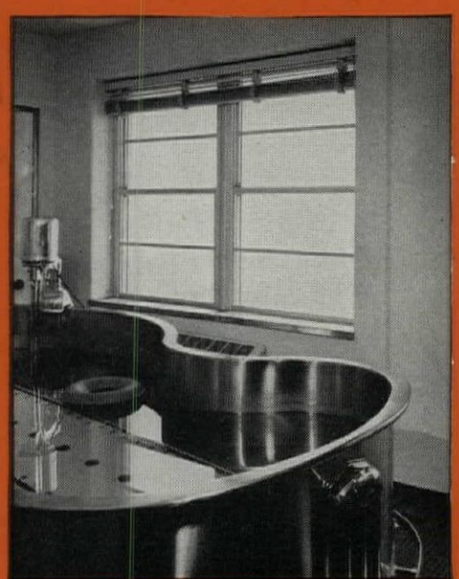


Baptist Hospital, Beaumont, Texas. *Architect:* Wyatt C. Hedrich, Dallas, Texas. *Contractor:* R. P. Farnsworth Co., Inc., Houston.

Yes, the ADLAKE Aluminum Windows in the Baptist Hospital, Beaumont, Texas, *will pay for themselves*—by eliminating all maintenance except routine washing. What's more, these windows will last as long as the hospital itself!

Only ADLAKE Windows have the combination of weather stripping and patented serrated guides that assures minimum air infiltration and absolute finger-tip control. And ADLAKE Windows never warp, rot, rattle, stick or swell. They retain their smart good looks and easy operation for the life of the building.

Availability and delivery of Adlake Aluminum Windows will, of course, depend on current government aluminum requirements.



THE
Adams & Westlake
COMPANY
Established 1857 • ELKHART, IND. • New York • Chicago

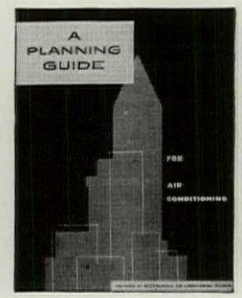
Adlake TRADE MARK

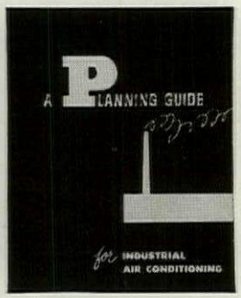
QUALITY APPROVED

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by Pittsburgh Testing Laboratory
MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

ADLAKE ALUMINUM WINDOWS HAVE THESE "PLUS" FEATURES

- Minimum Air Infiltration
- No Warp, Rot, Rattle, Stick
- Ease of Installation
- Finger-tip Control
- No Painting or Maintenance





AIR CONDITIONING. A Planning Guide for Commercial Air Conditioning, Booklet B-5159. A Planning Guide for Industrial Air Conditioning, Booklet B-5160. Westinghouse Electric Corp., Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass. 20 pp. each. 8½ x 11".

Clearly analyzed in each of these publications are the five basic functions of an air conditioning system: temperature control; humidity control; air circulation; air cleaning; and blending outside air with recirculated air. Technical information on commercial and industrial air conditioning is reduced to easily understandable terms as the reader is shown the six components needed to do a thorough air conditioning job: circulating fan; air cleaner; heating or cooling coil; compressor; condenser; and humidifier. What the building owner can expect from an air conditioning system and what factors he should consider in planning for a system are covered; and suggestions are offered on where and when to use a "within the space" conditioner, a factory assembled central plant type unit or a field assembled system. Diagrams and photographs of actual installations of each kind of equipment illustrate the text.



AIR CONDITIONING. Air Conditioning Equipment. Catalogue SA-6692. Westinghouse Electric Corp., Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass. 16 pp. 8½ x 11".

Various kinds of equipment needed to do an air handling or air conditioning job—cleaning, filtering, cooling, heating, dehumidifying, circulating or ventilating—are described briefly in this catalogue. Some of the products covered are hermetically sealed compressors, condensers, water coolers, unit air conditioners and fans.

WATER COOLING. P-K Freon Coolers. Catalogue 101. The Patterson-Kelley Co., Inc., 465 Burson St., East Stroudsburg, Pa. 12 pp. 8½ x 11".

This catalogue, devoted to freon or ammonia coolers of the dry expansion type, should be a useful reference to those concerned with air conditioning and refrigeration. In addition to describing the standard line of the manufacturer's coolers, the booklet contains charts and tables which show cooling surfaces required for 2 to 232 ton refrigeration capacities at various water flow rates. A log mean temperature table, cooler selection data, dimensions, and typical piping arrangements also are included.

PARTITIONS. Mills Movable Metal Walls. Catalogue No. 51. The Mills Co., 975 Wayside Rd., Cleveland 10, Ohio.

This is a practical book for those concerned with the problems of flexible space requirements in offices, factories, schools, hospitals, etc. It shows how building interiors may be made more utilitarian and attractive at low cost with movable metal walls. The publication calls particular attention to the speed and economy with which these walls may be erected, dismantled and relocated to fit alterations in space layout. Good looks, adaptability, ease of wiring and maintenance, sound control, and durability are other features brought out in the text. Available in a wide range of finishes, the complete line of partitions, wall linings, ceilings, railings, counters, cabinets and accessories is illustrated and construction features are shown in clearly drawn details.

(Continued on page 250)



BUS DUCT IS FLEXIBLE

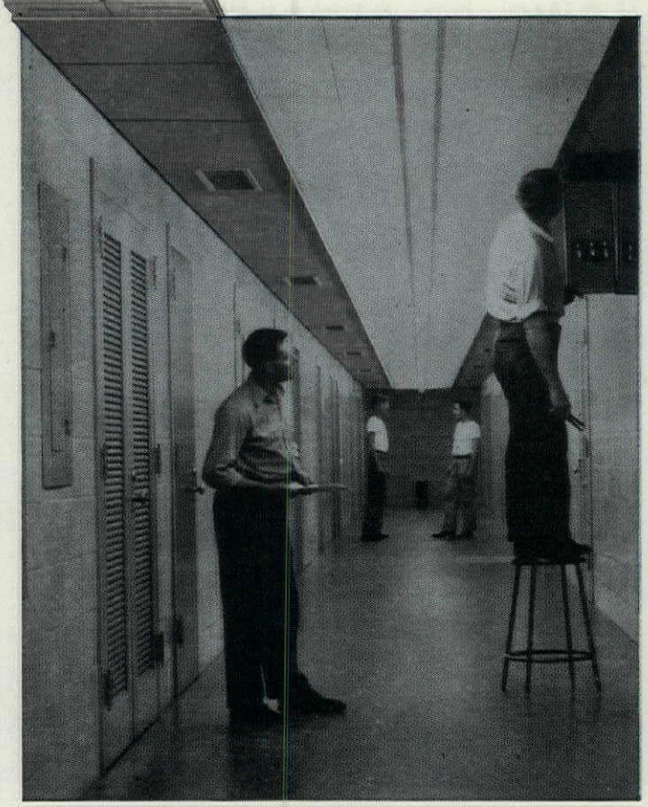
"We know we have maximum flexibility with Westinghouse BUS DUCT"

"Our experience with Westinghouse Bus Duct is new. Duct has been installed right into the building structure, leaving very little of the equipment exposed—yet we have access to every foot of it, giving us availability to all our circuits. We have found greater ease of installation and less maintenance. All in all, we know we have maximum flexibility with Westinghouse Bus Duct"—says head of Engineering Department of large Midwestern college.

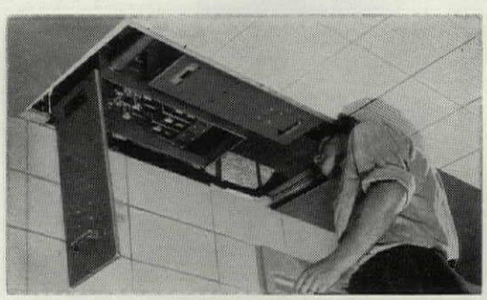
You're money and equipment ahead with Westinghouse Bus Duct. Because it comes in completely prefabricated units of any desired length up to 10 feet, bus duct lends itself as readily to tight layouts as to long, open runs—sections are easily handled and quickly installed. For expansion or change-overs, duct is equipped with plug-in openings every foot; units may be dismantled and remounted, anywhere, quickly with minimum loss of operating time and no loss of duct equipment. For carrying capacity in limited space, Westinghouse Bus Duct has no equal. Be sure with Westinghouse quality.

Your Westinghouse representative can help with your power distribution problems. Or write for Bus Duct Manual B-4272A, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna.

J-30045



Ceiling panels provide access to entire length of duct.



Dark runs on either side of the ceiling mark paths of bus duct in Electrical Engineering Building.

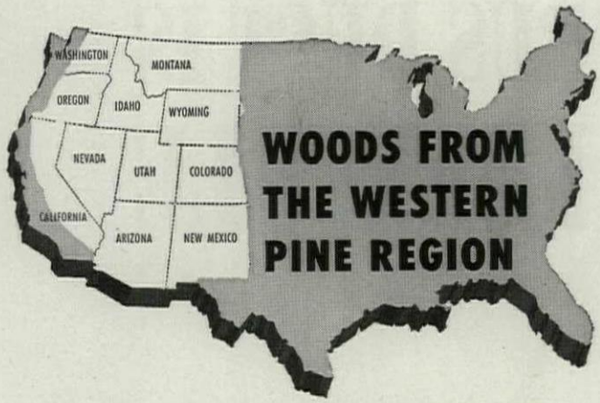
DESIGN TESTED AND VERIFIED IN THE Westinghouse HIGH POWER LABORATORY

YOU CAN BE SURE.. IF IT'S Westinghouse

BUS DUCT

WESTINGHOUSE

FIRST CHOICE FOR



BUILDING OR REMODELING

Whenever your needs require durable, versatile softwoods, you can specify and buy with confidence these fine seasoned and graded products of the member mills of the Western Pine Association.

THESE ARE THE WESTERN PINES

- IDAHO WHITE PINE
- PONDEROSA PINE
- SUGAR PINE

THESE ARE THE ASSOCIATED WOODS

- LARCH
- DOUGLAS FIR
- WHITE FIR
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- INCENSE CEDAR AND RED CEDAR
- LODGEPOLE PINE

WELL MANUFACTURED Skilled handling and modern methods feature every step from forest to loaded car. Milling after seasoning assures precise uniform sizes.

THOROUGHLY SEASONED Seasoning is done at the mill in accordance with the most improved practices and under supervision of specially trained Association personnel.

CAREFULLY GRADED All lumber from member mills is graded under the Association's published rules. Grading is constantly supervised and checked by the Association's Grading Bureau.

WESTERN PINE ASSOCIATION
YEON BUILDING, PORTLAND 4, OREGON



Parklawn Manor selects sinks of *Elkay Lustertone Stainless Steel* to add extra value and appeal to its 384 impressive rental units. They realize that the silvery satin of *Lustertone's* time-honored, time-defying sinks will keep their kitchens looking better forever—*with minimum maintenance.* Owners know that famous *Lustertone* remains permanently bright, unstained and untarnished...never needs scouring or bleaching.

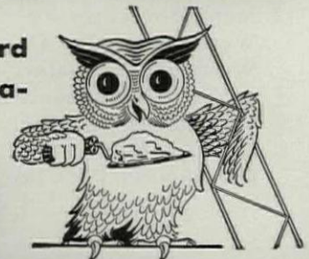
Write for literature and prices

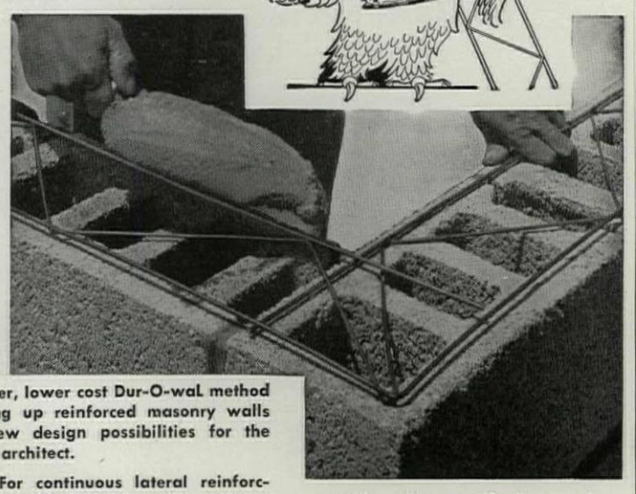
elkay manufacturing co., 1898 S. 54th Avenue, Chicago 50

The World's Oldest Manufacturer of Stainless Steel Steel Sinks

DUR-O-WAL

. . . an up-to-date word for steel reinforced masonry walls





The faster, lower cost Dur-O-waL method of laying up reinforced masonry walls adds new design possibilities for the modern architect.

For continuous lateral reinforcing in block, brick or tile walls or to tie face brick to back-up block, specify this new patented reinforcing member laid in the mortar joint. Dur-O-waL is easy and fast to handle on the job. Electrically welded steel, it is economical, dependable. For specification and application information contact nearest plant. Dur-O-waL Div., Cedar Rapids Block Co., 659 12th Ave., SW, Cedar Rapids, Iowa or Dur-O-waL Products, Inc., P. O. Box, 628, Syracuse, N. Y.

For "TOUCH and GO" action



Russwin Fire Exit Bolts

Your recommendation on emergency door exit bolts probably gets more customer consideration than any other hardware item. In the Russwin line, you have a very special "talking" point . . . its extremely simple mechanism . . . only 3 moving parts. You can see how sturdy it's made from the illustration at the right . . . and each part is positively aligned. Such simplicity assures "touch and go" action at all times.

OTHER FEATURES INCLUDE . . .

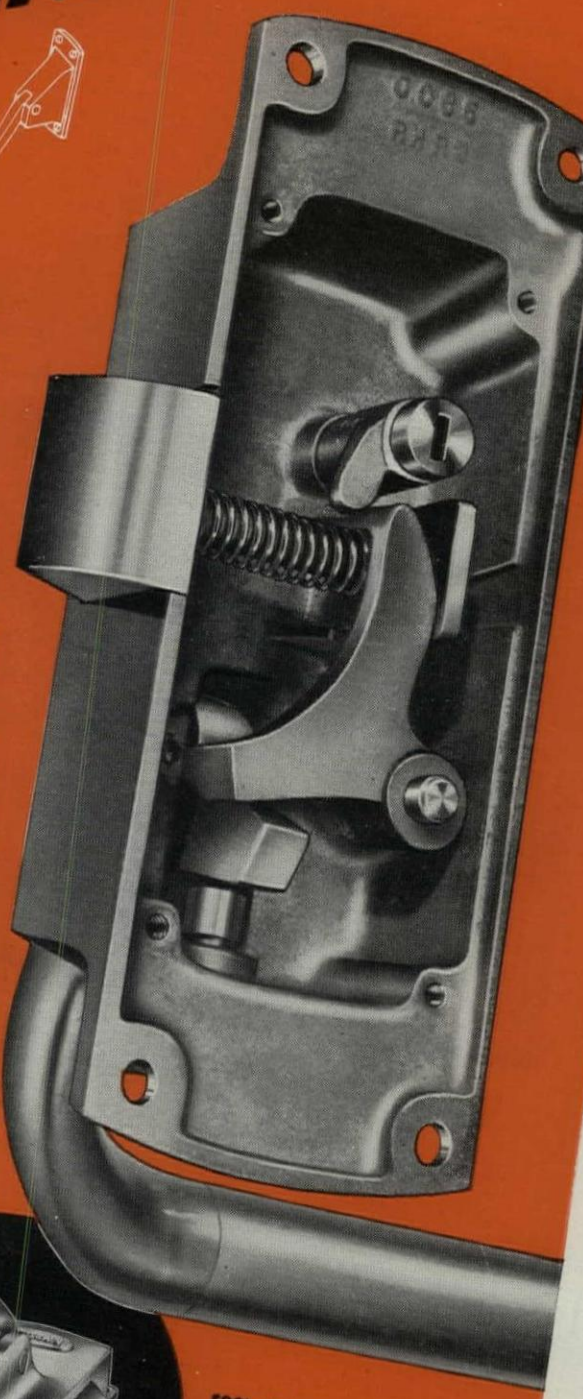
drop forged levers • unit construction for balanced action • advanced-design dogging device • Oilite bearings • self-latching • Russwin ball-bearing cylinders

Whatever your needs for emergency door equipment, there are Russwin products to fill them. Russwin fire exit bolts are classified into three divisions . . . heavy duty rim type, side latching; heavy duty, top and bottom and side latching; medium weight — competitive type — top and bottom latching and side latching. Specify Russwin Fire Exit Bolts with the utmost confidence. Russell & Erwin Division, The American Hardware Corp., New Britain, Conn.

SINCE 1839

RUSSWIN®

DISTINCTIVE HARDWARE





FOOL-PROOF DOGGING DEVICE

Positive, Tamper-Proof dogging device permits locking bar in depressed position, retracting latch bolt so that bar becomes a simple push and pull bar on door.



Single Door, Rim Type



Single Door, Mortise Type



Top and Bottom Latching



Double Door, Rim Type with Wrought Steel Removable Mullion

TECHNICAL LITERATURE

ROOFS. Is This Your Roof? Form 102-7. The Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio. 6 pp. 8½ x 11".

This bulletin was written to assist building owners and contractors in determining the exact condition of building roofs and in planning repairs. The bulletin contains illustrations of many types of roof damage, explains how and why roofs deteriorate, and indicates trouble spots where the first danger signs appear. Patching and resurfacing old roofs are described in some detail.

BUILDING PANELS. Fenestra Steel and Aluminum Panels. Detroit Steel Products Co., 3111 Griffin St., Detroit 11, Mich. 38 pp. 8½ x 11".

Sheet steel floor, roof deck, and wall units for lightweight building construction are covered in the latest edition of the Fenestra catalogue. The detail section of the publication has been revised to represent current practice, and tables are included to assist the architect and engineer in selecting the most economical panel for a given span and load. Numerous photographs show recent job installations, and complete descriptive data for the various Fenestra panels also is presented.

HARDBOARD. How and Where to Use Forest Board. Forest Fiber Products Co., 316-1 Pacific Bldg., Portland 4, Ore. 4 pp. 8½ x 11".

Although on the market for many years, hardboard still is not thoroughly understood by many in the building trade. The brochure should help give a clearer picture of the proper use of this adaptable building material. Application instructions are illustrated step by step, and data on bending and painting is also given.

PLYWOOD. Plastic Surfaced Plywood. Douglas Fir Plywood Assn., Tacoma 2, Wash. 6 pp. 8½ x 11".

This unique folder on plastic surfaced plywood has been issued recently for the use of architects, engineers, industrial designers and dealers. Prepared as a reference manual, the brochure describes the types of plastic surfaced Douglas fir plywood, properties of the overlay panels and some of its myriad applications in building and industry. Also included are recommendations for use of this panel material which combines desirable properties of fir plywood and plastics.

GLASS. Pittsburgh Data Sheet Handbook. Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa. 72 pp. 4 x 7".

A completely revised edition of the looseleaf handbook issued in 1947, the publication includes full descriptive details and specifications on recent developments in plate and window glass, glass block, mirror, doorways, store front metals, paints and hardware.

WINDOWS. Fenestra Hot-Dip Galvanized Apartment Casement Windows. Detroit Steel Products Co., 3111 Griffin St., Detroit 11, Mich. 4 pp. 8½ x 11".

Maintenance-free steel casement windows for multi-family dwellings are the subject of this catalogue. The windows described are hot-dip galvanized so that they require no painting—except when desired for decorative reasons. Construction features, designs, hardware and screen attachments are discussed and complete specifications are given on the various size units.

UNIT HEATERS. Standard Code for Testing and Rating Steam Unit Heaters. Bulletin No. 10. Industrial Unit Heater Assn., 2159 Guardian Bldg., Detroit 26, Mich. 20 pp. 8½ x 11".

Prepared and Adopted by the Industrial Unit Heater Assn. and the American Society of Heating & Ventilating Engineers, this code for rating steam unit heaters supersedes the 1930 edition. Basically the engineering has not been changed, but improved testing equipment, instruments and technique developed through the past ten years are incorporated in the new code.

(Continued on page 254)



TYLER REFRIGERATED CASES

speed sales . . . prevent food spoilage losses . . . save time of clerks and customers . . . save dollars!

Today's retail food store is a marvel of efficiency, with wide-open Tyler self-service cases making it possible for a constant parade of customers to help themselves in a hurry! Creating tremendous savings! Moving nourishing food in huge volume! Refrigeration at the point of sale is an essential part of this great American distribution system—and Tyler engineering ingenuity has played an important role in its development.

COMPLETE CATALOG AVAILABLE

includes data on over 400 Tyler Models



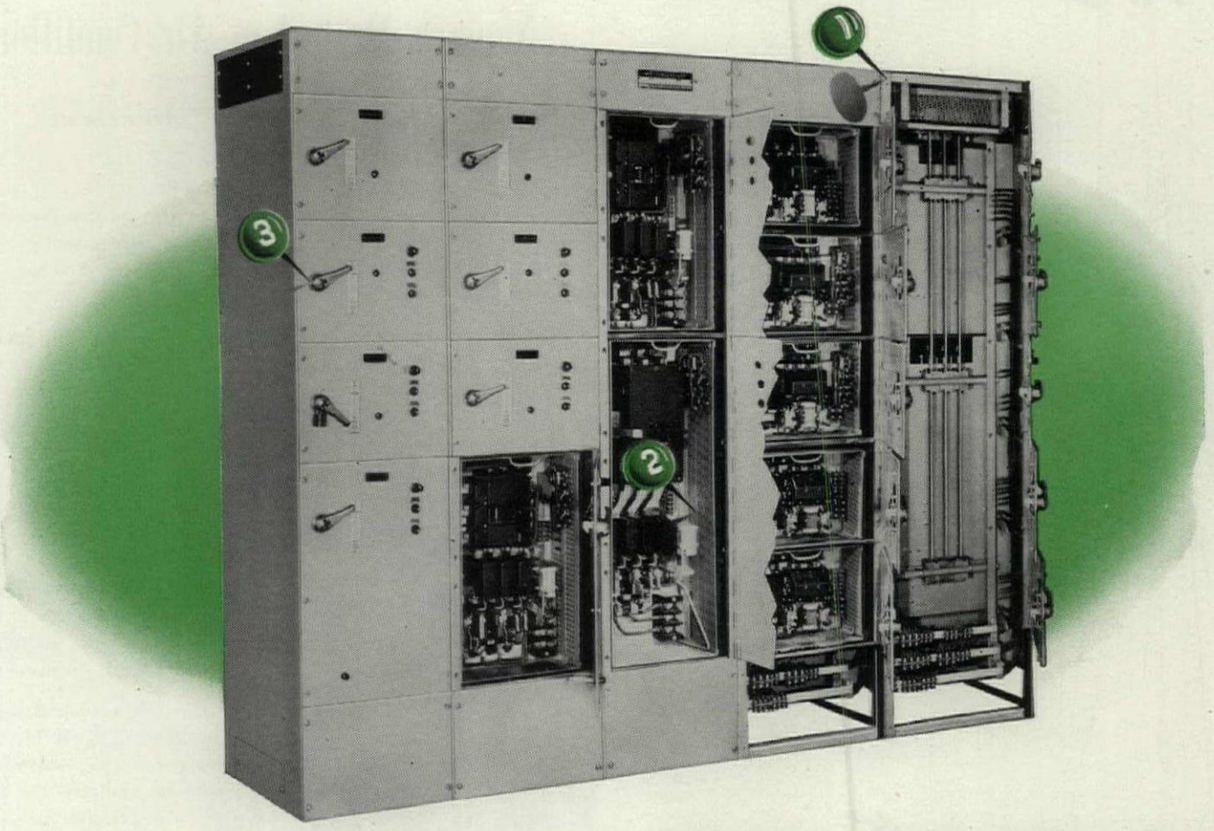
TYLER

FOR FOOD REFRIGERATION

TYLER FIXTURE CORP., Dept. FM-6, Niles, Mich. Rush my copy of complete 160-page Tyler Commercial Refrigeration Catalog.

NAME_____

ADDRESS_____



Everybody says "WELL BUILT"

And they really mean it when referring to Westinghouse Control Centers. Here you get top-quality construction which gives you all the advantages of centralized motor control . . . quality at every one of the following points:

1. **Sturdy, Self-Supporting, Tight Structures.** No need for angle iron or other bracing. No gaps or cracks to permit entrance of foreign objects. Interior is fully protected.

2. **Complete Baffling** localizes unusual arcing if faults occur. A short circuit in one starter unit cannot spread throughout the entire structure. Removable grill baffle on right side of each unit provides easy accessibility.

3. **Safety Doors,** with safety-interlocking handles, remain on the panel when the starter unit is removed. Doors can be fastened closed over open space to prevent entrance by unauthorized personnel.

For further evidence of a "well-built" control center, check these features: self-cooling construction for foolproof ventilation, plug-in starter units, vertical and horizontal wiring troughs.

You get all these features and more, when you specify Westinghouse Control Centers. The complete story is contained in Booklet B-4213. For your copy, write to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

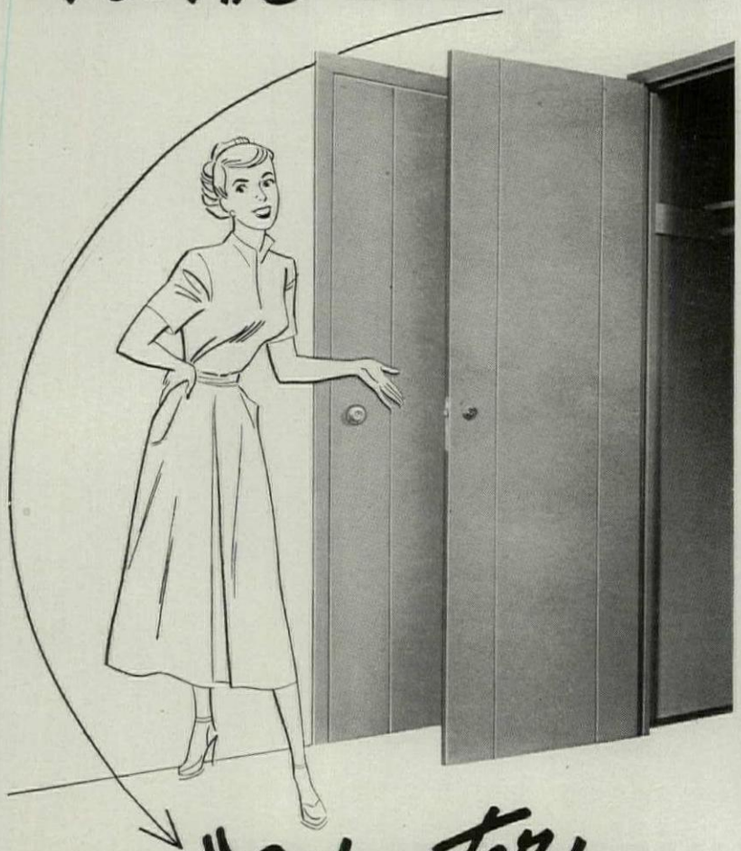
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YOU CAN BE SURE.. IF IT'S Westinghouse

CONTROL CENTERS

IN TODAY'S MODERN PROJECTS



IT'S THE "Wooster DOOR"

That's right! Any Blue Ribbon list of America's finest Apartment Buildings and Housing Projects include installations of the "Wooster Door"—because the "Wooster Door" is the first and only internally welded hollow metal door offering identical design Corridor Entrance and Interior Apartment doors.

FIRST... To obtain the Underwriters Laboratories Class B Label on 1⅜" doors.

FIRST... To meet the A.S.T.M.—1½ hour fire test specifications.

The "Wooster Door" is full finished, ready to hang when delivered . . . Savings in field labor are substantial . . . See Sweet's Architectural File for details.

Representatives in principal cities

Hollow STEEL DOORS and Frames

USF

MANUFACTURERS OF

Hollow Metal Doors and Frames
Prefabricated Metal Buildings
Corrugated Metal Window Wells
Highway Guard Rail
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UNITED STEEL FABRICATORS, INC.
WOOSTER, OHIO

How You Save with the NEW Niagara Method of Air Conditioning

Using "HYGROL" Absorbent Liquid

Because it absorbs moisture from the air directly, the new Niagara Controlled Humidity Method uses less, or no, mechanical refrigeration for dehumidifying. You save first costs and installing of heavy machinery. You save space, maintenance expense, power; get easier, more convenient operation.

Using "Hygrol" absorbent liquid gives complete control of temperature and relative humidity. Especially, it is a better way to obtain dry air for drying processes, packaging hygroscopic materials, preventing moisture damage to metals, and obtaining better quality for chemical process and food products—or in obtaining better results in comfort air conditioning at lower refrigeration costs.

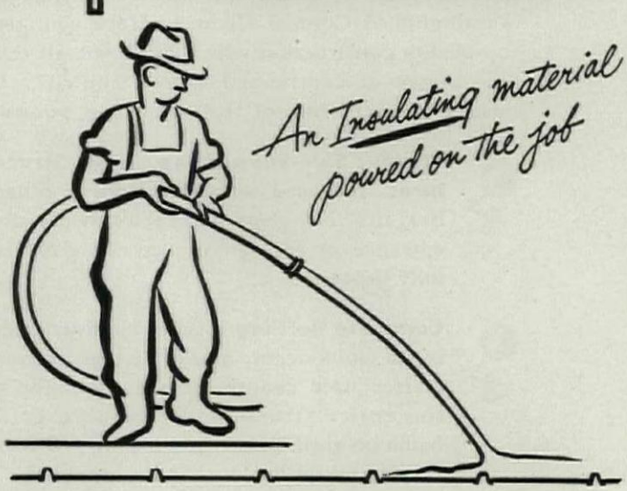
Filtered air is dehumidified by passing through a spray of "Hygrol" which removes airborne moisture. This liquid is non-corrosive; it contains no salts or solids to precipitate and cause maintenance troubles. It is continuously re-concentrated at the same rate at which it absorbs moisture, providing always the full capacity of the air conditioner, automatically.



Food Packaging under Controlled Humidity

Units provide a range of capacities from 1000 to 20,000 C. F. M. Multiple unit installations are in use successfully. Records of results are available. For further information, write Niagara Blower Co., Dept. AF, 405 Lexington Ave., New York 17, New York.

PORETHERM



Poretherm is a high grade, permanent, fireproof, rigid, insulating, cellular concrete weighing 30 lbs. per cu. ft. Made of Portland cement it is excellent for roof and floor insulation. Poured in place 20 to 60 ft. high through a 2" hose with the mixing equipment on the ground floor it dries rapidly and forms a fireproof rigid blanket. Recommended for large areas only.

Write for complete information.

PORETE MFG. CO.
N. ARLINGTON, NEW JERSEY

SPRAY-DAY-LITE
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Greater safety for your workers...

after just

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of America's Largest-selling Maintenance Paint!

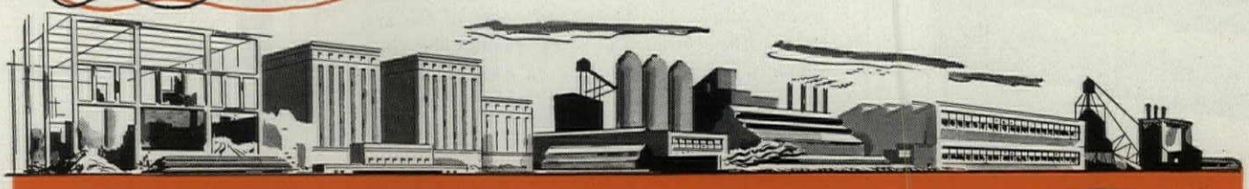
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TECHNICAL LITERATURE

SNOW MELTING. Byers Wrought Iron Pipe for Snow Melting System. Engineering Service Dept., A. M. Byers Co., Pittsburgh, Pa. 36 pp. 8½ x 11".

The bulletin traces the use of snow melting systems from the first installation on record in the United States in 1925 through hundreds of applications during the past six years. Photographs illustrate many systems being installed and in operation. Eight piping layouts are presented for a variety of applications such as loading areas, ramps, sidewalks, driveways and highways. Some of the phases of snow melting systems discussed are design, piping properties, use of antifreeze, paving design and fill, fabrication and installation, costs, and controls.

CONDUIT. Therm-O-Tile Underground Steam Conduit, Bulletin No. 511. Porter Hayden Co., 825 Frelinghuysen Ave., Newark 5, N. J. 8 pp. 8½ x 11".

Well illustrated, this booklet fully describes an underground pipe conduit, trade-named Therm-O-Tile. This conduit system is said to protect, support and insulate underground hot or cold pipe lines. The bulletin stresses several features of Therm-O-Tile: a rigid concrete slab foundation, an emergency internal drain, waterproof construction, easy accessibility, and adaptability to all pipe sizes.

ELEVATORS. Synchro Glide Landing. Bulletin 500-210. Dept. TP, Westinghouse Elevator Div., 150 Pacific Ave., Jersey City, N. J. 4 pp. 8½ x 11".

How a modern high speed elevator can be retarded and stopped level with the floor in a distance of 20" is explained in clear, non-technical language in the leaflet. Called Synchro Glide, the Westinghouse elevator landing system consists of an electrically driven selector, inductors, inductor plates mounted in the hoistway and a regulating system. How each part operates in the control setup is graphically explained.

LOCK SYSTEM. Plant Protection. Chicago Lock Co., 2024 N. Racine Ave., Chicago 14, Ill. 6 pp. 8½ x 11".

Engineered for industrial plants, the Chicago Lock Co.'s master keyed lock system is described in this booklet as a complete integrated plant security plan. The basic component of the system is the company's seven pin-tumbler lock which has long been used in burglar alarms, parking meters and coin operated equipment.

MATERIALS HANDLING. Kwik-Mix 16-S Dandie. Kwik-Mix Co., Port Washington, Wis. 12 pp. 8½ x 11".

Recent improvements made on Koehring's new three-bag capacity concrete mixer are described and pictured in this bulletin. It explains several construction features of the Model 16-S: all welded heavy duty frame construction said to resist twisting, coil spring mounting to balance the mixer and cast steel drum heads for smooth, long lived operation.

(Continued on page 258)

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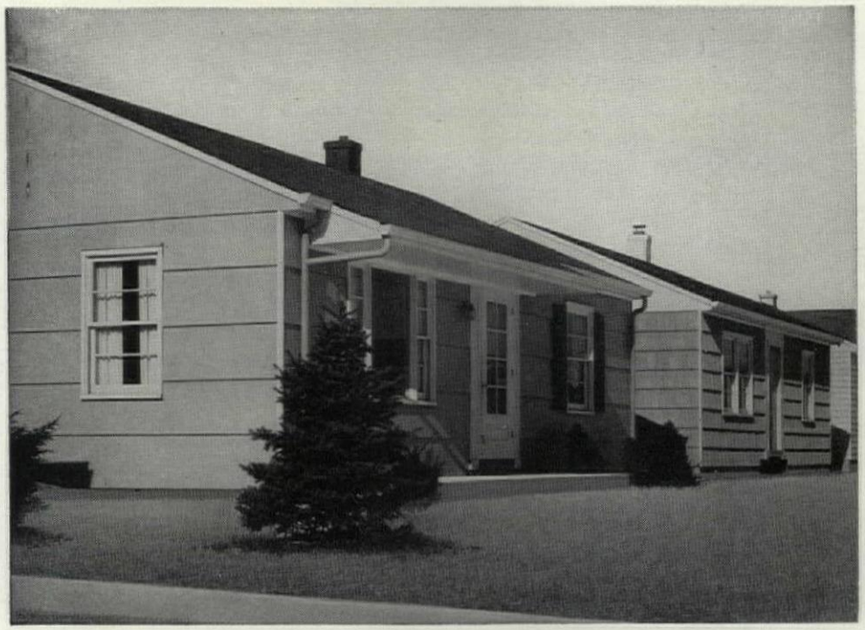
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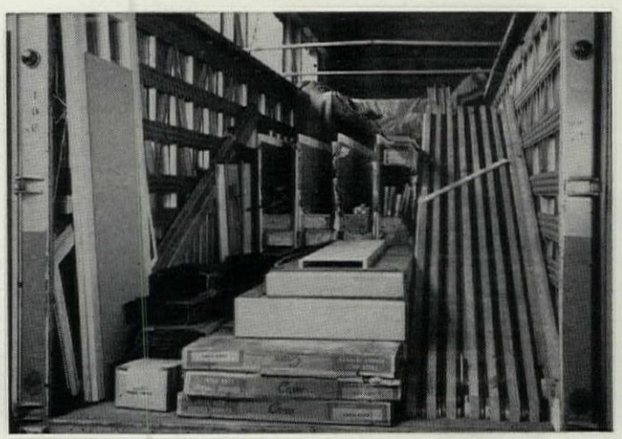


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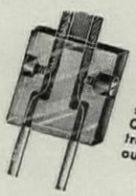
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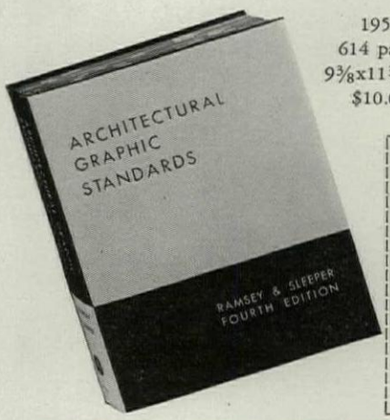
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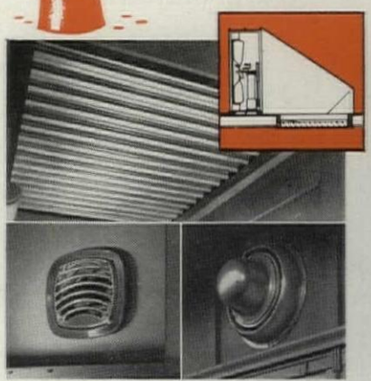
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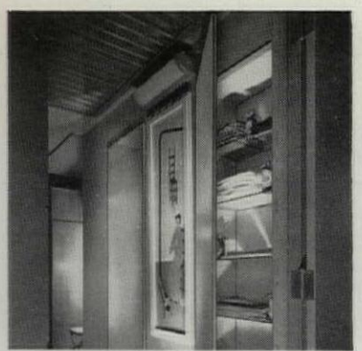


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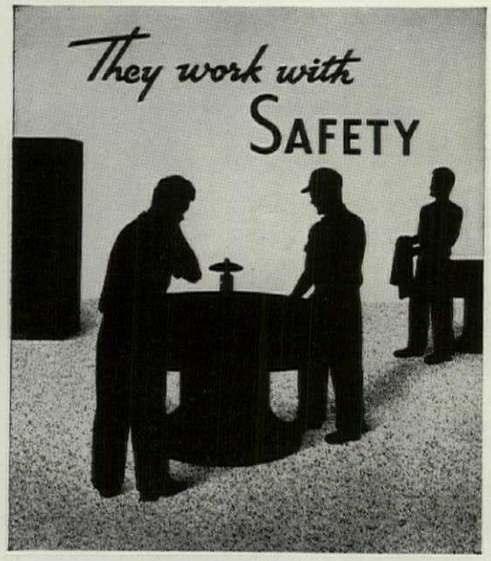
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TECHNICAL LITERATURE

SCHOOL CONSTRUCTION. How to Give Students and Budgets a Break. Armco Drainage & Metal Products, Inc., Middletown, Ohio. 4 pp. 8½ x 11".

High building costs and hundreds of thousands of World War II war babies are simultaneously straining school construction. Armco suggests one possible solution to the problem of cheap new schools in this illustrated folder which shows how contemporary classrooms can be obtained at low cost with Armco Steelox building. It also points out that "monumental" school buildings not only are undesirable for practical design reasons they also are wasteful of materials. Even monumental schools may be better than none at all but their economic inefficiency puts them way out of reach for many school districts. Although modestly priced, Steelox is said to provide high quality construction and good appearance. Schools of this 18 and 20 gauge steel material can be finished and equipped as other types of buildings. Especially important in school construction is the material's fire resistance. Steelox schools may be easily expanded or dismantled and moved.

COLOR SCHEMES. How to Decorate Classrooms in the "Harmon Technic" Luminall Paints, Chicago 9, Ill. 10 pp. 8½ x 11".

Prepared for architects, lighting engineers and educators, this brochure presents a simple five-step method for choosing color combinations for classrooms, laboratories and domestic science rooms. The color schemes pictured were developed and tested by Dr. Darell Boyd Harmon at the experimental Rosedale School in Texas, and because the combinations are based on "physiologically and psychologically determined needs" they are said to be applicable for offices, institutions, factories and other areas in which sustained tasks are performed. Following the prescribed procedure, the building planner first determines the exposure of the room, then consults an orientation circle which indicates the recommended color combinations for that exposure. Special consideration is given to rooms with excessive glare, limited window area or dark adjacent buildings, and to areas of specialized curricular performance.

FARM BUILDINGS. How to Build Farm Buildings That Last Longer. West Coast Lumbermen's Assn., 1410 S.W. Morrison St., Portland 5, Ore. 16 pp. 4 x 8"

Longer life and greater serviceability from farm buildings naturally are assured through proper construction. Pointing out that faulty construction often causes failure of good building materials, this pamphlet goes on to offer many good construction tips. Detailed isometric drawings illustrate the text and should serve as a useful guide on the job. Among the subjects covered in the booklet are selecting proper forms for continuous and pier foundations, setting anchor bolts in foundations, bracing buildings against wind, allowing for load stresses in storage buildings and providing for proper drainage.

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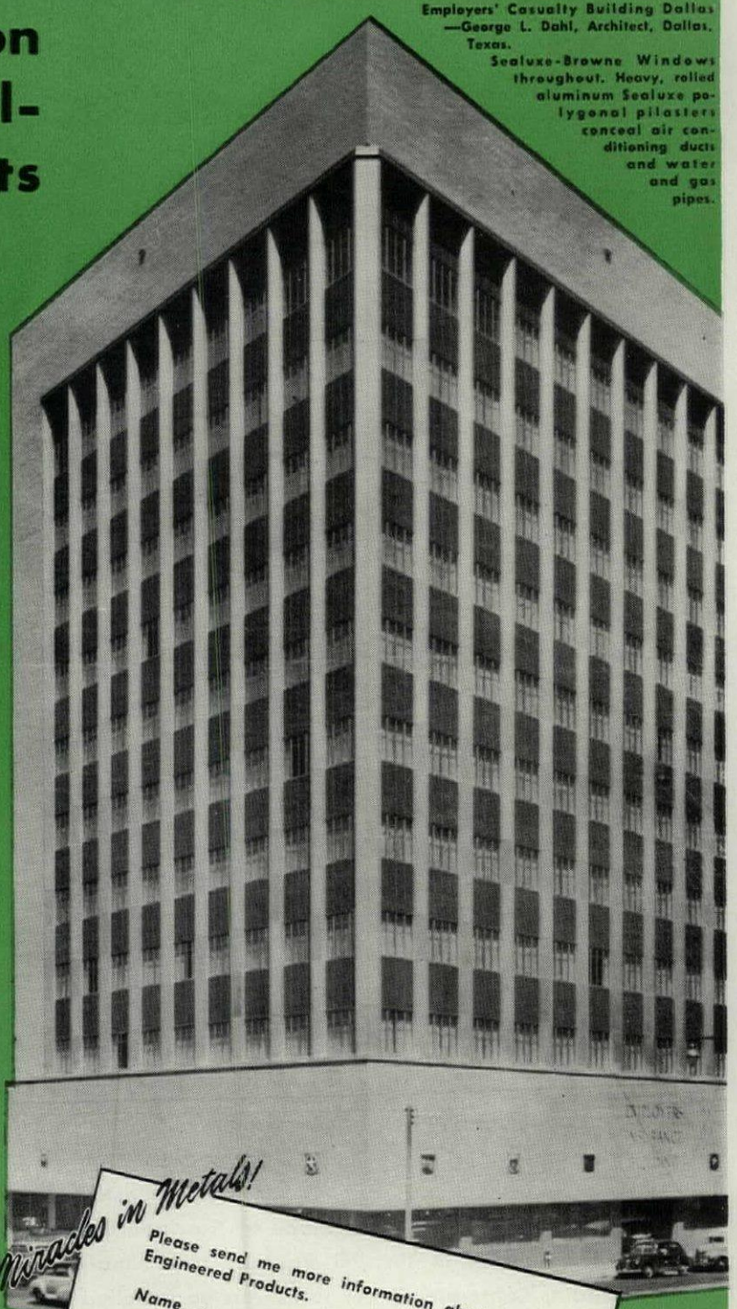
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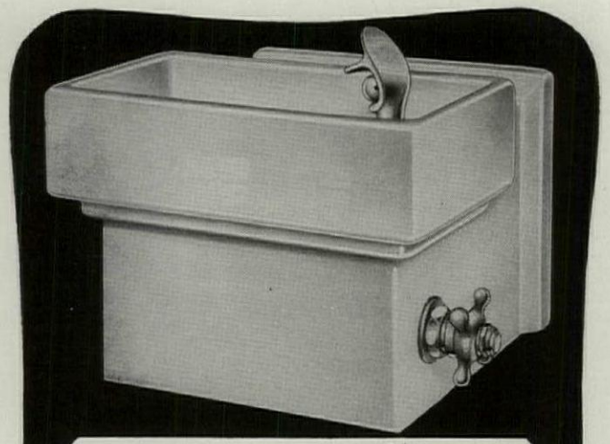
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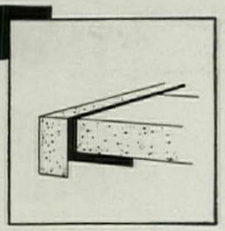
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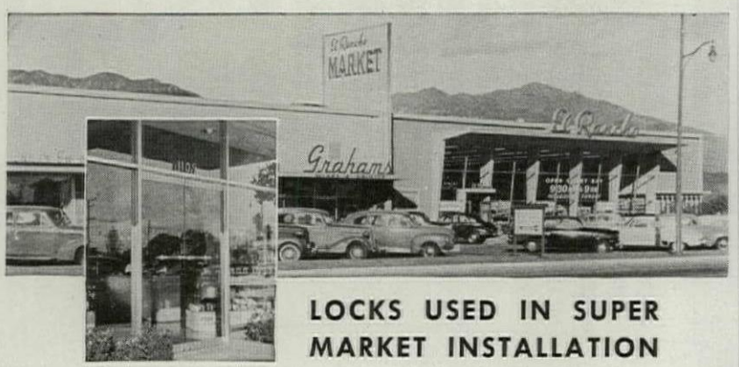
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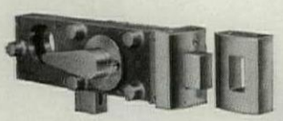
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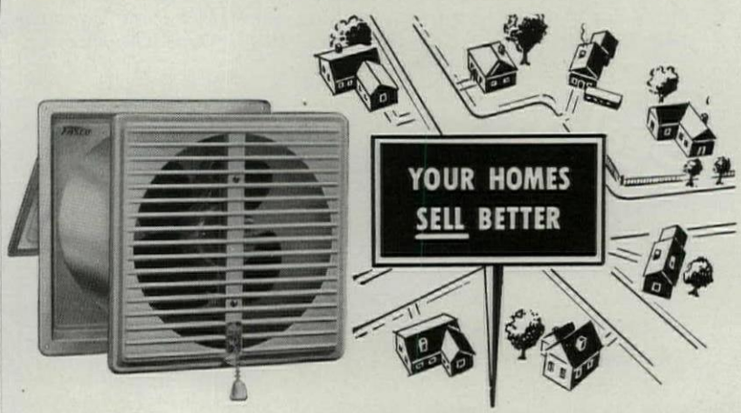


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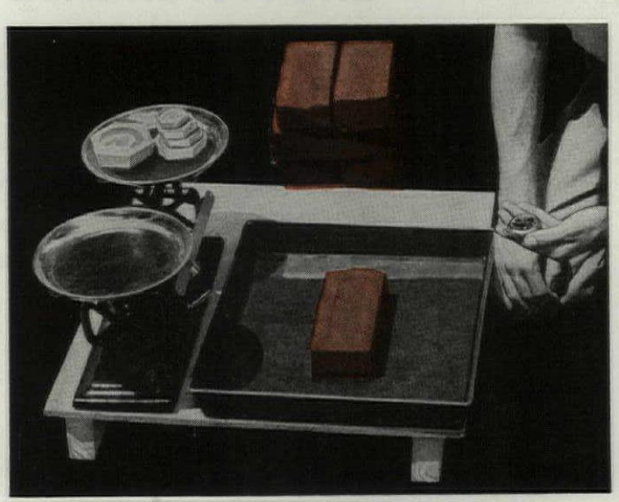
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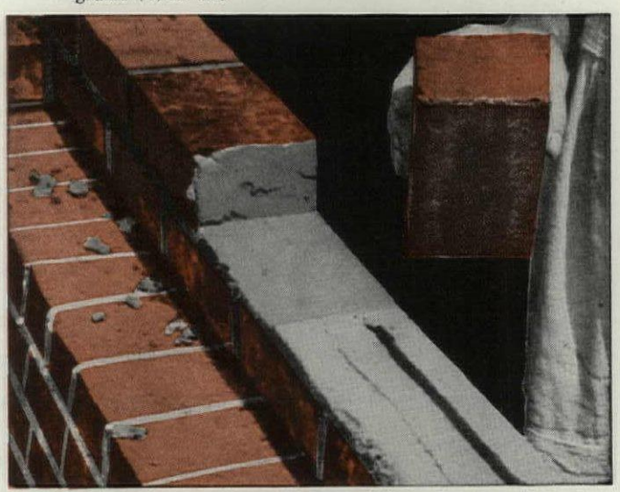
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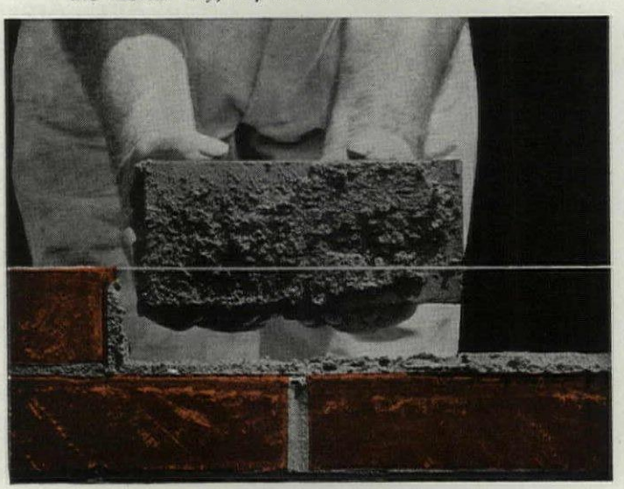
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Brick taken from the scaffold should be tested for rate of absorption, as illustrated at top left. If the tested brick gains more than 1 ounce in weight, all brick should be thoroughly wet just before they are used.

A good initial bond between brick and mortar depends (1) upon the suction rate of the brick, and (2) the water-retaining capacity of the mortar.

If the absorption rate of the brick is too high at the time they are laid, they will suck the water out of the mortar too fast, even though the mortar has high water-retaining capacity. A thorough wetting of the brick just before they are laid is the only way to be *sure* they will have a low enough rate of absorption.

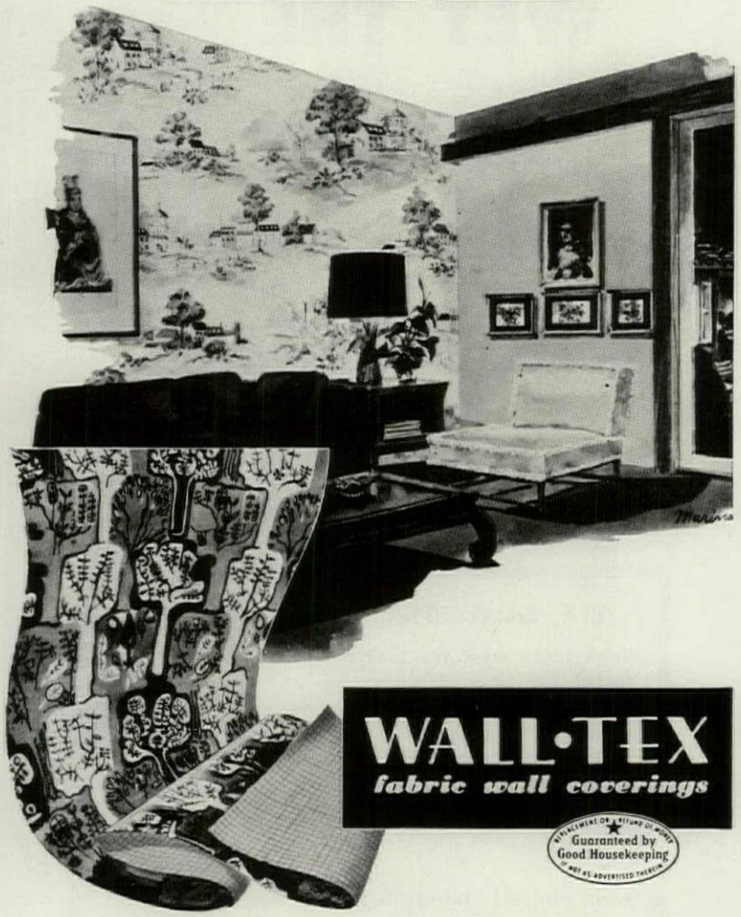
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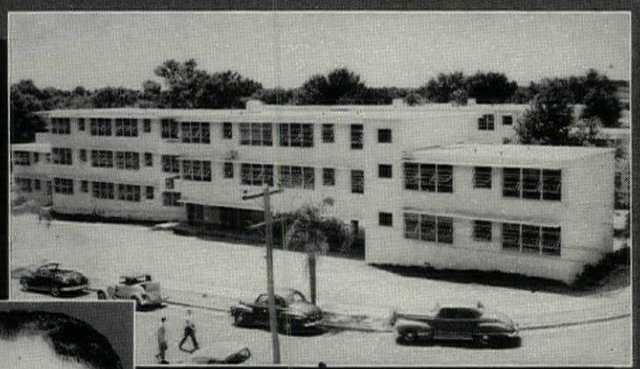
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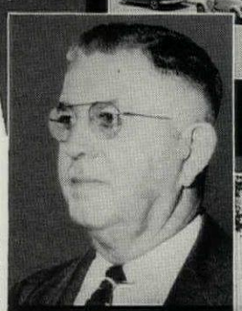
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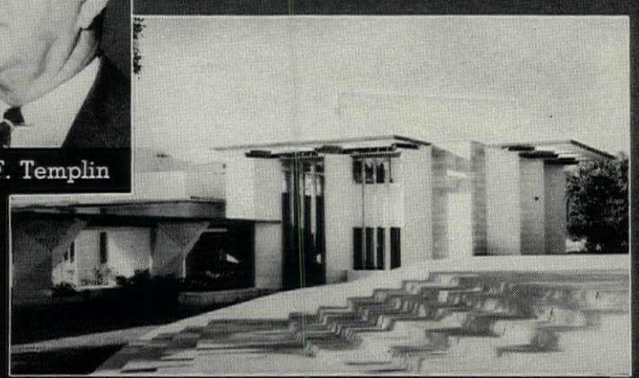
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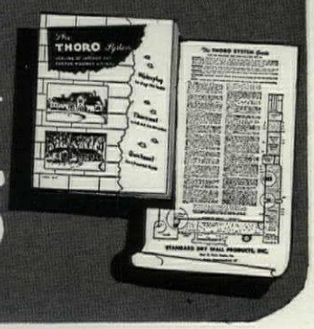
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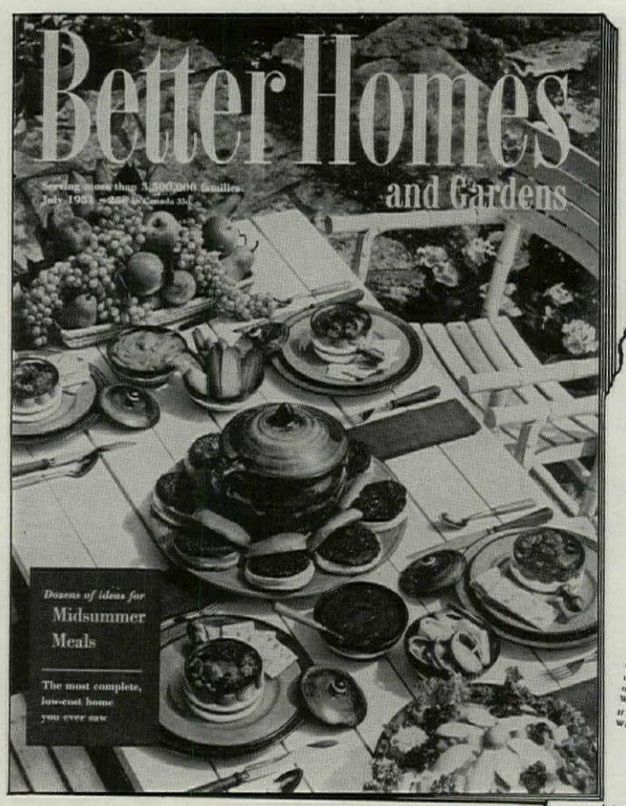
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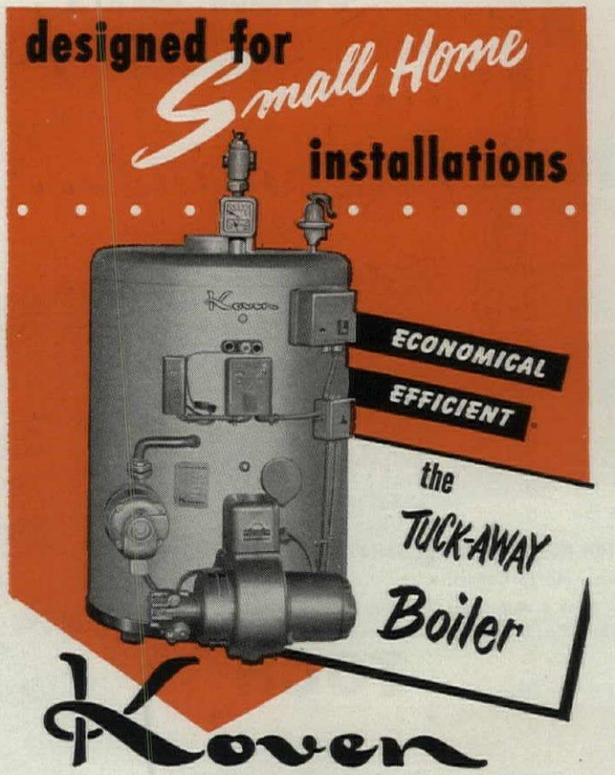
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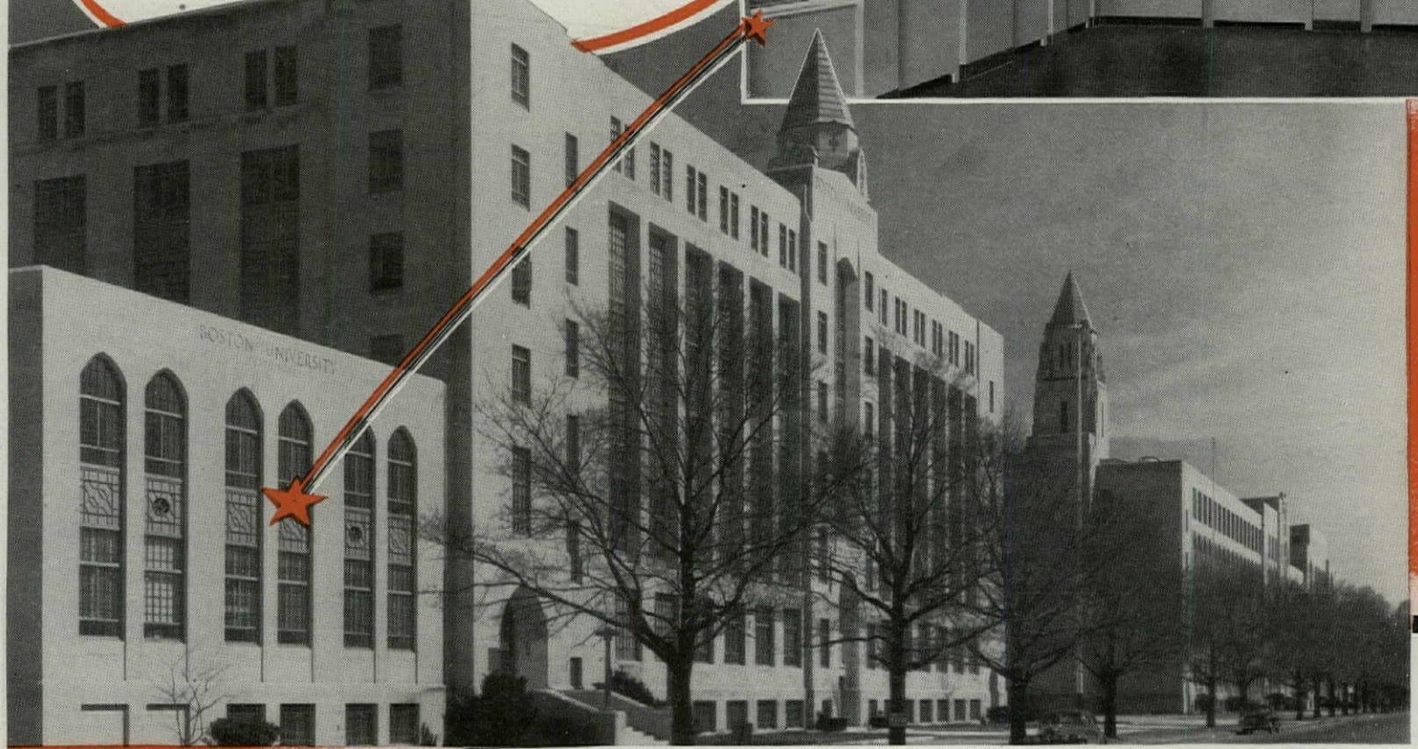
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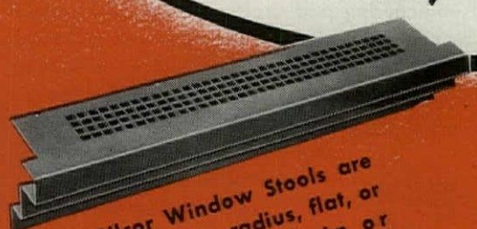
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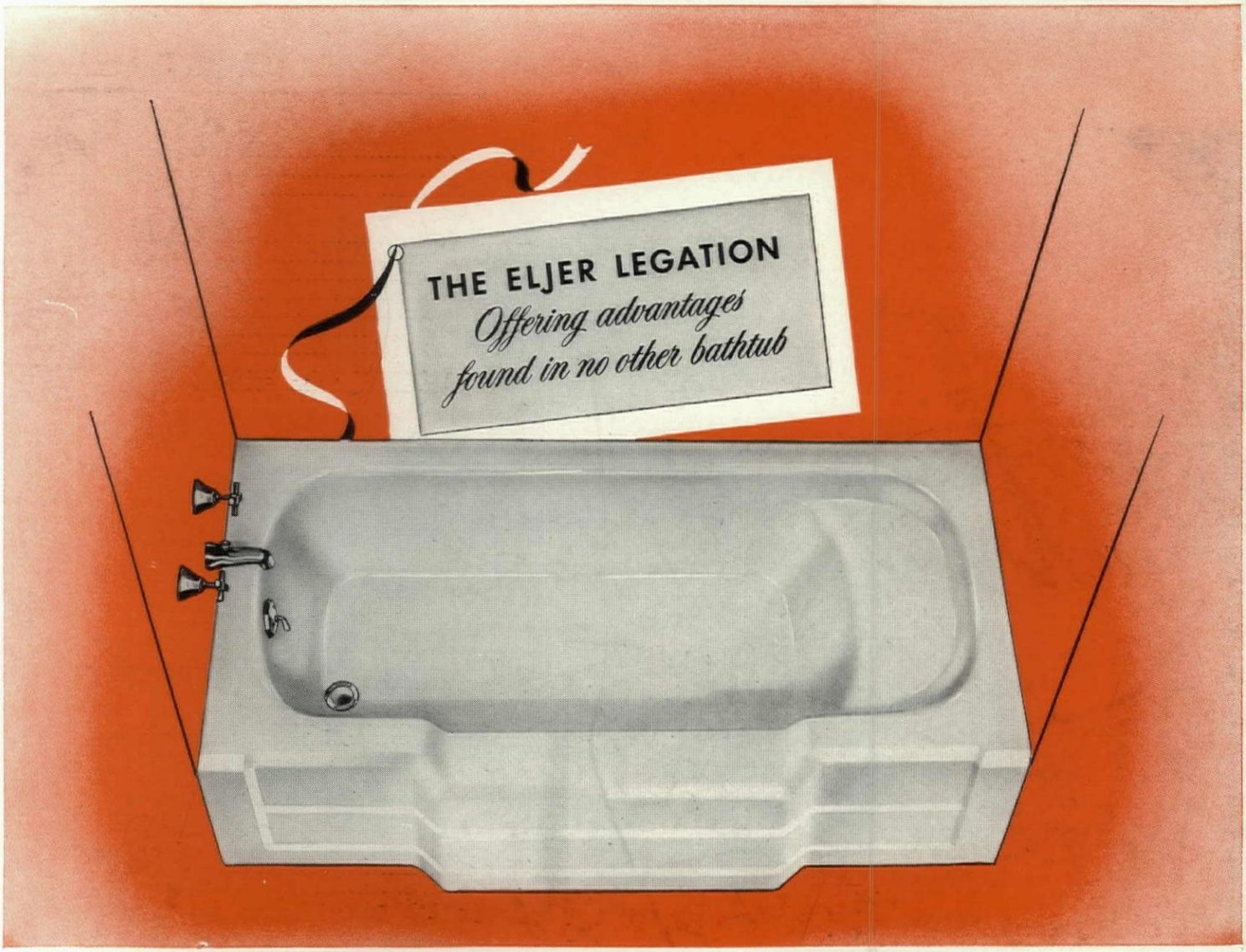
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