Architectural Forum the magazine of building September 1960

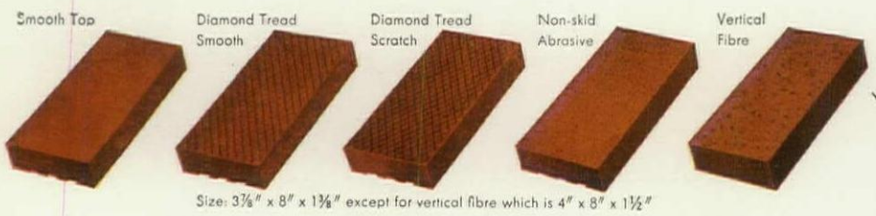
FORUM

Where other floors fail . . . Specify

SUMMITVILLE

HEAVY-DUTY ACID-RESISTANT FLOOR BRICK

Summitville floor brick is the perfect heavy-duty ceramic material . . . produced exclusively for industrial and commercial installations. High grade raw material and advanced production methods assure highest resistance to impact, abrasion and shock . . . impervious to acids, oils, greases, chemicals and fire. Available in 5 floor surfaces to meet every requirement. Contact your local ceramic tile contractor, or write direct to . . .



Size: 3⅞" x 8" x 1⅜" except for vertical fibre which is 4" x 8" x 1½"

MEMBER TILE COUNCIL OF AMERICA, INC.

Architectural Forum September 1960

VOLUME 113 NUMBER 3

Cover: Jazz design by Ray Komai (story, page 110).

Published monthly by TIME INC., Time & Life Building, Rockefeller Center, New York 20, N.Y.
This issue is published in a national and western edition.
Entered as second-class matter at New York, N.Y. and at additional mailing offices.
Subscription price $6.50 a year.

COLLEGE BUILDING

ART OF ARCHITECTURE

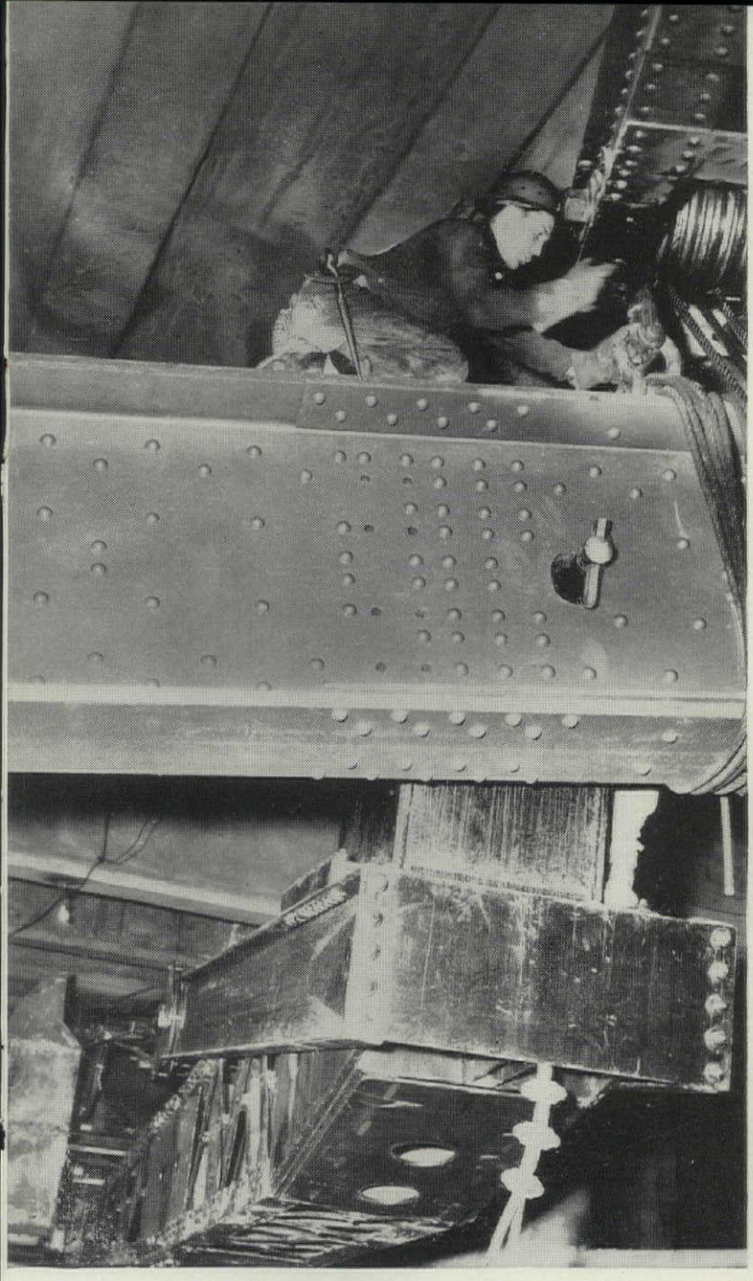
BUSINESS OF BUILDING

CITIES

TECHNOLOGY

Architects: Skidmore, Owings & Merrill • Structural Engineers: Weiskopf & Pickworth

This new skyscraper has a basement full of train tracks



While trains from one of New York City's busiest railroads rolled back and fortn through the cellar, American Bridge erected the 52-story Union Carbide Building. ☐ This towering skyscraper was built on the site of an old structure. Here was a real tactical construction problem. First, there were thirty-five separate tracks in the two-level basement—all had to be open for traffic sometime during the day. Besides the train dilemma, working quarters were so cramped that a crane locomotive with a special spear attachment was needed to lift beams and girders into position. ☐ To place the new columns, it was necessary to chop holes in the existing structure and thread the needle with new steel columns. Overall, a total of 31,585 tons of steel went into the new Manhattan masterpiece, the tallest building yet built with high-strength bolt connections. ☐ We are accustomed to unusual challenges. Contact us for information on services and facilities.

USS is a registered trademark

General Offices: 525 William Penn Place, Pittsburgh, Pa.
Contracting Offices in: Ambridge • Atlanta • Baltimore • Birmingham • Boston • Chicago • Cincinnati
Cleveland • Dallas • Denver • Detroit • Elmira • Gary • Harrisburg, Pa. • Houston • Los Angeles
Memphis • Minneapolis • New York • Orange, Texas • Philadelphia • Pittsburgh • Portland, Ore.
Roanoke • St. Louis • San Francisco • Trenton • United States Steel Export Company, New York

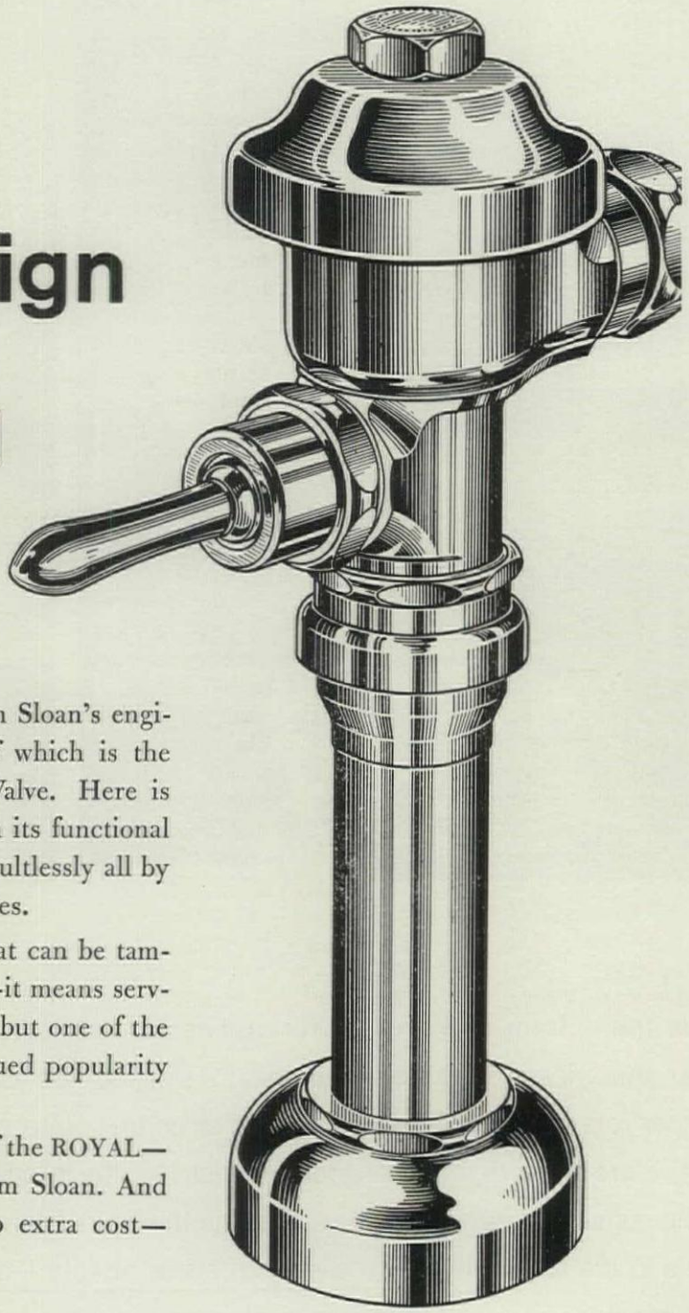
American Bridge
Division of
United States Steel

USS

You pay no more for unequalled SLOAN quality...

Superior Design

eliminates need for regulation



Many flush valve "firsts" have come from Sloan's engineering research, one of the earliest of which is the "no regulation" of the ROYAL Flush Valve. Here is the flush valve so perfectly engineered in its functional design that, once actuated, it performs faultlessly all by itself—even if the water pressure fluctuates.

Nothing to regulate means nothing that can be tampered with; nothing to get out of order—it means service you can take for granted. And this is but one of the many features responsible for the continued popularity of the ROYAL.

"No regulation" is a standard feature of the ROYAL—another bonus of quality you expect from Sloan. And since you can have Sloan quality at no extra cost—why not make sure you get it.

SLOAN FLUSH VALVES

SLOAN VALVE COMPANY • 4300 WEST LAKE STREET • CHICAGO 24, ILLINOIS

New FHA room count rules give major boost to apartment building mortgage limits

Apartment builders have just been given their second major break in two months on FHA mortgage insurance rules. On August 12, FHA headquarters approved a liberalized room count system for calculating maximum mortgage allowances, which according to FHA Chief Architect Neil Connor, will also achieve better planning. Only a month earlier FHA eased its rules for high-rise apartments in central city areas (Section 207) by scrapping the requirement that no more than 20 per cent of a project's accommodations may be efficiency units (FORUM, Aug. '60).

To the jubilation of plumbing manufacturers, the most important change in the room-count system will now allow each full bathroom to be counted as one-half of a room in computing maximum mortgage limits. A lavatory (toilet and basin) will be counted as one-quarter of a room. Previously bathrooms were not counted at all, in a pointless conformity with the traditional real estate industry custom that completely ignores the bathroom in stating the size of an apartment or a house (unless there is more than one and attention is called to this fact by describing a unit as having so many rooms *and* so many baths). This new rule makes every apartment at least one-half room larger and thus eligible for a larger FHA-insured mortgage under the agency's maximum loan per room schedules (except in projects that would still average less than four rooms per unit and are still subject to a "per unit" limit). It also should be of major importance in stimulating construction of more second bathrooms in larger apartment units.

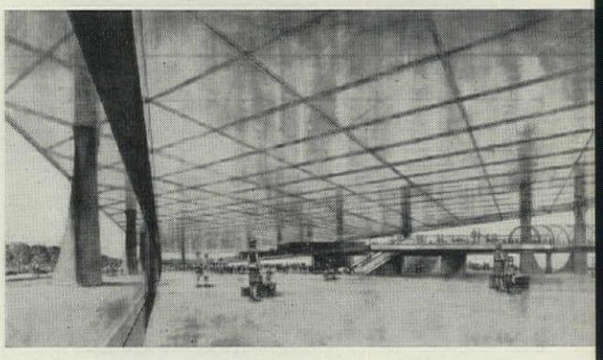
Another liberalization of FHA rules will allow a foyer of at least 120 square feet to be counted as one-quarter of a room, whereas previously such space received no credit. In efficiency and one-bedroom units kitchenettes of at least 40 square feet will now be allowed one-half room credit. On the other hand the new rules reduce the count for balconies from one-half of a room to one-quarter of a room. In many cases, FHA officials felt, balconies had been added to some projects only because they raised the allowable mortgage ceiling by more than their actual cost. Snorted one top FHA officer: "We were getting damned tired of balconies in Alaska." Connor put it another way: in encouraging more sensible layouts and better design, the new rules should end the "warped planning" that sometimes resulted from efforts to capitalize on the old rules.

Ordinarily an FHA apartment mortgage cannot exceed an average of $2,700 per room in a garden apartment, or $3,000 per room in an elevator building. Now, provided appraisals find actual costs or values that will justify such loans, builders can expect FHA to insure project mortgages for higher total amounts adjusted to correspond with their increased room counts under the new rules. Consider, for example, an elevator building averaging four rooms per unit under the new count (a living room, a bedroom, a kitchen, a bath, and a one-half-room dining alcove). Under the old rules the room count would be 3½ and the maximum mortgage insurance would therefore have been determined on the unit basis of $9,400 per unit, or $13,775 per unit in a certified "high-cost area" where increased mortgages (up to $1,250 more per room in some areas) are permitted. Under the new rules, because the average room count of this building is four, its mortgage limit would be figured on the basis of the room schedule rather than on the "unit" basis. Thus it would qualify for a maximum mortgage of $12,000 per unit—or up to $17,000 in a high-cost area.

The new room-count rules will be mandatory for all projects effective February 1. In the interim FHA will allow their use on an optional basis, so as not to penalize or interfere with projects already being processed with FHA and designed to make the maximum utilization of the old rules.

Taking note of the fact that the liberalized rules would allow loan limits that would be more than adequate in some of the cities that are now certified for "high-cost area" allowances, FHA simultaneously revised many of these certifications. In Washington, D. C., for instance, it reduced this extra allowance from $1,000 to $700 per room over the regular ceiling. Among other cutbacks: Baltimore, from $800 to $500 per room; Buffalo and Columbus, from $1,100 to $800; Cleveland, from $1,100 to $900; Detroit, from $700 to $600; Milwaukee, from $1,250 to $900; Seattle, from $1,250 to $1,100.

ARA DERDERIAN, DELINEATOR



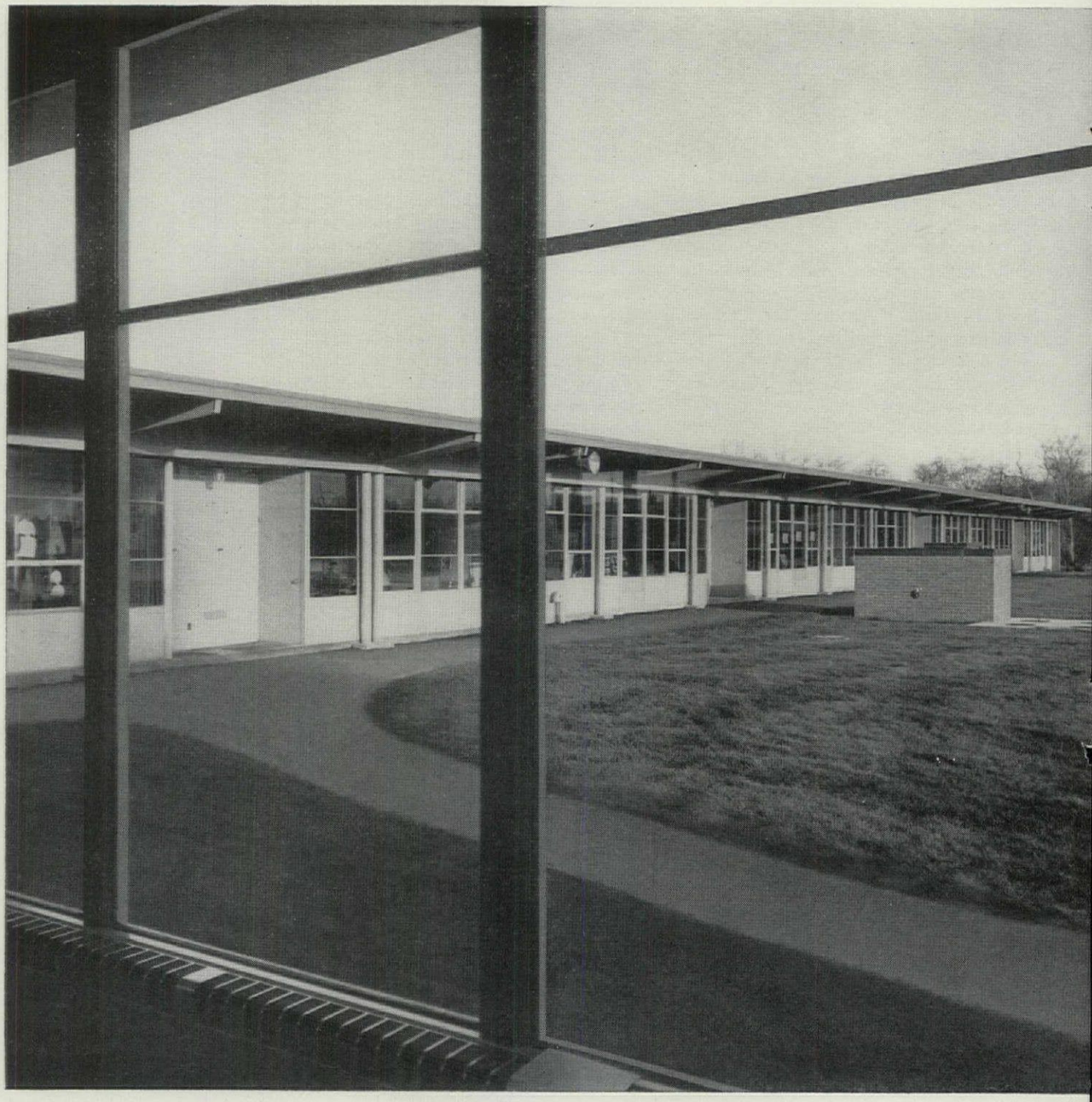
PEI'S PRIZE AIR TERMINAL DESIGN
The Port of New York Authority's closed competition for choice of an architect for the Union Terminal at Idlewild Airport was won last month by I.M. Pei with this serenity-seeking design. It consists of a huge aluminum-faced space-frame roof supported on massive exterior concrete pylons and sheltering two-story-high glass walls on all four sides. The columnfree interior would have ticketing counters on the ground floor, waiting areas and shops on a mezzanine. Other competitors: B. Sumner Gruzen, Philip C. Johnson, Morris Ketchum, and Arvin Shaw. Jurors: Wallace K. Harrison, Pietro Belluschi, and L. Bancel LaFarge.

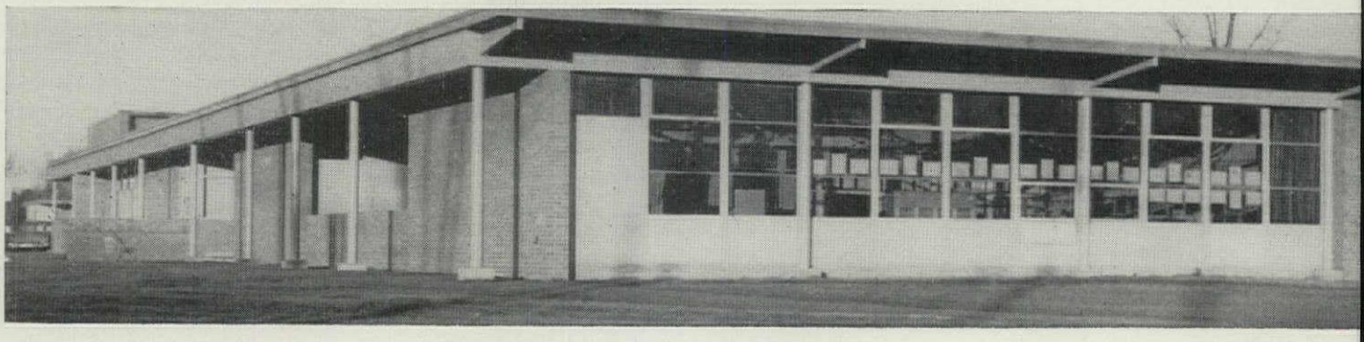
Opera in Lincoln Center to cost $8,400 per seat

Late last spring the Lincoln Center for the Performing Arts in an intensive public participation program that included full-page newspaper ads and other public relations efforts solicited widespread public gifts to help raise a total of $102 million for its impressive New York cultural center. This advance of $27 million over its previous goal was sought because of the general increase in building costs as well as because of expansions in the scope of the center and its buildings.

A month ago the center's latest annual report released by President John D. Rockefeller 3rd explained that before the inauguration of this program "a survey indicated that only 25 per cent of the adult population of the metropolitan area had heard of the center." In addition, the annual report gave the

continued on page 8





Design your schools better with

How **PPG** boosts the **"ABC's"**

The "ABC's"—as everyone knows—symbolize the education our children get in school. And PPG—we hope everyone knows—stands for beautiful and functional glass products which help our children learn their "ABC's" in an atmosphere conducive to learning.

What other school construction material but glass can make classrooms seem larger . . . can open them up to the daylight . . . and bring the outdoors nearer? What other material combines beauty *and* function so well? Glass does what no other material can do in the school.

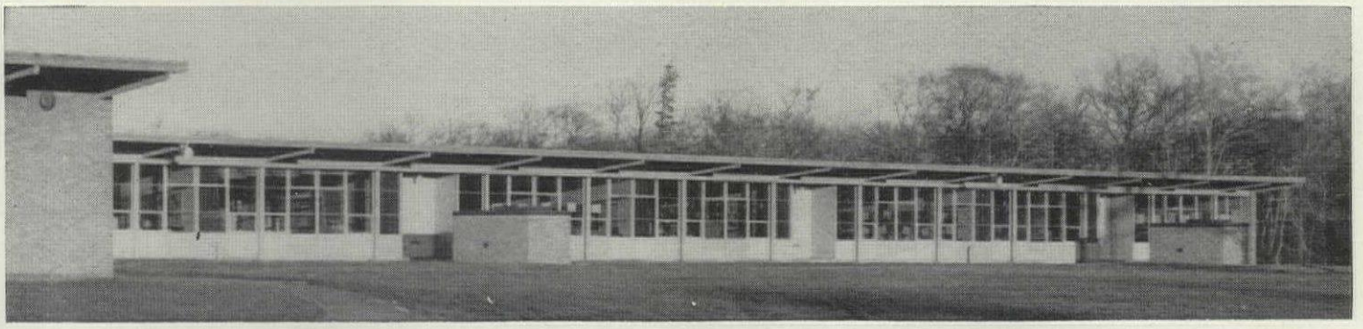
Where environment control is essential, such as in three elevations of the Forest Lake Elementary School, Wantagh, New York, PENNVERNON GRAYLITE "56" Heavy Sheet Glass was used. Its neutral color provided *economical brightness control* by reducing the harsh glare of sunlight streaming through the windows. The light is soft . . . easy on the eyes . . . yet perfectly bright enough for critical viewing tasks.

Are you aware of how much Pittsburgh glass products can do for *your* new school?

Architect: George E. Tumey, A.I.A., Wantagh, New York
Contractor: Leon DeMatteis & Sons, Elmont, New York
Glazed by Glen Cove Glazing Works, Glen Cove, N. Y.

CONSULT YOUR ARCHITECT
for information about the use of these famous Pittsburgh Glasses in school construction

Solex®	green tint, heat-absorbing and glare-reducing plate glass
Solargray®	neutral tint, heat-absorbing and glare-reducing plate glass
Herculite®	shock-resisting tempered plate glass
Twindow®	the world's finest insulating window
Polished Plate Glass	for clear, undistorted vision
Pennvernon®	window glass at its best
Pennvernon Graylite T.M.	neutral tint, glare-reducing heavy sheet and window glass
Spandrelite®	glass in color
Pittco®	glass-holding and decorative metal members



PITTSBURGH GLASS PPG®

Paints • Glass • Chemicals • Fiber Glass

Pittsburgh Plate Glass Company

In Canada: Canadian Pittsburgh Industries Limited

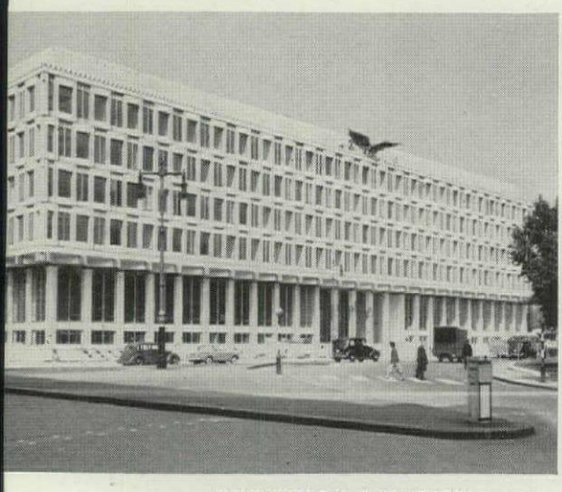
latest estimated costs and seating capacities for each of the center's proposed theater or auditorium buildings. These will be:

- Metropolitan Opera, designed by Wallace K. Harrison; 3,800 seats; $32 million or $8,421 per seat.
- Philharmonic Symphony Hall, by Max Abramovitz; 2,600 seats; $13.2 million or $5,076 per seat.
- Theater for the Dance, by Philip Johnson Associates; 2,500 seats; $18 million or $7,200 per seat.
- Repertory Theater, by Eero Saarinen with Jo Mielziner as collaborating designer; 1,100 seats; $7.5 million or $6,818 per seat.
- Chamber music and recital hall, by Pietro Belluschi; 750 seats; $2 million or $2,666 per seat.

As indicated by the report, however, these estimates are not complete costs. They do not include any prorata shares in an additional $10 million to be spent for a central air-conditioning plant and other common facilities; $7.5 million for the cleared land, and a $10.1 million outlay by the city for an underground garage and other public facilities.

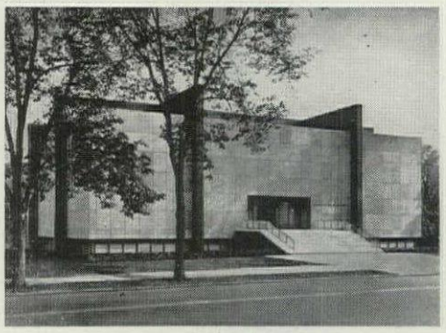
Late in July the city's Board of Estimate approved preliminary plans for this Lincoln Center garage to accommodate 730 cars at an estimated cost of $9.4 million, or almost $12,900 per car excluding land cost and called a "self-liquidating" project. As a city-built public improvement or grant-in-aid to serve the project, the federal Title I subsidy for Lincoln Square will cover two-thirds of its cost, or almost $8,600 per car. Thus, the city will only need to collect parking fees to defray one-third of its cost—about $4,300 per car. Ten blocks south of Lincoln Center last month the city was completing a five-level ramp garage for 450 cars for a building cost of $1.6 million, or $3,555 per car, excluding land cost.

The city also assumed another indirect annual expense as an outgrowth of the Lincoln Center project this summer. Under a sweeping new state law that now permits New York municipalities to lease, purchase, or even condemn any "places, buildings, structures, works of art, and other real and personal property having a special character or special historical or esthetic interest or value," the city paid $5 million to purchase Carnegie Hall, thus taking it off the city tax rolls at a loss of over $75,000 a year. With the impending move of the Hall's main tenant, the Philharmonic Symphony, to the tax-exempt Lincoln Center, the owner had been entertaining offers for the sale and demolition of Carnegie Hall to make way for a new office, apartment, or hotel building. But avid Carnegie Hall "preservationists" obtained enactment of the new law, prevailed upon the city to buy the ancient structure, and then lease it to them for operation on a nonprofit basis. The self-liquidating rent will be a sum calculated to repay the city its $5 million and other incidental purchasing expenses over a 30-year period, plus interest each quarter at the current yield rate on U.S. Treasury bills. Then the city will give the property to the nonprofit group.



EMBATTLED EAGLE ON LONDON EMBASSY

The 35-foot gilded aluminum eagle that adorns the new U.S. Embassy in London was placed atop the building a month ago despite protests of some British critics who asserted it was out of proportion to the building and an inappropriate and pretentious national emblem. And, in Washington, a domestic critic, Frank Monaghan, a former Yale history professor, said the bird faced the wrong way looking to its left, heraldically. Sculptor Theodore Roszak designed the $54,000 ornament. Embassy Architect Eero Saarinen explained it: "The eagle will provide a vertical reference point in an otherwise horizontal façade."



UTICA ART MUSEUM COMPLETED

The formal opening of the new Museum of Art of the Munson-Williams-Proctor Institute in Utica, N. Y. has been set for October 15. Designed by Philip Johnson, the square building is hung from the four large exposed structural members which climb over the building in two directions. Beneath the windowless upper section, the building has a window wall on all four sides overlooking a sunken terrace which is not visible in this photo.

College spending may win $14 million for Chicago

The University of Chicago turned the spotlight last month onto one of the most important but least publicized of federal urban renewal payment plans. The university asked the Chicago Land Clearance Commission to approve a project that would help it complete its South Campus development and at the same time might obtain for the city a federal bounty of $14.4 million that it could use for other renewal and redevelopment projects.

In the Title I amendments enacted last year, Section 112 provided that certain expenditures by private or public institutions of higher learning in or near urban renewal projects can be treated as if they are project grant-in-aid expenditures of the municipality to cover its share of the write-down subsidy for a project. This grant-in-aid (in lieu of cash) status may apply to any college or university outlays to buy, clear, or rehabilitate property (including relocation expenses) if they are to be used for educational purposes, including student or faculty housing, and provided that the city has approved such activity as beneficial to its urban renewal program. Also significant, credit may be allowed retroactively for any such expenditures that were made up to five years before the formal federal-city contract for a project was signed.

Under a plan prepared by the University of Chicago, the university asked the city to designate as an urban renewal area a 58-acre tract that includes 31.5 acres the university already owns and is developing for its South Campus. The university already is committed to spend over $4.5 million here under its own plans. Taking these outlays into account as if they were municipal grant-in-aid expenditures, the city could qualify for a federal grant of as high as $21 million for this project, even though the city's own direct expenses in buying the non-university portion of the project area and reselling it to the university for its fair reuse value would be only about $6.6 million. Under URA's "pooling" plan that allows cities to apply unutilized write-down credits to other projects, Chicago would thus be able to apply its surplus $14.4 million federal credit from this project to the write-down subsidies for other Title I jobs.

To encourage further use of the Section 112 program, URA has announced a $46,500 federal "demonstration" grant to Wayne State University of Detroit "to analyze and report on the methods by which urban universities are elimi-

nating blight from surrounding neighborhoods and are integrating university development programs with local urban renewal efforts." Enactment of Section 112 has given this two-year study special urgency, said URA Commissioner David M. Walker. It will involve a detailed analysis of the activities of about 25 universities confronted with the problem of slums and blight in adjacent areas, and will determine how university expansion might serve urban renewal purposes too.

Three finalists left in Golden Gateway race

The eight developers contracting for San Francisco's glamorous Golden Gateway redevelopment project were narrowed down to three last month after the report of the architectural advisory panel had been considered by the local redevelopment agency:

- Kern County Land Co. and Del E. Webb Construction Co. partnership (Welton Becket & Associates and Lawrence Lackey, architects), which had bid $6 million for the site, plus $6 million ten years later, or $9 million 20 years later.
- Tishman-Cahill Renewal Associates (John Carl Warnecke & Associates, Gardner Dailey & Associates, and Victor Gruen & Associates), whose land offer was $3,620,000, or the "fair market value," whichever was higher.
- Perini–San Francisco Associates (Wurster, Bernardi & Emmons and DeMars & Reay), who offered $3,250,000 for the main residential portion of the project.

The redevelopment agency is now conferring with these finalists to determine revisions they might make in their architectural plans or land offers, and selection of the winning developer is not expected until later this month.

The agency is still keeping secret its previously established "fair reuse values" for the site, and there is still no clue as to how it will reconcile design and land-price factors in picking the winner of what most developers originally had considered to be primarily a design contest (FORUM, Aug. '60).

Meanwhile, the redevelopment agency awarded a 7-acre tract in its Western Addition project to the pension fund of the longshoremen's and maritime workers unions, to erect co-op apartments designed by Marquis & Stoller, with landscaping by Lawrence Halprin. Two other developers also sought this site, at a fixed price of $827,000. This award was made on the basis of design and rental scale.

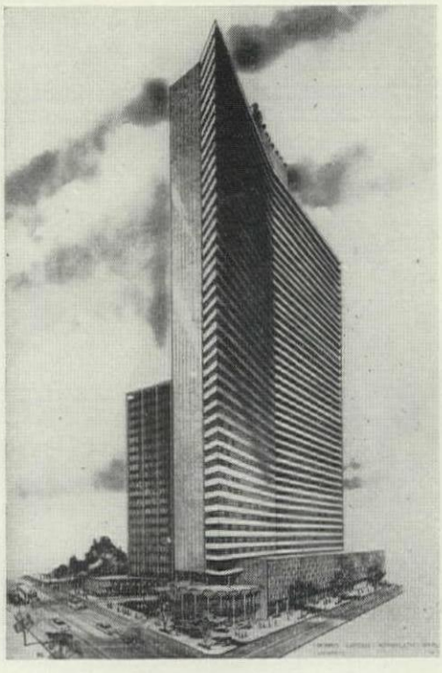
Huge buildings planned on former Zeckendorf sites

As retrenching New York developer William Zeckendorf sold off a number of his most valuable properties to bolster his cash position, his sales touched off three announcements of other major new buildings that the buyers would erect in still-booming mid-Manhattan.

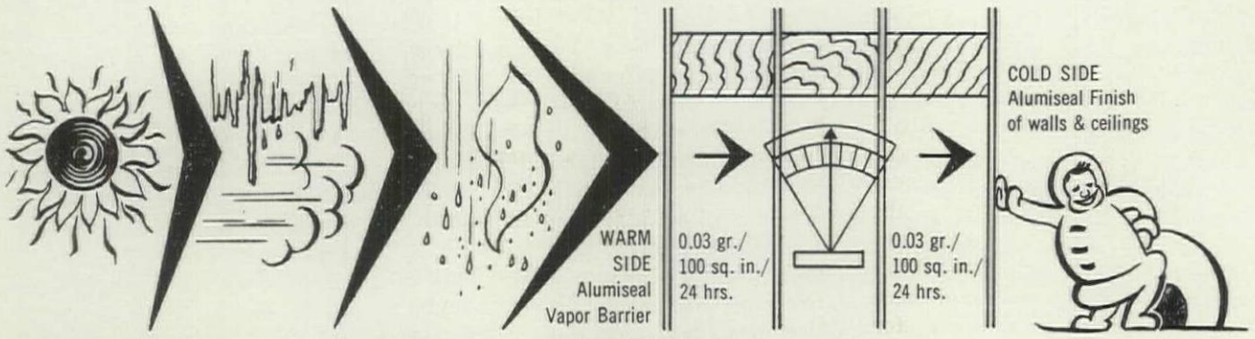
- Brothers Percy and Harold Uris, builder-owners of many of New York's largest postwar office towers, bought Zeckendorf's long-term lease of the vast 90,000 square foot blockfront next to the Radio City Music Hall where excavations were started last year for the $65 to $75 million Hotel Zeckendorf. Instead of a hotel, the Urises in a new equal partnership with Rockefeller Center will build on this site a $75 million, 1.7 million square foot office structure designed by Emery Roth & Sons, with Harrison & Abramovitz serving as consulting architects. Prudential Insurance Co., which owns the land, will provide the permanent financing—a loan "substantially higher" than a $27 million commitment it had issued previously for the shelved hotel. (In their new partnership with the Rockefeller interests, the Urises also will erect a $75 million, 38-story, 2,200-room luxury hotel on another 90,000 square foot blockfront two blocks farther north on the opposite (west) side of Sixth Avenue. Preliminary plans were drawn by Morris Lapidus, Kornblath, Harle & Liebman, but Harrison & Abramovitz will be consulting architects for this structure too.)
- On the block immediately adjacent to the Uris-Rockefeller office project on the north, Zeckendorf completed a 40,000 square foot blockfront assembly (25,000 square feet owned by his Webb & Knapp organization) and sold it to the Columbia Broadcasting System as the site for a new headquarters tower to be designed by Eero Saarinen & Associates.
- One block west, on Seventh Avenue, where Zeckendorf had planned a $21 million cooperative apartment building, he sold the 60,800 square foot site for $5 million to Loew's Theatres, Inc., now controlled by the brothers Laurence A. and Preston R. Tisch, hotel chain owners. The Tisches announced that they would break ground next month on the already-cleared site, and by August 1962 they would complete a $50 million, 50-story hotel (see photo). The Tisches operate the Americana Hotel in Miami Beach and will call this the Americana of New York. Two months earlier they broke ground for a $25 million, 800-room, 21-story hotel on Manhattan's east side initially called the Americana (see photo) but to be renamed the Americana East of New York. The Tisches learned that the Seventh Avenue site was on the market on July 13 and, after a feverish negotiating session, signed a contract for it at 4 A.M. the next morning, and took title the following day.

In consolidating Webb & Knapp's position, Zeckendorf was not calling a complete halt to new ventures. Last month he signed a new agreement to purchase the 267-acre Twentieth Century-Fox property in Los Angeles for a total of $43 million in cash, in place of a previous deal to pay $56 million over a ten-year period, subject to approval by the film company's stock-

continued on page 11



SISTER HOTELS for New York will be the 50-story, 2,000 room Americana (left), for which ground will be broken October 1, and the Americana East, now under construction. Morris Lapidus, Kornblath, Harle, & Liebman are the architects. Loews Theatres Inc., which is now aligned with the Tisch hotel interests, is the owner. Diesel Construction Co. is the general contractor for both hotels.



neither HEAT...nor COLD...nor WATER VAPOR...can ever decrease initial efficiency of

TRADE MARK REG. U.S. PAT. OFFICE

ALUMISEAL

U.S. PATS. and PATS. APPLIED FOR

Reflective Insulation with BALANCED VAPOR BARRIER CONSTRUCTION

For complete engineered mastery of Temperature, from sub zero, cryogenic temperatures to melting point of metals . . . for permanent thermal efficiency throughout the life of the building . . . and for absolute elimination of maintenance problems and costs, it will pay you to look into Alumiseal—the ultimate in insulation today.

Alumiseal is designed and installed to the most exacting engineering standards, using ALCOA Aluminum throughout. It is unconditionally guaranteed to have a reflectivity of 95% to 97%, and has been proved by two decades and thousands of installations for Industry and Government. For all types of refrigerated and controlled-environmental spaces, Alumiseal is the insulation that will serve you and your client best—throughout the life of the building!

WE CHOSE ALCOA ALUMINUM

"used in every sheet of Alumiseal"

Typical of the major organizations using Alumiseal are American Bakeries Company; American Can Company; Bickford's, Inc.; Food Fair Stores, Inc.; Gorton's of Gloucester; Hot Shoppes, Inc.; Howard Johnson's; Massachusetts General Hospital; New York State Hospitals and Institutions.

For demonstration and inspection of actual installations with years of continuous usage, write Alumiseal Corporation or consult your nearest licensed Alumiseal Distributor Applicator, who is equipped to furnish experienced installation.

EXCLUSIVE DISTRIBUTOR APPLICATORS

NEW ENGLAND
Homans Kohler, Inc.
48 Wareham St., Boston, Mass.

EASTERN PENNSYLVANIA, DELAWARE & SOUTHERN NEW JERSEY
W.M. Moyer Co.
1616 Walnut St., Philadelphia, Pa.
4200 Chambers Hill Rd., Harrisburg, Pa.
New St., Quakertown, Pa.

VIRGINIA
R. M. Dunville & Bros., Inc.
214 South 2nd St., Richmond, Va.

WESTERN VIRGINIA
Institutional-Restaurant-Schools
Wm. P. Swartz, Jr. & Co. Inc.
421 Luck Ave., Roanoke, Va.

MINNESOTA, NORTH & SOUTH DAKOTA, WISCONSIN & IOWA
Hickory Insulation Co.
1750 Hennepin Ave.
Minneapolis, Minn.

NORTHERN CALIFORNIA
Peterson Cobby Supply Co.
218 Clara St., San Francisco, Cal.

FLORIDA, GEORGIA, ALABAMA & TENNESSEE
Aluminum Insulating Co., Inc.
558 W. 18th St., Hialeah, Florida
32 Peachtree St., N. E., Atlanta, Ga.

NEW ZEALAND
Ellis Hardie Symington, Ltd.
Fanshawe St., Freeman's Bay, Auckland

AUSTRALIA
Australian Asbestos Insulations PTY, LTD.
54 Meeks Rd., Marrickville, N.S.W.

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

Engineering, Design and Installation by
C. T. HOGAN & CO., INC., 429 EAST 53rd ST.
New York 22, N. Y. • Tel. PLaza 5-5881
PACIFIC COAST REPRESENTATIVE
1615 Polk Street, San Francisco 9, Calif. • Tel. PRospect 5-4438
SOUTHEASTERN REPRESENTATIVE
Aladdin Road, Lookout Mountain, Tenn. • Tel. VErnon 1-7994

TRADE MARK REG. U.S. PAT. OFFICE
ALUMISEAL
U.S. PATS. and PATS. APPLIED FOR
CORPORATION
429 EAST 53RD ST., NEW YORK 22, N.Y.

holders at a meeting next month. On August 2, Webb & Knapp gave the film company $2.4 million cash, increasing its earlier down payment to $5 million. "This," said William Zeckendorf Jr., "should satisfy any doubters that we are going ahead with Century City," the $500 million apartment, department store, and office building development Webb & Knapp plans to build on the property over a period of more than ten years. Under the new agreement, Twentieth Century-Fox will lease back 75 acres of land that it still uses for studios for $1.5 million a year (a lease that probably could be sold for $15 million or more without difficulty), and Zeckendorf will pay the $38 million balance for the property upon taking title sometime next year.

Labor raises building costs despite dip in materials

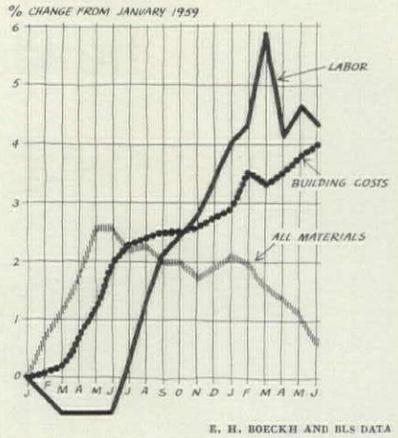
Last year rising prices for building materials were the main cause of increased building costs. This year material costs have been declining steadily but building costs have kept heading higher just the same—because of a marked increase in labor costs that began just about the same time that material prices began to ease (see chart).

In the first half of 1959 nonresidential building costs rose 2 per cent, reflecting the behavior of wholesale building material prices which climbed 2.6 per cent to a record peak while average hourly earnings of building construction workers showed a slight, 0.6 per cent, dip.

In the year since June 1959, building costs advanced another 2 per cent, but the trends in labor and material costs were completely reversed. During this period the index of average building material prices dropped 1.9 per cent to a point only 0.6 per cent above the level of January 1959. In the first six months of 1959 this index was pushed up by a sharp 7 per cent increase in prices for lumber and wood products. Since then, however, lumber prices have surrendered most of this gain, and in June were only 1.0 per cent above January 1959. This year's cutback in home building (after its fat 26 per cent advance in 1959 over 1958) caused the price of standard ¾-inch Douglas fir plywood to drop to $60 a thousand square feet in July, its lowest level since shortly after the war. Last month, however, after several weeks of sharply curtailed production, two of the largest manufacturers, U.S. Plywood and Georgia-Pacific, advanced their prices to $64 again, but still far below the $72 level of 1958, and the $80 level in 1955. Other building materials that have registered price declines in the year since June 1959 include heating equipment, down 1.2 per cent; metal doors, sash, and trim, down 1.8 per cent; asphalt roofing, down 6.2 per cent; plate glass, down 5.3 per cent, and window glass, down 2.9 per cent. Structural clay products rose 0.8 per cent, however, and plumbing equipment, 0.5 per cent.

The role of labor costs in the con-

continued on page 13



E. H. BOECKH AND BLS DATA

BUILDING COSTS for nonresidential structures as measured by the Boeckh index for apartments, hotels, and office buildings advanced 4 per cent through 1959 and the first half of 1960. Labor costs during this period, based on BLS data for average hourly earnings (including overtime) for all building construction workers, rose 4.4 per cent. During the first half of 1959 the BLS composite index of average wholesale prices for all building materials climbed 2.6 per cent, but since then gradually declined. This June it was only 0.6 per cent above its level of January 1959.

Bright idea: financing new stores for independents

? *How to enable small independent merchants to acquire new quarters, including stores in new shopping centers, without requiring them to make big initial building investments.*

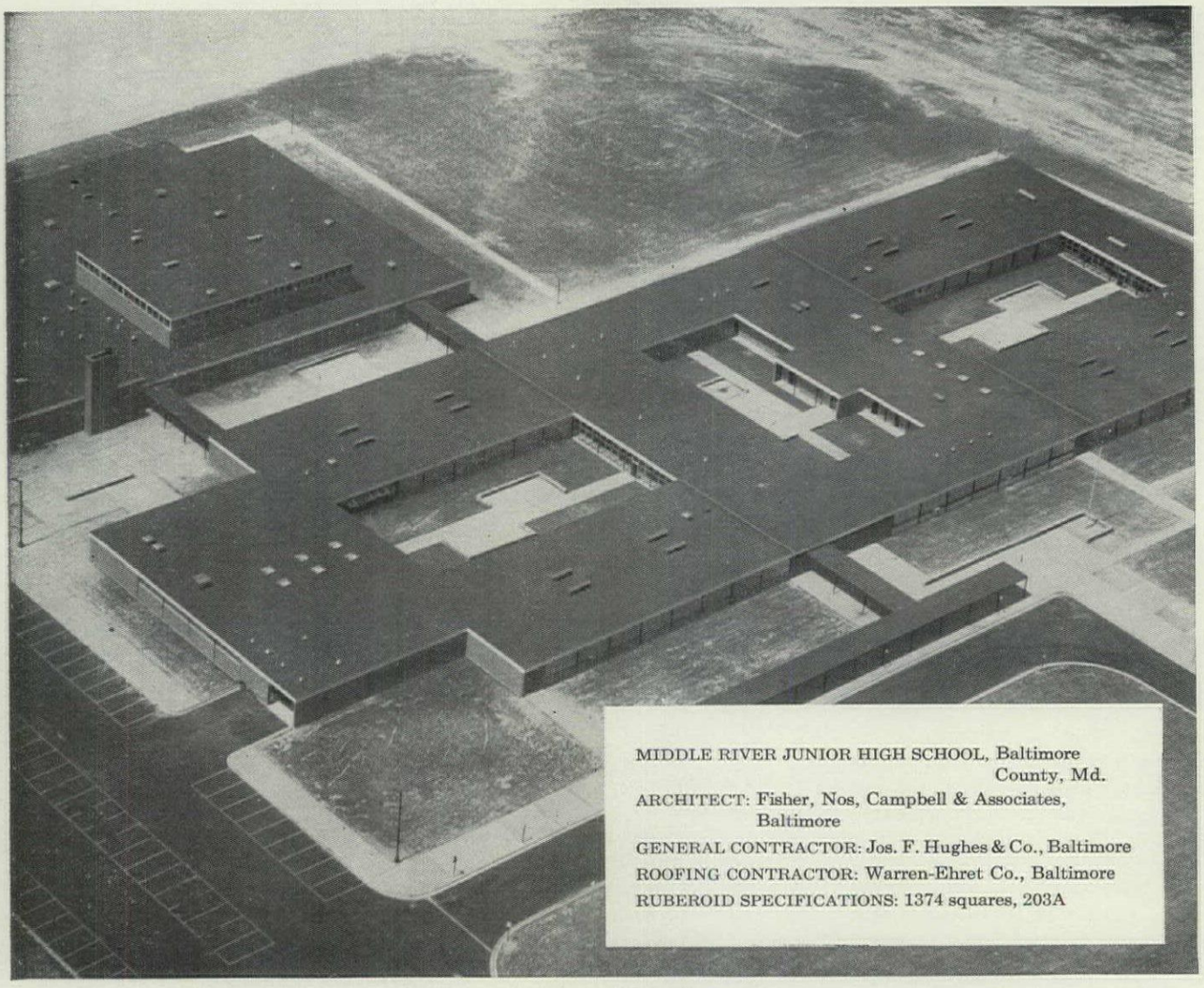
! *Have the merchant exchange an interest in his business for part ownership of the property, and for the right to acquire 100 per cent ownership eventually.*

As a rule, large new shopping centers will rent stores only to top-credit national chain organizations, because large financial institutions usually will provide mortgage financing only for projects to be occupied exclusively by national triple-A credit tenants. Small independent merchants complain that this often forces them out of business, when they are willing but unable to rent more desirable stores in new shopping centers, and later their business volume is undermined by the competing national chain stores that obtain the choicer shopping-center locations. In regular commercial districts, too, it is more difficult and more costly for builders or owners to obtain financing for structures to be occupied by small independent merchants—even though very successful and of the highest reputation locally—rather than by national credit tenants.

But now a new financing plan to help successful independent merchants obtain new or better quarters, including new shopping-center stores, has been developed by a group of investors associated with Carl Lloyd, who resigned recently as executive vice president of the Society of Industrial Realtors to devote all of his efforts to this business. In one of the first deals it is completing, this group paid $300,000 for a building that will be occupied by a first-class restaurant that needed a new location in the Washington, D. C. area. On moving in, the restaurant operator will be given a one-third ownership interest in the property in return for a nominal rent and for one-half of his net profits. Both rent and profits will be used to pay the original investors 6 per cent interest and to amortize their full costs as rapidly as possible. As soon as their original investment has been fully amortized (in about seven years in this case), the restaurant operator will no longer pay any rent. He will continue to pay the investors one-half of his net profits, however, in consideration of their continued two-thirds ownership of the property, but then he will also have the right to buy out their position for two-thirds of the property's original cost.

In effect, this financing plan makes the restaurant operator and the realty investment group partners in each other's ventures with the investors trading a share in the property for a share in the tenant-partner's profits, although eventually allowing the restaurant operator to regain complete control of his business and 100 per cent ownership of the property.

This investment group is also negotiating for the outright purchase of portions of several new shopping centers in which it will place small independent merchants under the new plan. By substantially improving the cash or equity position of each shopping-center owner in such cases, Lloyd believes that these purchases will make it easier for the shopping-center owner to obtain favorable terms for his basic mortgage financing.



MIDDLE RIVER JUNIOR HIGH SCHOOL, Baltimore County, Md.
ARCHITECT: Fisher, Nos, Campbell & Associates, Baltimore
GENERAL CONTRACTOR: Jos. F. Hughes & Co., Baltimore
ROOFING CONTRACTOR: Warren-Ehret Co., Baltimore
RUBEROID SPECIFICATIONS: 1374 squares, 203A

RUBEROID'S TIME TESTED SPECIAL BITUMEN
heads the class in roof protection

Applied 28 years ago—still in service. The Accomac Elementary School, Accomac, Virginia—a typical example of economy and durability with RUBEROID roofing. This Special Bitumen job, done in 1932, is a four ply 15# Asphalt Felt, Bitumen and gravel surface on one inch of insulation.

Long roof life and RUBEROID Special Roofing Bitumen are synonymous. Proven time and again on jobs like the Accomac School, Special Bitumen is today's choice for tomorrow's weather-tight, maintenance free, built-up roof.

The plus values of durability and an engineered application by a RUBEROID Approved Roofer are your assurances of quality this year, next year and for many years to come. It's a combination that can't be topped in the built-up roofing industry.

Specify RUBEROID Special Roofing Bitumen on your next project and get those extra years of roof life.

For detailed RUBEROID Specification Data, write to: The RUBEROID Co., 500 Fifth Ave., New York 36, New York.

The RUBEROID Co.®

see our catalog in S or write for copy

tinued uptrend in building costs was highlighted last month in an analysis by the Bureau of National Affairs covering 1,755 new management-labor contracts in all branches of industry negotiated during the first half of this year. Construction unions have won substantially higher wage increases than any other unions. The median increase in 281 construction industry contracts was 14.7 cents an hour, considerably above the second highest median of 11.9 cents in 20 contracts in the trucking and warehousing industry. The construction union median was a hefty 58 per cent greater than the median of 9.2 cents in all industries.

People

With the support of a $25,000 grant from the Ford Foundation, the National Association of Housing and Redevelopment Officials has engaged Greek Architect-Engineer-City Planner **Constantinos A. Doxiadis** to make a critical study of "what constitutes this country's philosophy of urban living and what is needed to strengthen the national urban renewal program . . . to come up with a set of principles and criteria for measuring performance that can serve American cities as long-term guides for renewal."

The nation's renewal program needs a fresh evaluation of its goals and efforts, said NAHRO President **Charles L. Farris** in announcing the project. "It is not just slum clearance and the building of structures that are involved, though these are what meet the eye. To get the whole picture and set guide lines for the future, a complex of social, technical, and political factors affecting obsolescence of our cities must be appraised. This we will do with the aid of Dr. Doxiadis, who has made study and work with human environment his career."

NEW PLANNERS IN WASHINGTON

After serving 15 months beyond the end of his term, until President Eisenhower named his successor, 70-year-old veteran City Planner **Harland Bartholomew,** of St. Louis, stepped down last month as chairman of the National Capital Planning Commission in Washington. As a planning consultant, Bartholomew prepared Washington's first zoning map in 1920, and in 1950 a comprehensive city plan, before he was appointed to head the Commission in 1953. To succeed Bartholomew as chairman, the Presi-

continued on page 14

TESTIMONIAL RESOLUTION being given to retiring NCPC Chairman Bartholomew by new member William C. Foster (1) and new Chairman A. M. Woodruff.

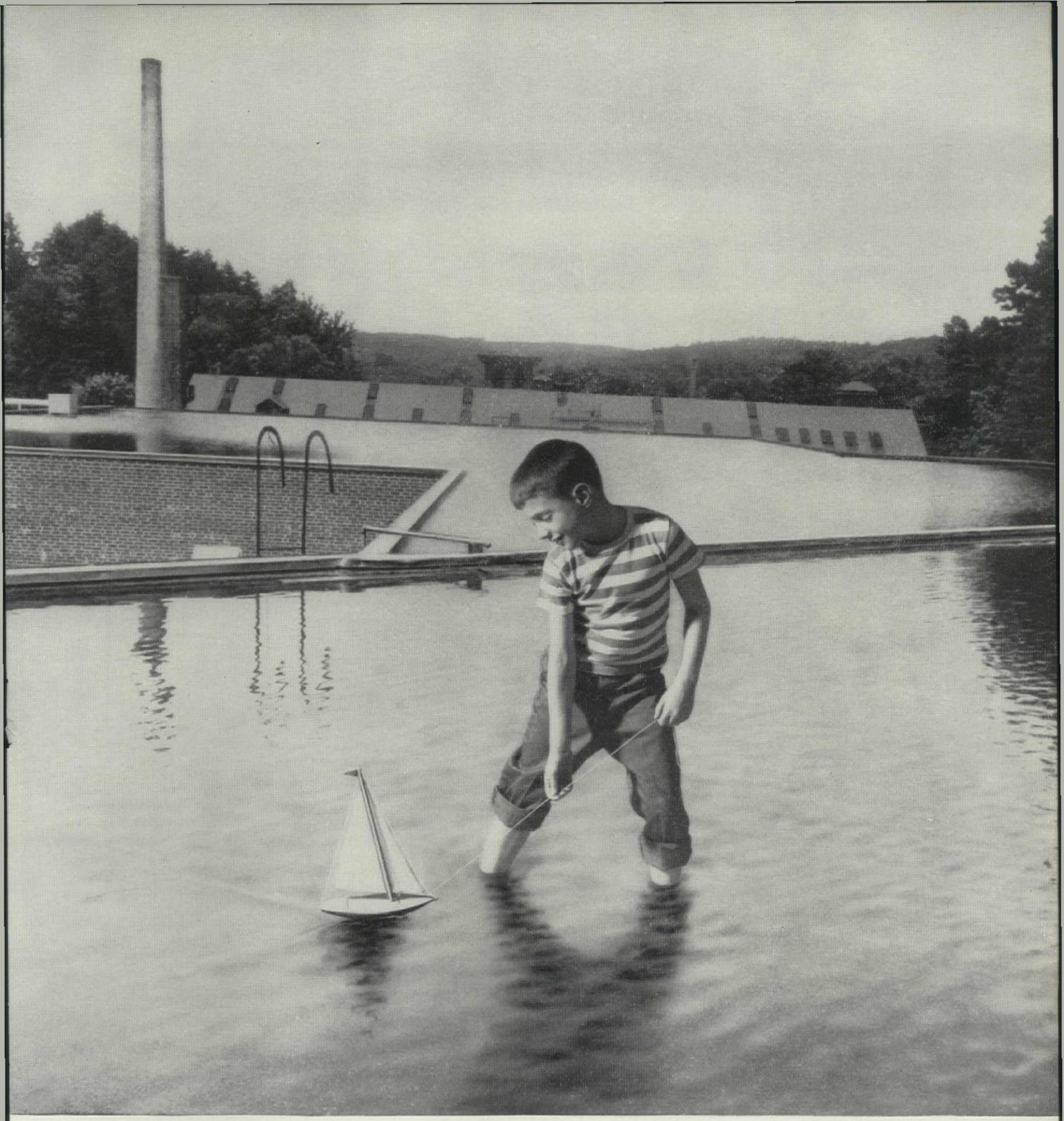
dent appointed **A. M. Woodruff,** 48, of Fairfax County, Va., dean of the School of Government at George Washington University and vice chairman of the Allegheny County Planning Commission from 1954 to 1959, while he was a resident of Pittsburgh. The President also appointed to the Commission Washingtonian **William C. Foster,** president of the Federal City Council and a vice president of Olin-Mathieson Chemical Corp., to fill the unexpired term of the late **John A. Remon,** and renamed **C. McKim Norton,** of Princeton, N. J., for another six-year term.

ARCHITECTS BOOST REGIONAL PLANNING

Members of four A.I.A. chapters have united to take the lead in promoting regional planning for a four-state area extending about 150 miles around the southern end of Lake Michigan. The newly established Lake Michigan Region Planning Commission is composed of three architect-planner delegates and three alternates each from the Indiana, Wisconsin, western Michigan, and Illinois chapters. Its first chairman is **Paul Frank Jernegan,** chairman of the civic planning committee of the Indiana Society of Architects and a member of both the Chicago and Indiana chapters. **Edward Duffield,** Western Michigan chapter, has been elected as vice chairman, and **S. Chan Sit,** Chicago chapter, secretary.

Jernegan, who advocated formation of such a body for several years, says it was created because of the growing awareness of the inadequacy of so much "fractionalized" planning by individual communities, and the advisability of having architects take the lead in sponsoring more comprehensive and more practical regional plan-

continued on page 16



ONLY COAL TAR PITCH gives roofs the complete, lasting waterproofness necessary to prevent deterioration. Coal tar pitch is slightly more expensive than other materials, but offers the assurance of documented 40-year service and life-long "self-healing" properties. Koppers roofing specialists will be glad to tell you more.

KOPPERS TAR PRODUCTS DIVISION, PITTSBURGH 19, PA.

DISTRICT OFFICES: BOSTON • CHICAGO • LOS ANGELES • NEW YORK • PITTSBURGH • WOODWARD, ALABAMA

ning. In a sense, he says, the new body is a joint planning committee of the four A.I.A. chapters. Because the committee is not restricted by geographical or political boundaries, it should be able to operate on a far wider scope and with much greater objectivity and independence than many private and public planning agencies and organizations in the area. One of its first actions has been the creation of an advisory council to which it has already appointed **Ira Bach,** Chicago Planning Commissioner; **Paul Opperman,** Executive Director of the Northeastern Illinois Metropolitan Area Commission; **Robert Huff,** Director of Planning, South Bend, and **William Jones,** Director of Planning, Fort Wayne.

PEOPLE IN BRIEF

Walter Gropius, during a trip to Europe this summer to inspect foreign buildings designed by The Architects Collaborative, was awarded the German Grand State Prize of Architecture (approximately $2,400) at a ceremony at the Academy of Arts, in Düsseldorf—an architect restored to honor in his old country.

At the University of Southern California School of Architecture, **Henry Charles Burge,** faculty member since 1945, has been appointed both acting dean and chairman of a faculty committee to find a successor to Dean **Arthur B. Gallion,** who resigned to become director of planning for the Honolulu office of Harland Bartholomew & Associates, city planners. END

ARCHITECTURAL FORUM is published monthly by TIME INC., Time & Life Building, Rockefeller Center, New York 20, N. Y.

SUBSCRIPTION SERVICE: Address all subscriptions and correspondence concerning them to: ARCHITECTURAL FORUM Subscription Dept., 540 N. Michigan Ave., Chicago 11, Ill. Subscription rates: in U.S., U.S. Possessions and Canada, one year $6.50; elsewhere, one year, $10. Single copies, if available, $1.

CHANGE OF ADDRESS: Four weeks is required for change of address. When ordering a change please name magazine and furnish a label from a recent wrapper. If no label is available please state as exactly as possible the address to which magazine has been sent. Changes cannot be made without old as well as new address.

EDITORIAL CORRESPONDENCE should be addressed to ARCHITECTURAL FORUM, Time & Life Building, Rockefeller Center, New York 20, N. Y. FORUM will not be responsible for unsolicited manuscripts or illustrations submitted, and it will not return such material unless accompanied by postage.

ADVERTISING CORRESPONDENCE should be addressed to the advertising director, ARCHITECTURAL FORUM, Time & Life Building, Rockefeller Center, New York 20, N. Y.

TIME INC. also publishes TIME, LIFE, FORTUNE, SPORTS ILLUSTRATED, and HOUSE & HOME. Chairman of the Board, Andrew Heiskell; Chairman, Executive Committee, Roy E. Larsen; Chairman, Finance Committee, Charles L. Stillman; President, James A. Linen; Executive Vice President and Treasurer, D. W. Brumbaugh; Senior Vice President, Howard Black; Vice President and Secretary, Bernard Barnes; Vice Presidents, Edgar R. Baker, Clay Buckhout, Arnold W. Carlson, Allen Grover, C. D. Jackson, Arthur R. Murphy, Ralph D. Paine, Jr., P. I. Prentice, Weston C. Pullen, Jr.; Comptroller and Assistant Secretary, John F. Harvey; Assistant Treasurer, W. G. Davis; Assistant Comptroller and Assistant Secretary, Charles L. Gleason, Jr.

Minoru Yamasaki & Associates, Architects McGregor Memorial Conference Center at Wayne State University Baltazar Korab, photograph

An imaginative treatment of layout + color by the Knoll Planning Unit. Knoll Furniture and Fabrics are available through architects, decorators and dealers.

May we send you information on the Knoll Planning Unit and international facilities?

KNOLL ASSOCIATES, INC., AND KNOLL INTERNATIONAL, LTD., 575 MADISON AVE., NEW YORK 22

Boston, Chicago, Dallas, Detroit, Los Angeles, Miami, New York, Philadelphia, St. Louis, San Francisco, Washington. Brisbane, Brussels, Caracas, Helsinki, London, Madrid, Mexico City, Milan, New Delhi, Paris, Sao Paulo, Stockholm, Stuttgart, Toronto, Zurich.

Suntile helps you create

IN WALL TILE

New Setfast* Mounted Stock Pattern Insets

(in 4¼ x 4¼, 4¼ x 6, 6 x 6 and 4¼ x 8½" tiles)

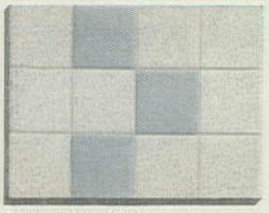
add interest to any wall

Here's a group of new contemporary design patterns in ceramic wall tile that should excite the imagination of every creative designer.

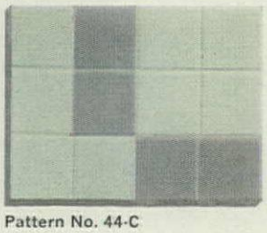
Each of these new basic pattern insets can be secured in wall tiles of any standard size and in a wide variety of colors that will harmonize with or accent your basic background color. What's more, because these units are "Setfast"* mounted they can be installed easier and faster.

Set within a background field of any of Suntile's palette of 35 standard colors, they enable you to create a wide variety of interesting wall treatments. Only a few of the many design possibilities offered by these basic patterns are shown here.

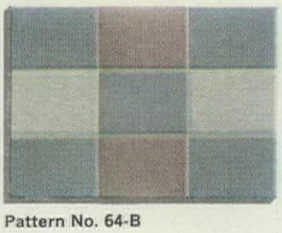
For guaranteed installation by skilled craftsmen, call your Authorized Suntile Dealer. His name is listed in the "Yellow Pages" of your phone book. For folder showing the complete selection of our new stock pattern insets, write to Dept. S-F9



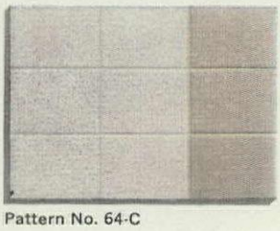
Pattern No. 44-B



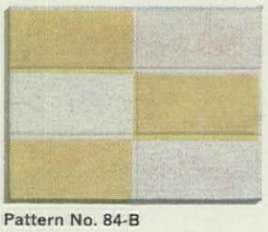
Pattern No. 44-C



Pattern No. 64-B

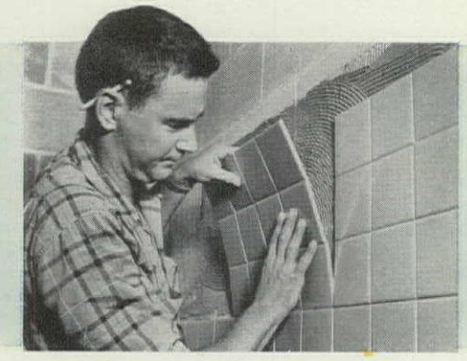


Pattern No. 64-C



Pattern No. 84-B

* Patent #2,887,867—other patents pending



*Suntile's Patented** **SETFAST MOUNTING**

—simplifies tile setting—saves time and money

SETFAST is the patented development of The Cambridge Tile Co. It has proved itself in thousands of installations to be the easiest, fastest and most economical method of installing wall tile or floor tile. Goes right over existing walls. Can be used with approved adhesives or self-curing mortar in thin-set installations. All tiles are perfectly spaced at the factory. No paper to soak off, no mess to clean. Because it's installed face up, errors are avoided, tile setter can inspect his work as he goes along.

NEW IMAGINATIVE DESIGNS

IN FLOOR TILE

Custom Design
No. 6538-S

it's **new**... it's **original**...
it's SERPENTINE
by **Suntile**

If you're looking for something different, something distinctive in a ceramic tile floor design—here it is—Suntile's new SERPENTINE pattern.

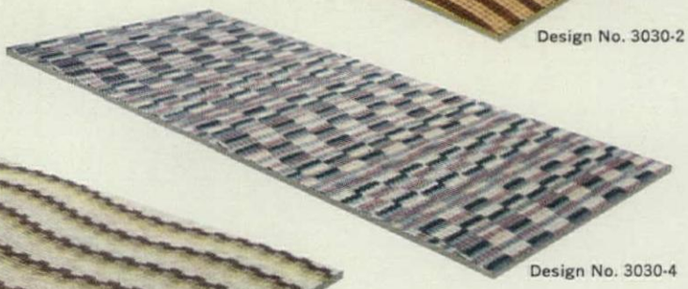
This intriguing new design is no optical illusion. Through a new method developed by Cambridge the tiles (1" x 1" or 2" x 2") are actually set in an interesting serpentine pattern that offers a new originality never available before.

With Suntile's special "Setfast"* mounting, it is possible to set precision mounted 2 foot sheets of tile with greater ease than ever before. This new method not only saves installation time but gives a uniform hand-set appearance to your SERPENTINE floor.

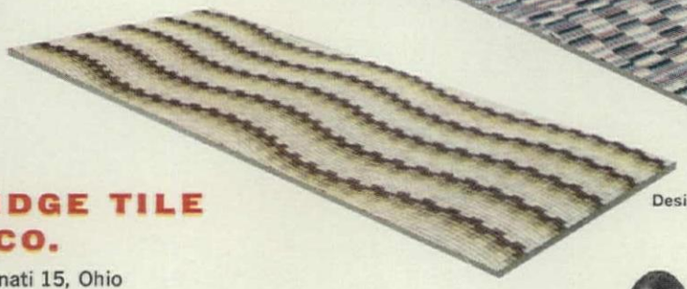
SERPENTINE pattern units are available in solid colors or interesting multi-color combinations that lend themselves to many attractive over-all floor patterns. Pictured here are but a few of the interesting design effects you can achieve with this new SERPENTINE pattern. For special folder showing additional SERPENTINE patterns, write today. Address Dept. S-F9.

Design No. 3030-3

Design No. 3030-2



Design No. 3030-4



Design No. 3030-5

THE CAMBRIDGE TILE MFG. CO.

P.O. Box 71, Cincinnati 15, Ohio

Suntile's **DESIGN SERVICE DEPARTMENT**
is ready to serve you, without obligation!

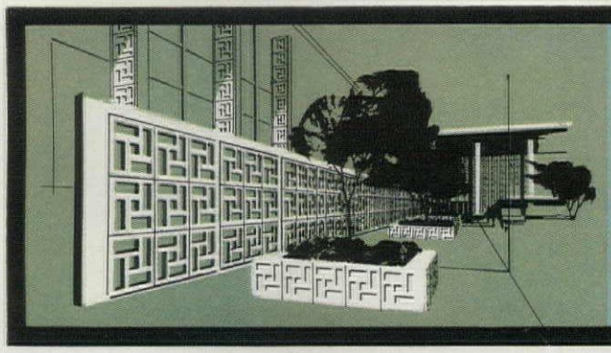
Our design staff under the direction of George Limke is always ready to assist you with your tile design or layout problems. Working from your elevations or plans, and with your design requirements in mind, they will gladly develop suggestions for tile applications in any area or translate your design concepts into accurate layouts. Just send us your elevations, plans or sketches for tile installations and we'll submit drawings for your consideration. There is no obligation. Address Dept. D-F9.

A new line of office furniture
so compatible it serves the president
or the secretary . . . appropriately
and with equal ease

The ✳4000 Line by
ALL-STEEL EQUIPMENT INC.
Aurora, Illinois

Write today for your free catalog

and beauty to new medical center!



Buff-toned concrete of Medical Center harmonizes with older Stanford University buildings. The grille motif is repeated in columns, spandrels, mullions and plant boxes. Grilles shield east and west façades, corridors and patients' private gardens.

Stanford University Medical Center, Palo Alto, California. Architect: Edward Durell Stone, New York, N.Y. Structural Engineers: Pregnoff & Matheu, San Francisco, California

Roots are no problem with NEW Factory-Made Compression Joints

Now you can get Clay Pipe with this *built-in* root protection. New research-developed, factory-made compression joints form a tight seal that assures long, trouble-free service, even in root-infested areas. These stronger joints seal in seconds, and—together with *new* longer pipe lengths—make Vitrified Clay the fastest, most economical pipe to install . . . the most efficient in performance. And remember—Clay Pipe does not rust, rot, corrode, or disintegrate. It is the only pipe with *all* the features you can trust . . . *protects your reputation.*

● *For valuable information, covering this never-wear-out Clay Pipe with new factory-made compression joints, write your nearest NCPMI office, or contact your local Clay Pipe dealer.*

C-258-4

Vitrified **CLAY PIPE** *Never Wears Out*

NATIONAL CLAY PIPE MANUFACTURERS, INC. 1820 N Street, N. W., Washington 6, D.C.
311 High Long Bldg., 5 E. Long St., Columbus 15, Ohio • 703 Ninth & Hill Bldg., Los Angeles 15, California • Box 172, Barrington, Illinois • 1401 Peachtree St., N. E., Atlanta 9, Georgia

CONTROL:

first step to

comfort

First National Bank of Minneapolis, Minneapolis, Minnesota.
Architects and Engineers: Holabird & Root, Chicago. Associate Architects: Thorshov & Cerny, Minneapolis. Mechanical Contractors: Bjorkman Brothers Company, Minneapolis and Commercial Air Conditioning, Inc., Minneapolis. General Contractor: Naugle-Leck, Inc., Minneapolis.

Only precise control of indoor comfort makes space truly usable. That's why it's so important to integrate good design and comfort control right from the start in any type of building. You can depend on Honeywell to help your engineer specify the best possible temperature control system for each of your clients' particular needs. You'll find that Honeywell's seventy-five years of leadership in temperature control will go far toward assuring your clients' complete satisfaction. For further details, call your nearest Honeywell office, or write Minneapolis-Honeywell, Minneapolis 8, Minnesota.

Honeywell

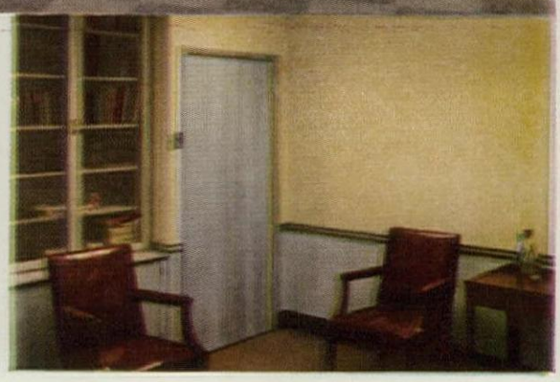
First in Control

SINCE 1885

See us in Sweet's 1960 Architectural File, Section 30 D/Mi

75th YEAR — PIONEERING THE FUTURE

VERSATILE J-M MOVABLE WALLS in this office, above, meet an unusual height requirement, adapt economically to a plan calling for glazed and solid units of varied dimensions. Also, these asbestos walls can satisfy style preferences ranging from the contemporary, *right*, to traditional, *far right*. These walls can be easily painted any color, can be veneered with wood or other laminates.

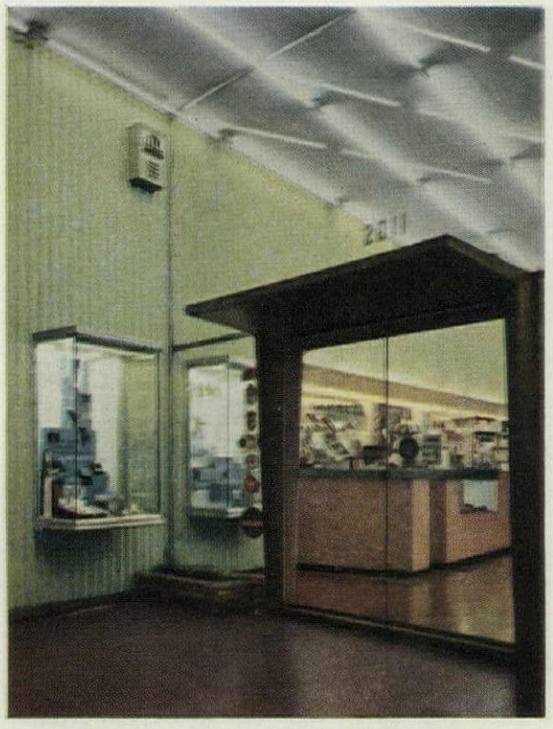


INTERIORS

New approaches to old problems
with modern products
by Johns-Manville

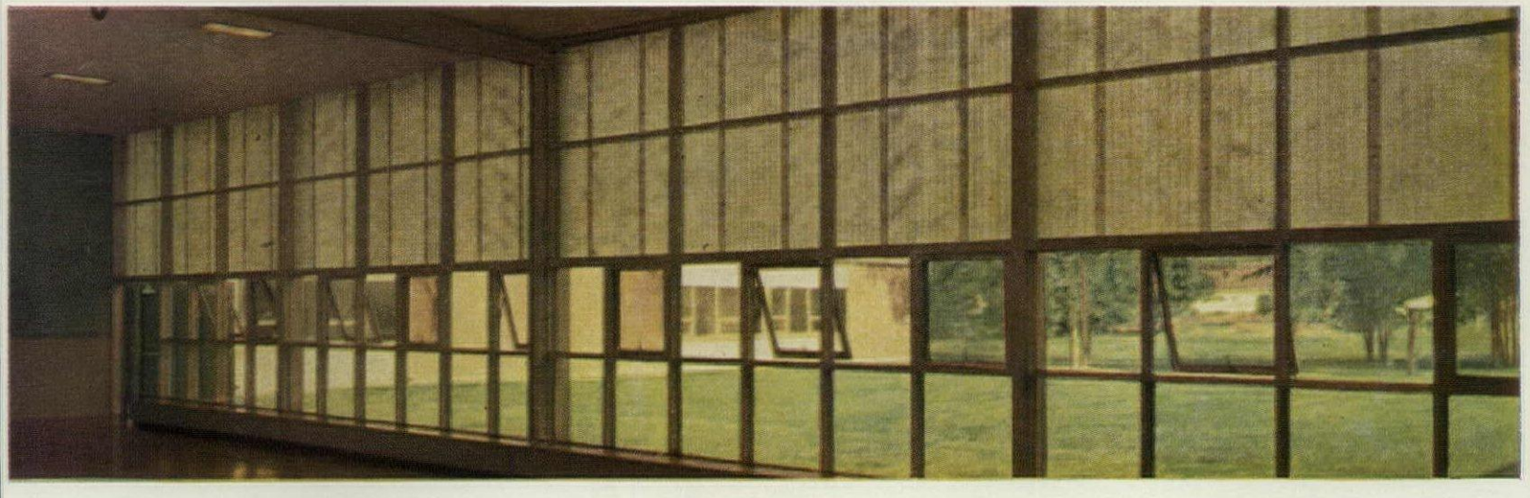
Every project makes its own new demands for combining beauty and performance. Perhaps there's a Johns-Manville Building Product that will suggest a solution to one of your current interior design problems.

On these pages are Johns-Manville Interiors at work in offices, stores, schools. Call in a J-M representative when you're in the planning stages of your next project. (J-M has led in building product research and development for over one hundred years.) Write Johns-Manville, Box 158, Dept. AF-960, New York 16, N. Y. In Canada, address Port Credit, Ontario.



J-M CORRUGATED TRANSITE forms an inside-outside wall that's visually appealing, rugged in service. This stone-like, asbestos building panel accepts paint beautifully . . . or can be used unfinished in its natural medium gray.

J-M CORRULUX is used here as an upper wall. Translucent, it admits soft, natural light. Corrulux panels of fiber-glass-reinforced plastic are shatterproof as well as colorful and decorative. Panels are available in standard lengths up to 12'; longer on special order.



JOHNS-MANVILLE

JOHNS-MANVILLE JM PRODUCTS

CORRULUX and TRANSITE are registered trademarks of the Johns-Manville Corporation

PLEXIGLAS *letters and modular background panels at Bank of Old York Road, Abington, Pa. Architects: Haag & d'Entremont*

BEST WAY TO SIGN A NAME...

PLEXIGLAS

Powerful identification can be combined with pleasing, dignified appearance when signs are made of PLEXIGLAS® acrylic plastic.

Designed in PLEXIGLAS, signs become solid areas of color and light—clean and legible by day, completely luminous from internal lighting at night. They resist weather and breakage, cost little to maintain. PLEXIGLAS makes possible the design of signs that meet the specific identification needs of any type of business, any type of building.

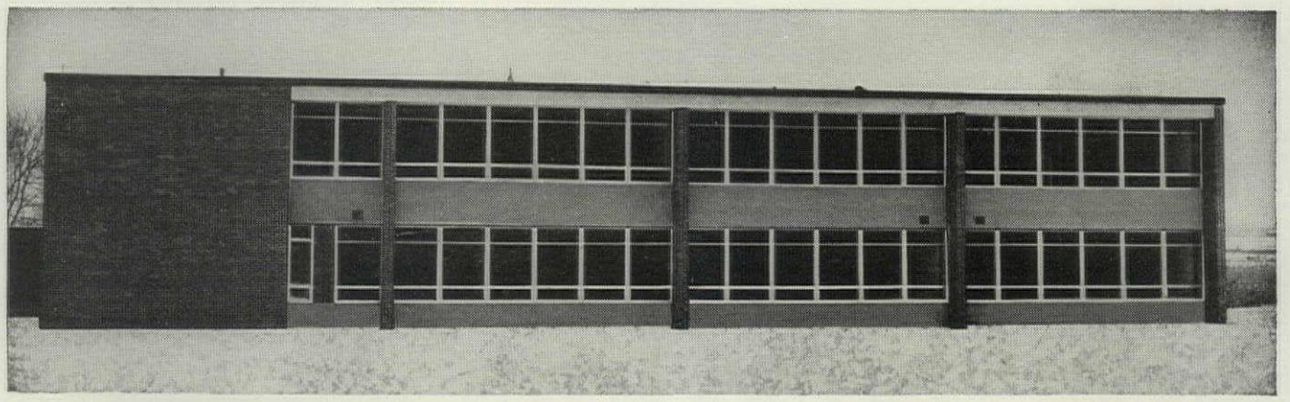
We will be glad to put you in touch with sign companies in your area who are experienced in the use of PLEXIGLAS.

Chemicals for Industry

ROHM & HAAS COMPANY

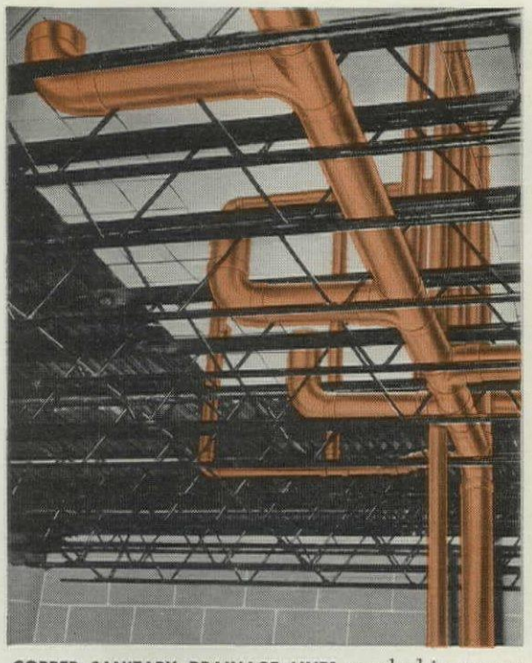
WASHINGTON SQUARE, PHILADELPHIA 5, PA.

In Canada: *Rohm & Haas Company of Canada, Ltd., West Hill, Ontario*

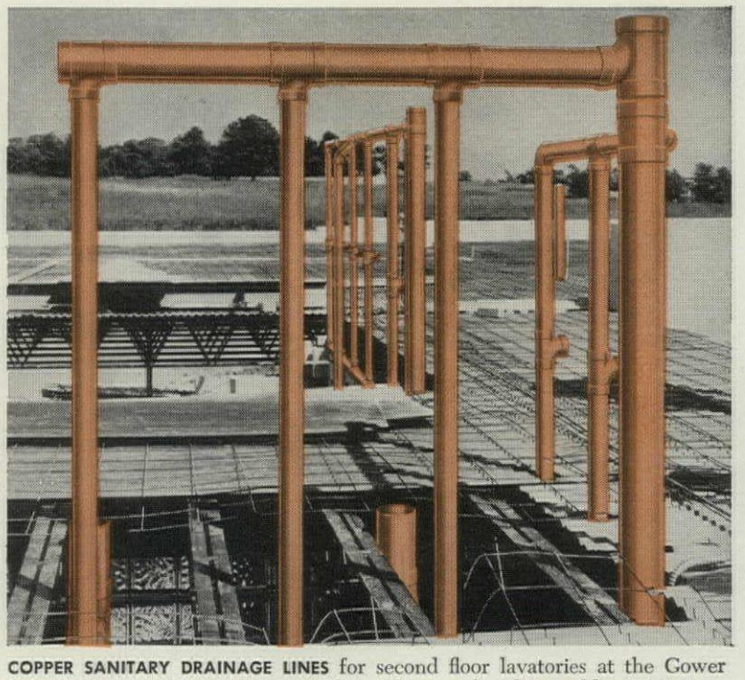


GOWER SCHOOL ADDITION, Hinsdale, Illinois. *Architect:* Wight & Schlaebitz, Downers Grove, Illinois.
Plumbing and heating contractor: Jerry & Phil's Plumbing & Heating, Inc., Brookfield, Illinois.

SUPERIOR **ALL-COPPER PLUMBING** IN THIS SCHOOL AT LOWER COST TO TAXPAYERS



COPPER SANITARY DRAINAGE LINES roughed-in among structural members at Gower School. This space-saving installation would have been impracticable with heavy, bulky pipe requiring threaded or caulked joints.



COPPER SANITARY DRAINAGE LINES for second floor lavatories at the Gower School. Light weight of copper tube and ease of making solder joints save many dollars on multiple installations like this. Compact assemblies eliminate wide plumbing walls, give greater usable floor area.

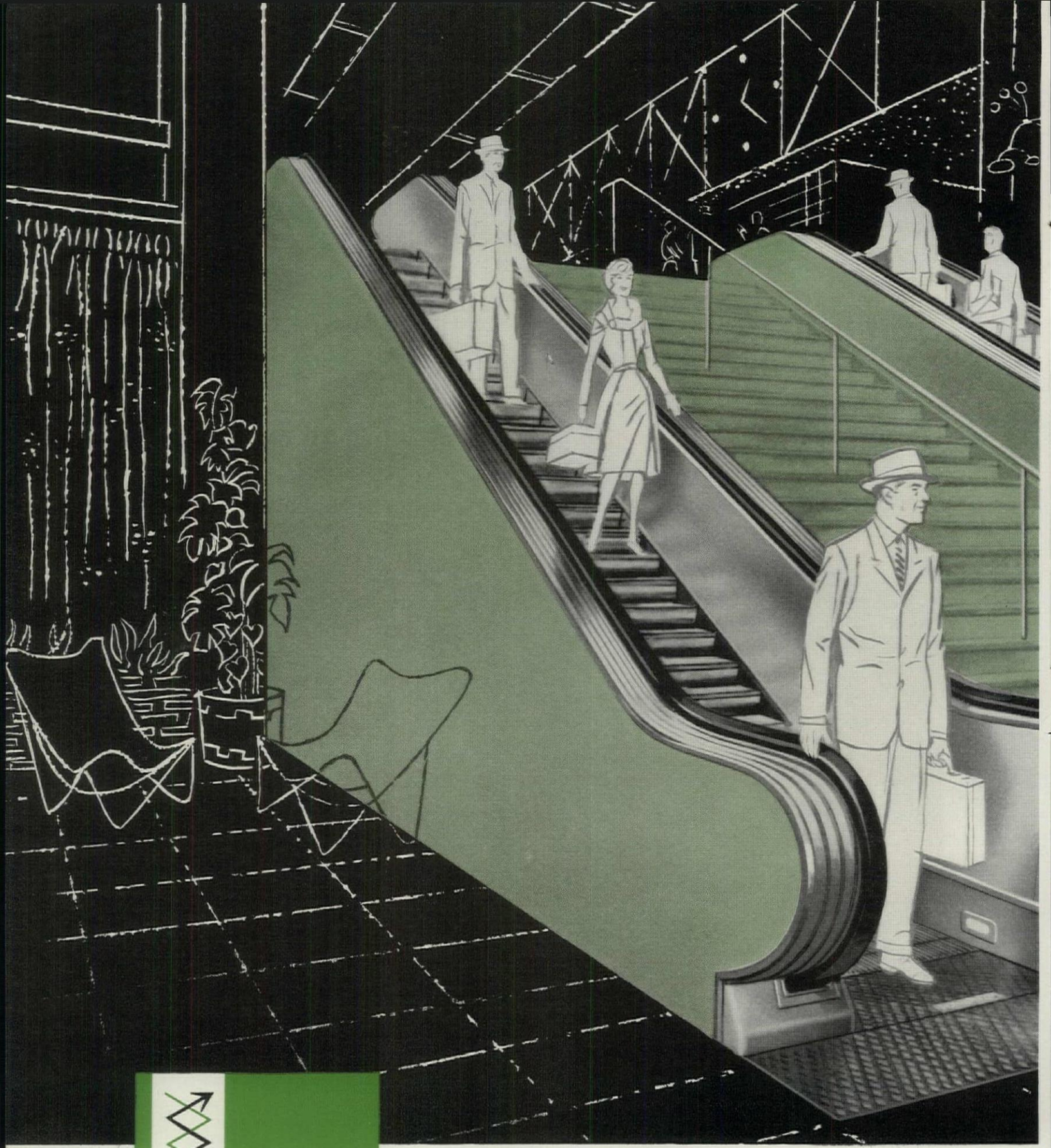
Phil Bergeron and Jerry Wehrmeister, plumbing contractors near Chicago, have found that the installation economies with copper tube and solder-joint fittings enable them to offer all-copper plumbing—water supply *and* sanitary drainage—at a cost lower than competitive bids based on installing ferrous piping. Recent jobs awarded to them as low bidder include the Gower School, the LaGrange Township Junior High School, a church, health center, two restaurants and a store. Anaconda was used for all these jobs. Phil Bergeron says, "We specify Anaconda Copper Tube and Fittings because their consistent fine quality and close tolerances makes our work easier and keeps the job costs within our estimates."

Contractors, builders, and architects the country over are finding that they can provide long-lasting, low-maintenance all-copper plumbing at a cost competitive with ferrous piping. For information on Anaconda Copper Tube and Fittings, write for a copy of Publication C-33. Address: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont. 5905

ANACONDA®

COPPER TUBE AND FITTINGS
Available through plumbing wholesalers
PRODUCTS OF THE AMERICAN BRASS COMPANY

MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY



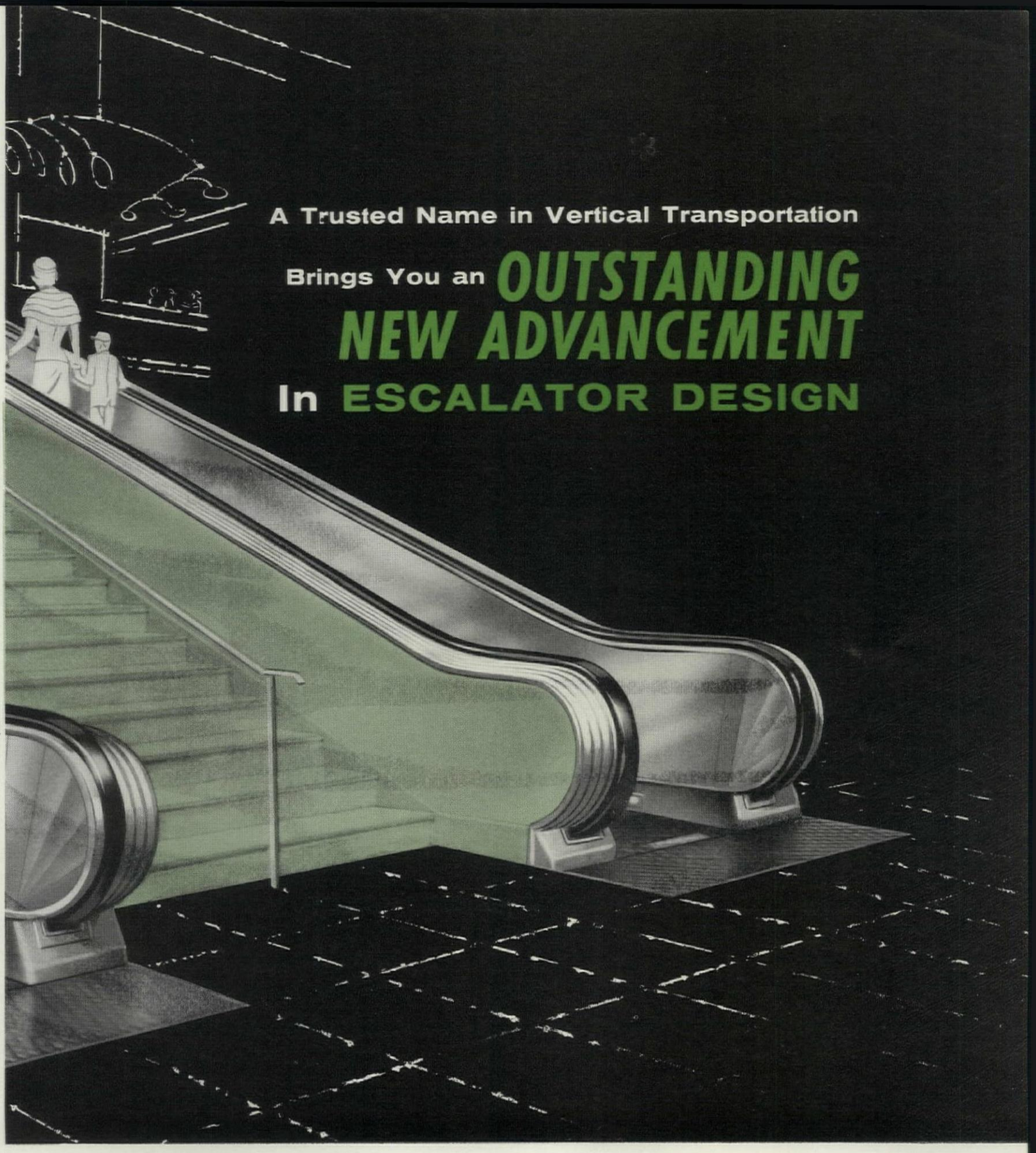
- New clean-sweep balustrade
- New easy-to-grip handrail
- New Poly-V-Belt drive provides vibration-free operation
- New High Chord truss design for greater strength, lighter weight
- Exclusive slip-reducing handrail drive
- Step-train chains cushioned and silenced by rubber shock and silencer rings
- Haughton-engineered for complete passenger safety

FACTORY BRANCHES TO SERVE YOU COAST-TO-COAST

HAUGHTON ELEVATOR COMPANY

DIVISION OF TOLEDO SCALE CORPORATION

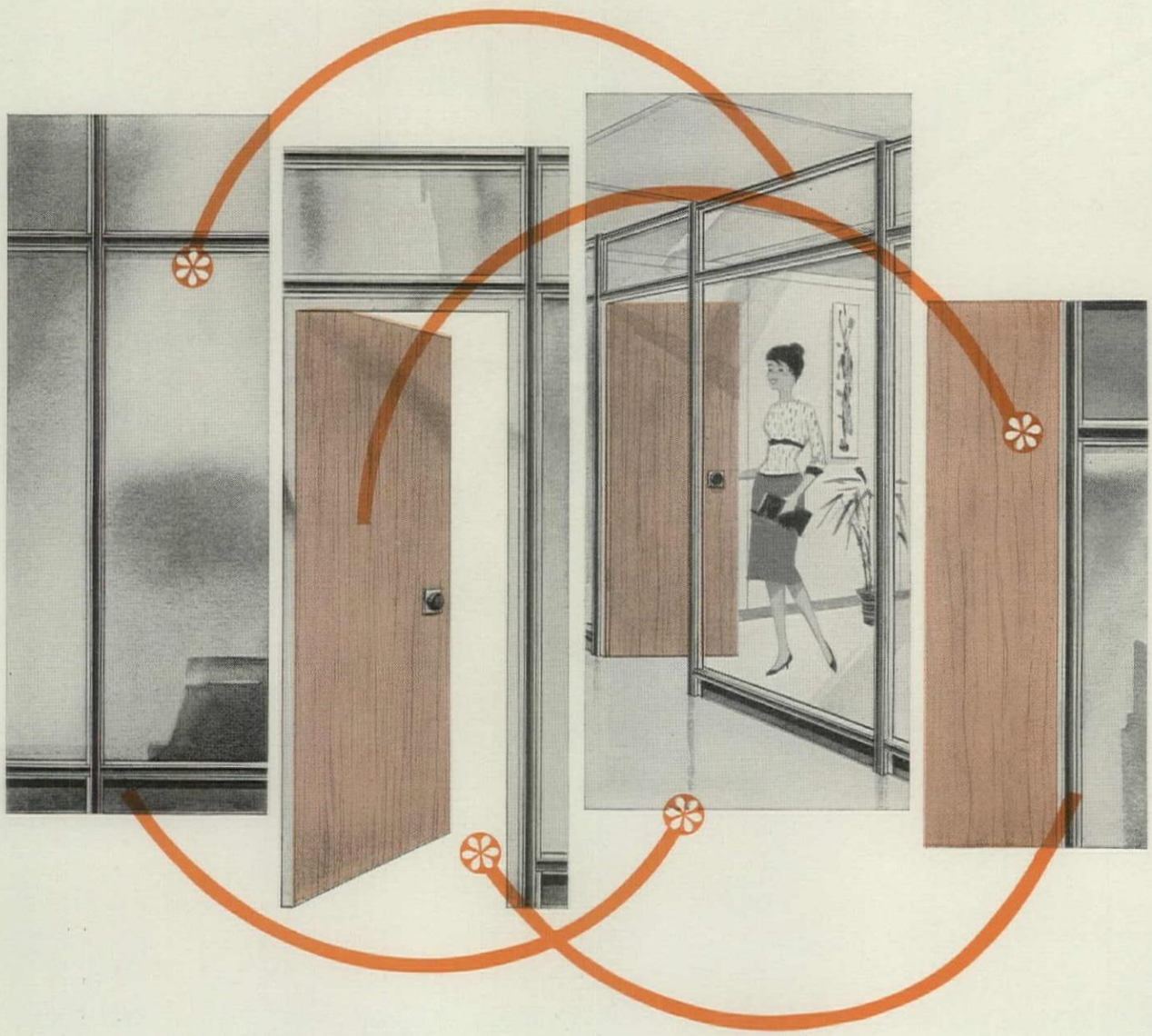
Executive Offices and Plant, **TOLEDO 9, OHIO**



Haughton Type H escalators are designed to move from 3000 to 8000 people per hour—efficiently, safely, quietly. Equally important, they're styled to enhance the beauty of their surroundings . . . provide exceptional flexibility of arrangement to meet varying space requirements. In appearance as well as performance, they represent the greatest advancement in vertical transportation in years. Let us show you how new Haughton Type H escalators and the men who design, build, and maintain them can help you provide better traffic movement in the buildings you design. Call your nearest Haughton Factory Branch or write for illustrated brochure.

Modular Integrity ✻ by Mills

Change after change, a Mills Movable Wall System maintains its integrity because it has been custom-crafted to the building module. Only Mills design assures you that even after many changes, joints and trim will be tight; partitions, on module. Mills representatives are now showing further examples of Mills-conditioned office space; you may see them by writing to us, The Mills Company; since 1921, manufacturers of movable wall systems: 922 Wayside Road, Cleveland 10, Ohio.

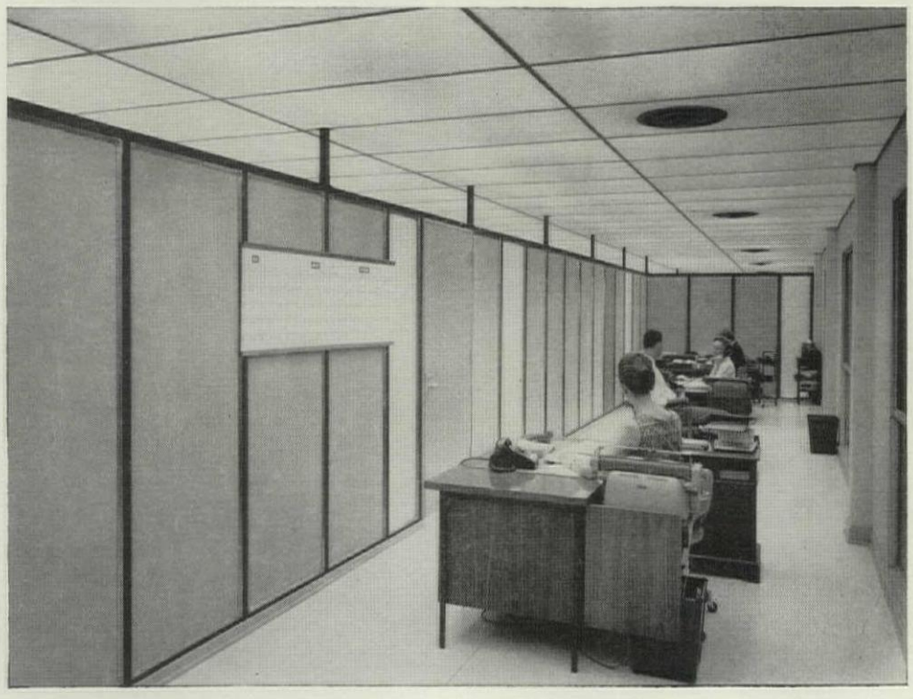


Space-Conditioning:
a total concept by Mills.
Control • Comfort
Privacy • Efficiency
Beauty

MILLS

Look at the amazing things Alcoa Industrial Foil is doing!

Luminous, uninterrupted span heightens the striking, modern decor. The recently remodeled offices of Lockheed Aircraft Corporation at Marietta, Georgia, are under the world's most modern ceiling—Hexcel Honeylite®, made from ALCOA® Aluminum Foil only .004 in. thick. Foil honeycomb conceals overhead pipes, ducts and sprinkler heads. What a change, say old hands.



Soft, glare-free, shadow-free light bathes every nook and cranny—diffused by millions of ¼-in. hexagonal cells. Installation was simple and inexpensive. For one thing, aluminum honeycomb weighs only 3 ounces a square foot. But more, the panels are framed in aluminum and supported by a system of aluminum T-rails . . . which means little maintenance, no deterioration, new appearance indefinitely.

Aluminum Honeycomb Ceiling brings tranquility and shadow-free light to Lockheed Office

ALCOA does not make foil honeycomb, but we will be happy to send names of manufacturers who do. Our product is aluminum foil, the versatile material that forms, twists, colors, combines with other materials, weaves into cloth . . . cuts costs and improves techniques in hundreds of industrial applications. Have *you* taken a close look at ALCOA Foil recently?

For more information, write today to ALUMINUM COMPANY OF AMERICA, INDUSTRIAL FOIL DIVISION, 1679-J Alcoa Building, Pittsburgh 19, Pa.

ALCOA ALUMINUM

INDUSTRIAL FOIL

LOOK UP to the MOST MODERN COMFORT CONDITIONING (AND MORE QUIET TOO)

International Minerals & Chemical Corporation Administration and Research buildings at Skokie, Ill.

Look up to the Burgess-Manning Radiant Acoustical Ceiling at the International Minerals & Chemical Corporation, Skokie, Illinois. Here, maximum employee comfort and operating efficiency are assured by the ultimate in radiant heating, cooling and noise control.

With the Burgess-Manning Radiant Acoustical Ceiling, all offices in the modern design and construction of six connected buildings —designed by Perkins and Will, Chicago —have:

- Complete uniform heat distribution with essentially no temperature variations from floor to ceiling.
- Equally efficient cooling—the Ceiling absorbs radiant energy from the rooms, furniture and occupants to reduce the sensible room heat.
- Sound levels are reduced through the highly efficient acoustical qualities of the Ceiling.

The Burgess-Manning Radiant Acoustical Ceiling offers new design flexibility in layout, ventilation and lighting systems. Too, many additional important installation savings are achieved . . . with maximum usable floor space—no radiators, convectors, registers, etc. are needed. Standard hot water heating or water chilling equipment together with standard controls are utilized.

Ideally suited to both new and remodeling requirements . . . the Burgess-Manning Radiant Acoustical Ceiling is unequalled in comfort conditioning, versatility, and maintenance-free performance.

Write for Bulletin No. 138-3E, complete with specifications, etc. No obligation.

3 Heating Cooling Acoustical

BURGESS-MANNING COMPANY

Architectural Products Division

731 East Park Avenue, Libertyville, Ill.

The **BURGESS-MANNING 3-WAY FUNCTIONAL CEILING**

Choose from 20 colors in any of the 5 types shown . . . all in Stucco Embossed, Leather-grained or Mill Finish. Also ***field assembled insulated wall systems*** *using combinations of these and other forms.*

New color concept for aluminum roofing and siding

As color accelerates the swift trend to rustproof, corrosion-resistant aluminum for commercial building, Reynolds introduces new colors . . . *plus a new color-before-forming process with important advantages.*

The exclusive "Colorweld 60" process permanently bonds to aluminum color that is so tough it stands up under forming and embossing . . . maintaining absolute uniformity. This means greater beauty, clean-lined and clear-textured. It means faster production—immediate availability. And it brings the cost of color down to only a few pennies per square foot!

Get the full facts on "Colorweld 60" from the nearest Reynolds sales office. Mail the coupon *now* for your copy of new Color Brochure! Reynolds Metals Company, Richmond 18, Virginia.

Watch Reynolds TV Shows: "BOURBON STREET BEAT" and "ADVENTURES IN PARADISE"; and, resuming in October, "ALL STAR GOLF"—ABC-TV.

MAIL THIS COUPON NOW!

Reynolds Metals Company,
Dept. AF-9
Richmond 18, Virginia

Please send me immediately your new Color Brochure on "Colorweld 60"—complete with accurate reproduction of the 20 new colors available.

Name _____

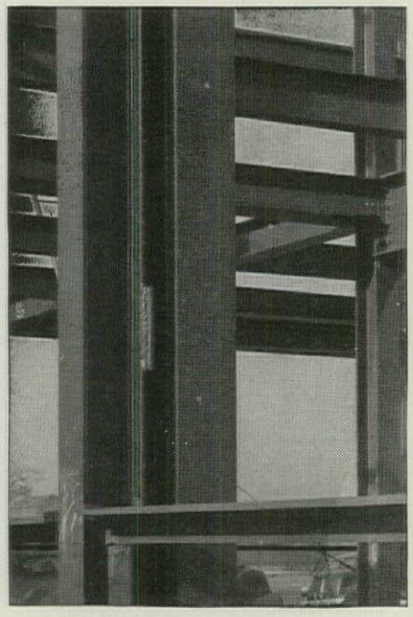
Firm _____

Street _____

City _____ **State** _____

**Trademark of Reynolds Metals Company*

There can be no compromise here!



The prime coat is the basic foundation that determines the long-lasting performance of coatings

There can be no compromise with the prime coat – it is the *basic* foundation, it must take hold and adhere tightly, it must provide a sound, compatible base for the finish coating. It is here that Rust-Oleum's experience as corrosion-resistant specialists can help you. Whether it's a shop coat by the fabricator, or job site application over structural steel, Rust-Oleum has the right primer for the specific job – from quick-drying primers for shop coating, unique primers to apply directly over rust, or bare metal primers. For the fullest measure of protection – specify the Rust-Oleum *System* of primer and finish coat. Your nearby Rust-Oleum Industrial Distributor and your Rust-Oleum Factory Specialist will be happy to work hand-in-hand with you.

SEE OUR CATALOG IN SWEET'S
OR WRITE FOR COPY

See our complete catalog in Sweets featuring actual color chips.

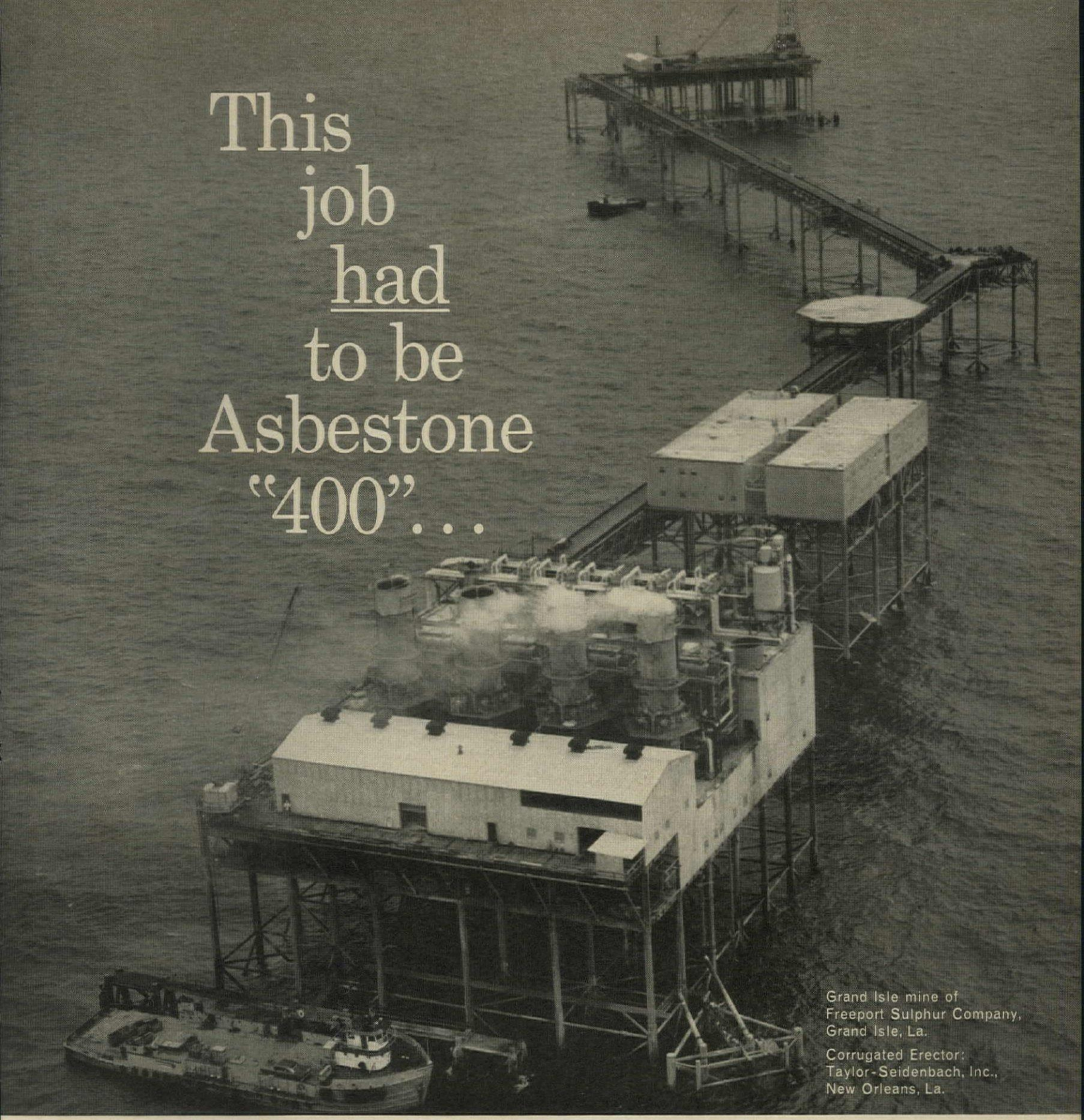
RUST-OLEUM®

There is only one Rust-Oleum. Distinctive as your own fingerprint. A matter of excellence.

STOPS RUST!®

RUST-OLEUM CORPORATION
2554 Oakton Street
Evanston, Illinois

New 30-page Rust-Oleum Architectural Specifications Catalog Features actual color charts. Clip coupon to your letterhead for your free copy of Form No. 259-A.



Grand Isle mine of Freeport Sulphur Company, Grand Isle, La.

Corrugated Erector: Taylor-Seidenbach, Inc., New Orleans, La.

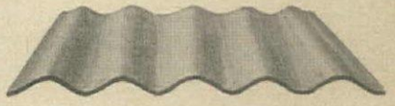
it's seven miles at sea!

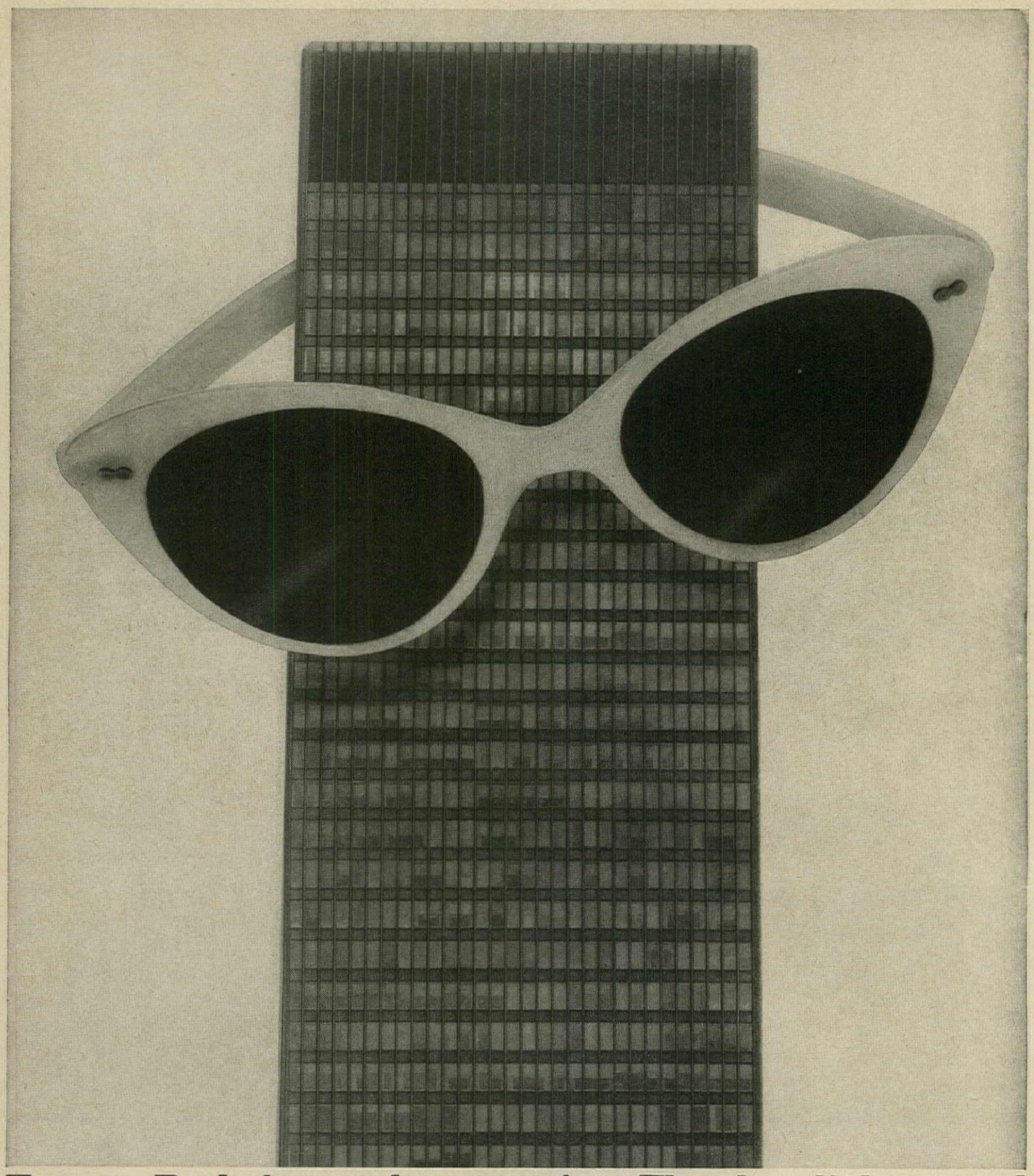
The designers of the world's first off-shore sulphur mine had to plan for the corrosive effects of salt air, high humidity, sulphur fumes and occasional hurricanes. That's why buildings of this man-made island were made of Gold Bond Corrugated "400". It shrugs off harmful chemical fumes, salt air and moisture, and it will not rot or burn. Always specify Gold Bond® Corrugated "400" when your buildings must resist rot, fumes and moisture. They go up fast and need little or no maintenance. Write Dept. AF-960 for complete technical literature.

NATIONAL GYPSUM COMPANY, BUFFALO 13, NEW YORK

Gold Bond
BUILDING PRODUCTS

a step ahead of tomorrow



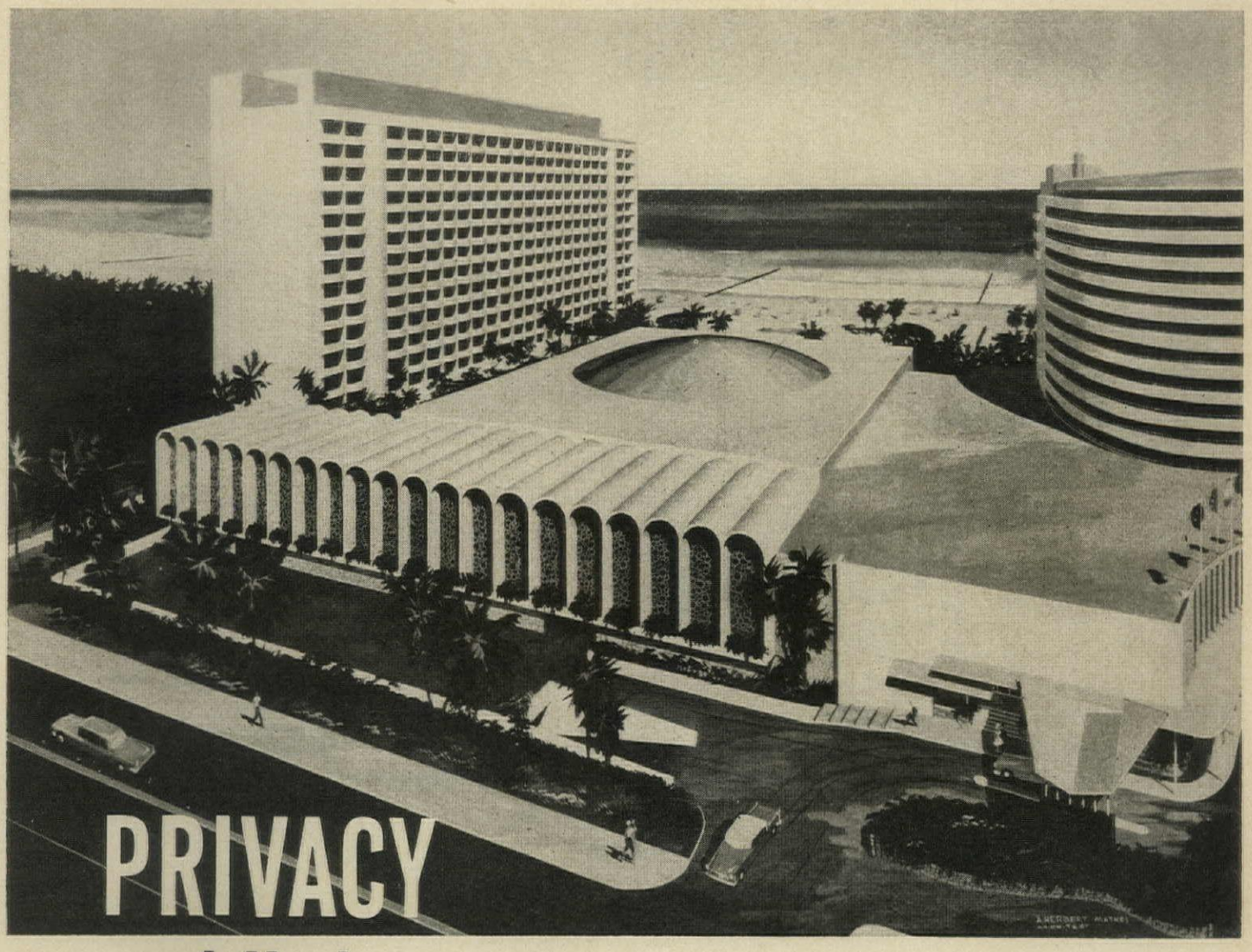


Famous Park Avenue beauty enjoys Flexalum light control

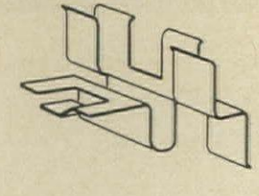
Regard the Seagram Building. What glamour it adds to Park Avenue! How shapely! How well-groomed! For its 3,676 windows, the architects naturally chose Flexalum Twi-Nighter venetians. What's more, Hunter Douglas engineered two custom features so that haphazard slat-tilts and blind heights wouldn't interrupt the symmetry of the building's facade. A special 3-stop action keeps the blinds fully raised, fully lowered, or set at one happy medium, while the unique tilt mechanism fixes slats at a 45-degree angle. No other window covering is so ideal for buildings with curtain-wall construction.

Naturally, Hunter Douglas is concerned with the people *in*side, as well as sight-seers *out*side. Flexalum venetians give real light control, let in soft, diffused light, or make rooms dark and strictly private. As for maintenance problems, there aren't any. Only Flexalum venetians are designed as an integrated whole, so they don't suffer from malfunctions that often afflict blinds whose parts have been garnered from several sources. Flexalum venetians won't rust, chip, crack or peel. And they're guaranteed for 5 years. *See our latest specs in Sweet's Architectural File 19d/Br or write to: Dept. AF-9, Bridgeport Brass Co., Hunter Douglas Division, Bridgeport, Conn.*

Flexalum®
TWI-NIGHTER® VENETIANS



and little metal clips



Architects: Morris Lapidus, Miami, Florida, (original building), A. Herbert Mathes, Miami, Florida (addition).
General Contractor: Taylor Construction Co., Miami, Florida.
Lathing and Plastering Contractor: John W. Thomson & Son, Inc., Miami, Florida.

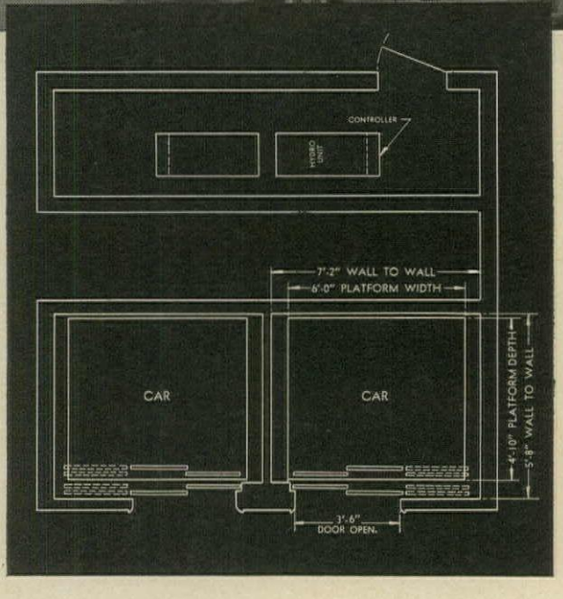
New Gold Bond system gives economical sound control to the fabulous Fontainebleau Hotel on Miami Beach

Three convention halls, parking for 1,000 cars, an auditorium seating 8,500 people, and 500 new rooms in addition to the original 558 rooms.. that's the size of the sound control problem in the immense Fontainebleau Hotel and new addition. But the architects were prepared. They designed partition walls with the "Gold Bond" Holostud® and HS Resilient Clip System. These simple metal clips hold the gypsum lath and plaster apart from the studs, isolating airborne sound. The system earned a 46 db rating from a recognized testing laboratory, plus deep gratitude from hotel guests. Get the full details about this economical sound control system. Ask your Gold Bond® Representative, or write Dept. AF-960 for free samples and technical literature.

NATIONAL GYPSUM COMPANY, BUFFALO 13, NEW YORK

Gold Bond BUILDING PRODUCTS ... a step ahead of tomorrow

PHOTO COURTESY UNIVERSITY ENTERPRISES SEATTLE, WASH.



selects MODERN **montgomery**® passenger elevators

The 150 feet per minute Montgomery HYDRO-ELECTRIC elevators with selective-collective duplex operating system chosen for this newest of motels, assure many installation and operation economies.

Requiring a minimum of space — costly penthouse construction is eliminated. Operation is smooth and effortless — quiet with a minimum of vibration.

For the most efficient elevators for the job, be they passenger or freight, consult with a Montgomery representative. You will find him listed in the yellow pages of your phone directory.

MONTGOMERY *Dependable* ELEVATORS

montgomery® ELEVATOR COMPANY, Moline, Illinois

offices in principal cities

MONTGOMERY ESCALATORS — STEPHENS-ADAMSON Speedwalks® AND Speedramps®

Exclusive Manufacturers of Passenger and Freight Elevators Since 1892

Sofa covered in Boltaflex Palomino

Achieve the effect you want... perfectly with

Bolta-Floor®

QUALITY VINYL FLOORING

With the new BOLTA-FLOOR color line, design and decorating possibilities are unlimited . . . your imagination has full reign. And because of its deep, surface-to-surface homogeneous vinyl construction, color and pattern can't fade or wear off. Plan now to step-up to quality, step-up to BOLTA-FLOOR tile or roll goods on your next project. A letter from you today will bring samples and complete information.

THE GENERAL TIRE & RUBBER COMPANY
Building Materials Division • Akron, Ohio

A PRODUCT OF GENERAL The General Tire & Rubber Company

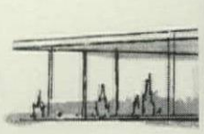
Sealants based on THIOKOL liquid polysulfide polymer

Architexture

By bringing together the textures, colors, patterns available in modern structural materials, architects are changing the "look and feel" of urban centers . . . shaping buildings more beneficial to owners, occupants and the community at large.

This freedom of architectural design has grown with development of polysulfide sealants. Their unique sealing qualities . . . multi-material adhesion, long-life bonding, sympathetic expansion and contraction, shock absorption, high resistance to all deleterious elements, custom fitting to the job on the job, wide range of colors . . . have made polysulfide sealants integral to an expanding "architexture."

STAINLESS STEEL STONE ALUMINUM BRONZE



have helped open new worlds of building design...

For further information, write:

Thiokol®

CHEMICAL CORPORATION

780 North Clinton Ave., Trenton 7, New Jersey

In Canada: Naugatuck Chemicals Division,
Dominion Rubber Co., Elmira, Ontario

From the John Gellatly Collection in the National Collection of Fine Arts, Smithsonian Institution, Washington, D. C.

Beauty and Structure Become One

Through Facing Tile. The enduring beauty of the Han Dynasty vase is mirrored in the lustre of facing tile. Two thousand years apart in time, the two have an affinity in art. Each is drawn from the earth and employed by the artist to produce lasting art and enrich man's purpose.

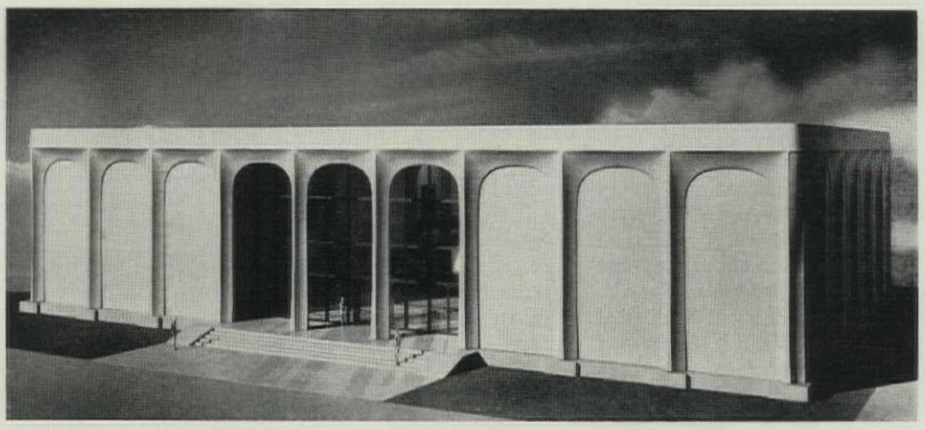
FACING TILE INSTITUTE

1520 18th Street, N.W., Washington 6, D. C.

These companies, whose increased production assures prompt delivery, have contributed to this advertisement.

CHARLESTON CLAY PRODUCTS CO., Charleston 22, W. Va. • **THE CLAYCRAFT CO.**, Columbus 16, Ohio • **HANLEY COMPANY, INC.**, Pittsburgh, Pa. • **METROPOLITAN BRICK, INC.**, Canton 2, Ohio • **McNEES-KITTANNING CO.**, Kittanning, Pa. • **NATCO CORPORATION**, Pittsburgh 22, Pa. • **STARK CERAMICS, INC.**, Canton 1 Ohio • **WEST VIRGINIA BRICK CO.**, Charleston 24, W. Va.

A roundup of recent and significant proposals



UNIVERSITY OF NEBRASKA ART GALLERY

This art gallery, of monolithic concrete faced in travertine, will be built on the University of Nebraska campus in Lincoln later this year. It was designed by Philip Johnson. In honor of the donors, the building will be called the Sheldon Art Gallery, and its two-story central hall, finished in travertine, will contain two sculptural reliefs as memorials to the Sheldons. Elsewhere in the building there will be 12 galleries, a 300-seat lecture hall, and a board room for the state art association.

$8 MILLION HOTEL ADDITION ON NOB HILL

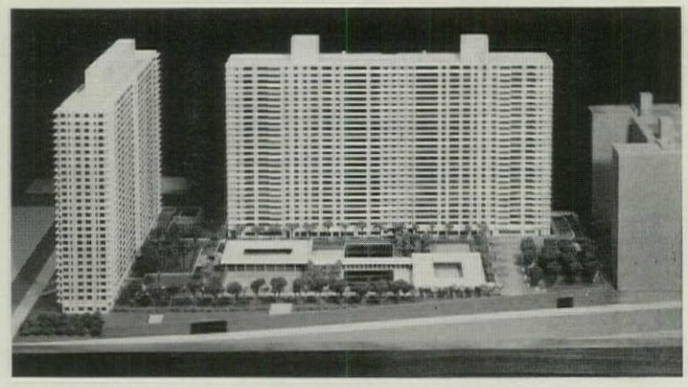
San Francisco's Fairmont Hotel will add a block-long, seven-story base structure and a 22-story tower to the existing building. The extension will up the Fairmont's room count by 252 and add three levels of parking, an exhibit hall and ballroom, a kitchen and service area. The glass-walled dance pavilion in the foreground will be connected to the original hotel lobby, and there will be gardens, by Landscape Architect Lawrence Halprin, between the pavilion and the tower. Mario Gaidano of San Francisco designed the addition for Benjamin Swig and Jack Weiler, the hotel owners.

TWO-BLOCK DEVELOPMENT IN DOWNTOWN MILWAUKEE

This $17 million commercial development has been proposed for downtown Milwaukee by John W. Galbreath, Harrison & Abramovitz, and Turner Construction Co. The Marine National Exchange Bank, which will give its name to the project, already owns or controls most of the land on the two-block site and will occupy the small bank building (left) and the lower floors of the 22-story glass-and-metal tower. On the next block, a six-level garage will be accessible via a pedestrian bridge from the tower's second story. Robert E. Rasche of Milwaukee is associated architect.

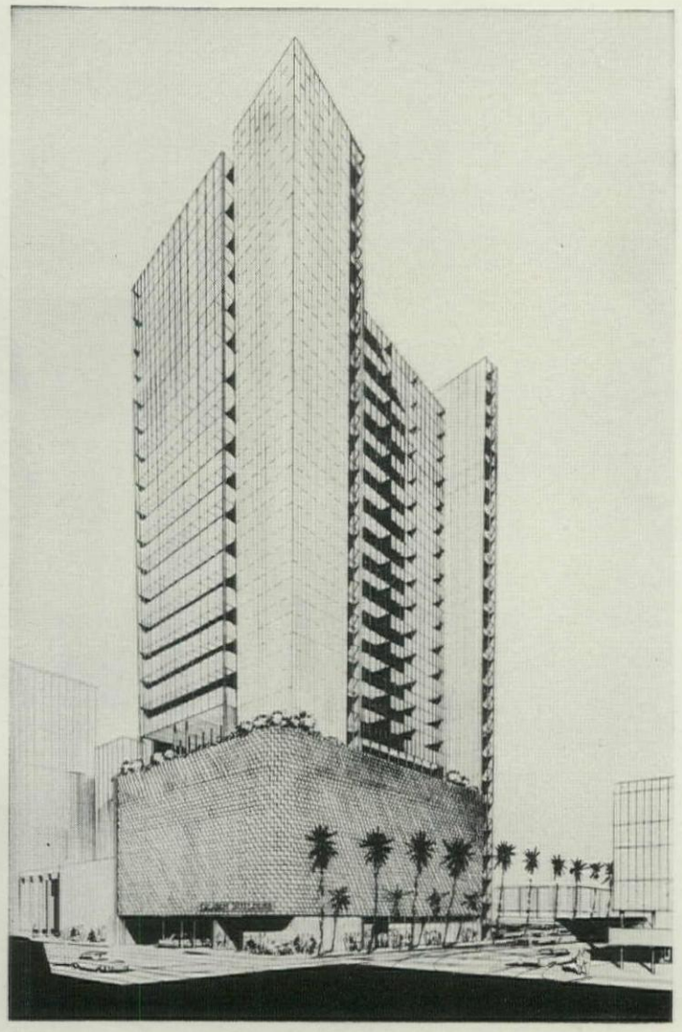
BEVERLY HILLS OFFICES OVER CONCRETE ARCHES

Broad, flat arches will carry this new Beverly Hills office building designed by Charles Luckman Associates of Los Angeles. Under the arches, the first-floor space will be divided between an entrance lobby and a parking garage, the cars veiled by a precast concrete screen. The curtain wall around the building's upper floors will be panels of porcelain enameled steel and tinted, heat-resistant glass. Completion is scheduled for July 1961. Cost: $2.5 million.



TITLE I APARTMENTS IN NEW YORK CITY

These three 28-story towers of reinforced concrete (two of which are joined) are the first under construction in what will eventually be the largest Title I housing project in the U.S., Webb & Knapp's Lincoln Square apartments adjacent to Manhattan's Lincoln Center for the Performing Arts. Cost of the first towers, containing 1,399 dwelling units, will be $25 million. Architects: S. J. Kessler & Sons.

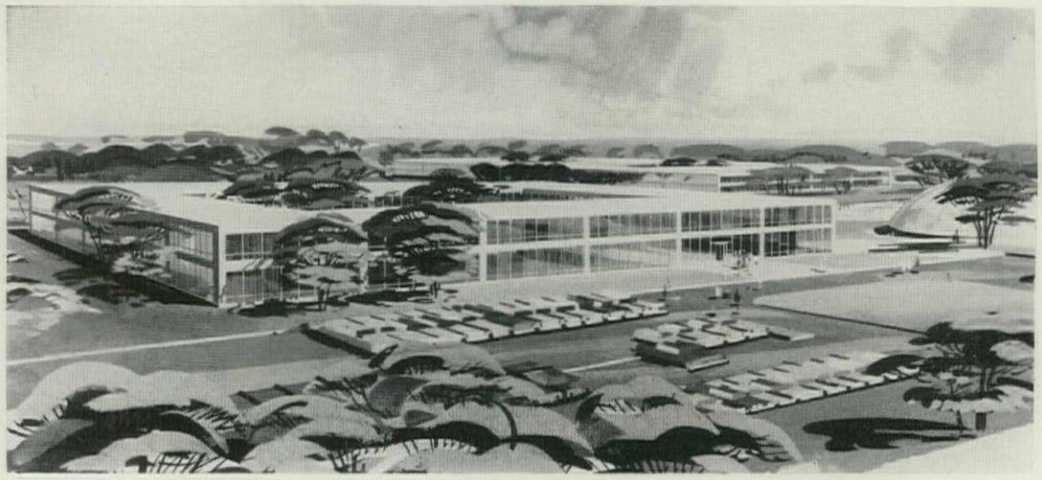


TALLEST BUILDING IN SAN DIEGO

In January construction will start on this combination garage–office building which will dominate the San Diego sky line. The base, wrapped in a grille of copper-colored concrete, will be a six-story and two-basement garage. Over it will rise a 16-story tower providing 144,000 square feet of offices. Irvin J. Kahn, the San Diego builder and developer who will give his name to the $6.5 million building, is associated with Lou Lesser & Associates, Lawrence Holzman, and James Murphy in this venture. The architects are Palmer & Krisel, who are working on another building a block away for the same investing group.

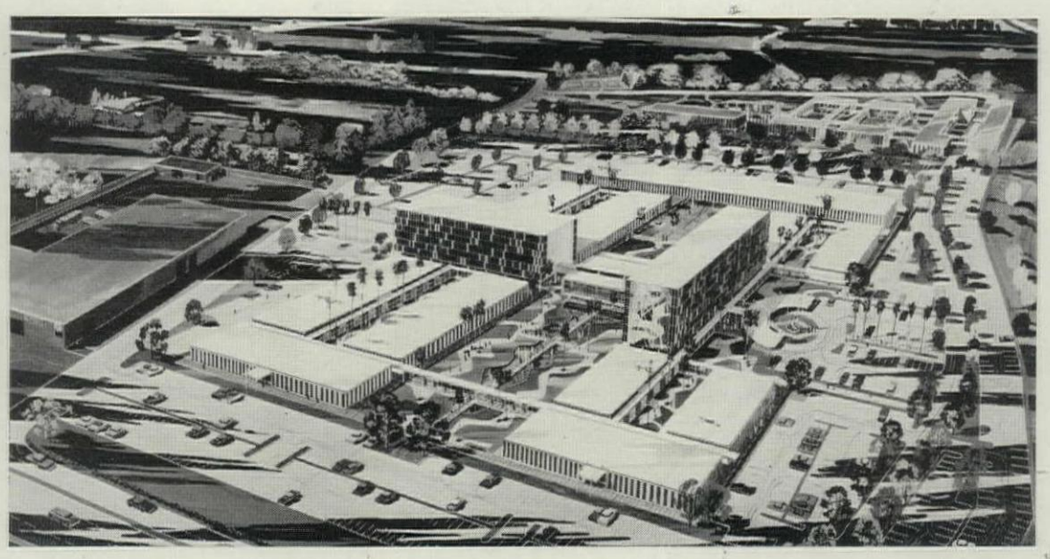
CHICAGO TRAINING CENTER

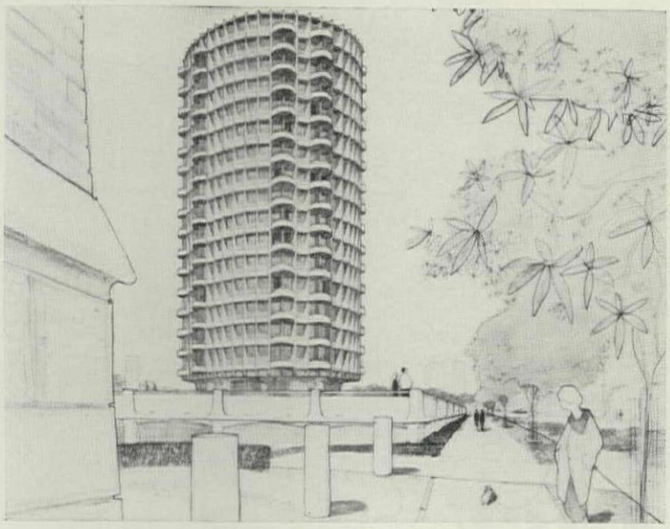
Beginning with September 1961, United Air Lines will groom 2,000 management trainees and stewardesses a year in a new education and training center (right). The center, on a 51-acre site near O'Hare Field in Chicago, is the work of Skidmore, Owings & Merrill's Chicago office. The building is a prestressed concrete square, hollow in the middle; the bays are 48 feet wide. A tunnel will connect the center to a bubble-topped swimming pool, seen at the right.



HOUSTON PETROLEUM CENTER

The Houston Petroleum and Trade Center is to be a complex of oil industry offices, exhibits, and a convention hall. Work on the first portion of the development will start this month; the rest of the center's buildings, numbering 15 in all, will get under way in 1961. In their plan (right), Architects Lightfoot, Burleson & Associates put two seven- and eight-story buildings in the middle, separated by a sizable lagoon, and distributed the lower buildings, none over two stories high, around them. The tallest building will have one ceramic mosaic wall.



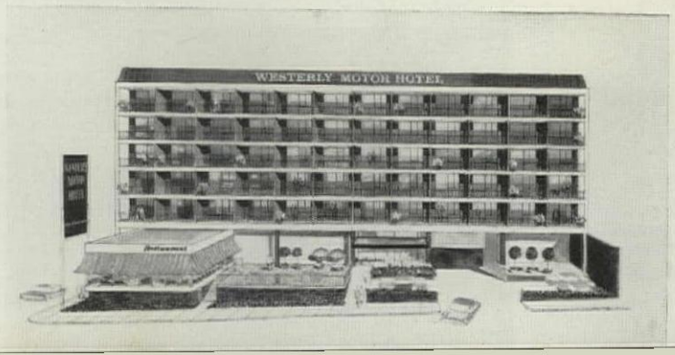


CIRCULAR APARTMENTS IN SAN FRANCISCO

A group of San Francisco businessmen have proposed this circular reinforced concrete apartment tower for a plot in the city's Western Addition Redevelopment Area. From the inside out, the core will be filled with elevators, storage, and stairs surrounded by a public hall; next will come a ring of kitchens, baths, and foyers; and outside, living rooms and bedrooms. Architect: Donald Powers Smith.

SANTA MONICA MOTEL, POOL, AND RESTAURANT

The Westerly, a motel with its trimmings—a restaurant, a sun deck, and a swimming pool—open to the public as well as to overnight guests, will be built in Santa Monica by Ferman Builders, Inc. The motel's six stories, of concrete, masonry, and glass, will have 100 rooms, some of them facing the pool and others opening on small balconies. Architects: Victor Gruen Associates of Los Angeles.

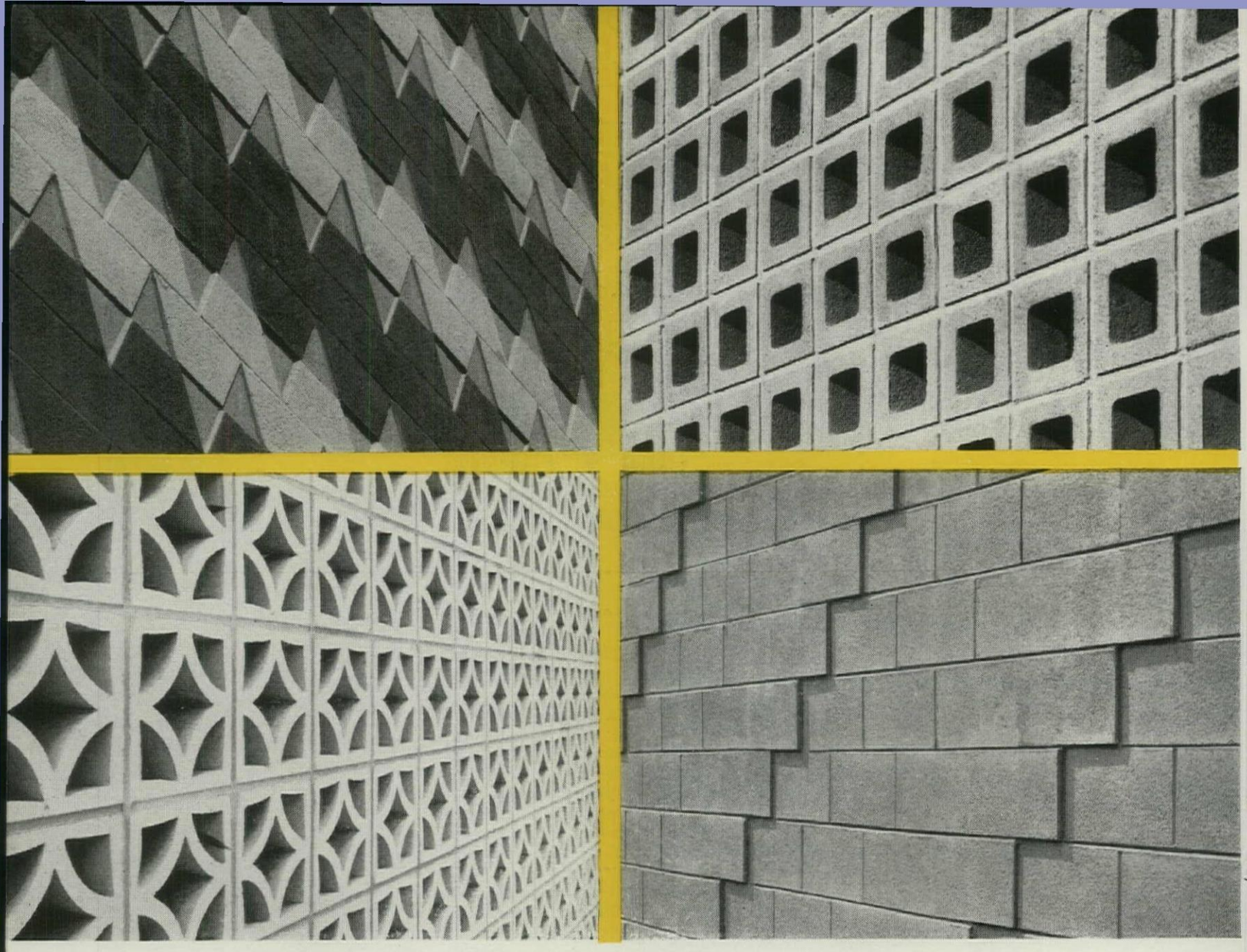


LOS ANGELES FACETED TOWER

The textured walls of this 15-story office building for Wilshire Blvd. in Los Angeles will be lightweight precast concrete panels designed by Girard Kupfer, a Swiss architect. At night, the panels' bold hexagonal pattern will be accented by special lighting. In addition to offices, the project will accommodate a first-floor bank, a terrace restaurant, and five levels of parking underground. Steven M. Heller of San Francisco and Rochlin & Baran of Los Angeles are the architects; Wilshire-Mattei Corp. is the owner.

LIFT-SLAB APARTMENTS IN MICHIGAN

The largest Youtz-Slick lift-slabs in the U.S. are being hydraulically jacked into place, two at a time, by the builders of the Huron Towers apartments in Ann Arbor. Altogether, 24 slabs, each 215 by 70 feet, will be lifted in place for the two buildings. Both towers stand on stilts, and the ground-floor walls will be set back, creating sheltered promenades around the buildings. Balconies around each floor will be precast concrete. Architects: King & Lewis, Inc.



Plain or fancy...

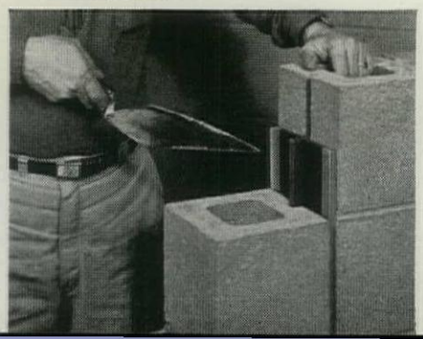
you can strengthen just about any kind of masonry wall with Dur-o-wal

Hats off to today's architectural designers for a new world of beauty in concrete masonry. And orchids to the modern builders who are making that beauty last with Dur-o-wal. It's the rare block pattern, plain or fancy, that does not permit America's most practical, most widely used, most widely proved masonry wall reinforcement. Dur-o-wal is versatile.

Dur-o-wal's trussed, butt-welded construction—with deformed rods that lay straight and flat—has been *engineered* to do a job. Increases the flexural strength of a masonry wall at least 71 per cent, as much as 261 per cent, depending on the weight Dur-o-wal used, number of courses, and type of mortar. This makes for truly permanent masonry wall construction and looks.

For technical details, write to any of the Dur-o-wal locations below. See us in Sweet's.

Two engineered products that meet a need. Dur-o-wal reinforcement, shown above, and Rapid Control Joint, below. Weatherproof neoprene flanges on the latter flex with the joint, simplify the caulking problem.



DUR-O-WAL®

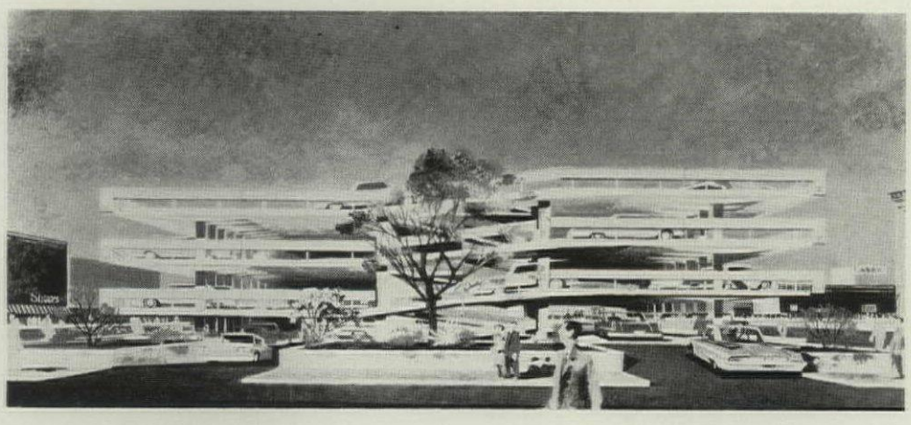
Masonry Wall Reinforcement and Rapid Control Joint

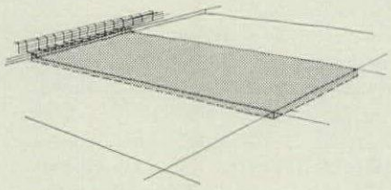
RIGID BACKBONE OF STEEL FOR EVERY MASONRY WALL

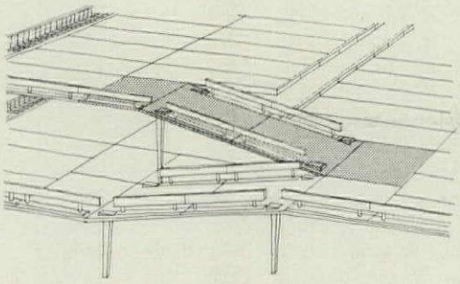
DUR-O-WAL MANUFACTURING PLANTS

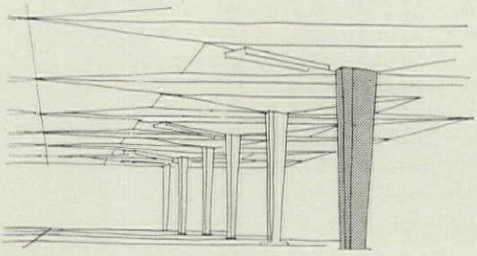
- Dur-O-wal Div., Cedar Rapids Block Co., **CEDAR RAPIDS, IA.**
- Dur-O-wal Prod., Inc., Box 628, **SYRACUSE, N. Y.**
- Dur-O-wal Div., Frontier Mfg. Co., Box 49, **PHOENIX, ARIZ.**
- Dur-O-wal Prod., Inc., 4500 E. Lombard St., **BALTIMORE, MD.**
- Dur-O-wal of Ill., 119 N. River St., **AURORA, ILL.**
- Dur-O-wal Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.**
- Dur-O-wal of Colorado, 29th and Court St., **PUEBLO, COLO.**
- Dur-O-wal Inc., 165 Utah Street, **TOLEDO, OHIO**

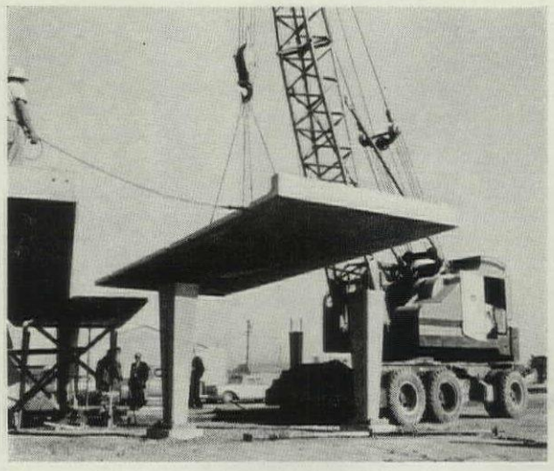
Precast garage . . . big prefabs . . . shell coat . . . stone shaper











PRECAST GARAGE

Opposite the Abraham & Straus store in Hempstead, N. Y., Tishman Research Corp. is finishing its first *Tierpark*, a concrete garage which will soon be prefabricated throughout the country. The Tierpark system, conceived and designed by Engineer Edgardo Contini, is based on three prestressed, precast elements: a slab, a ramp, and a column bolted together on the site to form a split-level ramp garage. Standard metal railings, curbs, and lighting fixtures are part of the package, although these may also be custom-designed.

The Tierpark system adapts equally well to large, open sites, such as land around airports and shopping centers, where the garage would be a single tier, and to built-up areas in central business districts, where the garage would be narrower and several tiers high. The Tierpark for Abraham & Straus, for example, stands three tiers high and parks 1,200 cars, but it could be enlarged by adding more tiers or lengthening those in place, using more standard components. If the store should decide to move its Tierpark, it could demount it and ship the components to a new site for reassembly.

The typical floor panel is a slab 11 inches deep at its thickest point, 10½ feet wide, and 28 feet long, supported at its center by a single tapered column, an elongated hexagon in cross-section. (The column's hexagonal shape is said to aid drivers in parking at the proper slant.) The ramp slab, cast in up and down versions, is of the same length but is 1½ times the width of the typical floor slab and is supported by two standard columns. The absence of beams and girders reduces the floor-to-floor height to 8 feet. To take care of drainage, the floor slabs are slightly concave near the center, and weep holes carry off water into drains in the middle of each column. Prefabricated steel side railings are modular units which are welded together and to the one-piece end railings and curbs installed at the ends of each tier and along the ramps.

Speedy erection results from the use of prefabricated, stockpiled parts. This applies not only to the structural components but also to the lighting, railings, and curbs, which can be installed as soon as the structural parts are up.

Tierpark is intended for self-parking and, for that reason, the aisles and stalls are of generous width (about 20 feet and 8 feet, 8 inches net, respectively) and the ramps have a pitch of only 12.5 per cent. For single tier structures, the minimum recommended dimensions are 60 by 147

continued on page 64

feet. Tierpark was designed as an above-grade structure but, with some adaptations, it could be used underground.

Through licensing agreements with 75 prestressed concrete companies who will fabricate the components, Tishman Research is prepared to offer Tierparks anywhere in the U.S. for lease or purchase. The average cost per parking stall will be about $1,200, including erection.

Manufacturer: Tishman Research Corp., 666 Fifth Ave., New York 19.

BIG PREFABS

Last year Stran-Steel Corp. commissioned Industrial Designer Harley Earl to study its well-known "pre-engineered" steel buildings and to recommend design changes which would upgrade their appearance. His suggestions have been incorporated in new building fronts, new colors, and new architectural details, all aimed at making sheet-metal buildings better looking while retaining mass-production economy.

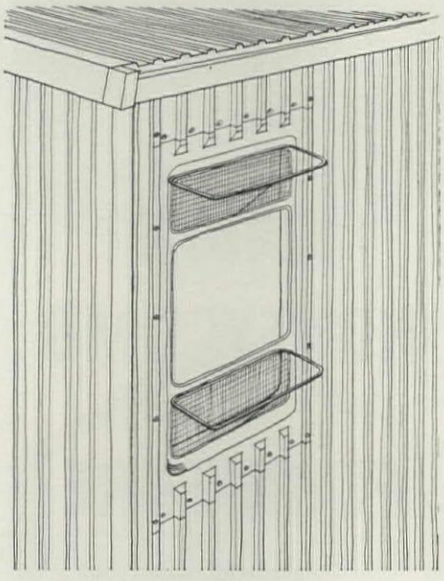
Stran-Steel offers four packaged fronts to fit its standard 100-foot-wide stores, supermarkets, restaurants, bowling alleys, and factories (sketches below). The first package, style I, contains ribbed sheets used alternately with porcelain-enamel panels, and produces a solid wall to the right of the entrance, suitable for a sign. Style II, turned so that the side becomes the front, has five bays formed by enamel panels and ribbed sheets. The entrance and sign, shown here in the middle bay, could be fitted into one of the other bays. Designed for automobile showrooms, furniture stores, or other businesses that need a lot of window-display space, Style III has a glassy front divided by a porcelain-enamel band to carry the store's name. Style IV, mostly glass and enamel panels, has a recessed entrance and could be a warehouse or factory front, with an office section to the right. Costs for these buildings run about $2.25 to $2.40 per square foot of floor area, based on a 100 by 100 foot building. This price does not include erection costs.

When he came to the standard ribbed

steel buildings, Earl revised and simplified their details in two respects. Flashings were redesigned to eliminate overhangs and make square, clean corners and to cast shadows on the building walls. The redesigned window is stamped from sheet metal in two styles, one-light and two-vent, and its ribs continue those on the wall sheet. Glass is zipped in with extruded neoprene gaskets similar to those used by the automobile industry for installing windshields.

The new color line, applied to Stran-Steel's architectural panels as well as the pre-engineered buildings, includes blue and green, previously the most popular colors Stran-Steel offered, two grays, white, and two accent colors: yellow and orange.

Manufacturer: Stran-Steel Corp., Division of National Steel Corp., Detroit 29.



SHELL COAT

Addex Roof Shield Specifications are waterproofing compounds developed specifically for thin-shell concrete roofs. Since concrete-shell roofs are quite watertight in themselves, the primary consideration is not to prevent leaks but rather to prevent moisture absorption, which can cause spalling. Then, too, shells are prone to develop hairline cracks as the concrete sets, and these exert minor stresses which crack the waterproofing if it is not reinforced. Another hazard is the latent moisture in the concrete, which tends to blister the coating unless there is a "breathing" allowance to let moisture escape; the asphalt emulsion in these compounds is vapor-permeable. The new compounds are formulated to meet these requirements and to eliminate the need for protective edgings around the shells.

They are applied directly over the concrete by brush, spray, or roller—first, two coats of asphalt emulsion, the primer coat thinned with 30 per cent water; then the reinforcing, of heavy-duty glass-fiber mesh; and, last, another asphalt coating.

continued on page 66

Chemical agents added to the asphalt adhere to the reinforcing fibers and bond it to either damp or dry concrete. Collectively, these coatings are called Addex Specification TS-1. If desired, a white reflecting finish, Addex Color-Shield, may be added as the final coat, and this combination is called Addex Specification TS-2. The total cured weight, without reflective topping, is about 0.35 pounds per square foot. The cost is about 25 to 35 cents per square foot for TS-1, and TS-2 would run about 20 cents per square foot more. Both coatings are guaranteed for ten years.

Manufacturer: Addex Research, P. O. Box 3057, Cleveland 17.

OUTDOOR FLOODLIGHT

Called *Lumitor,* this floodlight holds a quartz-iodine lamp, the pencil-slim tube General Electric introduced last year, which spreads an intense horizontal beam 100 degrees and a vertical beam 8 degrees. A few of these at the base of a tall building will wash the façade in an even glow or, mounted in other ways, light stadiums, runways, and signs.

Available in two sizes, 500 and 1,500 watts, the fixtures have cast-aluminum bodies, finned for heat dissipation, and lenses of ¼-inch tempered glass. Built-in devices aim the beam and level it. The 500-watt model operates on 120 volts, has an output of 10,500 lumens, and costs $56; the larger light operates on 277 volts, 33,000 lumens, and costs $72.

Manufacturer: Wide-Lite Corp., P. O. Box 191, Houston.

JET TORCH

This hand-operated torch, called *Oxweld FSJ-6,* is a small version of the afterburner flame of a jet engine, designed to shape, cut, and texture granite. An oxygen-kerosene mixture, burned in a water-cooled chamber near the nozzle, produces a thin, short flame with temperatures as high as 5550 degrees F. When the torch passes over a granite surface, the combined heat and velocity (7,000 feet per second) cause a thin layer of granite to crumble off along the natural cleavage lines of the quartz and feldspar crystals. Weathering tests confirm the manufacturer's claim that "thermal texturing" does not impair the granite's natural

hardness, for samples subjected to the equivalent of 4½ years of wind and rain showed no spalling, fracture, or appreciable weight loss. Because the torch exerts no "bearing down" force, it can be used safely on slabs only ⅝-inch thick, such as those which might be used for veneering purposes.

One of the first jobs done with the torch was narrowing the structural piers of the Queensborough Bridge in New York City to make way for seven instead of five lanes of traffic on the lower deck. According to the contractor, a section 15 feet high and a foot deep was cut away in half the time it would have taken five men using ordinary mechanical tools. The photograph above shows the stone being removed and the clean surface exposed.

The torch weighs a little over 7 pounds and is 37 inches long. It sells for a basic price of $305, plus a royalty to Linde for the fuel consumed.

Manufacturer: Linde Co., Division of Union Carbide Corp., 270 Park Ave., New York 17.

BRIEFS

▸ Du Pont's Elastomers Laboratory has developed a "frothing" method of producing even-textured urethane foam. The secret is to pre-expand the foam before the start of the chemical reactions which cause it to gel. In the mold, the foam further expands, possibly as much as six times its original volume, but much less than in conventional manufacturing techniques, in which the expansion is 30 to 40 times. This new technique promises better-quality foams, thinner sections, and lower molding costs. Du Pont expects the process to encourage the use of rigid foams in wall panels, refrigeration units, and insulated transportation equipment.

▸ Shiny fibers of aluminum oxide, an extremely hard, heat-resistant material, are to be used to reinforce plastic nose cones for rockets and might some day serve the building industry. These fibers, developed by Horizons, Inc., a Cleveland research firm, approach the physical qualities of the hardest known substances, and they withstand a pull of 3 million pounds per square inch. Added to steel as reinforcing, they could double its strength. The first licensee is the Minerals & Chemicals Corp. of America. END

Since **HOPE'S** *1818*

WINDOW WALLS

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH

GILBERT SCHOOL, WINSTED, CONNECTICUT

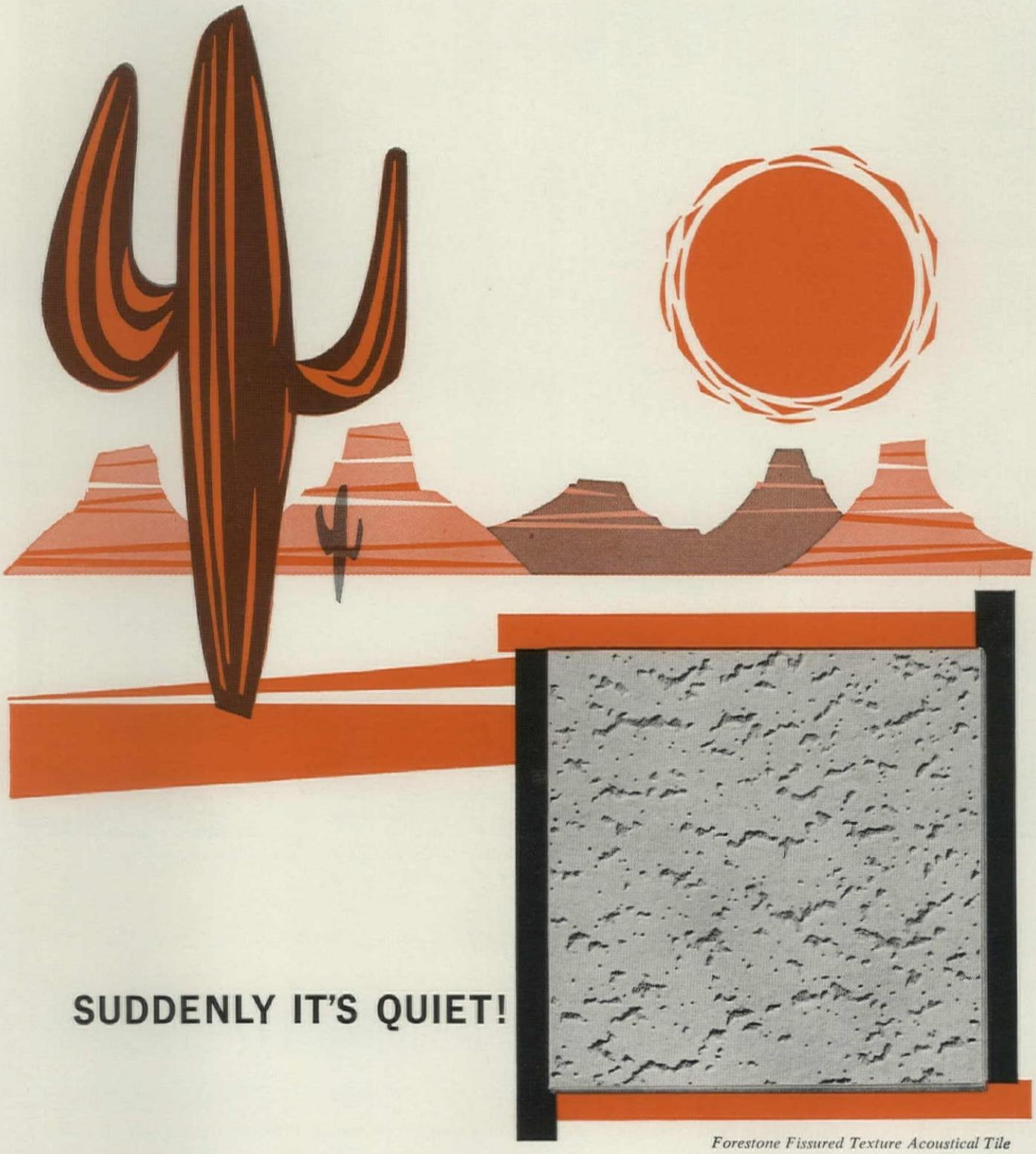
The Malmfeldt Associates, Architects — *The Wadhams and May Co., Builders*

Gilbert School is evidence of many special values to be obtained with Hope's Multi-Story curtain wall construction. The window wall units are Hope's rolled steel sections No. 2030, creating a vertical system that fully spans the three floors of the main structure with continuous tubular mullions. Assembled in the units are the insulated panels, the large lights of fixed glass and the ventilators (Hope's Heavy Intermediate).

See Hope's Window Wall Catalog for detailed drawings illustrating the extreme flexibility of these systems. The architect enjoys complete freedom in layout. Doors, windows or louvers may be located at any point. Window walls may be installed either between the building columns or completely covering them. The use of Hope's Window Walls increases usable interior space. *Ask for Catalog No. 152.*

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

HOPE'S WINDOWS ARE MADE IN AMERICA BY AMERICAN WORKMEN



SUDDENLY IT'S QUIET!

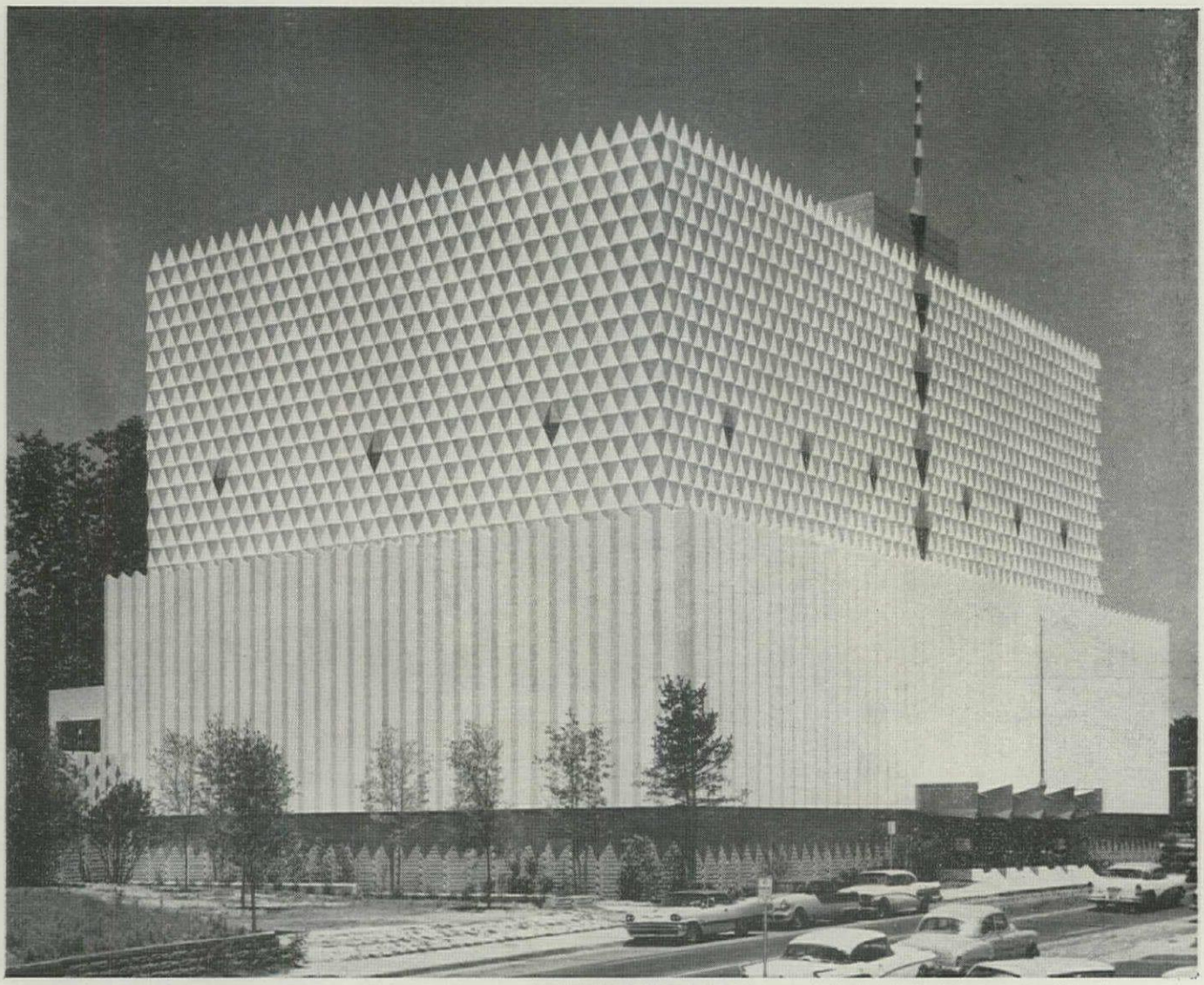
Forestone Fissured Texture Acoustical Tile

Whenever you're in a quiet room—look up. If there is a beautifully textured acoustical ceiling, chances are it's Forestone*. *The sounds you never hear* are absorbed by Forestone. This deep-etched woodfiber tile meets the Class C requirements of Federal Specification SS-A-118b . . . exclusive Biotox processing protects it against termites, mildew and mold. Forestone is available in four distinctive textures for all types of installations including ceiling boards for grid systems. Refer to Sweet's File or call your Simpson Certified Acoustical Contractor (look under Acoustical Materials in the Yellow Pages) for full information. Write for folder: Simpson, 2009J Washington Bldg., Seattle 1, Washington.

Simpson Forestone quiets rooms . . . beautifully

RELY ON SIMPSON—QUALITY SINCE 1895

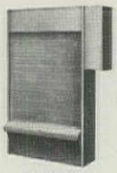
SAC-07/3451 *Reg. U. S. Pat. Off. - U. S. Pat. No. 2,791,289



Abundant Life Building, Tulsa, Oklahoma. Architect: Cecil Stanfield; Contractor: Sigler, Inc.

In Tulsa's Abundant Life Building:

CLEAN AIR *by AAF*



Multi-Duty.

This gleaming marble structure was designed to serve both as an office building and a place of worship for the Oral Roberts Evangelistic Association. Though the building itself is unique, the Association relied on a time-tested success formula to keep interior air clean: they talked with the people at AAF.

Only AAF makes *all kinds* of air filters. From this complete line, they selected the one filter that would give them the *air-cleaning efficiency they needed plus the filter maintenance characteristics they wanted.* In this case, the automatic self-cleaning Multi-Duty filled the bill.

Take a look at what we mean by a *really complete* line of air filters. Call your local American Air Filter representative or write direct for Bulletin 518. Address: Mr. Robert Moore, American Air Filter Company, Inc., 427 Central Avenue, Louisville, Kentucky.

AAF **American Air Filter**

BETTER AIR IS OUR BUSINESS

HELPS THE HAND THAT SHAPES THE FUTURE

CASTELL LIGHTS UP THE PATHS OF PRECISION

Man's creative ability and the tools that help him express it! Fortunate are those who toil in the vineyard of architecture, engineering, designing and drafting. For a few cents they can buy CASTELL, the world's finest drawing pencil, partner in progress the world over. This needs restating only for the benefit of the young now coming up in the profession. Old seasoned hands have known it for generations. CASTELL is an unquestioned fact in a creative man's life.

#9000 CASTELL Pencil with world's finest natural graphite that tests out at more than 99% pure carbon. Exclusive microlette mills process this superb graphite into a drawing lead that lays down graphite-saturated non-feathering lines of intense opacity for cleaner, more durable originals and clearer, sharper prints. Extra strong lead takes needlepoint sharpness without breaking or splintering. Smooth, 100% grit-free consistently uniform pencil after pencil, in full range, 8B to 10H.

#9007 CASTELL Pencil with Eraser.

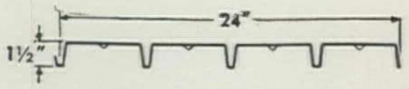
CASTELL Pencils and Leads draw perfectly on all surfaces, including Cronar and Mylar base films. Give graphite-saturated lines, easy to erase, no ghosting — excellent reproduction.

CASTELL *Rubberless MAGIC-RUB ERASER soaks up graphite without abrading drawing surfaces, and residue rolls off. Leaves no "oil" stain or "ghost." Tests highest in ease of use, line removal and non-smudging. Tests first on Cronar and Mylar base films. For all papers and vellums.*

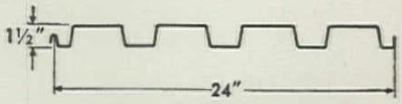
#9800SG CASTELL LOCKTITE TEL-A-GRADE Holder, perfectly balanced, lightweight, with new no-slip functional grip that lightens finger pressure without slipping, and *relieves finger fatigue.* Unique degree lead indicating device.

#9030 CASTELL Refill Lead, matching exactly #9000 pencil in quality and grading, degrees 7B to 10H, packed in reusable plastic tube with gold cap.
Many other styles and colors of CASTELL Pencils, Holders and Refill Leads.

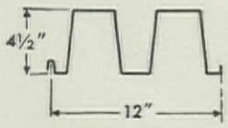
A.W.FABER-CASTELL 41-47 Dickerson Street, Newark 3, N. J.



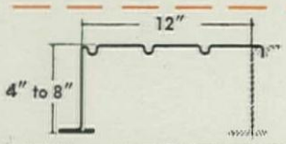
A-DECK — For purlin spacings not exceeding 8'4". Narrow ribs provide deck surface that supports the thinnest or softest types of insulation.



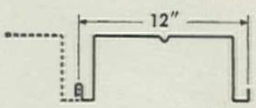
B-DECK — For spans to 10'0". Wide rib distributes metal for greater structural efficiency — gives higher section properties per pound of steel. Well suited for use as side wall panels.



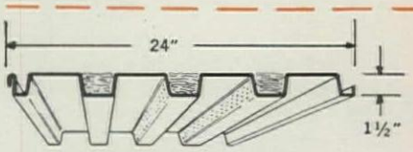
C-DECK—Carries normal roof loads over spans up to 24'0". Used extensively in canopies.



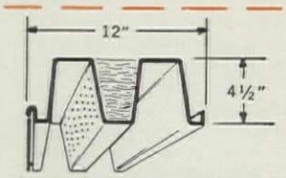
T-STEEL — New! Galvanized only. For clear spans to 32'0". Adaptable to acoustical and flush, luminous ceiling treatments. Provides superior diaphragm to resist seismic and wind loads.



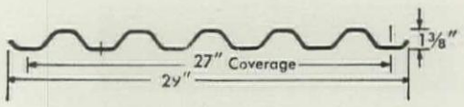
H-DECK — New! For simple spans to 20'0" — 3" and 4½" depths. Especially practical to cover walkways in shopping centers, schools, other installations.



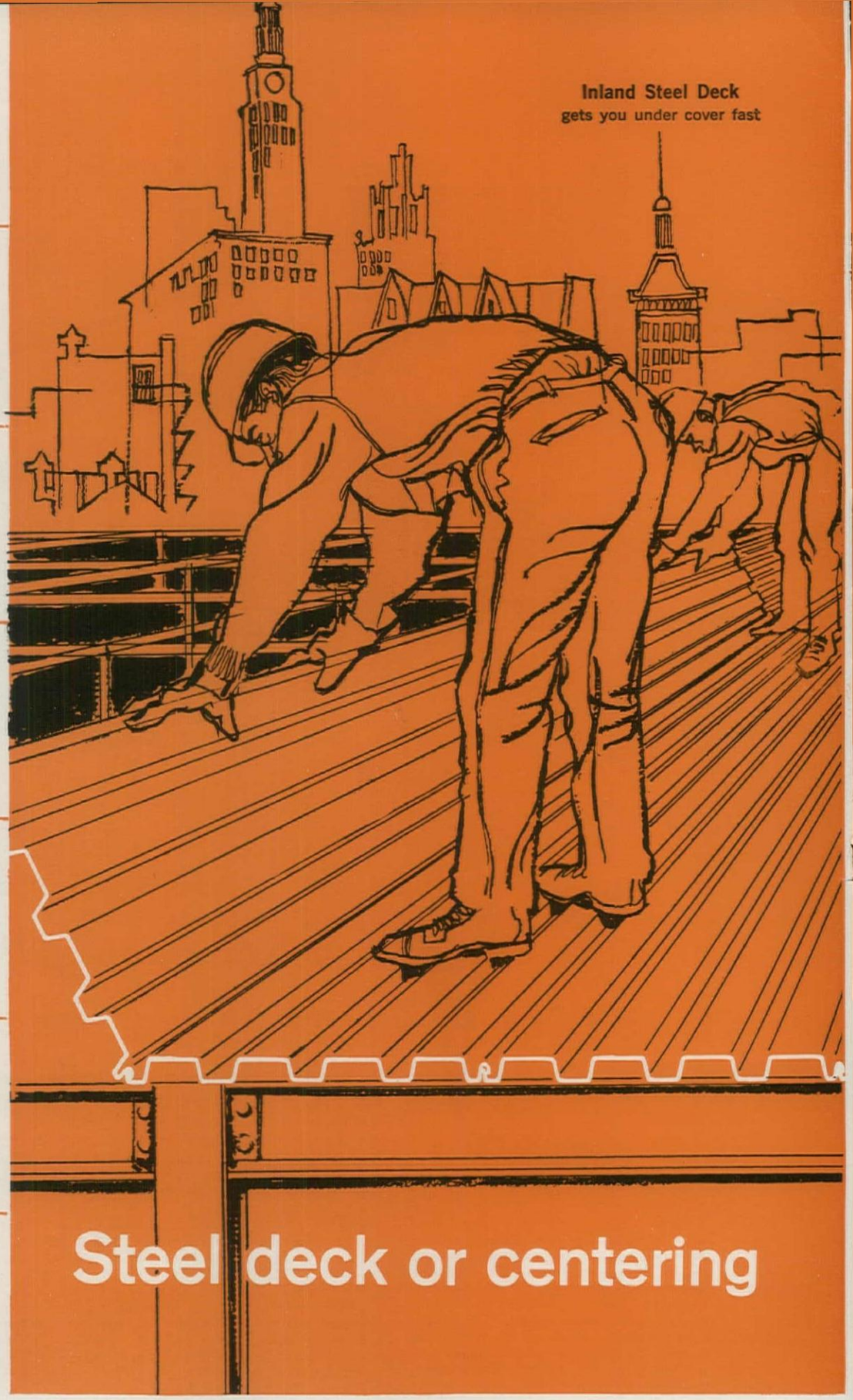
B-ACOUSTIDECK — Two-in-one panel combines steel roof deck with acoustical ceiling having Noise-Reduction Coefficient of .70. Used for spans to 10'0".



C-ACOUSTIDECK — Offers same Noise-Reduction Coefficient as B-Acoustideck. Can be used for spans to 24'0".



RIBFORM — High-tensile, galvanized steel form for concrete slabs over spans up to 8'0". Three types: Standard, Heavy-Duty, Super-Duty (shown).



Inland Steel Deck
gets you under cover fast

Steel deck or centering

Plant-expansion projects and new buildings of many types get under cover fast and economically, when you specify an Inland roof system.

Inland steel deck is easy to handle and weld in place — in any weather that a man can work. One panel provides over 56 sq. ft. of coverage. Large areas are quickly ready for roofing crews.

Types A, B, C, and H decks are Bonderized, then covered with a baked-enamel primer that resists on-the-job damage. One field coat of paint over the primer on these decks usually does the job of two coats on ordinary decks.

ATLANTA, BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DALLAS,

. . . you name it, INLAND has it!

In concrete-over-steel construction, Inland Ribform supports wet concrete with minimum deflection. Rigid sheets are quickly and inexpensively attached to supports — in place, they provide a safe work platform for crews.

Write for catalogs 240, 241, and 245 — or see Sweet's sections 2c/Inl, 11a/In, and 2a/In for full information on Inland steel roof deck and permanent centering. Inland Steel Products Company has a force of trained sales engineers capable of giving you the benefit of diversified experience on specific problems. Write or call your nearest Inland office to have one of these men contact you.

Member of the INLAND Steel Family

ENGINEERED PRODUCTS DIVISION

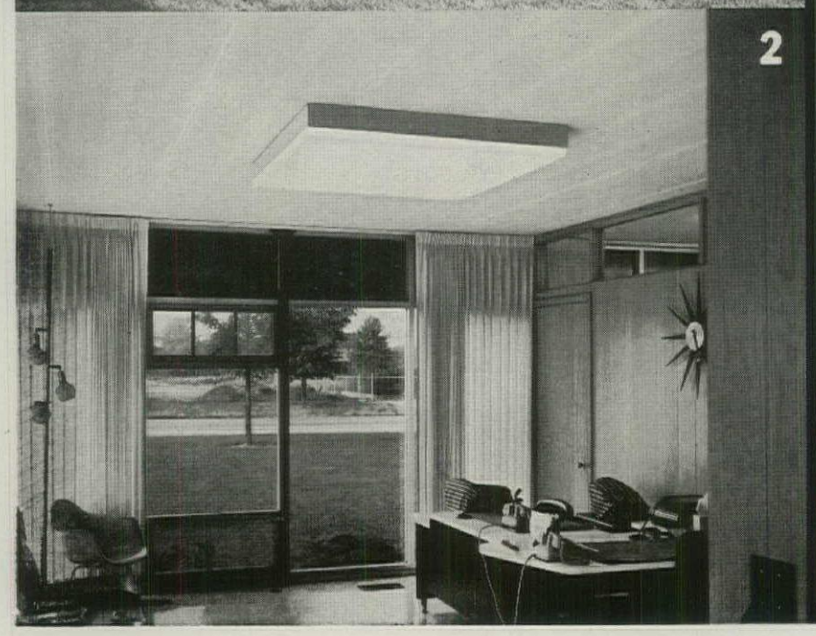
INLAND STEEL PRODUCTS COMPANY

Dept. 1, 4031 West Burnham Street
Milwaukee 1, Wisconsin

EP-5

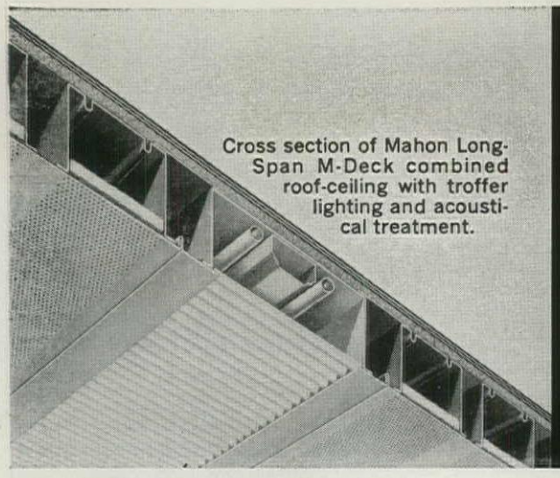
DENVER, DETROIT, HOUSTON, KANSAS CITY, LOS ANGELES, MILWAUKEE, MINNEAPOLIS, NEW ORLEANS, NEW YORK, ST. LOUIS

1



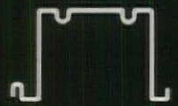
2

MAHON MULTI-USE LONG-SPAN M-DECKS...

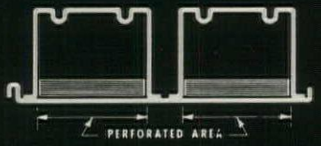


Cross section of Mahon Long-Span M-Deck combined roof-ceiling with troffer lighting and acoustical treatment.

MAHON LONG-SPAN M-DECK SECTIONS



SECTION M1-OB
OPEN BEAM DEPTH 3", 4½", 6" or 7½"



SECTION M2SR (Acoustical)
CEL-BEAM DEPTH 1½", 3", 4½", 6 or 7½"

A NEW SECTION M1-OB (Troffer)
CEL-BEAM DEPTH 4½", 6 or 7½"

These are the standard M-Deck types now in manufacture by Mahon. Special-form sections can also be supplied.

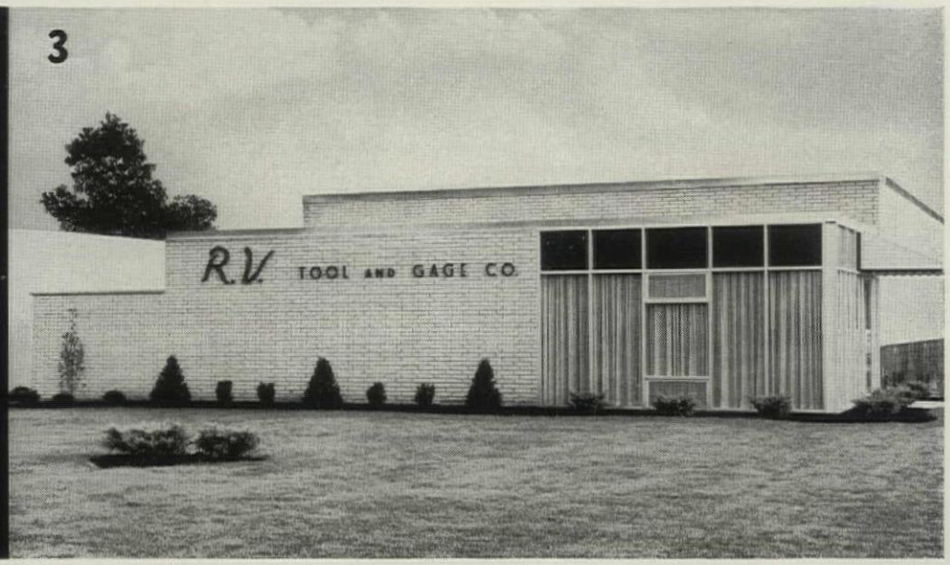
. . . give you big structural advantages— even in small-building construction

Mahon Long-Span M-Decks furnish architects and engineers with roof sections of functional versatility that are ideal for any project, any budget—big or small. These steel sections provide a combined roof-deck system **and** finished ceiling that means real savings in specifying, erecting and service. Long-Span (truss-to-truss or wall-to-wall) M-Decks, quality made by Mahon, have a high strength-to-weight ratio for use as structural members and are supplied in metal gages and gage combinations for either flat or beamed ceilings. To suit your particular need, M-Decks are also available with or without recessed troffer lighting or acoustical treatment and for use as air-conducting or air-diffusing cells. Get the full story on M-Decks from your local Mahon representative, Sweet's Files or write for Catalog LSD-60.

1 Mahon Long-Span M-Deck was meaningfully used in this "twin" facility at Livonia, Michigan. For the offices of contracting firm, Peter H. Acitelli, Inc., with its . . .

2 . . . attractive reception area, Mahon Long-Span M-Deck was used as structural members to span wall-to-wall, as a roof-deck system and also served as a . . .

3 . . . finished acoustical ceiling in offices—flat ceilings in shops of the R. V. Tool Co. as well. Architects: Wakely-Kushner Associates, St. Clair Shores, Michigan.



MAHON BUILDING PRODUCTS

- Aluminum or Steel Curtain Walls (in natural or colored metals)
- Rolling Steel Doors (Standard or Underwriters' labeled)
- Metalclad Fire Walls (Underwriters' rated)
- M-Floors (Steel Cellular Sub-Floors)
- Long Span M-Deck (Cellular or Open Beam)
- Steel Roof Deck
- Acoustical and Troffer Forms
- Acoustical Metal Walls, Partitions and Roof Decks
- Permanent Concrete Floor Forms

CONSTRUCTION SERVICES

- Structural Steel-Fabrication and Erection
- Steel Fabrication-Weldments
- Geodesic Domes-Fabrication and Erection

Steel *for strength . . . economy . . . versatility*

THE R. C. MAHON COMPANY

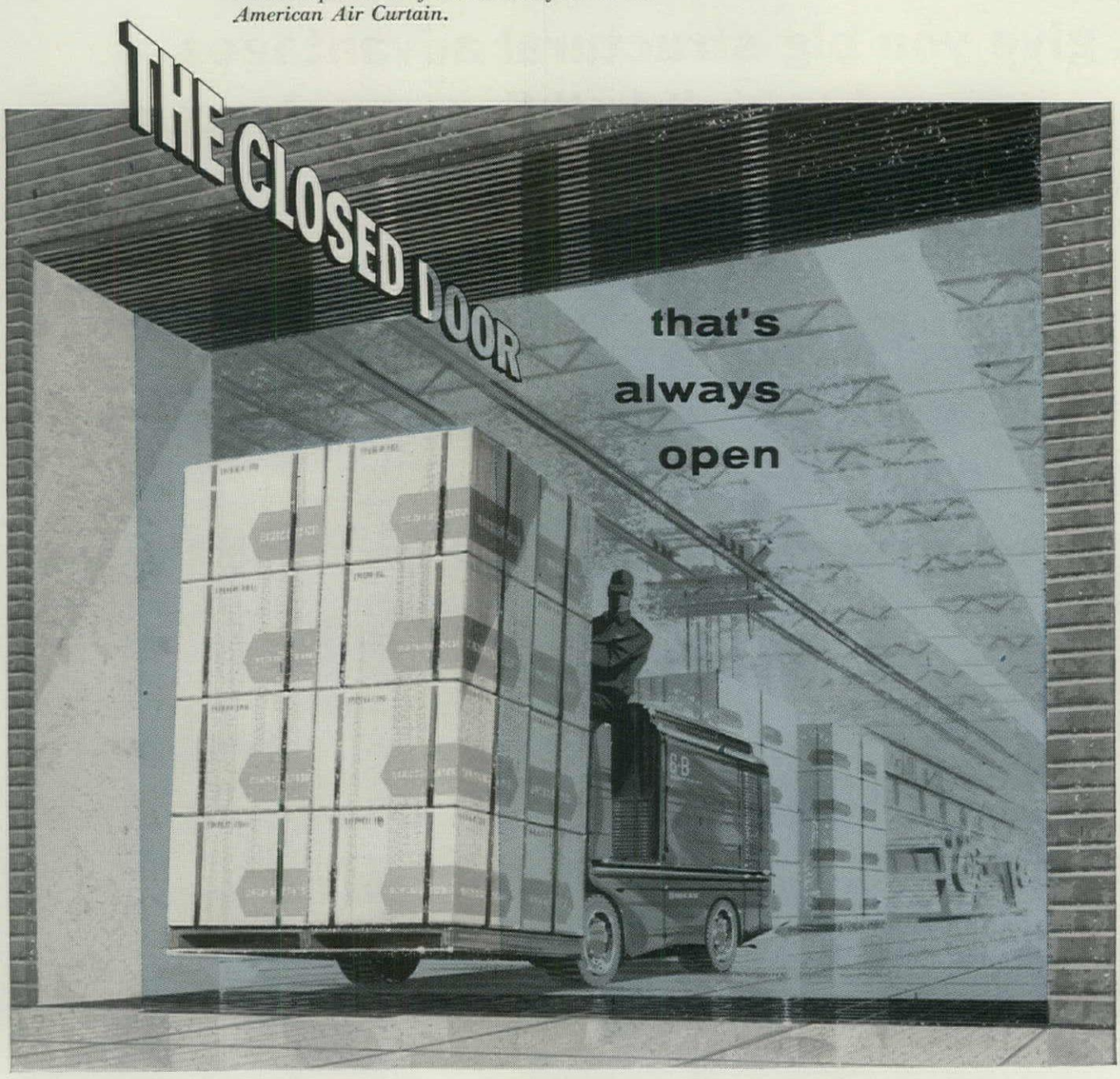
Detroit 34, Michigan

Manufacturing Plants—Detroit, Michigan and Torrance, California.
Sales-Engineering Offices in Detroit, New York, Chicago, Torrance and San Francisco.
Representatives in all principal cities.

Speeding American Construction with Metal Building Products, Fabricated Equipment and Erection Services

MAHON

In industry today no blueprints for new construction, no plans for remodeling can ignore the concept of traffic flow as an integral function of architecture. One of the boldest expressions of this idea in years is the American Air Curtain.



The American Air Curtain . . . a doorway that's sealed against heat or cold, dust or fumes—against everything but people and products! A gentle curtain of air, thermostatically controlled, separates and insulates areas having different temperatures, atmospheric pressures or humidities. In industry today applications of the American Air Curtain are dramatic. Any type of operation can be confined to its own area, unaffected by the traffic of men and machinery. It's the boldest innovation in architectural engineering in years: the closed door that's always open.

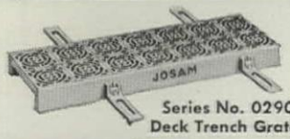
Write for complete information on the many industrial and commercial applications of the American Air Curtain . . . made by America's first, and most experienced, manufacturer of air curtains.

PEOPLE AND PRODUCTS MOVE THROUGH THE CLOSED DOOR THAT'S ALWAYS OPEN

AMERICAN AIR CURTAIN CORPORATION
472 PAUL AVENUE • ST. LOUIS 35, MISSOURI
A SUBSIDIARY OF UNIVERSAL MATCH CORPORATION

Series No. 400 Roof Drain

Series No. 4820 Parapet Drain



Series No. 0290 Deck Trench Grates

Series No. 300 Floor Drain

Series No. 0600 Pool Gutter Drain

Series No. 0660 Pool Angle Gutter Drain

Series No. 0670 Pool Deck Drain

PLUMBING DRAINAGE PRODUCTS USED IN BUILDINGS AND POOLS OF HONOR AWARD PROJECT

another example of C.P.D.*

co-ordinated plumbing drainage

Honor Award, Chicago Chapter of A.I.A. and Chicago Association of Commerce and Industry, 1959. Office of the Year Award of Merit, Office Management Magazine, 1959.

Photography by Hedrich-Blessing

Project: International Minerals & Chemicals Corp., Skokie, Ill.
Architects: Perkins & Will, Chicago, Illinois
Plumbing Contractor: W. T. Mahoney & Sons, Chicago, Illinois

Where buildings and pools — indoor or outdoor — are part of a modern construction project today, both can enjoy the benefits of *Coordinated Plumbing Drainage by Josam. At Skokie, Illinois, in the famed International Minerals & Chemical Corporation center Josam Products bring the highest standards of performance to the drainage requirements at the roof, on the floor . . . in the pool. These standards developed through 50 years of specialization in plumbing drainage provide the assurance that each Josam Product will perform its specific function in coordination not only with the plumbing drainage system but with all other structural elements. In every type of building today you can meet ALL your plumbing drainage requirements with just one word — Josam! Write for Catalog "K".

JOSAM MANUFACTURING CO.
General Offices and Manufacturing Division
MICHIGAN CITY, INDIANA
REPRESENTATIVES IN ALL PRINCIPAL CITIES

West Coast Distributors
JOSAM PACIFIC CO.
765 Folsom Street San Francisco 7, Calif.

Josam Products are sold through plumbing supply wholesalers.

JOSAM MANUFACTURING CO.
Dept. AF-9, Michigan City, Indiana
Please send copy of Catalog K.

Firm .....
By ..... Title .....
Address .....
City ..... Zone ..... State .....

Introducing the elegant... slim, trim

BENJAMIN CORONADO

new design distinction in commercial lighting

Now . . . Benjamin introduces the ultimate in dramatic fluorescent lighting—the slim trim Coronado. It's excitingly different, with the smart, slender look of distinction. Available in either a clear or "Prisopal"® lens, the Coronado hugs the ceiling in perfect harmony of design, with a visible depth of only 2½". Its distinctive styling sets this unit apart from all other plastic enclosed units.

The Coronado leads the field in practicality, too. *One-piece diffusing element . . . finger-touch latch . . . built-in coupler . . . snap-in wiring channel*—all add up to the easiest installation and maintenance ever. The Coronado combines beauty with new features and dollar savings in a way that assures complete satisfaction, whether used for appearance or price. Available in 2 or 4 lamp—40 Watt Rapid Start.

EXCLUSIVE NEW FEATURES

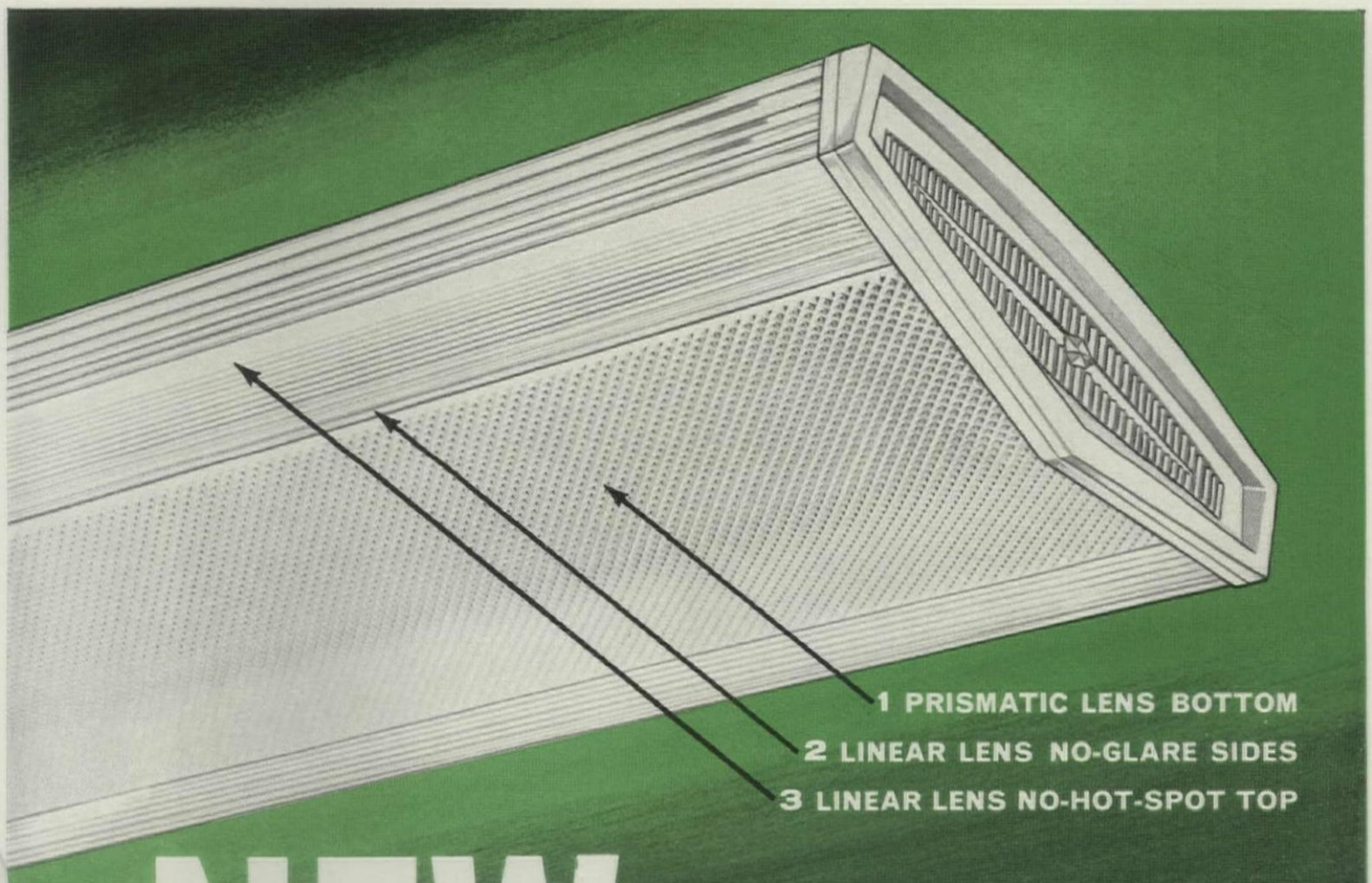
NEW . . . finger-touch latch hinges from either side, allows basket to swing down or be removed—no tools needed.

NEW . . . snap-in wire way cover provides easy access to wiring and control equipment.

NEW . . . end plate design permits easiest tandem installation, coupling units in perfect alignment.

NEW . . . decorative plastic end caps available for use on individual units or at ends of row.

NEW . . . one-piece "wrap-around" extruded plastic construction—only 2½" visible depth.



NEW

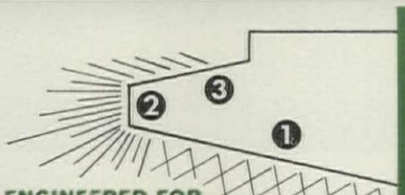
3-in-1 light diffuser in a surface mounted unit

CORONADO—CLEAR LENS (Top)

This new 3-in-1 diffuser boasts a crystal-clear L-120 low-brightness prismatic bottom, complemented by linear refracting lenses on sides and top to redirect light out of glare zone. Here is the ultimate in clear, color-stabilized polystyrene.

CORONADO—PRISOPAL® LENS (Bottom)

With the addition of opalescent white, this totally new 3-in-1 diffuser becomes a beautiful diffusing surface offering something new in controlled illumination.



ENGINEERED FOR CONTROLLED LIGHT DIFFUSION

1 Low-brightness L-120 prismatic lens on bottom for superior performance and control.

2 Refracting linear lens on sides redirects light out of the glare zone, effectively controls side brightness.

3 Refracting linear lens on top increases efficiency, spreads light uniformly over ceiling, banishes "hot spots."

For full information on the new Benjamin Coronado, mail coupon to Benjamin Division Thomas Industries Inc., 207 East Broadway, Louisville 2, Ky., Dept. BAF-9.

BENJAMIN DIVISION

THOMAS INDUSTRIES INC.

The World's Largest Single Source of Lighting for Commerce, Industry and Home.

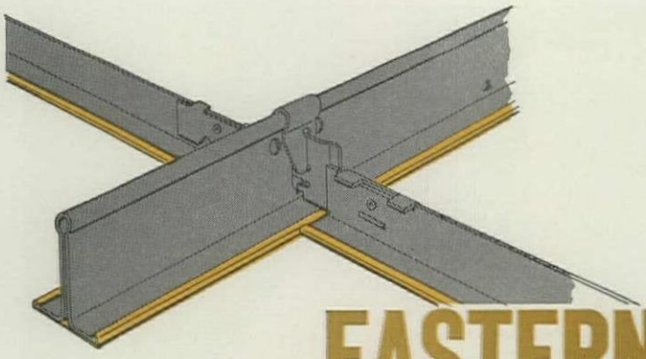
Send FREE copy of Coronado Folder to:

COMPANY_____

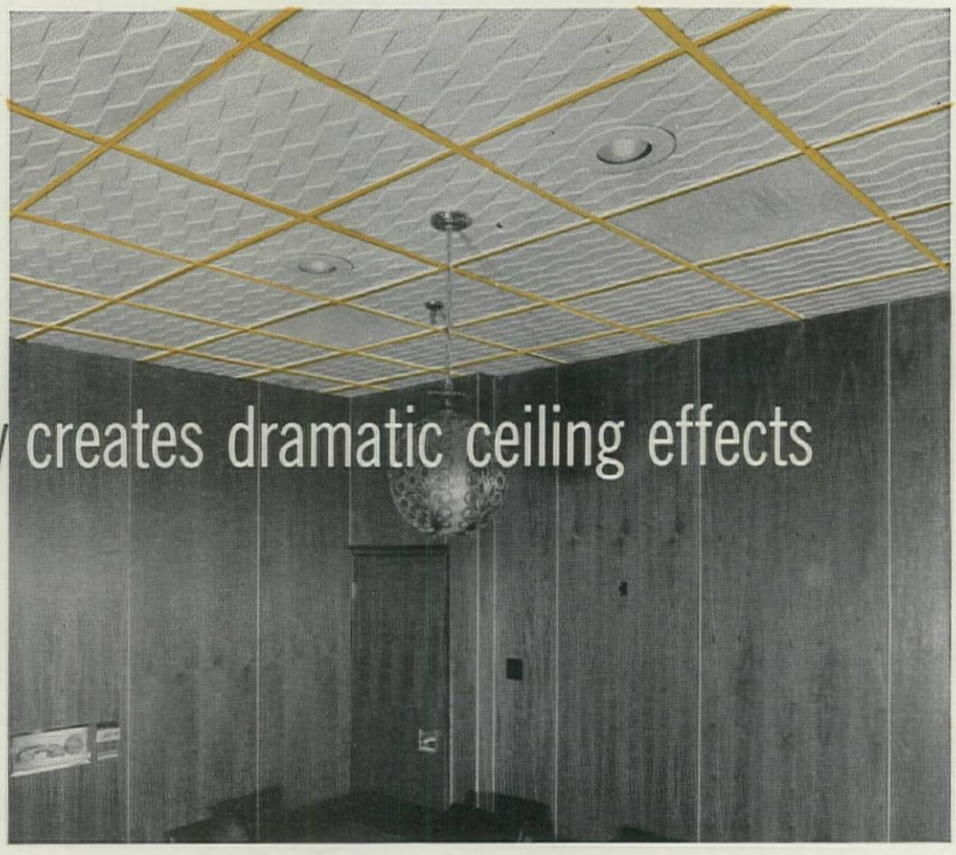
ADDRESS_____

CITY_____ ZONE____ STATE_____

NAME_____



EASTERN'S NEW GOLDEN
ACOUSTICAL SUSPENSION SYSTEM



economically creates dramatic ceiling effects

Illustrated above is the newest in Eastern's complete line of acoustical systems—with a distinctive, bright golden finish. Like all Eastern mechanical suspension systems it offers exceptional structural strength, supports light fixtures as well as air diffusers . . . in many cases without additional hangers. Ready accessibility, wide choice of ceiling materials, low cost of installation and complete flexibility of design make it a practical answer to every ceiling construction problem. **Write now for full information.**

F

Acoustical Division, Eastern Products Corp.,
1601 Wicomico St., Baltimore 30, Maryland

Please send details on Eastern's mechanical suspension system.

name

street

city zone state

SEE OUR CATALOG IN SWEET'S
OR WRITE FOR COPY

Eastern
Products Corporation

1601 Wicomico St., Baltimore 30, Md.

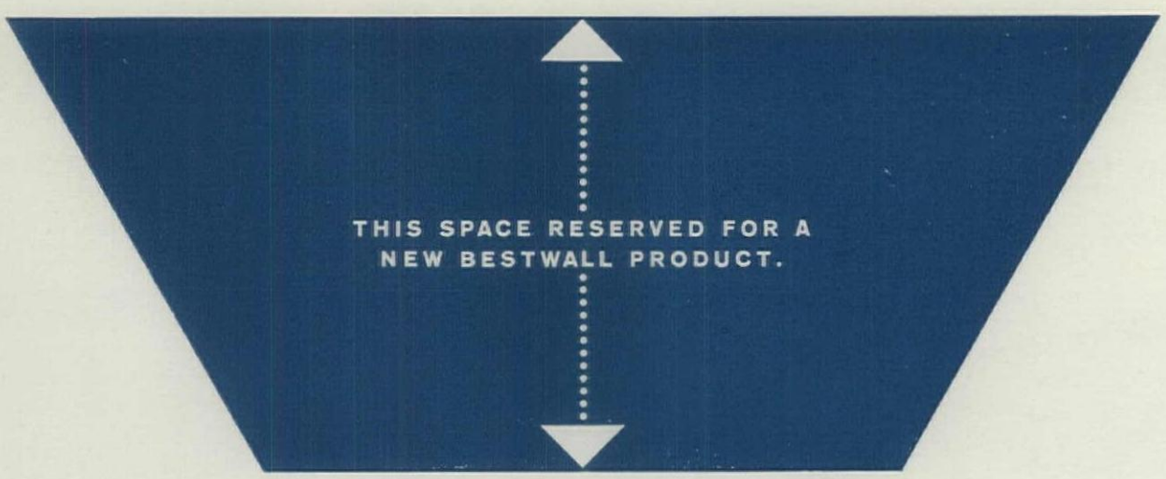
10...

9...8...

7...6...5...

4...3...2...1

COMING SOON! NEW INCOMBUSTIBLE ACOUSTICAL TILE FROM BESTWALL: A MAJOR BREAKTHROUGH IN TILE DESIGN GIVING YOU 'SPACIAL SILENCE'. SEE IT SOON.



FIREPROOF GYPSUM
BESTWALL®
BUILDING PRODUCTS

BESTWALL GYPSUM COMPANY
Ardmore, Pennsylvania
Plants and offices throughout the United States

This is a Lighting Man's Lighting ...but Anyone can see its Worth!

You *don't* have to be a lighting specialist to see that this lighting takes off where ordinary illumination stops. The photo of this bank interior shows clearly what happens when thoughtful building design and handsome functional lighting fixtures are combined. (And they usually are!)

The LITECONTROL plastic grid louvers used in both the luminous ceiling and in the four foot square recessed fixtures are molded of translucent polystyrene. This material is light stable, conforming to the IES-NEMA-SPI specifications for class C (ultraviolet light stabilized) styrene. Louvers are light in weight, show no dark shadows, and provide 45° x 45° shielding. Result: Maximum visual comfort as well as plentiful illumination . . . and where budgets are limited, the economical cost of the louvers is very welcome.

This application is typical of Litecontrol installations in commercial structures that control costs while providing peak lighting efficiency. May we help *you* on your next job?

INSTALLATION: New Hampshire Savings Bank and Mechanicks' National Bank Building, Concord, N. H.

ARCHITECT: W. H. Jones & Son, Melrose, Massachusetts

ELECTRICAL ENGINEER: Martin E. Keane Associates, Boston, Massachusetts

AREA SHOWN: Tellers' Area and Public Area

CEILING HEIGHT: 12′ — 0″ in Tellers' Area; 18′ — 0″ in Public Area

FIXTURE: Tellers' Area, Litecontrol Luminous Plastic Grid Louver Ceiling, with 2′ x 4′ louver panels, rapid start strip fixtures on 3′ — 0″ centers.

Public Area, No. 4384-RS-PG plastic grid louver recessed fixtures, 4′ x 4′.

INTENSITY: Tellers' Area, average 50 footcandles in service. On Tellers' counters, average 75 footcandles in service. Public area, average 75 footcandles in service.

LITECONTROL

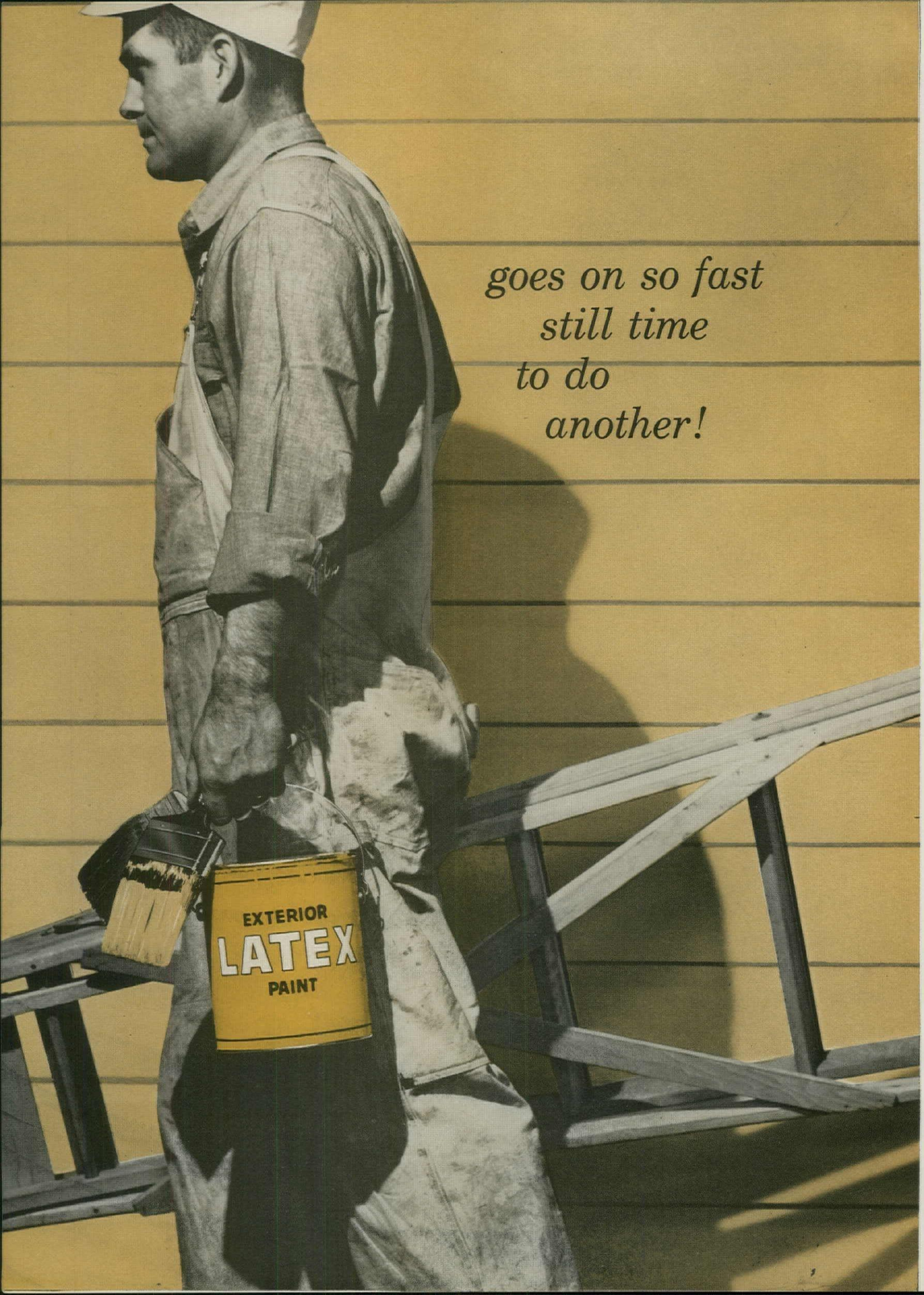
Fixtures

KEEP UPKEEP DOWN

LITECONTROL CORPORATION.

36 Pleasant Street, Watertown 72, Massachusetts

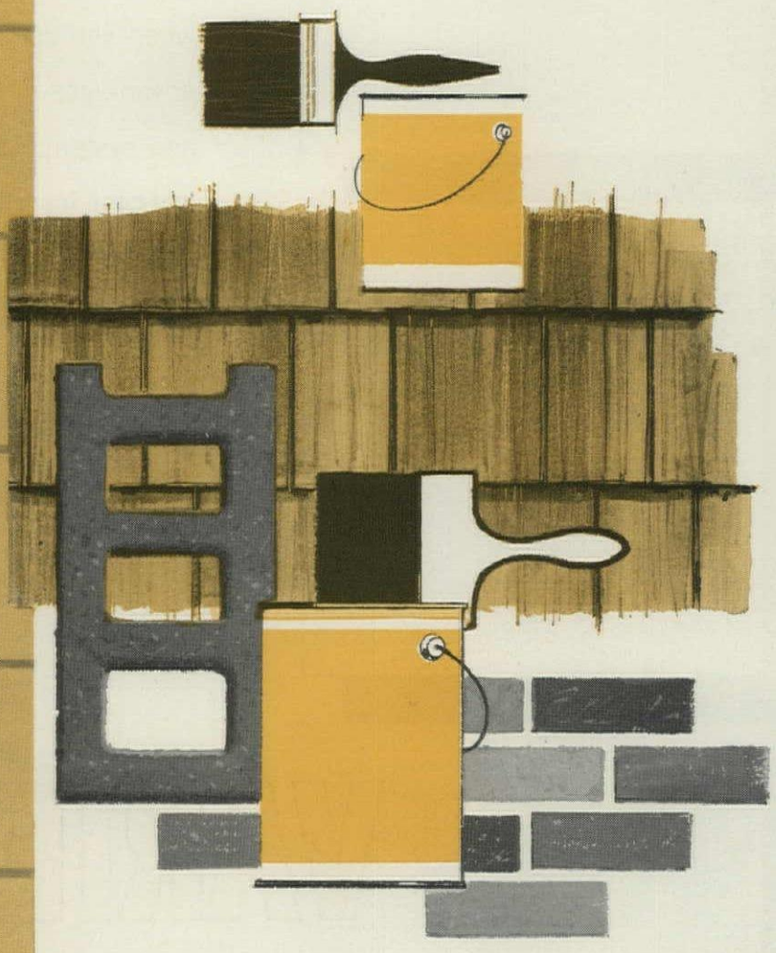
DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS


goes on so fast
still time
to do
another!
EXTERIOR
LATEX
PAINT

EXTERIOR LATEX PAINTS

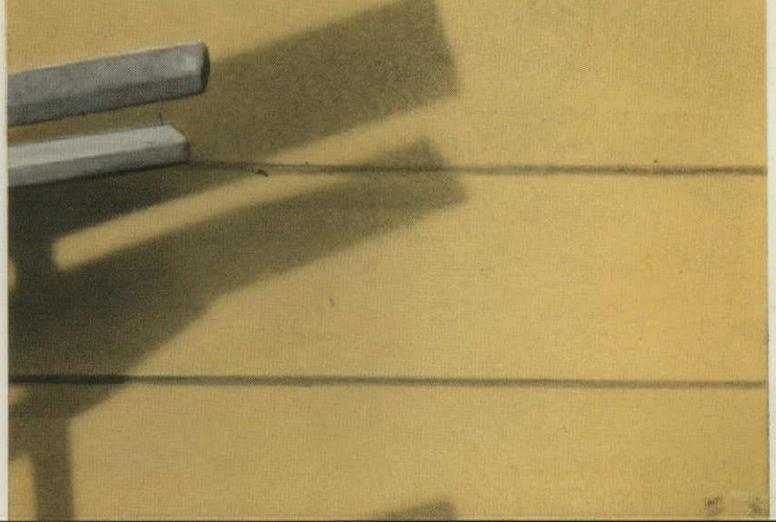
can practically cut painting time in half. They flow smoothly—go on quickly and easily. Use them on previously painted or oil-primed wood, on masonry and most other surfaces. Moisture resistant in minutes, they're completely dry within the hour, with a tough waterproof film that resists sunlight, dust, fog, mildew, salt air, wash-offs or streaks. Clean-up is with soap and water. Their durability in all climatic areas measures up to other types of exterior paint.

Exterior Latex Paints are available in a wide selection of lasting colors from leading paint manufacturers. The broad range of colors once restricted to interior use is now practical with Exterior Latex Paint. They are formulated with latex supplied by Monsanto after many years of testing in collaboration with major paint manufacturers. For further information and a list of brand names of exterior latex paints, use coupon below. Monsanto Chemical Company, Plastics Division, Springfield 2, Mass.



Monsanto

MONSANTO ACTIVATOR IN **PLASTICS**



MONSANTO CHEMICAL COMPANY
Plastics Division, Room 762, Springfield 2, Mass.

Please send me information and sources of supply on EXTERIOR LATEX PAINTS

Name_____

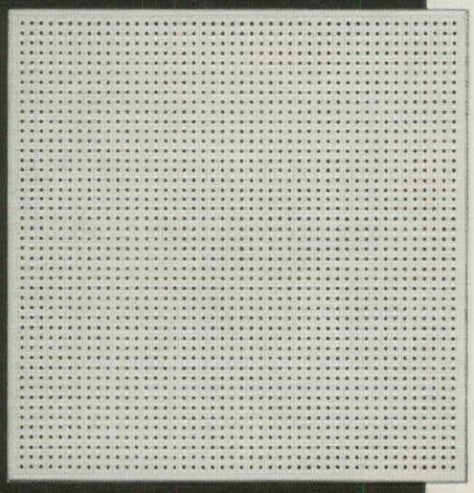
Company_____

Address_____

City_____ State_____

1

2



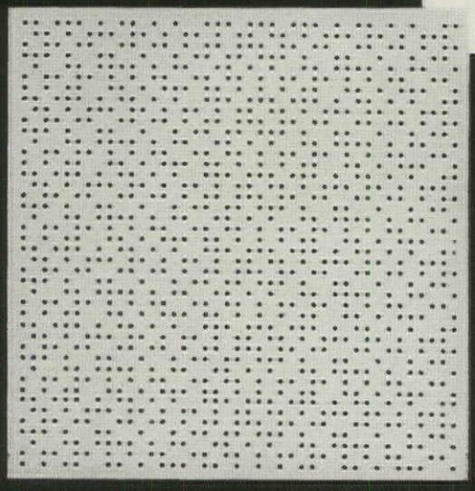
ACOUSTI-CELOTEX "LAY-IN" PANELS for modern, multi-function ceiling systems. This array of acoustical panels demonstrates the design freedom you enjoy when you specify lay-in "Ceilings by Celotex"... all the advantages of greatest variety in materials, patterns, sizes and system. Large size panels designed for fast, low-cost installation on suspension systems integrating elements for lighting, air conditioning and movable partitions. All illustrated products are incombustible.

Next time your project calls for the popular lay-in type of installation, call the franchised Acousti-Celotex distributor listed in your "Yellow Pages." As a member of the world's most experienced acoustical organization, he offers helpful counseling, demonstration, and installation service.

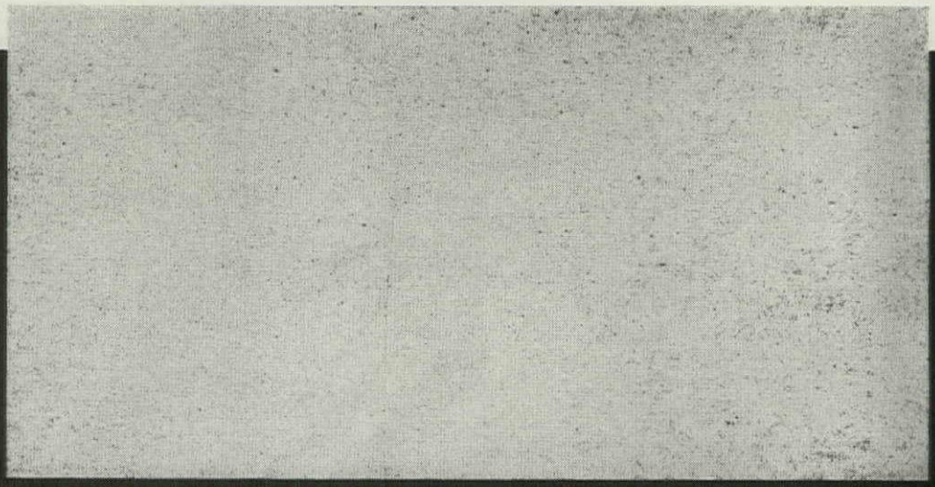
3

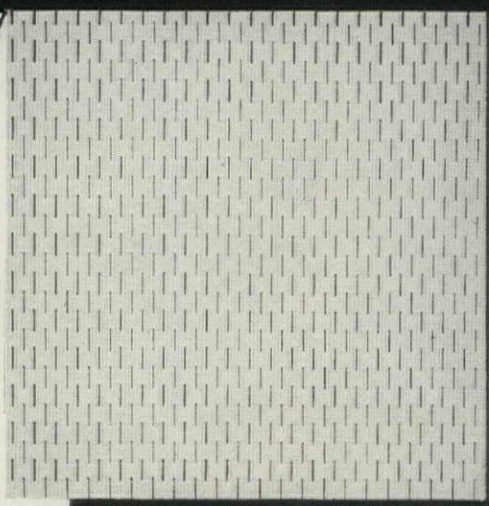
VARIETY! DESIGN FREEDOM!

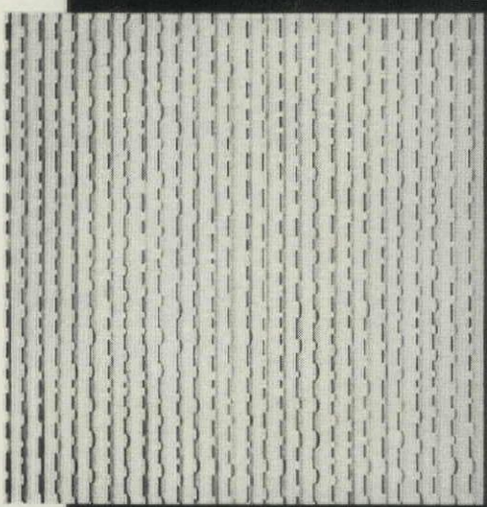
4



5







1. PERFORATED MINERAL FIBER TILE. Random Pattern. 2′ x 2′.

2. PERFORATED MINERAL FIBER TILE. Standard Pattern. 2′ x 2′.

3. CAVITY TILE*. Standard Pattern. Perforated gypsum base board; membrane backed. 2′ x 2′.

4. CAVITY TILE*. Random Pattern. Perforated gypsum base board; membrane backed. 2′ x 2′.

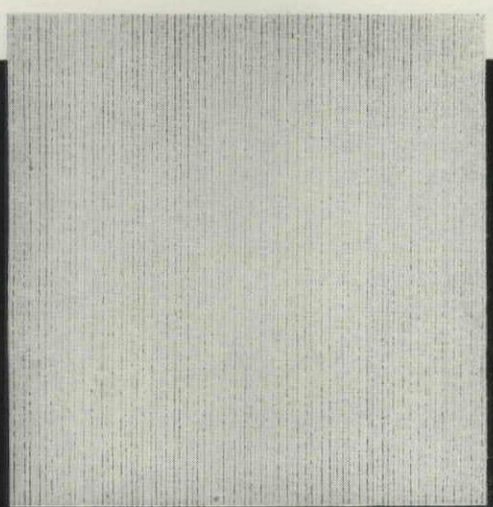
5. MUFFLETONE® MINERAL FIBER PANELS. Vinyl paint finish. 2′ x 2′ and 2′ x 4′.

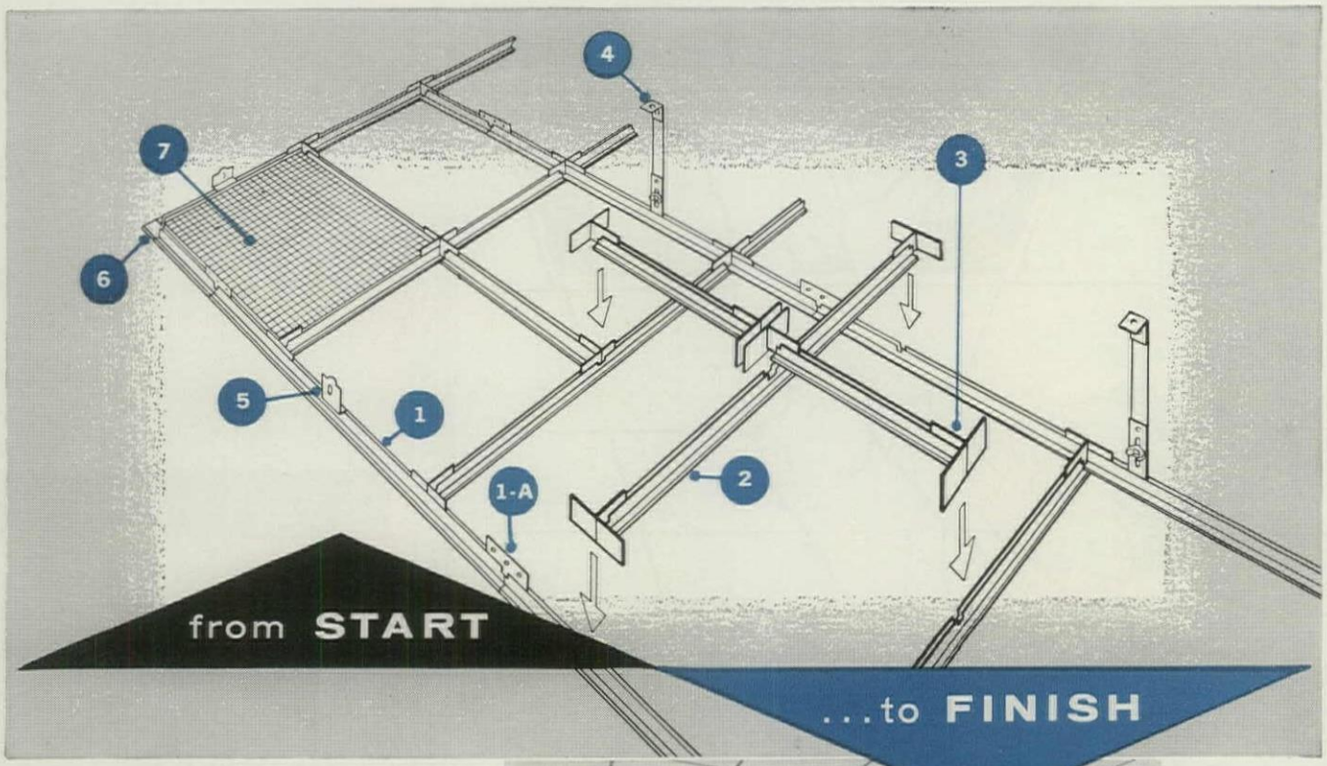
6. STRIATED MUFFLETONE® MINERAL FIBER PANELS. Vinyl paint finish. 2′ x 2′.

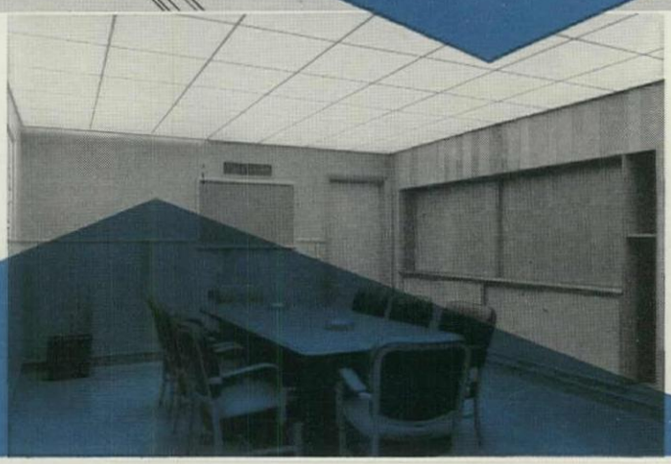
7. STEELACOUSTIC® STANDARD PATTERN PANELS. White or stria-colored. (Blue, green, brown) 2′ x 2′.

8. STEELACOUSTIC® RANDOM PATTERN PANELS. Aluminum or steel facing. 2′ x 2′ or 2′ x 4′.

9. SUPERACOUSTIC® SPUNGLASS FIBER PANELS. 2′ x 2′, 2′ x 4′, 4′ x 4′.







GUTH GRATELITE CEILINGS GO UP WITH EASE

Louver Diffuser*

EASY!...TO INSTALL,
RELAMP AND CLEAN!

Each operation is completed in seconds: The "slip-fit" Una-Tees **1** snap together with Tee Joiners **1-A.** Spacer Bars **2** snap into slotted Una-Tees. Tee Connectors **3** form "clutch-tight" connection between Una-Tees and Spacer Bars. Sliding Hangers **4** use only one screw at top to carry the load...and offer almost complete vertical or horizontal adjustment! Wall Clips **5** secure Una-Tees to walls. Corner Trim **6** snaps in place to make square corners. Contractors tell us that GrateLite Ceilings require 0.06 to 0.09 man-hours per sq. ft. GrateLite Panels **7** drop into place . . . your choice of 2′ x 2′ module Non-Combustible GrateLite...16″x 48″module Standard or Mystic GrateLite**. For round or curved perimeters — Una-Tees **1** can be bent to fit and may be cut to any length required. Four-sided support assures permanent alignment of all panels. To relamp or clean, remove each panel separately.

WRITE FOR FREE GRATELITE BROCHURES

I. B. E. W. Union made and wired

Guth LIGHTING since 1902

*®U. S. Pat. No. 2,745,001 Can. Pat. No. 538,245
**®U. S. Pat. No. 2,927,200 & No. 2,927,994

THE EDWIN F. GUTH CO. 2615 Washington Blvd., Box 7079, St. Louis 77, Mo.

FORUM

EDITOR-IN-CHIEF: Henry R. Luce
CHAIRMAN, EXEC. COMM.: Roy E. Larsen

CHAIRMAN OF THE BOARD: Andrew Heiskell
PRESIDENT: James A. Linen
EDITORIAL DIRECTOR: Hedley Donovan
ASSISTANT DIRECTOR: Albert L. Furth

EDITOR
Douglas Haskell, AIA

MANAGING EDITOR
Joseph C. Hazen Jr., AIA

ART DIRECTOR
Paul Grotz

ASSOCIATE EDITORS
David Allison, Peter Blake, AIA,
Russell Bourne, David Carlson,
Jane Jacobs, Walter McQuade, AIA,
Richard A. Miller, AIA,
Ogden Tanner, AIA, Stephen G. Thompson,
Mary Elizabeth Young,
Richard Saunders (Washington),
Allan Temko (West Coast)

ASSISTANT TO THE EDITOR
Mary Jane Lightbown

RESEARCH STAFF
Mireille Gerould, chief;
Benita Galanti, Anne Peyton,
Mary Elizabeth Serra

ART STAFF
Ray Komai, associate art director;
Martha Blake,
Charlotte Winter, associates

EDITORIAL ASSISTANTS
Anne Le Crenier,
Henry Martin Ottmann,
Ann Wilson

CONSULTANTS
Miles L. Colean, FAIA
Lawrence Lessing

PUBLISHER
Ralph Delahaye Paine Jr.

GENERAL MANAGER
Charles B. Bear

ADVERTISING DIRECTOR
S. C. Lawson

ARCHITECTURAL FORUM
Published by TIME INC.

Editorial

The platforms on building America

The two party platforms in this election year—by consensus the most thoughtful, widely contested, and biggest attention-getters in many a year—exhibit a startling agreement on national goals in everything from foreign policy to civil rights to atomic testing to urban affairs. Cynically, this might be attributed to the political propensity to come out strongly against sin and squarely for mother, flag, and country. But even in their negative tribute to virtue, the platforms affirm the national concern, as against a narrowly local one, for such pressing problems as urban development. Indeed, on all issues affecting the building of America, the parties are in fair and hopeful agreement.

The Democratic platform pledges an expanded economy, lower interest rates, and special mortgage assistance to raise home building to more than 2 million units a year (1959 total: 1.5 million new homes) and to support a substantial low-rent public-housing program. It pledges to expand federal aid to communities for slum clearance, redevelopment, planning, school building and teaching salaries, commuter transportation, health and hospital facilities, sewage disposal, air and water pollution, and expanded park systems. And it pledges a coordinated national transportation policy and a new department of cabinet rank for urban and metropolitan problems.

The Republican platform pledges vigorous support of measures to assist the flow of mortgage credit into private housing, plus research programs to reduce housing costs and to develop special housing for the aged. It pledges continued effort to help clear slums, promote urban renewal and planning, provide aid for school construction and college housing, coordinate mass transportation, help build medical schools, public health and nursing facilities, and fight water and air pollution—"all designed to supplement and not supplant private initiative."

Where the platforms differ profoundly, of course, is in the means to these ends. The Democrats propose to finance their vastly expanded program by raising taxes if necessary, but with major reliance on closing tax loopholes and on doubling the present rate of national economic growth, by means not yet visible, to a magic 5 per cent annually—probably the most contentious point between the parties. The theory is, as developed by Economist John Kenneth Galbraith and others, that there is a big lag in investment in the public sector—"private opulence amid public squalor"—and that to meet the needs of an expanding population at home and critical commitments abroad a vastly greater growth rate and public investment are needed. The Republicans, too, pledge policies toward an increase in growth rate, by means even less visible at the moment, but with no fixed percentage as a goal, and with general reliance on so-called natural economic

continued on page 91

THE CLEAN-CUT "ARCHITECTURAL LOOK"

Here you see one of the striking new 1000 SERIES desks by GF—designed by one of America's leading architectural firms. Functionally styled, with all-flush surfaces and clean uncluttered lines. Combines the modern "architectural look" with unmatched GF quality. Models for both private and general offices. For that new office building on your drawing board, specify this architect-styled beauty
The General Fireproofing Company, Dept. C-20, Youngstown 1, Ohio.

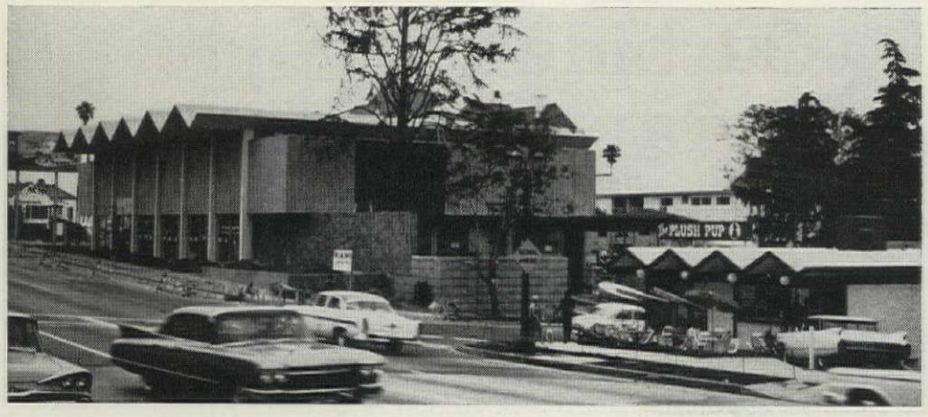
1000 SERIES BY **GF**

GENERAL FIREPROOFING
BUSINESS FURNITURE

Visit us at the OEMI BUSINESS EQUIPMENT EXPOSITION
Los Angeles Sports Arena • November 1-4

forces. The theory is expressed in the platform's conclusion: "We limit our proposals and our pledges to those areas for which the government of a great republic can reasonably be made responsible."

In the area of urban renewal, therefore, the impression is that the Democrats would do more, the Republicans somewhat less in the way of promises. The figure most bandied about by Democrats at Los Angeles was some $600 million annually for urban renewal, with the total construction program calling for immensely more than that. The Republicans at Chicago breathed no specific figures, and are not likely to, but general attitudes indicated that nothing greatly above the magic 1954 budget, largely stable now for half a decade, would be countenanced. It is between these basic attitudes that the citizen must make a choice, and it is a difficult and portentous one. But either way the needs of a growing urban society will be met in some measure.



Continuity

Readers will be pleased to know that the cause of urban continuity and harmony (for which FORUM has fought many a battle) has just received an impressive boost at 8100 Sunset Boulevard, Los Angeles, Calif. On this site, the Lytton Savings Bank is about to complete its handsome, new home. As the picture (above) shows, the new bank will have a folded, zigzag roof of concrete. And as the picture also shows, a Los Angeles entrepreneur has beaten Lytton Savings to the draw: right next door to it, at 8200 Sunset Boulevard, he has constructed what must be America's most lavish hot-dog stand (aptly named The Plush Pup) and topped it off with a folded, zigzag roof of plywood.

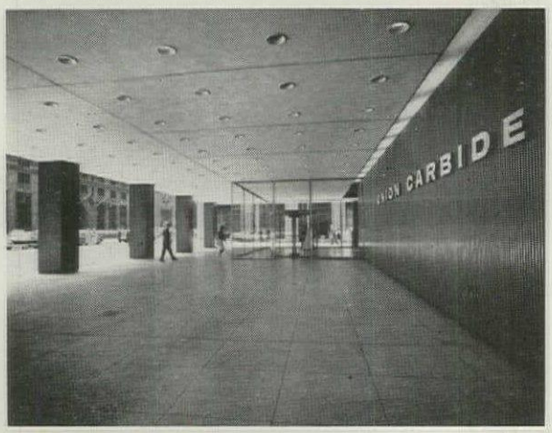
While The Plush Pup leaves some problems of scale-relationship (and so forth) unresolved, the spirit behind the effort is to be applauded. But, one minor suggestion may be in order: to balance the stately composition, perhaps Lytton Savings should acquire the site on the left and erect thereon a handsome, zigzag-roofed ice cream parlor, similar in design to The Plush Pup. Suggested name: The Classy Cone. P.S.: The architects for Lytton Savings are Hagman & Meyer; the man who beat them to the draw is Architect Dan Dworsky.

Moving stairs connect street with lobby.

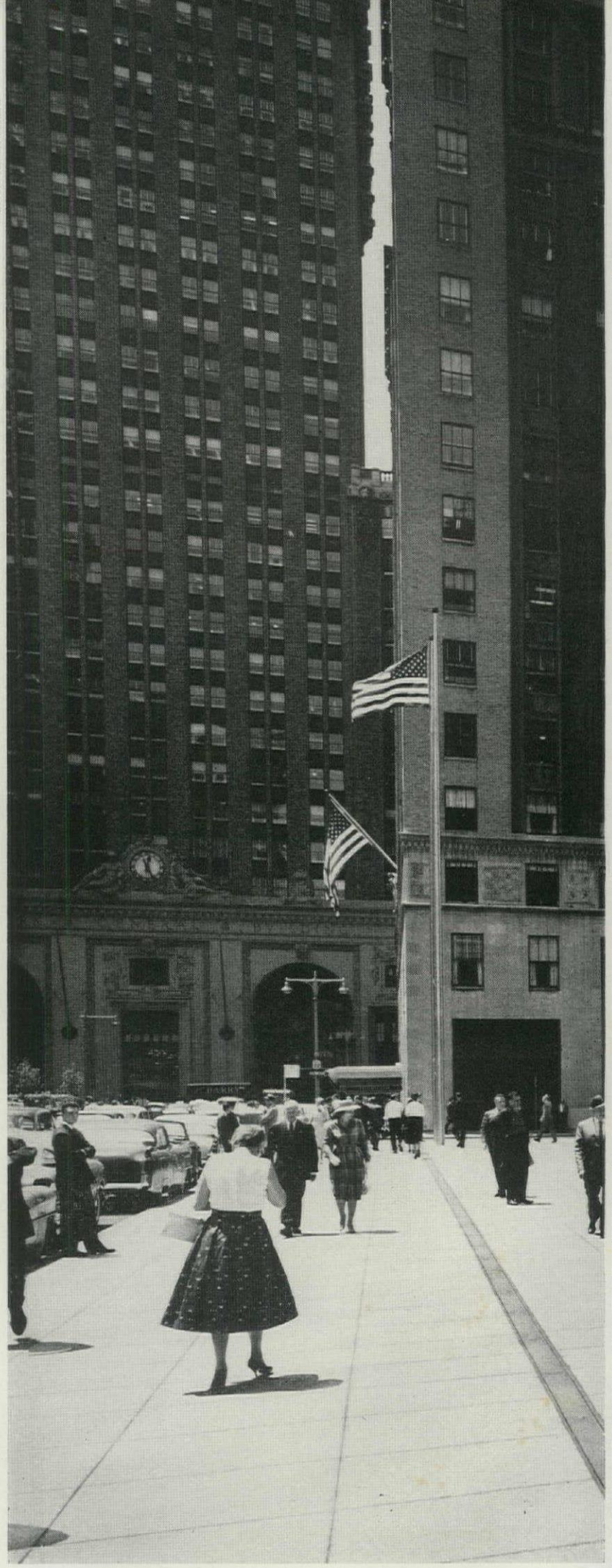
Carbide unwrapped

New York's latest high-style skyscraper, the 53-story Union Carbide Building, was getting its final touches on Park Avenue last month. Workmen polished the glittering stainless-steel mullions, and stripped the last protective skins from the spandrels of stunning black steel. Carbide employees moved into their big, luminous-ceiling offices, and passers-by wandered appreciatively across broad sidewalks of pink terrazzo and short-cutted through deep colonnades on all sides. To keep elevator pits out of Grand Central Station's trackage below, Architects Skidmore, Owings & Merrill had lifted the lobby to the second floor, where moving stairs emerged into the grandest new public room in town. On completion, FORUM will report in detail this vast circulation-exhibit space, along with Carbide's other contributions to office-building design.

Deep colonnade extends the sidewalk into the building.



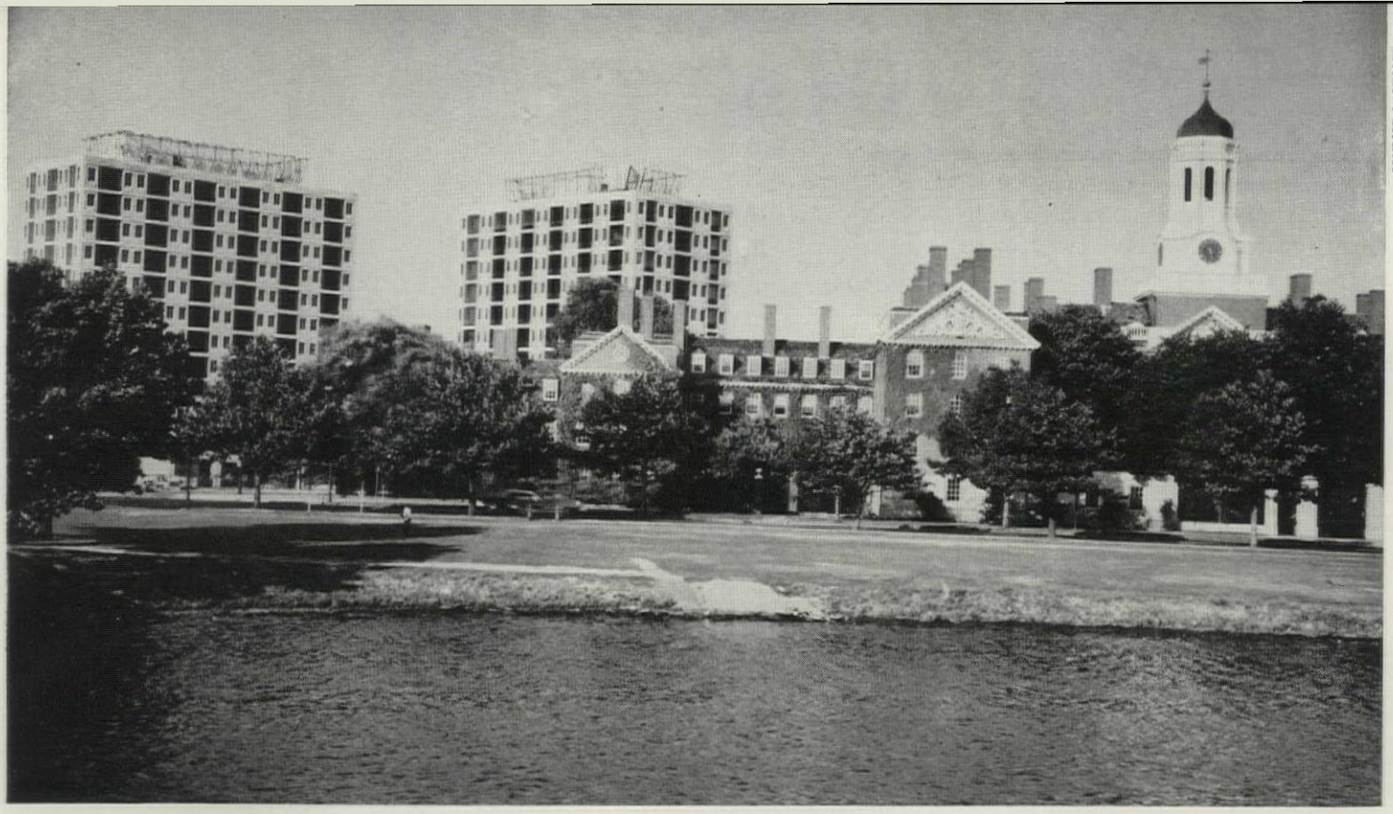
PHOTOS: GEORGE CSERNA



Park Avenue façade is generously set back from the building line. Grand Central tower is at the left (background).

Harvard's course in continuity

BY RICHARD A. MILLER



RICHARD A. MILLER

Leverett House towers rising behind Dunster House mark a new Harvard.

A thoughtful meld of structures, spaces, connections, and paths, the new building at America's oldest university holds a lesson for every growing campus and worn-out city.

When Dean José Luis Sert was asked to describe the objectives in planning Harvard's vast building program, he said: "A university is a cultural center within a city, and it should set an example of good planning and good design. It is, in a way, a micro-city, and its urbanity is the expression of a better, more civilized way of life." Indeed, the physical Harvard has, over the years, obtained that all-too-rare civic quality: a sequence of diverse buildings forming clearly defined open spaces connected to each other like beads on a string. Woven through these spaces is a coherent system of pedestrian paths. Now, these buildings, spaces, and paths are being extended by planning in a way instructive for any campus—or for any city.

Like many of its younger sisters, Harvard ended its last great period of construction with the depression. With the exception of the Graduate Center, buildings built during the depression and early postwar years merely filled chinks in a development pattern already well-defined. But with the success of the $82.5-million Program for Harvard College—the first of the great college fund drives—and the development of similar expansions in the graduate schools which surround the college, Harvard in the fifties faced the prospect of adding major new elements to a physical plant built, mellowed, and beloved through more than three centuries past.

The most fervent admirers of that Harvard, of course, were alumni. Facing them in Pittsburgh in 1958, President Nathan Marsh Pusey said: "Harvard has grown in a wonderful harmony of scale in buildings and open space which changes from generation to generation—but never violently. This harmony we want to keep. But the physical Harvard is only the surface aspect of what concerns us. The physical Harvard must renew itself because the inner intellectual and spiritual Harvard is growing and changing all the time, and it has to find a new form, and do it, today, within the complexities of the great urban area in which we live."

To help find this new form, Harvard established, for the first time in its history, a university planning office with its own professional staff and with a coordinator responsible to the administrative vice president. Since 1956, Sert, who is dean of the Graduate School of Design, has acted as consultant to this office, and with his guidance the painstaking job of collecting information on the physical university was then begun. Now assembled in a single large volume, the information gave Harvard, virtually for the first time, a summary picture of itself and its setting. Including the graduate schools in Cambridge and across the Charles River in Brighton (but excluding the medical school several miles away in Boston and adjacent Radcliffe, the women's college) the entire institution, with an enrollment of 11,819, occupies 275 acres. In this area 3.2 million square feet of academic space and 2.6 million square feet of residence space are already built. With the addition of administrative or non-university uses, Harvard is therefore already the proprietor of better than 6.4 million square feet of space.

From the Yard (center) Harvard spreads north across busy streets to the Graduate Center and the Divinity School (top). Southward, the university skips a belt of stores across Massachusetts Avenue to the student resident houses and the Business School on the banks of the Charles River. Athletic fields occupy the area in the bend of the river (bottom). Numbers locate buildings pictured on page 96.

The fundamental planning problem facing Harvard was to schedule, locate, plan, and build nearly 2 million additional square feet of floor space at an estimated cost of $59.3 million. A second problem, perhaps more difficult logistically, was to remodel some 389 thousand square feet of existing space at an estimated cost of $3.9 million.

The planners early saw that Harvard had only a few choices for the directions of expansion. The university found itself in the built-up center of the Boston metropolitan area. Land is scarce, and the supply of expansion land, acquired piece by piece over the years, is running out. A long-pending urban renewal project on one side of Harvard and purchase of a subway car yard on the other would ease the land problem, but even if both develop, Harvard might be land-shy.

To Sert's mind, there are three alternatives to land acquisition for building expansion: to build more compactly on land Harvard now has, to grow in height, and to make better use of existing buildings. All three have already been done. Buildings like the Harvard-Yenching Institute, the Harvard University Herbarium, and the James Bryant Conant Chemistry Labs, have been sandwiched into sites which might normally be considered too small for buildings. The two new residence buildings, Quincy House and the Leverett House Towers, at eight and 12 stories in height, are taller than anything else in the university save the spires. Further, Freshman dormitories and the Language Center in Boylston Hall (FORUM, Aug. '60) were reshaped from buildings ranging to 250 years old.

These early projects have been more or less successful. In any event, new construction is not yet prominent enough to threaten the total ambience of the traditional Harvard. But the future depends very largely on the success that architects who are now at work will have in interpreting the traditional Harvard to new needs. Some 12 separate architects or firms are currently involved in Harvard commissions, the two newest being LeCorbusier, planning the $1.5 million Visual Arts Center, which will be built next to the Fogg Museum, and Minoru Yamasaki & Associates, working on a $1.5 million Behavorial Sciences Building and a $900,000 Engineering Sciences Building.

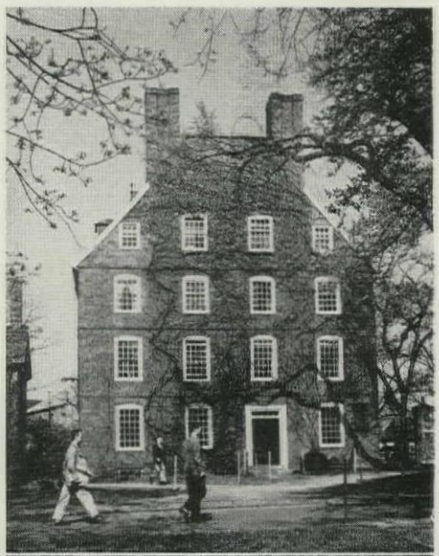
Buildings with continuity: 1720-1960

Three centuries of buildings, all modern in their time, face each other quietly at Harvard. The oldest building, Massachusetts Hall (1), built in 1720, turns a handsome end wall of red brick and white wood sash toward the elegant double entrance of Bulfinch's University Hall (2), built in 1815. As Bulfinch intended, University Hall is the center of the Yard, but over the years, the Yard has become a varied sequence of buildings and open spaces far more interesting than the formal plan Bulfinch envisioned then.

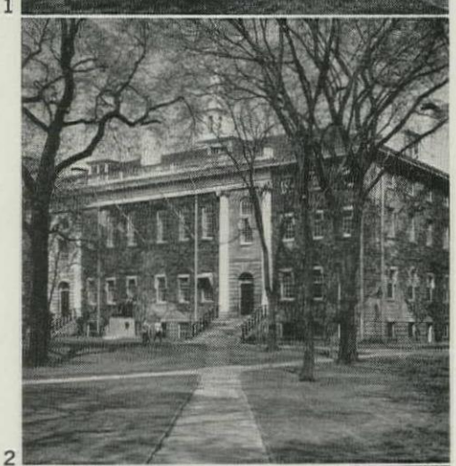
In the Law School area, the Romanesque style of H. H. Richardson is seen at Austin Hall (3), the Law School Library built in 1883. Richardson's style, a precursor of contemporary architecture, was rejected in favor of Georgian by his successors (now Shepley, Bulfinch, Richardson & Abbott) in the planning of the Houses (4) built between 1916 and 1930 along the Charles. The Houses, nevertheless, laid down a fine planning pattern of courts linked by narrow passages and tree-shaded streets, in frank emulation of England's Cambridge.

In 1950, Walter Gropius and his partners in TAC shaped these patterns more freely at the Graduate Center (5). Meanwhile, the Shepley firm, with buildings like Allston Burr Lecture Hall (6) and the Gordon McKay Laboratory (7), filled in chinks in the older sections of the university.

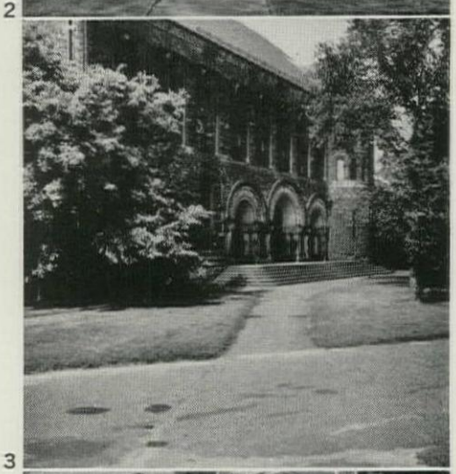
Today, however, major new elements like Quincy House (8) are shaping new areas on the edges of the university, and buildings such as Hugh Stubbins' Loeb Theater (9) are taking their places on adjacent Cambridge streets. At the same time, tall buildings, like the Leverett House towers (10), like Quincy House, the work of the Shepley firm, are changing the traditional spired sky line. Now, a link between the Yard and the houses has been started in the Health Center Building (11), under construction to plans of Sert, Jackson & Gourley.



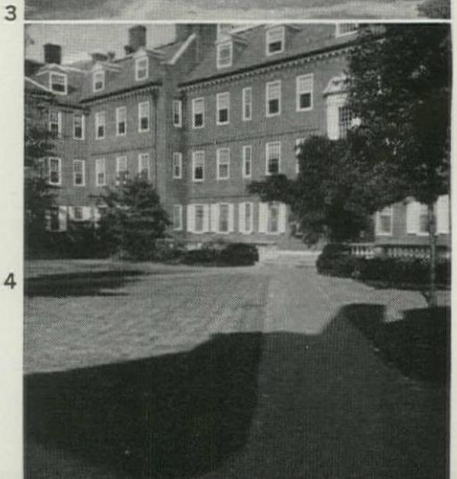
1



2

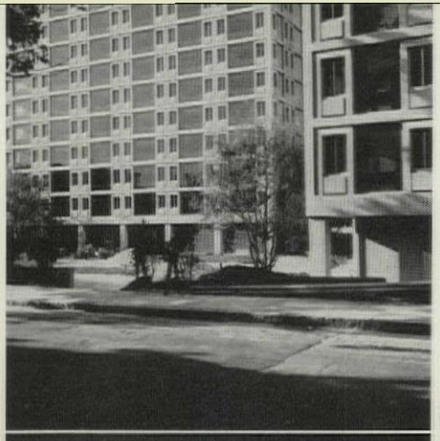


3

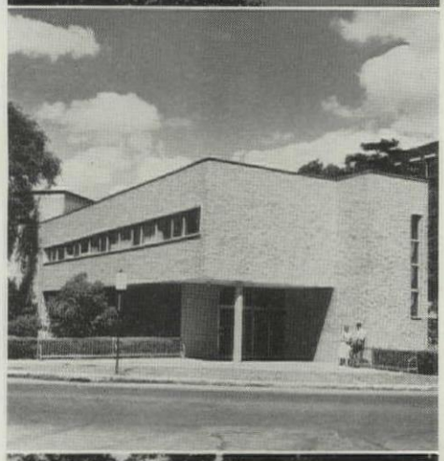


4

5



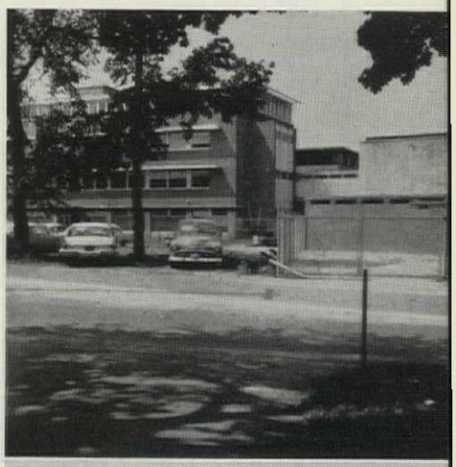
10



6

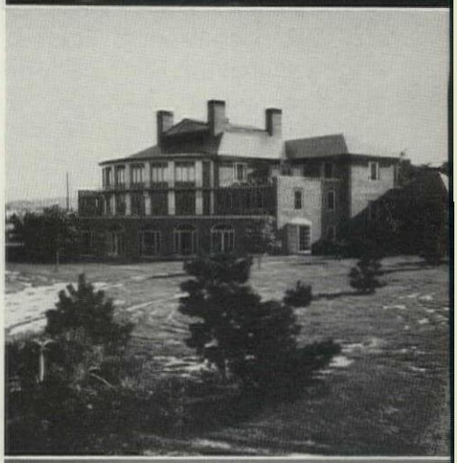
11

7

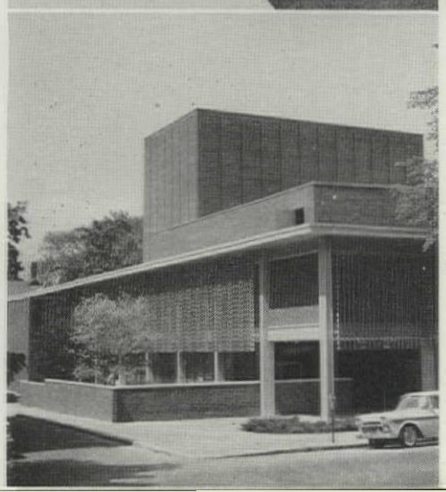


12

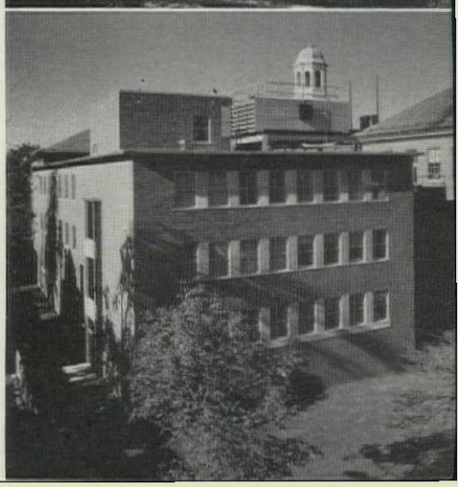
8



13



9



14

. . . and some without

Harvard's immense variety of buildings includes some examples of how not to do it as well. For example, the cluttered architecture of the Cambridge Electronic Accelerator Laboratory (12), built in stages over the last several years by M.I.T. and Harvard with the Atomic Energy Commission, leaves an edge of the university thoroughly disorganized. Likewise, the picture-windowed Georgian pile of Kresge Hall (13), the Commons Building for the Business School, is clearly inappropriate. Again, the James Bryant Conant Laboratories (14) establish a nearly total discontinuity to the adjacent Malinkrodt group, despite routine repetition of the brick and stone trim. Architects: Charles T. Main, Inc. (12), Perry, Shaw & Hepburn (13), Voorhees Walker Smith Smith & Haines (14).

PHOTOS: (1) WALTER B. FLEISCHER; (2, 6, 8, 9, 14) HARVARD NEWS SERVICE; (11) ROBERT D. HARVEY STUDIO; (3, 4, 5, 7, 10, 12, 13) RICHARD A. MILLER

For these architects, Consultant Sert has set down some guide lines for the solution of their individual problems: "A good physical environment should provide a balance between open landscaped spaces and built-up areas. It should provide a dignified, well-scaled architecture that is an expression of our times but which still can live side by side with buildings of the past. . . . It should use good materials, old and new, without prejudice. It should be dignified, serene, and harmonious."

Sert's prescription, difficult as it may seem in today's complex times, nevertheless is pretty much a description of the traditional Harvard, which achieved its present state by planning and design—but also by accident and attrition. Harvard, indeed, has nearly always built true to its present. Beginning with red-brick Massachusetts Hall, the vernacular Georgian building which is the oldest in the Yard (1), and ranging through the white granite University Hall by Bulfinch (2), the sturdy Romanesque of H H. Richardson's Sever and Austin (3), and even --in a sense—the grand eclectic mood of the houses along the river (4), Harvard has always built in the best contemporary mood. Thus, when, in the forties and fifties, it came time for the Graduate Center (5) and a run of mildly contemporary buildings (6, 7), Harvard accepted them easily.

This graceful acceptance was not so much a matter of matching materials (although the dark red Harvard brick has been a useful linkage) as it was a matter of basically sound construction, good materials, well-detailed shadow lines, textured surfaces—and, of course, ivy and New England weather to help things along. Indeed, even congruent scale seems to have been less a matter of the size of building than a matter of the size of building elements, and the hierarchical organization of forms. Thus, such new structures as the Business School's Kresge Hall (14) miss the mark while the new eight-story Quincy House (8) fits beautifully into the older pattern.

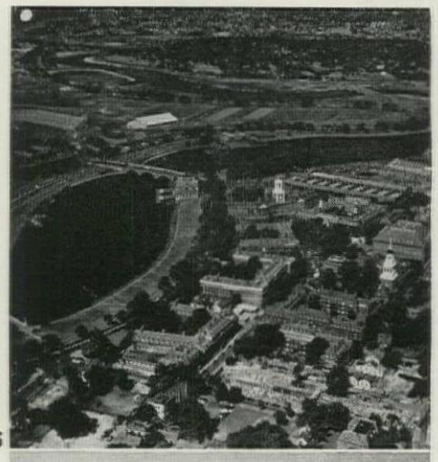
If the latest building, Architect Hugh Stubbins' Loeb Theater (9—to be published in full next month), is perhaps particularly modest, two buildings now under construction are the less so. But these buildings: Shepley, Bulfinch, Richardson & Abbott's already controversial 12-story Leverett

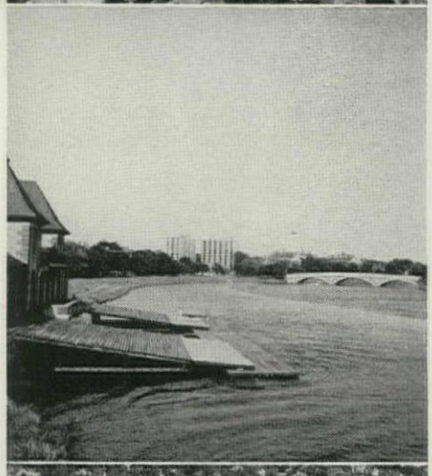
Between the buildings: formal and informal spaces . . .

Two kinds of open spaces shape Harvard University. One kind is informal, best seen in the area formed by the buildings on the banks of the Charles River (15). The central space of the river itself is closed at each end by bridges and flanked by the Weld Boat House (16). The other kind of open space is represented by the formal spaces within Harvard Yard (17). Broken into sequences of large and small courts (18), it is always contained by buildings, and interwoven with a crisscross of paths establishing straight-line connections between buildings.

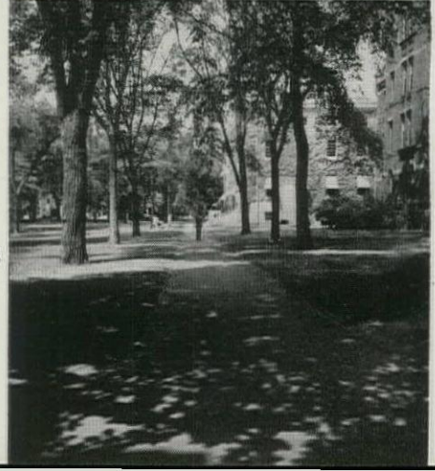
The distinction between formal and informal space is seen throughout the university. The formally axial space from the Yard's main gate to the portico of the Littauer Graduate School of Public Administration (19), for example, is in contrast to the space between Mount Auburn Street and the Lowell House tower (20). If this space were filled with a building, however, the tower would become a feature at the end of a space—a short street.

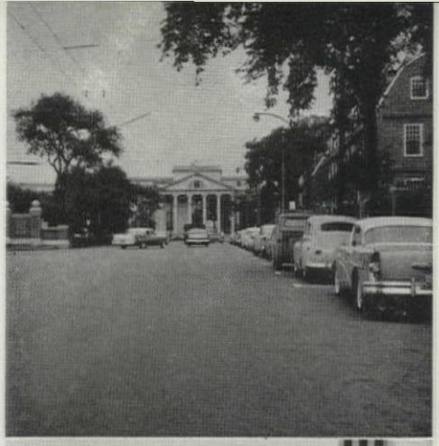
This counterpoint of formal and informal is found in even the smallest spaces. For example, the alcove space opening the main court of the Yard to Holden Chapel (21) is formal, while the passage behind Boylston Hall (22) leading to the entries of freshman dormitories is informal. These dormitories, which close the Yard around the edges, were built at the same time as the houses on the river.


15


16


17

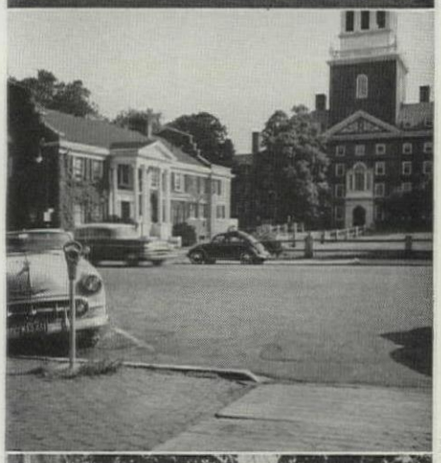

18



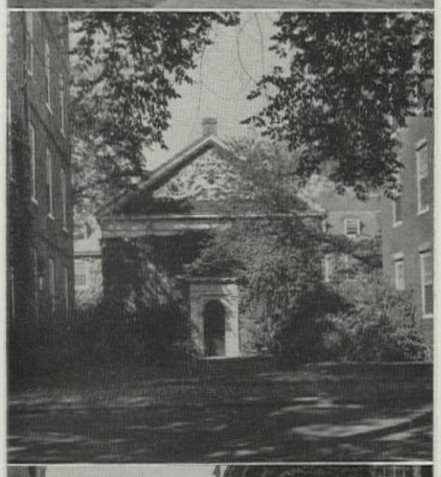
19

. . . and connecting links

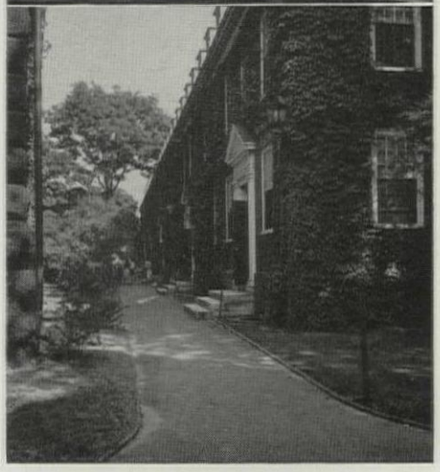
Bridges, gates, and passages are used to link one open space to another. At the new Quincy House (23), a bridge between the main building and the library separates outdoor space into two courts. The Yard is enclosed from adjacent streets by iron fences with brick gate structures (24). At Lowell House (25), one court opens to another through a passage under a building, and at the new International Legal Studies Building (26) by Shepley, Bulfinch, Richardson & Abbott, a glassy bridge separates one court from another. In a few cases such as the passage and gate at Kirkland House (27), connections to open spaces now being planned are already available.



20

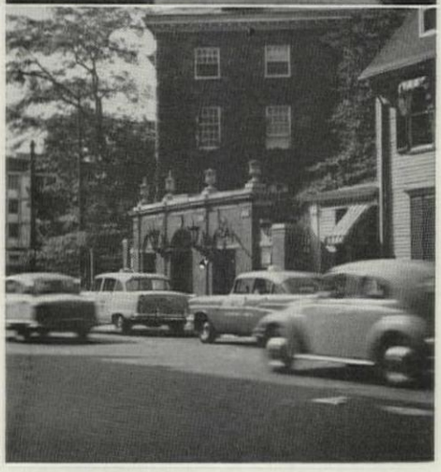


21



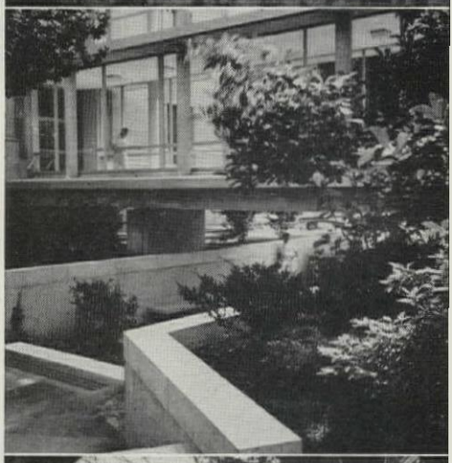
22

23



24

25

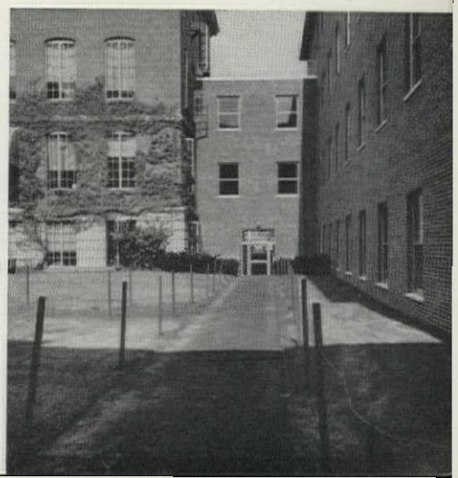


26

27

. . . and sometimes a break

The traditional pattern is violated at the new James Bryant Conant Laboratories. The link to the older Malinkrodt Laboratory group by way of a dull passage also blocks the flow of open space through the area.



28

PHOTOS: (15) BRADFORD WASHBURN; (17) DONALD M. FELT; (21) HARVARD NEWS SERVICE; (16, 18, 19, 20, 22-28) RICHARD A. MILLER

towers (10) built on a particularly tight and difficult site, and Sert, Jackson, & Gourley's ten-story Health Center (11), with a complex function and step-stage construction, will be more typical of Harvard's future.

While the new structures clearly depart from the older Harvard buildings, both depend for congruity on the character and scale of open space and the system of paths which relate them to other sections of the university and adjacent Cambridge. And, in fact, it is likely that these two factors are more important to Harvard's character than the design of the buildings themselves. The open space patterns, which planners everywhere have carefully studied, range from the informal and wide-open space between the houses on one side of the river and the Business School on the other (15), to the close and interpenetrating geometry of Yard courts (17). While this varied pattern depends in part on a series of master plans for Harvard starting with a Bulfinch plan of 1814 and continuing through the Coolidge plan of 1922, other influences were as important.

One of these, indeed, was the cow-path pattern of Cambridge. As the university spread beyond the Yard, spaces became more informal, and rigid axial planning, that affliction of so many campuses, became impossible to establish. Thus, walking through Harvard and sections of adjacent Cambridge is a matter of going circuitously from space to space, each space with a different character and focus. Along these routes, classic pedimented structures are seen more generally from the side across an open sward of grass than along an axis; small-scale wooden Colonial houses are seen surrounded by newer and grander masonry buildings (38); and buildings turn the path in the distance (36) or stand on the sky line to help with orientation.

In basic sympathy with this background, the new Health Center may typify the future. Located strategically between the houses and the Yard, it will link, through a sequence of small courts and arcades, these two long separated areas. Thus, an objective sought since building on the river began a half century ago will be fulfilled. But it will be done along the lines of an exceedingly contemporary esthetic and in fulfillment of today's complex needs.

Within the spaces: fascinating walks . . .

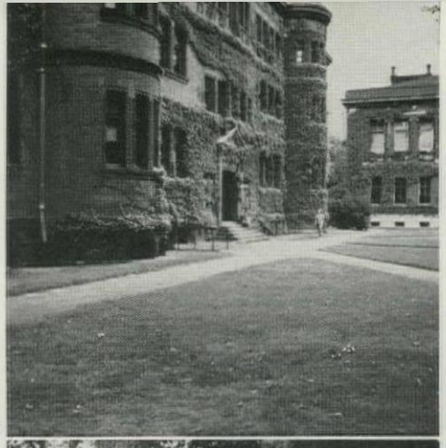
The "cow path" street pattern of Cambridge and the policy of laying paths wherever people wanted to walk helped form Harvard's pedestrian paths. These paths web along streets and through courts to shape a fascinating series of walks. Many of the walks are brick-paved, and, where necessary, they are interrupted by the roots of large trees (30). Elsewhere, the paths are comfortable asphalt edged in brick.

Since university property is interspersed with churchyards, commons, commercial squares, and residential streets, walking in Cambridge is a particularly varied and stimulating experience.

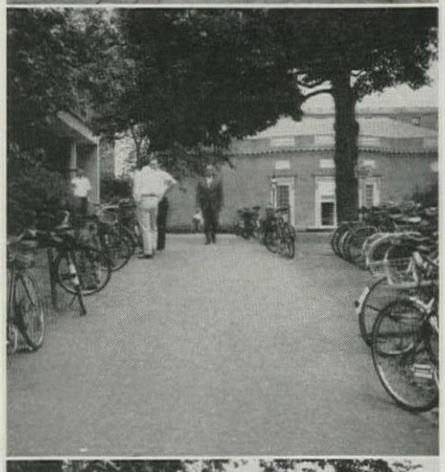
. . . from Sever to Leverett

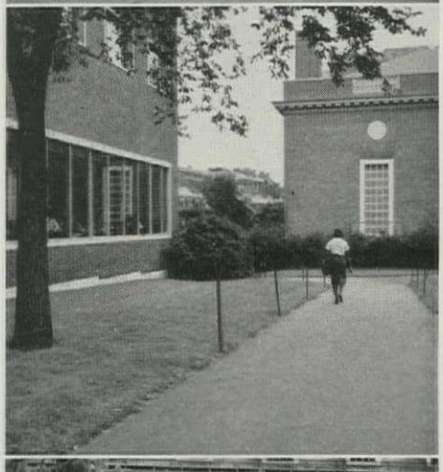
A student walking from H. H. Richardson's Sever Hall in the Yard to the new Leverett House Towers starts from a small quadrangle in the Yard (29), passes through gates to Quincy Street (30), and re-enters the Yard at Lamont Library (31). At the Houghton Rare Books Library (32) he walks downhill to a small passage under a row of freshman dormitories which edge the Yard (33).

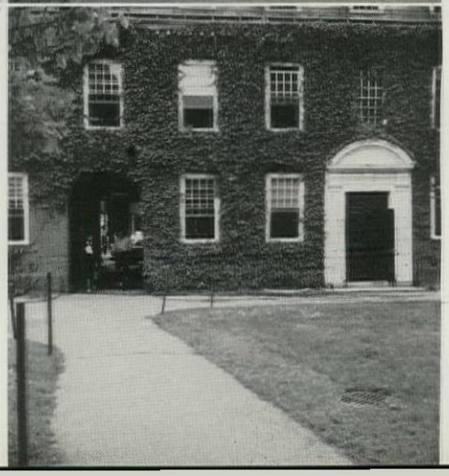
Just outside the passage the student crosses busy Massachusetts Avenue (34) to Bow Street (35), and passes an entrance court at Adams House (36). Walking alongside the wall enclosing a garden for the senior tutor of Quincy, he sees the glass and concrete towers of Leverett ahead (37).


29

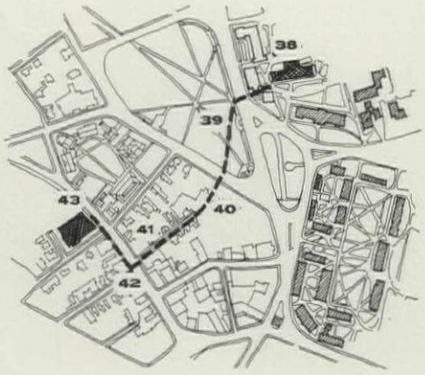

30


31


32


33

34



. . . from Austin to Loeb

Another student walking from Austin Hall to the new Loeb Theater passes between the Hemenway Gymnasium and nineteenth-century Gannett House (38) to cross Massachusetts Avenue into the Cambridge Common (39). Crossing another street he enters the yard of Christ Church (40). Walking between the church and the burial ground, he arrives at the dead end of Farwell Place (41).

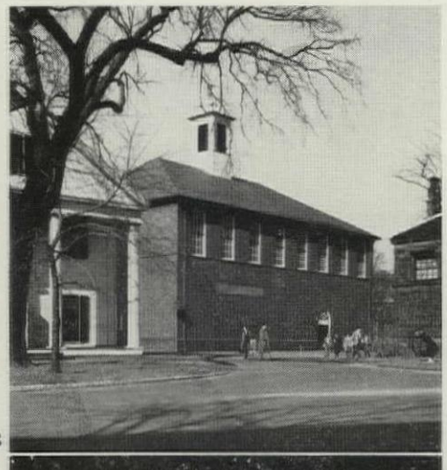
A few hundred feet brings him to Brattle Street, where he turns to walk to the corner (42). Across the street is the brick-paved entrance porch of the theater (43).

41

35

42

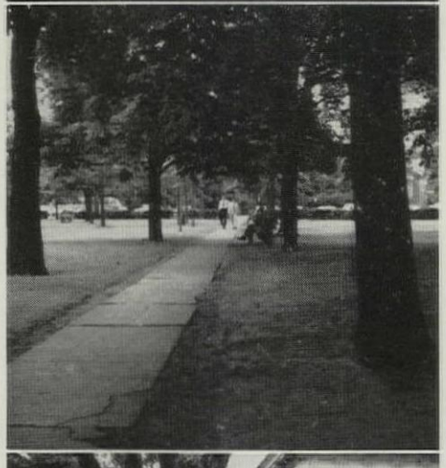
36



38

43

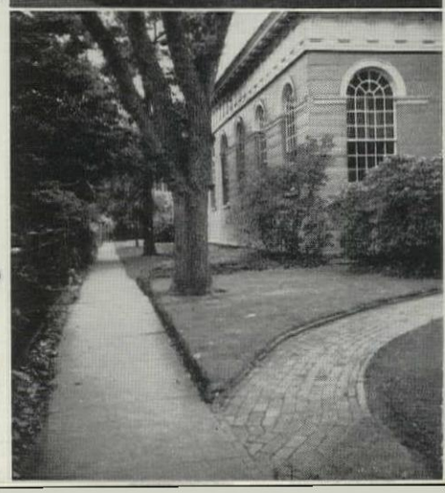
37



39

. . . and a dead end

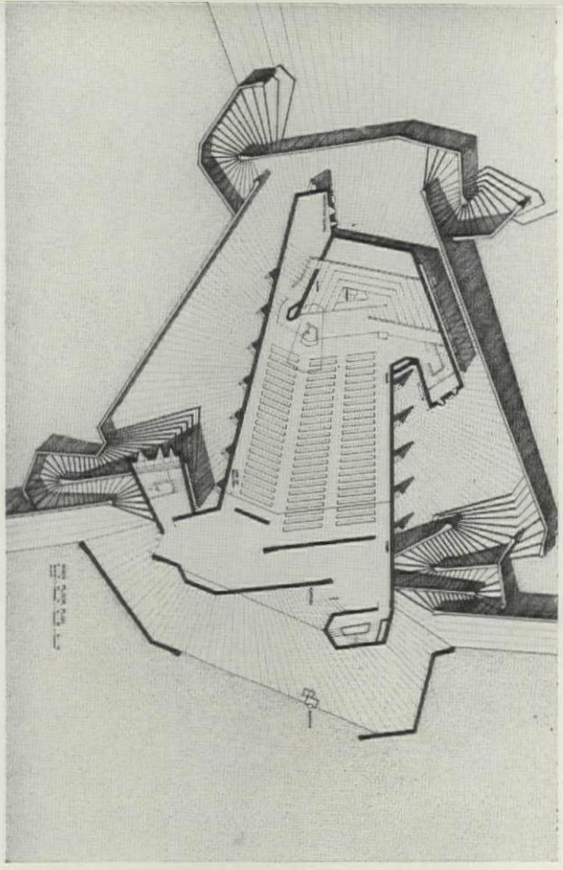
The path between Kresge Hall and the older Weeks footbridge across the Charles is apparently blocked by a new structure: actually an unnecessarily confusing and ornate footbridge (44) over Soldiers Field Road built by Boston's Metropolitan District Commission.



40

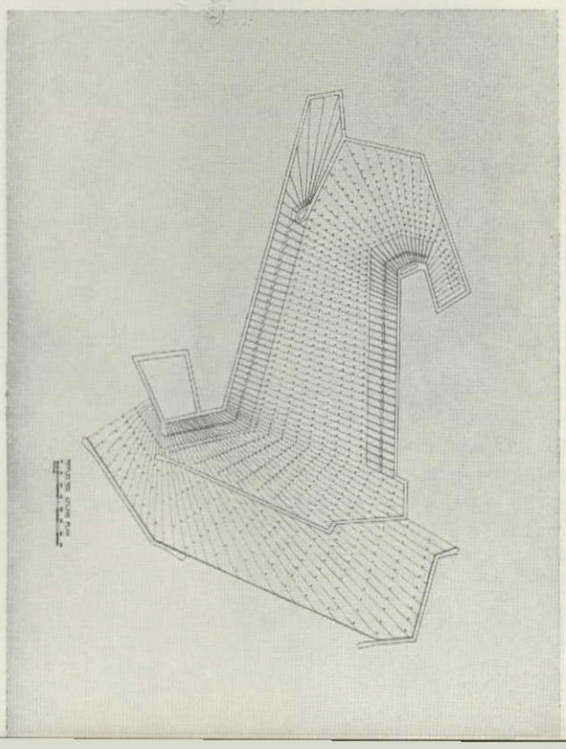
44

PHOTOS: (29-37, 39-42, 44) RICHARD A. MILLER; (38) WALTER R. FLEISCHER; (43) HARVARD NEWS SERVICE



Main floor level *(seen in plan above) can be approached from all sides by means of winding exterior stairs. The shape of the interior, according to the architects, was determined by acoustic considerations, for the Negro institution boasts an excellent choir. A large space to house the choir and organ was provided behind the pulpit (see also opposite). Light enters the sanctuary in two ways: through long skylights of heat-resistant glass; and through small, colored glass slots cut into some of the exterior wall areas. This colored glass will never be directly visible to a congregation, but will let light filter into the sanctuary by reflection from adjacent walls. The sanctuary will seat 1,200.*

Reflected ceiling plan *(below) shows the two long skylights cut into the sides of the roof, and the acoustic baffles formed by a hung plaster ceiling. The roof structure will be a hyperbolic paraboloid of open-web steel joists. The effect of the warped and corrugated ceiling surface lined by skylights is suggested in the drawing opposite.*



Famed Negro college plans a religious building that reflects faith in the future.

Sanctuary of sculptured concrete

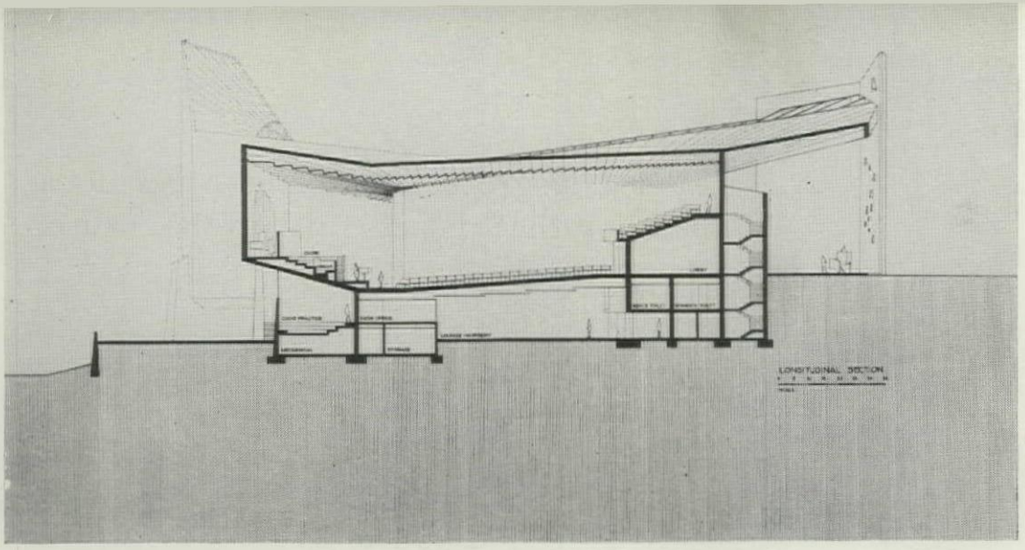
When Tuskegee Institute was founded, in 1881, Booker T. Washington insisted that every new building be constructed by the students and the faculty themselves, and of brick which they were to make under almost incredibly difficult conditions. Years later, Tuskegee had so perfected its brick that it could compete with the finest sold in any market.

This process of sophistication in Tuskegee's building has grown to the point that the institute is now about to put up one of the most remarkable structures proposed for any college in the U.S. or abroad. The new, nondenominational chapel shown here, by Architects Fry & Welch in association with Paul Rudolph, bears almost no obvious relationship to Tuskegee's earlier buildings. But in certain symbolic ways, it should hold an important meaning for the followers of Booker Washington.

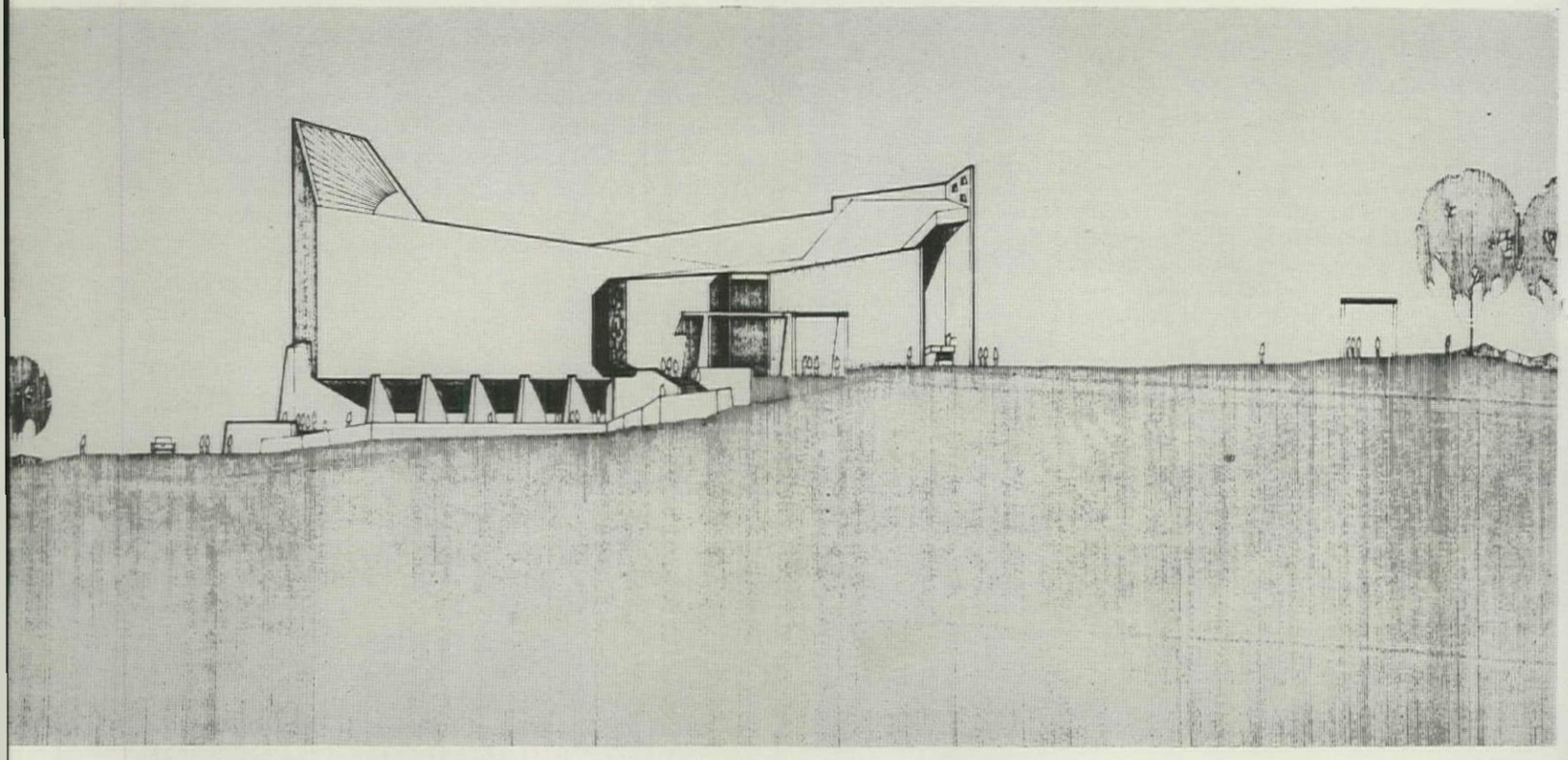
Like the earliest buildings at Tuskegee (in which, according to one visitor, you can almost see the sweat pour out of the brick walls), the new chapel will be strong to the point, almost, of brutality—of rough concrete, rather than brick, because the architects felt that the kind of brick available today would bear little resemblance to the handmade brick of earlier days at Tuskegee. Like the institute's first structures, the chapel will be a sanctuary in the original sense of the word—an inviolable asylum, surrounded by ramparts that recall a medieval fortification. And like Tuskegee's first structures, the new chapel will represent a shining achievement to an institute built by the contributions of men and women of very small means but of very great faith.

The chapel is to be the first building in a new master plan developed by Rudolph. It will be located at the center of the campus, accessible from all directions, yet open only to the sky. It will sit embedded in a sloping ridge that runs through the center of the campus, and on which are buried some of those who have served the cause for which Tuskegee stands—among them Booker T. Washington and George W. Carver. It will be connected to other elements of the campus by covered walkways, and it will face, across a wide lawn, a tall campanile (also of concrete) that will be the focus of the campus when it is completed.

To most architects, the influence upon this building of Le Corbusier's chapel at Ronchamp is self-evident, and Rudolph frankly admits its debt to Le Corbusier's building. "The important thing about Ronchamp is that it speaks to many kinds of people, as a chapel should," Rudolph says. "We hope that our chapel will be equally eloquent."



East-west section *through the chapel explains the relationship of various interior levels to existing grades on the site. The tall element at the left end of the building is a meditation chapel lit from above and through slots of colored glass. The tall element at the right is a concrete wall perforated with roughly triangular openings that will hold church bells of different sizes.*



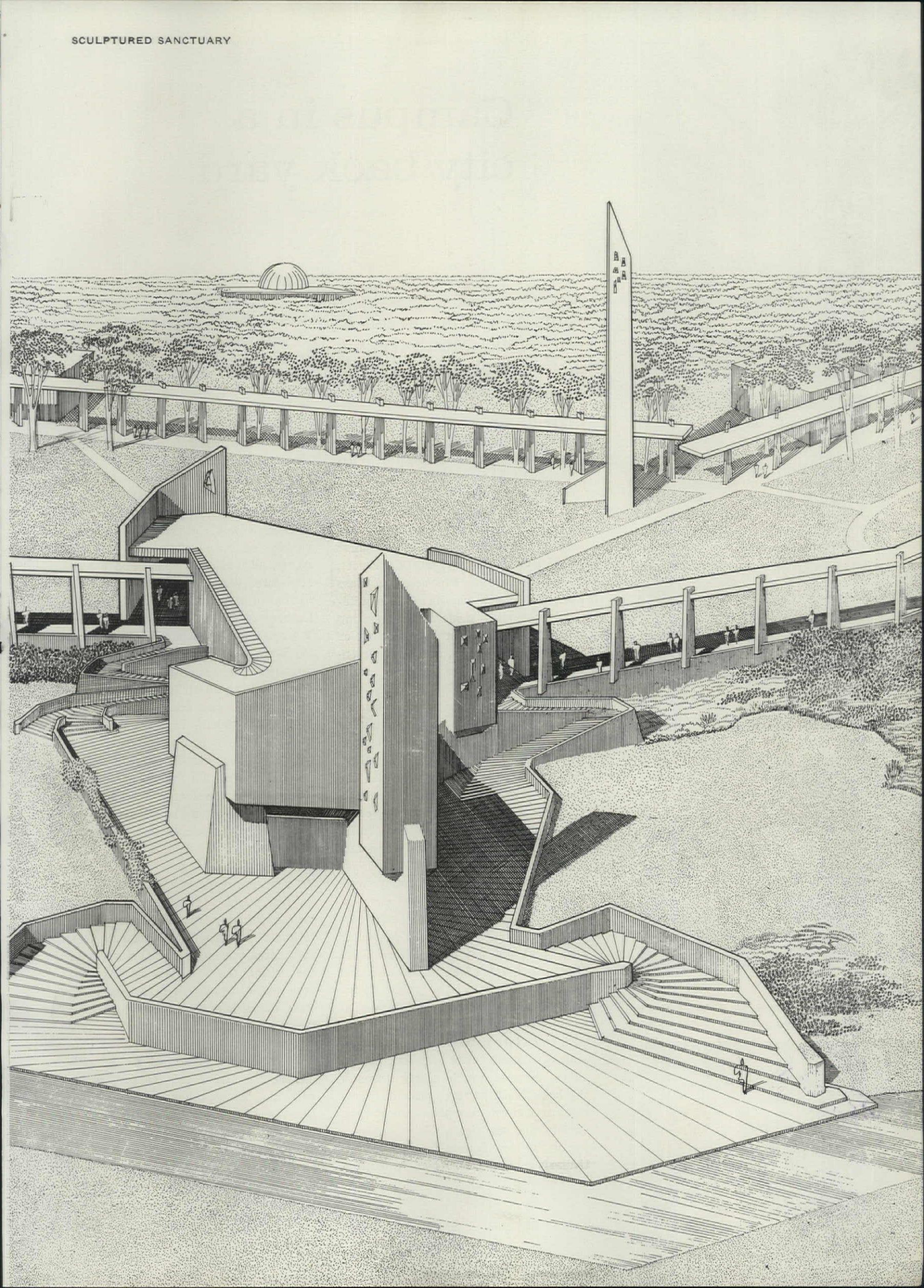
Intensely sculptural character *of the chapel is suggested by the south elevation (above). This character is due, in part, to the requirements of acoustics, and in part to the architects' determination to make this focal building distinctly different from the rest of the campus. Massive piers will support the sanctuary block; below it there will be a lounge and other communal facilities.*

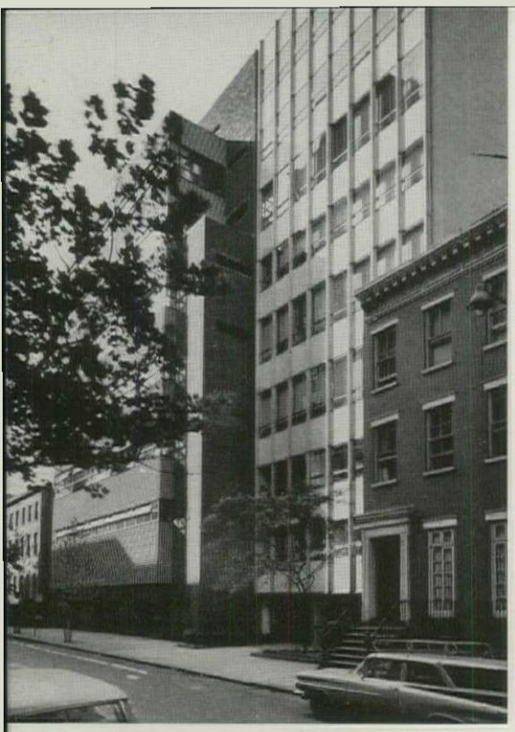
→

ARCHITECTS: Fry & Welch (working drawings).
ASSOCIATE ARCHITECT: Paul Rudolph (design).
ACOUSTICAL CONSULTANTS: Bolt, Beranek & Newman.
STRUCTURAL ENGINEER: Dr. Walter T. Daniels.
MECHANICAL ENGINEERS: Counts, Lawrence & Wheeler.
LOCATION: Tuskegee Institute, Tuskegee, Ala.

Bird's-eye view *from the west shows the downhill end of the chapel surrounded by terraces. The proposed campanile (with open slots for bells) is at the right, and Tuskegee's present, domed student-center building is visible in the distance. Covered walkways 20 feet high will connect major buildings under the new master plan.*

SCULPTURED SANCTUARY





New addition, *the Jacob M. Kaplan Building on 12th Street, is set back from the New School's older Alvin Johnson Building (left), which itself made architectural news in 1930 (Architect: Joseph Urban). Below, the new Albert A. List Building on 11th Street completes the "campus" to the south. The ground-floor library faces the street.*

Small lounge *above the library entrance is one of many places to read or relax.*

PHOTOS: © EZRA STOLLER

Campus in a city back yard

Built around a garden in midblock, Manhattan's New School offers a bright lesson in urban design.

Celebrating its 40th birthday in the forefront of adult education, New York's New School for Social Research has completed a $2.4 million expansion program that not only fills handsomely its own needs, but also contributes nicely to its city's growing sense of urban design. Next door to the school's first permanent home on West 12th Street, Architects Mayer, Whittlesey & Glass have added a new classroom–office building in a vertical modern mode, setting it back slightly to the enhancement of itself, its predecessor, and older Greenwich Village houses on the street (photo left, above). Behind, they have placed a lower companion building facing 11th Street, which also invites visitors with planting and an open glass ground floor (left). Between these two additions they have created the real core of a miniature campus: a delightful, much-used garden court which brings together all three buildings, and some 6,500 students and faculty a year (photo, opposite).

The scheme works strikingly well. The open, set-back buildings make an alluring break along the street: the garden, a new walk-through and gathering place that did not exist before. Like other plans which look to the back and sides as well as to the public front, this one suggests many possibilities for opening up a tight, dominant city grid with secondary patterns of more human scale: pleasant little gardens, malls, alleys, arcades which zigzag through the basic block pattern, providing new meeting and relaxing places, short cuts, variety, and surprise.

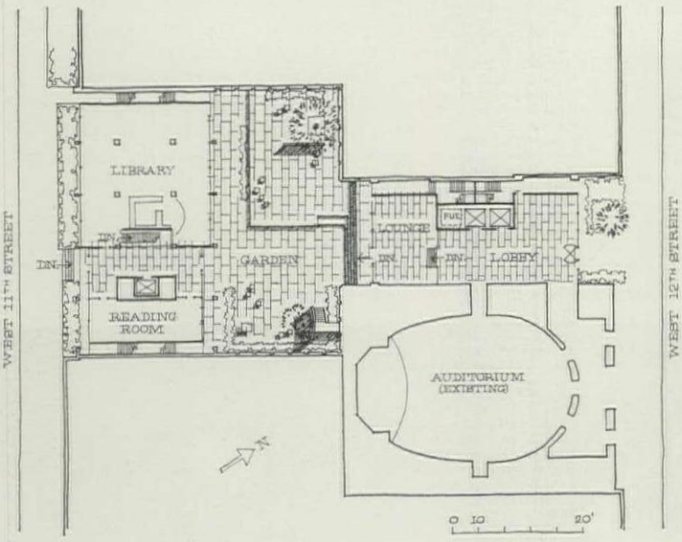
For the New School, the idea is particularly appropriate. As an institution devoted solely to teaching adults—most of them college graduates in the professions and business—it must first attract them, mainly after working hours and against the stiff competition of New York's other lures.

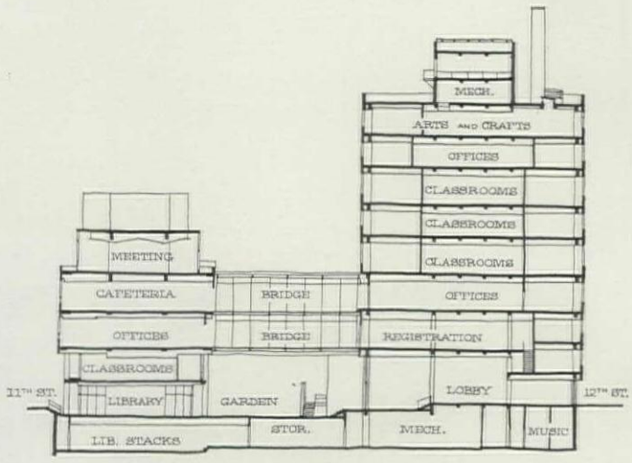
"Adult education here," says Architect and Board Member Albert Mayer, "is not an adjunct as in some colleges and universities, but the *raison d'être.* In contrast with standard-sized college classrooms scattered over a large campus, the New School must have a great variety of room sizes and arrangements, all located compactly on a half-acre site. We use the 550-seat auditorium of the older building for guest lectures of broad community interest. We must also have intermediate spaces for large classes, luncheon and dinner meetings and exhibits, regular classrooms seating 20 or 30, seminar rooms for a dozen. The school never knows how many students it is going to have in each of 800 courses a year. They may audit courses by paying single admissions for the first two or three weeks; when enrollments become definite, rooms often have to be rescheduled. This makes a wide range and flexibility of spaces doubly important.

"The crossroads of the school is the garden, which serves as a place for meeting, talking, reading, relaxing. Its intimate size, about 4,000 square feet, epitomizes the close-contact aspects of the school, the vital discussions that take place casually before and after class. Coffee is served in the garden for two hours before the major evening classes begin, and we have tried outdoor concerts of recorded music with fine results. It is this garden, along with the many other lounges, halls, and indoor meeting places, that make the New School not so much a school as an intellectual-artistic-social center for the community."

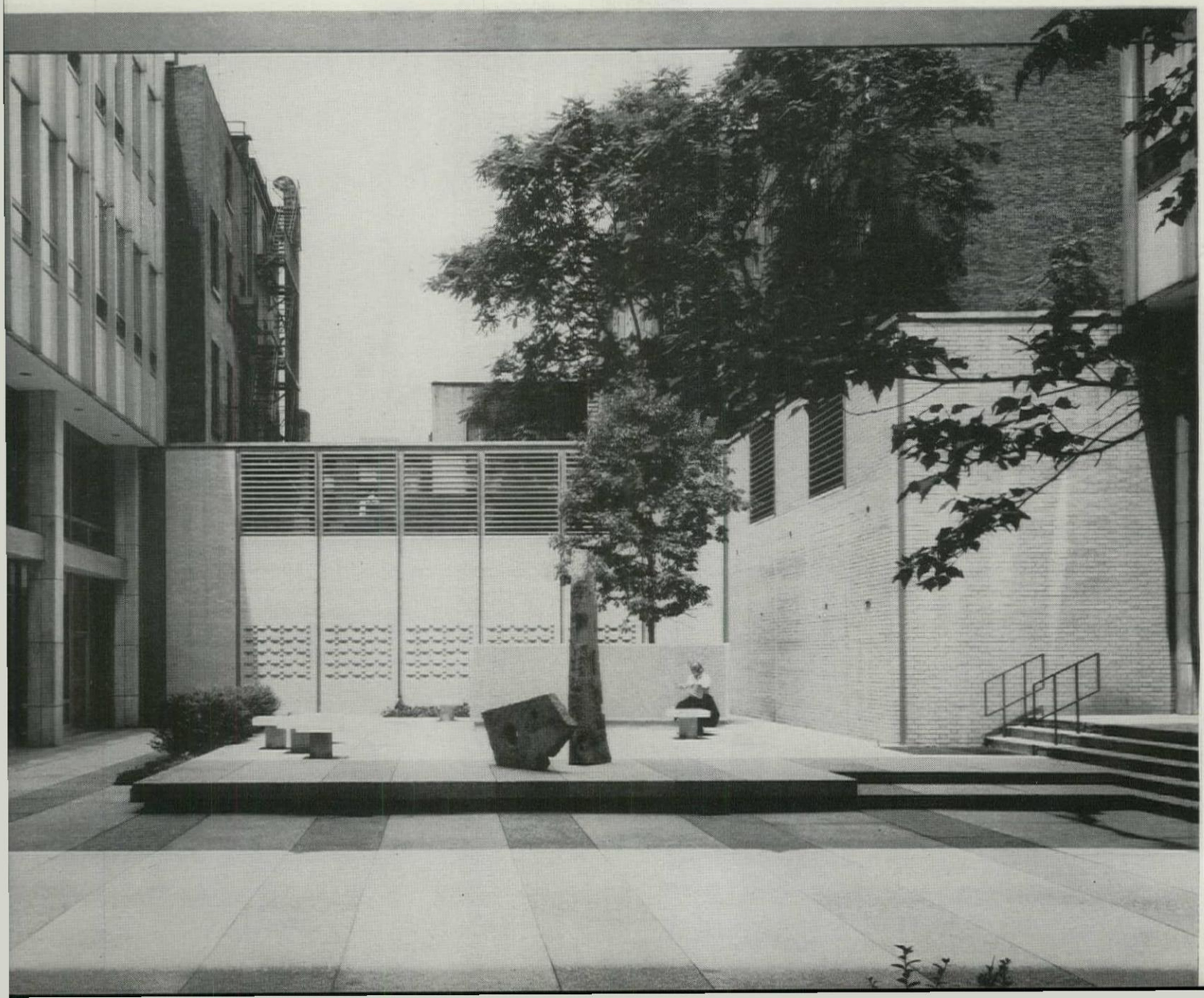
ARCHITECTS: Mayer, Whittlesey & Glass (W. J. Conklin, associate partner in charge of design). ENGINEERS: Charles Mayer (structural), Cosentini Associates (mechanical, electrical). ACOUSTICAL CONSULTANT: H. V. Munchhausen. GRAPHICS: Charles Forberg. GENERAL CONTRACTORS: H.R.H. Construction Co. (Jacob M. Kaplan Building) and Sheppard-Pollak, Inc. (Albert A. List Building).

The court: a double bridge, carried by welded pipe-trusses, links the two new buildings. Exhibit panels screen neighboring back yards.





Garden *is walled off from adjoining yards; a low platform defines sitting areas furnished with seats, planting, and granite sculpture by Isamu Noguchi.*



Reading room *overlooks the garden to the rear. Across the hall is a smaller room where readers may smoke, or where informal meetings may be held (see plan).*

Meeting room *on the fourth floor has a metal acoustical ceiling, movable chairs, and a serving pantry. It is used for lectures, art exhibits, and dinner groups.*

Lounge *leads down from the school's main lobby to the garden court. Across the court is the library, and the lobby through to 11th Street (seen at left).*

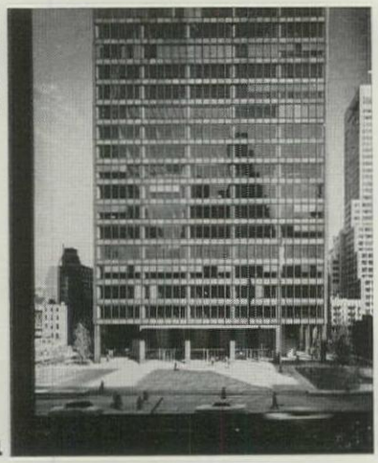
PHOTOS: (BELOW) RICHARD SAUNDERS; (OTHERS) © EZRA STOLLER

Jazz in architecture

It makes more fun and better sense.

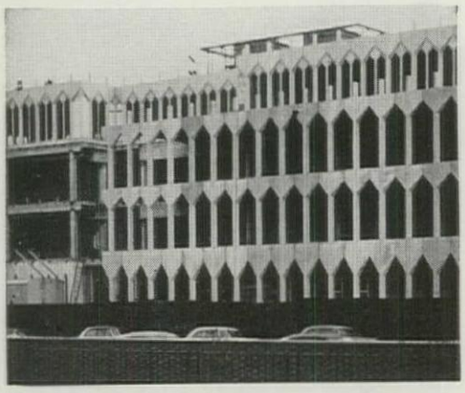
BY DOUGLAS HASKELL

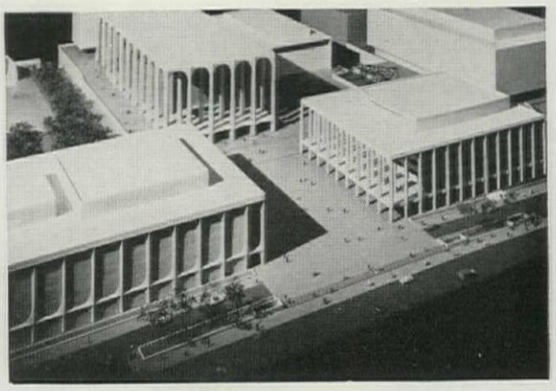
Modern architecture lacks jazz, and this is cause for sadness. Architecture is the only art so afflicted. Music has drawn a good deal out of jazz—this once-despised popular addiction—and so have painting and sculpture. A leading reason why architecture could profitably look at jazz is that it badly needs relief from its thin flat one-one-one-one rhythm. Too many modern buildings resemble cages. Their uniform pattern, cold and dry except in the hands of masters, is barely tolerated by the public and is a hangover from the early "machine age." "Modular grids" dividing whole large façades—and floor plans —into exactly equal subdivisions come out of early machine ideas and characterize design today just as the subtle Greek system of modulations once did.



1

The only thing certain is that people now want to get as far away as they can from machine rhythms, and especially after working hours. Modern architects, too, look for escapes from their own machinery. They have been eyeing Persia and Venice again, and leafing through old classical texts—doing everything that the modern prophets forbade them to do—in scanning the past for devices of "greater interest" to cover the monotony they are producing, though they still ignore the cultural trend of their own times and the folk art of their own people.


2


3 © EZRA STOLLER

Disguise it as architects will, the one-one-one-one rhythm still comes through. It is evidenced in three examples from among hundreds of possible selections. Each example is out of a different school or "current" of modern architecture. Here is a metal-classic office building by Mies **(1)**; there a prestressed concrete, romantically Gothicized college building by Yamasaki **(2)**; and here a group of arcaded neo-neo-classical "performing arts" auditoriums by Johnson, by Harrison, and by Abramovitz **(3)**. Every one of these buildings goes one-one-one-one, as may be observed, though only Mies is thoroughly comfortable with it. In jazz language, all are "square."

The "square" scene of today: *three buildings of different architectural styles, all based on the one-one-one-one "square" rhythm. The Seagram Building by Mies (1) has one such rhythm in the steel bronze-clad skeleton, a second in the window mullions. Yamasaki's Wayne University library (2) has another one-one-one-one rhythm in its precast concrete members composing romantic windows; and again three Lincoln Center buildings, by Architect Philip Johnson, by Wallace Harrison, and by Max Abramovitz (3) create a classical architecture still all one-one-one-one.*

Times Square—jazz, low-class

Times Square might seem like a tough place in which to start a counter-demonstration. Architects despise Times Square. But the people love it: raw, raucous, and shabby though it has become. And the Square has

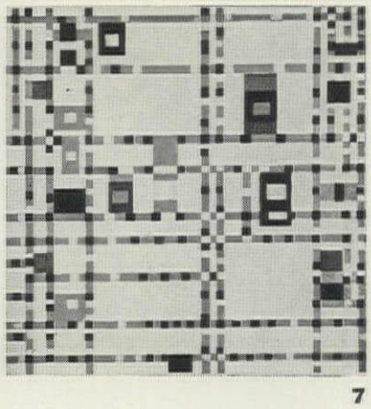
points that lift it far above the wild, free, loathsome standard of juke-box or roadside googie architecture.

Times Square is an architecture by signmakers who, having nearly obliterated the existing buildings and thereby put the professional architects out of the joint, have created a vivid effect out of improvisations in two varieties.

One is the nighttime Great White Way, each jeweled lighting display flashing or stepping or gyrating in its own tempo, and all suggesting a hypnotic silent symphony as seen together. The remark has been made by Paul Rudolph, architectural dean at Yale, that this is a new, magical architecture all constructed of lights and, he might have added, lights doing a time-dance.

4

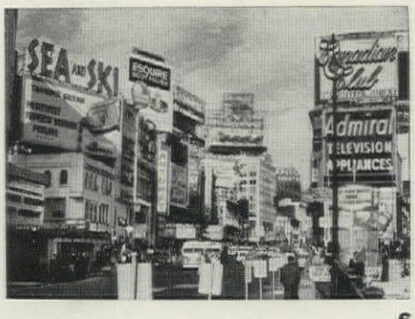
The other jazzlike effect, visible by daylight, emerges from the catch-as-catch-can improvisation of crowding signs together. These signs stand to one another in anything but a one-to-one relationship **(4)**. The jazzlike improvisation with signs ignores, obliterates, or distracts attention from the architectural dividing lines between the individual buildings on which the signs are strung **(5)**. They consequently create a new irregular rhythm of their own, which seems to set the whole street in motion, like a parade of banners **(6)**, with many a skipped step and displaced emphasis. The outcome illustrates that "jazz rhythms create what can only be called a momentum."



7

The jazzlike scene low-class: *Times Square. Improvisations with signs (4) create a varied rhythm while the general arrangement subordinates or obliterates the architectural divisions between buildings (5) and creates an effect as if the whole street were in movement (6) with a momentum like that of jazz. Piet Mondrian, favorite "purist" painter of modern architects, called his last painting "Broadway Boogie-Woogie" (7), showing not only his pleasure in jazz displacements but his appreciation that they ride on an orderly pattern.*

One key factor converting Times Square into visual jazz is that the elements of which it is composed are prevailingly abstract. Here are no Turkish domes and Chinese pagodas and fairy-tale fantasies, all recognizable images in up-to-date electrical rococo, such as fill the famous Tivoli Gardens in Copenhagen (the big exception: the Pepsi-Cola waterfall). Nor is this googie—buildings in random shapes, or symbolizing an ice-cream cone or a brown derby. The total rhythm and effect is so abstractly potent that it dominates all the literal elements, just as a robust jazz tune, according to Leonard Bernstein, can overcome the mood of a song's self-pitying words. G. K. Chesterton remarked that, had he been unable to read, he would have thought Times Square at night a paradise. But the secret, as modern painters soon discovered, is that nobody thinks about what he is reading: "Chevrolet" or "Kleenex" become symbols too banal to engage the mind, while a wonderful fascination grows up for the eye out of the abstract form of words and individual letters. The artists soon started introducing these in their paintings.



6

5

There is no doubt about it, Times Square as visual jazz is low-class jazz—jazz suggested rather than accomplished. And there are those who would deny it any value because the collective effect does not represent

a collective effort. Such people miss the point, however. Just as football rules, on a football field, produce a game of football, so the setup on Times Square—a *method* of covering long street façades with signs in varying dimensions—puts all individual improvisations into the game that everybody follows. That is how jazz works too, as a system (with lots of offshoots). What John Kouwenhoven says about musical jazz is true too of the Times Square basic setup: it points to Emerson's ideal of a union which is perfect "only when the uniters are isolated."

Le Corbusier—jazz, high-class

But, to get on with it, there already exists a jazz architecture of the high-class and indeed the very highest. Quite naturally it flourishes on the culture of the Mediterranean with the African tom-toms just across the blue water. Among these Mediterranean architects, Le Corbusier is the master.

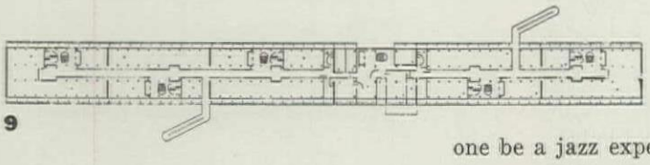
Quite a lot of Corbu's architecture is jazzlike because *jazz, whether in music or in the other arts, is a way of playing with expectations, for the sake of surprises.*

To understand the central nature of the effort it is not essential that one be a jazz expert nor is it essential that every device of the music be translated into an architectural equivalent.

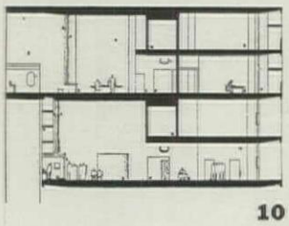
Jazz does appear however to be always twofold. For example, the jazz beat depends on changes in a regular beat. As Bernstein says in his *Joy of Music:* "Syncopation means either the removal of an accent where you expect one, or the placing of an accent where you least expect one. In either case there is an element of surprise

8

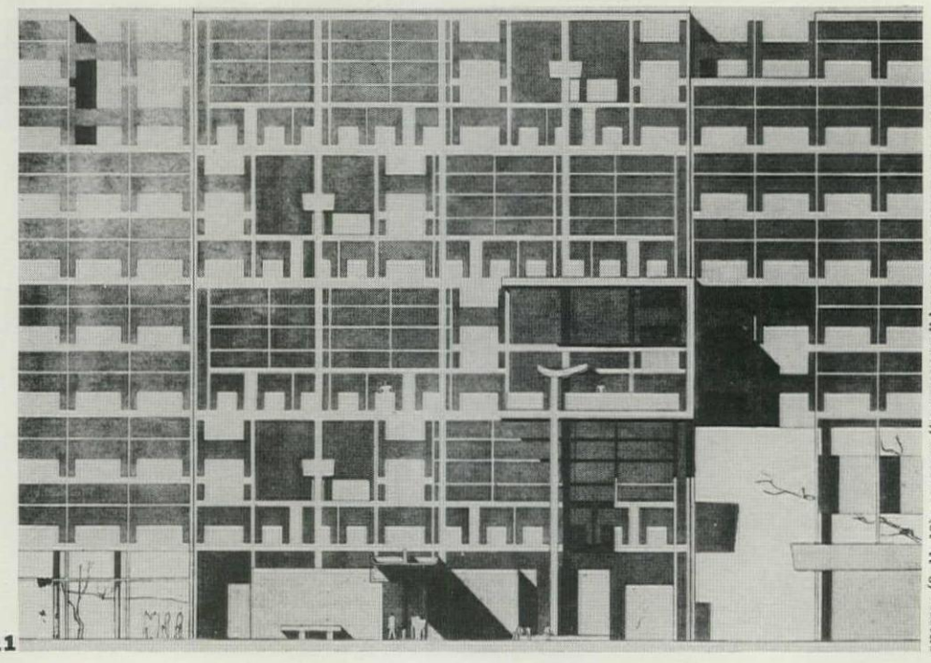
Jazz in architecture, high-class: *Le Corbusier's Secretariat Building for Chandigarh, India, is based on a structural skeleton (9) basically one-one-one-one in its arrangement of floors and columns. The ecstatic central portion seen in the elevation (11) has sets of window mullions that play around with vertical columns setting them almost spinning; it has sudden voids; sudden exaggerated features; "improvised" looking panel variations. Rooms too are varied by sudden omissions or additions of dividing floors and partitions (10).*



9



10



11

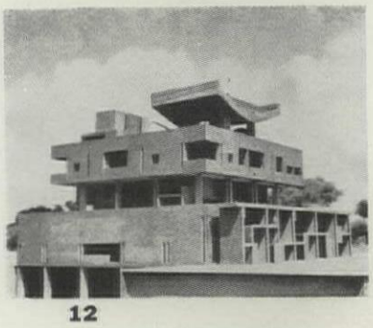
PHOTOS: (8, 11, 12): COURTESY "LE CORBUSIER," by BOESIGER, GIRSBERGER PUBLISHERS

and shock. The body responds . . . ." It would not do so if the basic beat of the jazz piece were not as regular as a heartbeat. So too with jazz dissonance: it is produced by the "blue" notes of the jazz scale used in the melody, and played against regular scale used in the harmony. And even improvisation, the glory of jazz, though it can reach into the wildest solo extravaganza, works over a known "pop" song, and depends in part on its own version of the "variations on a theme" method of the classical musicians. To describe jazz in architectural terms, one might say that it consists in finding "an order," just as Louis Kahn does, and then say with Bernstein that it "goes to town" with that order, playing around with it. Both the order *and* the play are integral to the idea.

And, architecturally, that is just how Corbu works. Take as an example a typical elevation and plan and section of his Secretariat at Chandigarh in India **(8, 9, 10, 11)**. Its basic plan and structure are as regular, on a one-one-one-one grid, as New York buildings are. That is, almost.

13

But the elevation shows every sort of jazzlike sudden displacement from this order. Groups of window frames are pushed just a little left or a little right of the central column, for example, in the wall shown in the elevation. Out of sheer shock, no doubt, the column itself appears to gyrate. Whole bays in that central part of the long wall are suddenly scooped out, leaving a deep shadow. One bay is suddenly embraced, so to speak, by a three-sided concrete hood raised up on a single off-center slab of concrete (8, 11). Yet despite all this and despite many more displacements, offbeats, distortions, and exaggerations, unmistakably the whole playful extravaganza remains part of the same composition—basically one-one-one-one. And the same kind of thing goes on inside the building, with the shifting and varying of room sizes, upward and sideward, all conforming to a system.



12

For the nearest equivalent in architecture to a jazz trumpet flourish, one would have to go in Chandigarh to the superstructure of the Governor's Palace project **(12)**.

A simpler jazzlike façade, in the U.S. itself, is José Luis Sert's new Harvard Medical Center Building now being started. This one is interesting because the process of creating the more jazzlike rhythm for the façades can be traced in photographs showing an early model **(13)** and a later one **(14)**. The earlier one shows a building

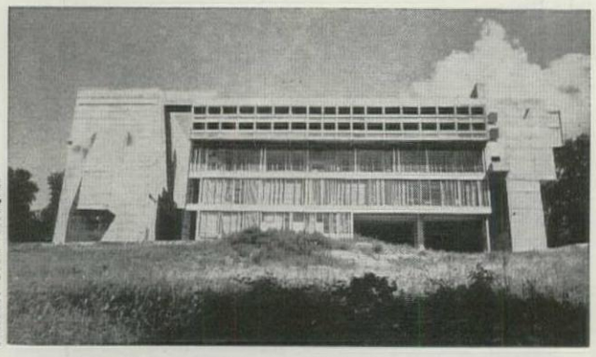
Jazz at Harvard: *the projected Medical Center by José Luis Sert, a "Corbu" enthusiast, is more restrained than the Secretariat. A more or less "square" early model (13) shows the regular beat in its framing, on which an overlay of surprise beats has been put in the curtain wall of the later version (14). Spacing of the narrow vertical panels is still always equal (see next page).*

ROBERT D. HARVEY STUDIO

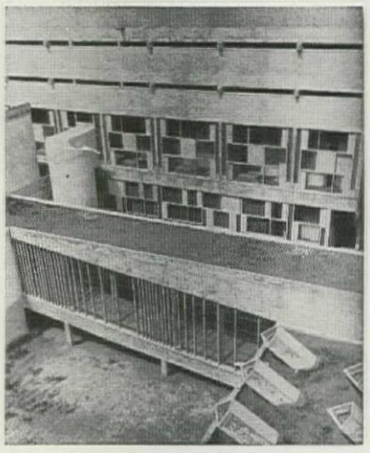
14

front divided into eight bays by the columns of a conventional one-one-one-one grid system. These columns still peep through in places in the later model, where the façade has been treated with a jazz idea. This is a fairly sober architectural jazz befitting its Puritan surroundings, and it deviates from jazz altogether in the one fact that the façade has a frame all around it. (Architectural jazz simply cuts off at the ends, as musical jazz does, and as Corbu cuts off his end walls in the Secretariat.) In his LaTourette

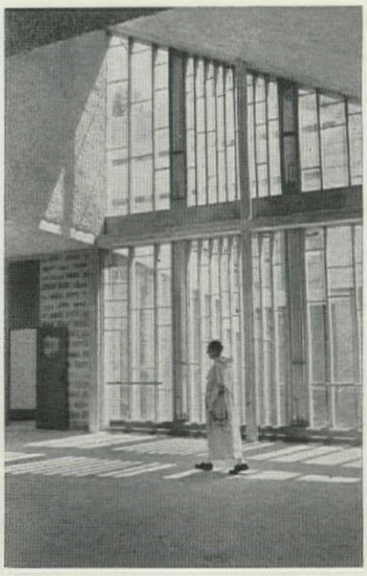
15



PHOTOS: JEAN MARQUIS



16



17

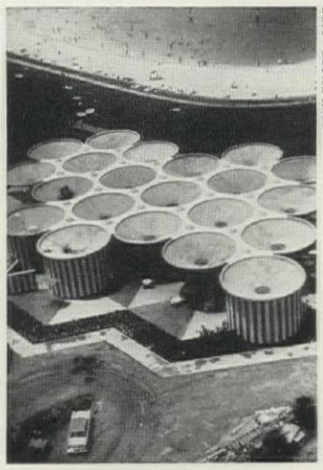
Playful repeat-and-variation *themes run all through Le Corbusier's new LaTourette monastery (15, 16, 17). Where Sert uses narrow vertical panels all spaced alike, Corbu keeps varying the spacing, with jazzlike effect. Whether any comparison with jazz was or was not intended is not the question: it is there, in interior dispositions as well as in façades.*

monastery **(15, 16, 17)** Corbu in turn uses narrow vertical panels as Sert does at Harvard, but more interestingly because of jazzlike improvisation with the unequal spacing.

In one degree or another jazzlike elements have entered other work, and usually that which is most classically regular in its basic "architectural order." Louis Kahn, for example, denies all context with jazz in his new University of Pennsylvania medical labs **(18)**, but, regular as his basic tower plan is, he improvises (or adapts) in the disposition of the towers and in variations in the details, such as the chimneylike service stacks. And in Philip Johnson in his Boissenas house (not illustrated) has even put some jazzlike displacements into a scheme basically Palladian, with a vast gain in interest.

The common sense in jazz

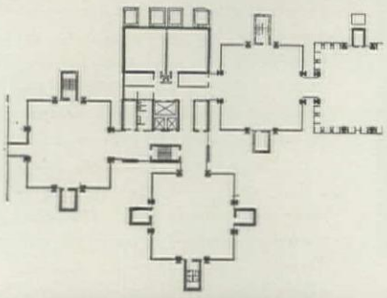
From all this talk about playing new games, there may be drawn the notion that jazz in architecture is youthful nonsense. Nothing could be more mistaken, for its prototype, jazz in music, owes its vigorous existence to the fact that it solves problems for people. Jazz is not only more


GREY VILLET—LIFE

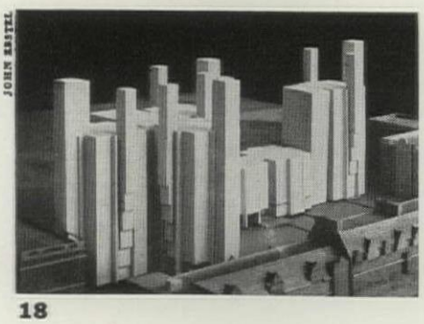
19

Repetition *with variation and improvisation is guaranteed by Kahn's "architectural order" for the Medical labs (18) at the University of Pennsylvania. Richard Aeck's valve-stem, bowl-topped structure (19) is too regular in beat for jazz but has the requisite outline. (20) is an irregular-on-regular scheme in Holland. Multiple-module systems (21) make off-beat arrangements not only possible but highly practical, as an industrial product.*

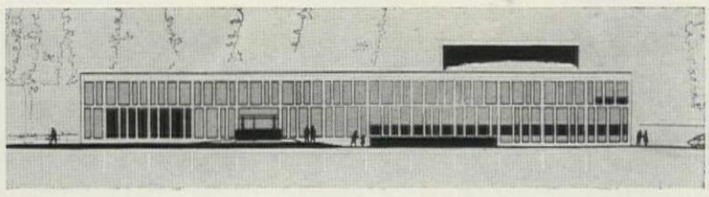
sensitive, more inventive, and more fun than the one-one-one-one rhythm of the "squares," but it happens to be more responsive to practical needs also. For not only do people need play for getting away from monotony but they find a certain amount of playful invention useful in work, too; and jazz with its surprises can lead to more supple and amenable adjustments on the practical side of architecture. For example, more than once it has happened that two different modular systems refused to jibe, for example where window divisions on one beat might meet partitions on another. Le Corbusier's methods can solve this nicely by varying the window rhythm, without altering the building frame.



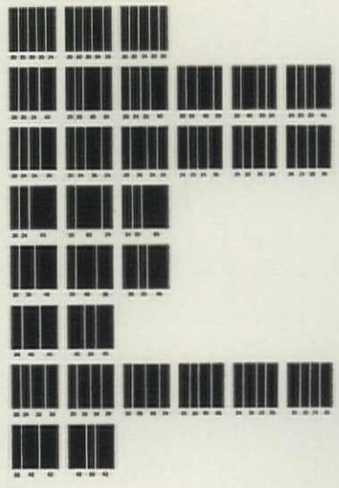
Nor need such variations be handmade or "primitive" in their techniques. In FORUM's article on *multi-modular* systems published last month, there is provided a good sound mathematical base for sudden displacements in architecture, comparable with the sound mathematics that underlie jazz in music. The very diagram which demonstrates the coincidence of three modular systems within a single frame **(21)** composes, all by itself, into a ringing demonstration of possible variation based on a master beat. Nor is that the end of the matter. For today's machines are no longer the primitive affairs of the early machine age and they respond to far more complicated signal systems. Those varying dimensions and shapes that might be required for constructing a full-fledged jazz-in-architecture system could be produced already, theoretically, on something not much more complicated than an automobile assembly line (see "The machine-made Parthenon," FORUM, Jan. '57). Though the emotion of architectural jazz is strong, glad, sad, and primitive, its techniques need not be rough and undeveloped. Skill with instruments is a big point in jazz.


JOHN KRITEL

18

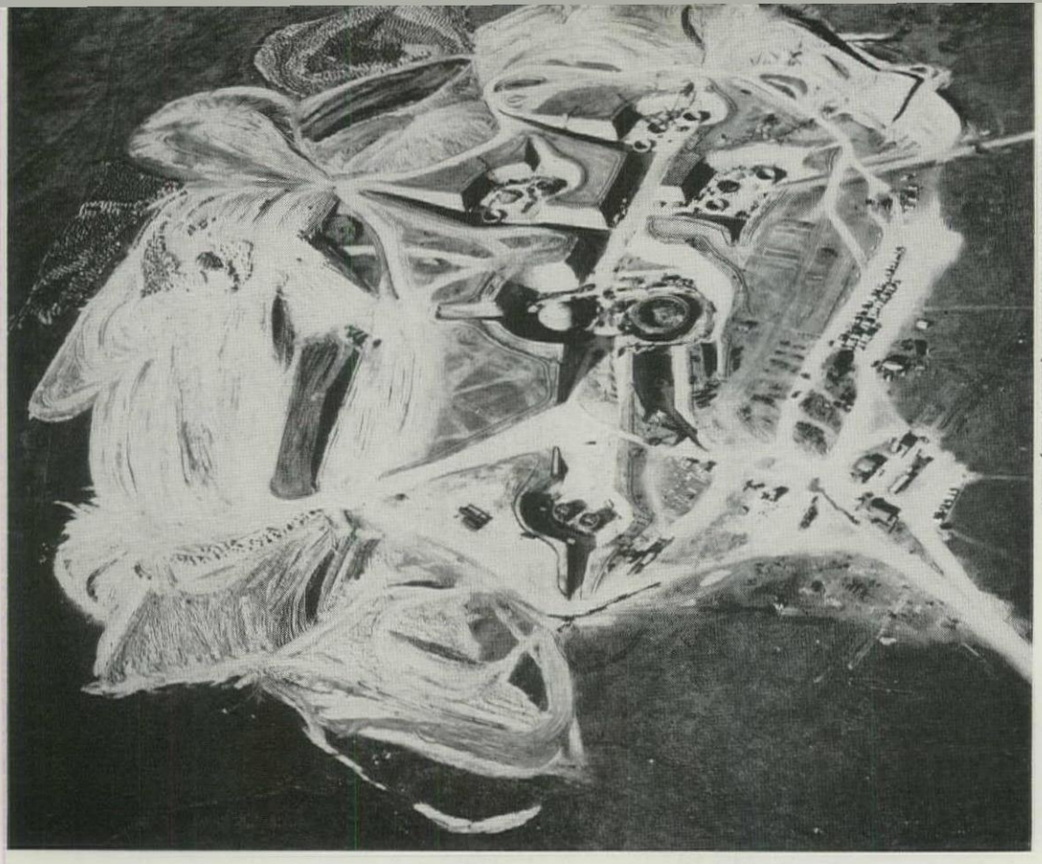


20



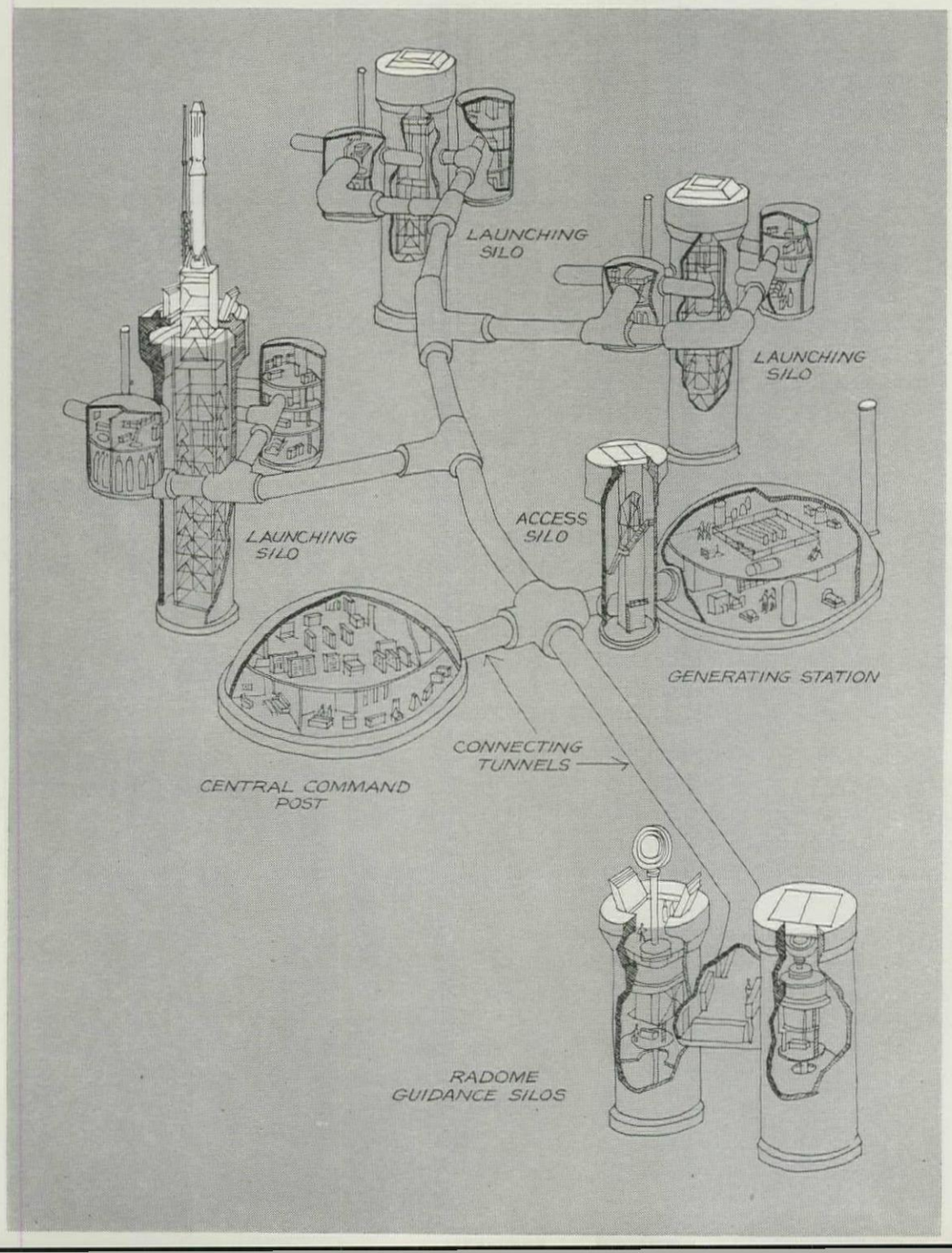
21

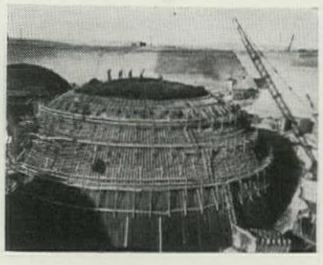
Modern architecture as a whole still lacks jazz, and this is cause for sadness. Although in the evenings modern architects may dance new and tricky dances or listen to cool jazz on the hi-fi, in their work many seem lost and heedless. They go snooping around looking everywhere but in themselves for new, more vital methods of expression. The jazz they already love might put them on a road that leads well beyond jazz.



PHOTOS (LEFT & RIGHT): OFFICIAL U. S. AIR FORCE PHOTOS

An ace in the hole: *The biggest, most complex missile job of all is the burying of the Titan ICBM launching facilities beneath 25 to 35 feet of earth and reinforced concrete to make them safe from an H-bomb attack. There will eventually be 18 Titan I installations like the one shown at the left (at Lowry AFB near Denver) at five different bases between the Pacific and the Mississippi. A single Titan complex is 2,000 feet long, about 1,000 feet wide, and consists of three launching sites and attendant facilities connected by a 10-foot-diameter steel tunnels (bottom photo, below). The diagram (left), which follows the configuration of the Lowry site, shows the three missile silos at the top, each 160 feet deep and flanked by one 40-foot-deep silo for launching equipment and another 20-foot-deep silo containing fuel storage tanks. The missile itself is raised through massive 130-ton concrete and steel doors to the surface for firing (photo, above). In the center of the complex are two steel-concrete domes (photo, below), one housing the control center, the other an electric power generator. In the foreground are the two elevated radomes used as part of Titan's guidance system.*





OFFICIAL U. S. ARMY PHOTO

Buildings for the space age

BY DAVID B. CARLSON

What architects and engineers are doing on the ground—and under it—is often as spectacular as the high-flying missiles and satellites themselves.

America's entry into the space age, which assumed gargantuan proportions after the first Russian Sputnik was launched almost three years ago, has provided the building industry with a great and exciting challenge. Not only have completely new kinds of buildings had to be designed, but they have usually been designed and built under an incredible pressure unknown in private building jobs. Several hundred architect-engineering firms have already become involved in space work of some kind, and there are still others constantly working, frequently through special representatives (usually lawyers, almost never architects) in Washington, D.C., to convince the military that they should design some phase of the great space complex.

The effort to master space takes two basic forms: the military portion, by far the largest, involving a $1-billion-plus program of developing missiles and bases for all the armed services, and the $333-million space-exploration program, headed by the civilian National Aeronautics & Space Administration. Until recently, these programs were largely uncoordinated, tied by little more than the need of the NASA to use military missile-test and research facilities at Cape Canaveral and on the West Coast. Both programs call upon architect-engineering firms to design all facilities except the missiles themselves and some of the support mechanisms (e.g., guidance systems, fueling apparatus) needed to service them. Everything from selecting and planning the site, laying out the total complex of an integrated missile base, and designing all elements of it fall to architect-engineers. As one architect-engineer with experience in missile base work puts it: "We design everything but the missile and the button that sets it off."

Actually, although almost all of the firms that have been most heavily involved in missile or space-exploration work call themselves architect-engineers, the emphasis is heavily on engineering. One firm tries to define the breakdown in work by saying that "our architects are only involved to the extent that the project deals with people —personnel quarters and such facilities. The vast majority of missile installations involves straight engineering work." Yet the fact is that almost all of the firms doing design work in space programs, including firms like Ralph Parsons Co. and Bechtel Corp., which have done a great deal of missile work, use architects for such jobs. And the most successful firm of all in getting missile work, Daniel, Mann, Johnson & Mendenhall, is an architectural office which has gone heavily into engineering work. Some architects believe that it is almost impossible to devote as much energy to engineering as DMJM does and still have time for creative architecture. Yet, for all its success in getting missile work, DMJM is giving increasing attention to its other work, particularly office buildings, schools, hospitals, and apartments.

Another large architectural firm that has carried a heavy load of space and missile work is Giffels & Rosetti, of Detroit. The firm had basic responsibility for most of the design work for Bomarc B ground-to-air missile sites, including drawing standard plans for the basic Bomarc missile installations. G & R also did conceptual studies for missile launching shelters and for a theoretical "hardened" Bomarc base, which was never built. The firm has also done support facilities and base designs for the Strategic Air Command, and was the principal architect-engineer for the "Mid-Canada Line" early warning system. G & R believes that an architect-engineering firm generally gets the call for such jobs over a straight engineering firm because of better organization, as well as more design capability and management flexibility. On the Bomarc jobs, architects did all the initial planning and direction of the over-all project, the engineers being called in for work on their specific specialties.

The unique problems of Titan

Certainly a great part of DMJM's success has been due not only to its strong engineering section, headed by President Irvan Mendenhall, but also to what is basically an architectural approach to unique problems. Nothing demonstrated this so clearly as the Air Force's selection of DMJM to design the prototype and training facilities for the first operational squadron of Titan missiles (see box, page 118). The Titan is a two-stage, liquid-fuel missile weighing 110 tons and standing 98 feet high. Its launching facilities involve completely new design concepts, for, unlike the first bases for the earlier Air Force ICBM, the Atlas, Titan bases were to be completely "hard," that is, able to withstand the better-than-100 pounds per square inch pressures resulting from the near-direct hit of a three-megaton thermonuclear warhead. (Bases for the advanced model of the Atlas missile are now being built hard, and some earlier Atlas installations have been made semihard by building huge steel and concrete "coffins" for the missile to lie in, from which it is raised vertically for firing.) The answer was to put the whole Titan complex underground (photos, page 116), and DMJM had to work out the over-all concept for this underground community in an incredibly short time—the basic ideas for the facility were wanted by April 1958, only three months after DMJM had won the contract. Preliminary working drawings and specifications were to be finished by June, and construction under way by July of that year. As DMJM partner in charge of

missile work, Ken Johnson, says: "The prototype was a backbreaker. . . . We knew we had a good design concept, but the Air Force wanted construction to begin before we had the information to work out all the details."

As in most missile work, DMJM had to cope with the Air Force policy of "concurrence," which means that the design and construction of the base and launching apparatus had to proceed concurrently with development of the missile. Thus, even such an important element as the dimension of the silo for housing the missile 160 feet underground could not be finally determined until the shape and size of the missile, being built by The Martin Co., was known. Yet the silos had to be designed to the best guesses that DMJM and the Air Force could make, then revised to fit the final missile configuration. Similar problems were met concerning the fueling system, an immensely complex system of forcing thousands of gallons of liquid oxygen into the missile per minute, at temperatures of –297 degrees Fahrenheit. The basic concept for this fueling system was evolved by Arthur D. Little Co., but DMJM had to revamp and adapt it to fit the silo.

Besides having to withstand at least 100 pounds per square inch of pressure from direct bomb blast (concrete up to 8 feet thick was used in places, after extrapolating results of Nevada thermonuclear test blasts), the Titan bases had to be able to survive unknown, but heavy, shock waves. This meant that subsoil conditions would be critical, because heavy stone, such as granite, or water would transmit shock waves more readily than sand or loose shale. In addition to extensive soil testing at all of the bases for which it has Titan contracts, DMJM then mounted everything from powerful electric generators to light bulbs on shock absorbers, and used spring beams whereever needed. As a result of its work on the first Titan complex, DMJM has won four of the first six Titan contracts, but the next two may go to Ralph Parsons Co., which has developed the more advanced mechanics of firing directly from the silo, whereas DMJM developed the earlier elevator system which raises the Titan to the surface for firing. Parsons also is designing fixed bases for the Minuteman ICBM.

Dispersal, mobility, and detection

Two of the most vital factors affecting architect-engineer work on all varieties of missiles are the government's policy of dispersal of launching sites and the closely related policy of missile mobility. The Titan, due to its great size and complex fueling technique, cannot be made mobile, nor, for the same reasons, can the Atlas. But both of these missiles are going to be in hard facilities (with the exception of the three earliest Atlas bases) and the Air Force regards this in itself as being a kind of dispersal. For instance, the distance between each of the six Titan complexes at Lowry Air Force Base, near Denver, Col., is about 18 miles, which means an enemy thermonuclear warhead would be unable to knock out more than one complex.

Base dispersal is being accomplished with more speed and economy as prototype and early operational facilities are finished. Once the first base for a

How Dimjim got the Titan job

The most exotic and challenging space-age job yet given the building industry is the $540 million task of building at least 42 installations at eight different bases for the Air Force's No. 1 deterrent weapon, the Titan Intercontinental Ballistic Missile. Following what was probably the most thorough winnowing-down of architectural-engineering firms in military construction history—more than 300 were considered by the selection panel of the Air Force's Ballistic Missile Division—the initial contract for design of the prototype Titan installation went to the firm of Daniel, Mann, Johnson & Mendenhall of Los Angeles and three associated firms. "Dimjim," as DMJM is called by the military, was certainly no stranger to defense construction, having worked on research and development facilities for both the Atlas and Thor missiles. But the factors that impressed the Air Force went far beyond Dimjim's experience, and provide a revealing clue to the criteria that are considered in awarding an architect-engineering contract for large space-age jobs.

DMJM Partners Kenneth Johnson and Douglas Russell (who has since left the firm) attended a briefing on Titan, along with representatives from 27 other firms, which had been picked from the initial list of 300. The Titan job would be unique and complex, including such factors as designing underground "hard" missile facilities capable of withstanding 100 pounds per square inch of "overpressure" (pressure above sea-level pressure). It would necessarily involve close cooperation with manufacturers of the missile itself, for the design of the Titan missile was not yet final, as well as with contractors and consultants working on fueling systems, propulsion systems, guidance systems, and the launching apparatus. The contract, like most missile facilities design contracts, would be cost plus fixed fee, and the architect-engineer would need enough financial strength to support its own activities for about six months. This last factor alone discouraged some smaller firms, but DMJM felt that it could manage it despite the size of the project.

In the early days of January 1958, DMJM's partners huddled for three days on almost an around-the-clock basis to develop a team of experts and an approach to the Titan problem. To do this, it formed a joint venture with three other firms: Leo A. Daly, of Omaha (another architect-engineer firm with extensive military design experience), Rust Engineering Co. of Pittsburgh, and Mason & Hanger-Silas Mason Co., Inc. of New York, which had conducted tests for the Atomic Energy Commission in Nevada and had experience in developing underground structures. About 60 key people were selected from the 1,150-man personnel of all four firms to do the Titan job; office space meeting Air Force requirements was optioned, and, finally, the group, called Daniel, Mann, Johnson & Mendenhall & Associates, wrote its proposal to the Air Force.

The group that was to get the contract for the prototype Titan installation, to be built at Vandenberg Air Force Base in California, and the first operational squadron, at Lowry Field, near Denver, would have to be prepared to move immediately into action. DMJM was prepared. When the 12-man selection board met late in January, it considered the technical capabilities and the operational organization of each of the firms submitting proposals, and also weighed each firm's experience in military design. On the latter, DMJM scored high, for it had an incredibly good record, particularly in its ability to get along without extensive change orders on government jobs, a source of irritation to budget-minded military men. The selection panel finally picked three firms, in order of preference. DMJM, which had been ranked first, struck agreement on a contract, then set out the toughest job it ever tackled.

given missile is completed, the Corps of Engineers, which supervises actual construction after the Air Force has accepted all the design work, pretty much duplicates it at the new sites. The basic differences come in adapting the prototype to the sites.

ICBM mobility is being pioneered in development of the Minuteman, a solid-fuel rocket. Because it does not need the elaborate fueling system of Atlas or Titan, Minuteman can be carried on rail cars or trucks, although the latter has not so far proved practicable. Because of the need for mobility and the development of solid-fuel missiles, fixed missile installations will probably not demand as much architect-engineer work in the defense program once the Titan is fully developed.

However, if the future portends less architect-engineer work on fixed bases, it also promises more design work on the elaborate missile-detection system currently in its early stages. Although the Distant Early Warning (DEW) Line is completed, with a string of radar detection stations across the Arctic, the much more sophisticated Ballistic Missile Early Warning System (BMEWS) is only about one-third complete. This system, which will ultimately cost over $1 billion, will provide a detection net against enemy ICBM's. (The DEW line is only effective against conventional aircraft.) The first of three BMEWS stations, which involve more actual buildings and structures than most missile bases (photo, right), is now being completed at Thule, Greenland, and the two others will be at Clear, Alaska, and Yorkshire, England. The Thule station, designed largely by Metcalf & Eddy, had to be built to withstand 185-mile-per-hour winds and –65 degree Fahrenheit temperature, and had to be able to support up to 6 inches of ice, such an accumulation being capable of doubling the weight of the radar surveillance antennas. The whole facility was built on the peculiar Arctic soil, ridden with permafrost which sometimes reaches depths of 1,200 feet.

Probing space

Architect-engineers will also be increasingly called upon in the burgeoning space-exploration programs of the NASA. Three of the biggest projects, the Saturn rocket-powered space vehicle, Mercury man-in-space project, and the tracking program, are already well under way. Burns & Roe, Inc., of New York, which designed all the U.S. stations for the SAGE automatic warning system, is responsible for similar work on Mercury's tracking system. Saturn will be a mammoth rocket, capable of putting 15 tons or better into space (the heaviest Russian space satellite weighed about 5 tons). So far, the most singular achievement in building Saturn support facilities has been the huge, 28-story tower designed by Miami Architect-Engineer Maurice Connell, who has done much of the work at Cape Canaveral, and by Kaiser Steel Corp., which also built the tower.

Also part of NASA's space exploration is the Goddard Space Flight Station at Greenbelt, Md., designed by Voorhees Walker Smith Smith & Haines. The research center includes laboratories as well as central control and range operations facilities for planned space probes.

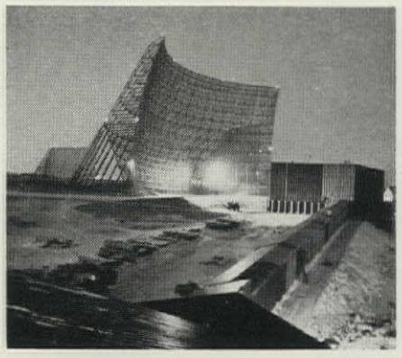
An old construction hoodoo

One of the most pressing problems in the whole area of space-facilities construction right now is the same problem that has long plagued the construction industry—the jurisdictional squabbles between building trades and industrial workers. Particularly affected are the first four Atlas bases, which the Defense Dept. charged recently were three to six months behind schedule due mostly to disputes between construction trades unions and missile contractors and their respective industrial unions. The dispute centers on the fact that the missile-makers themselves have had general supervision over much of the launching equipment and support facilities, as well as building the bird itself. This has led to the manufacturers' industrial workers doing much work that the building trades consider to be rightly theirs. In an effort to begin to unsnarl the jurisdictional problem, the Labor Dept. is trying to determine which jobs come under the construction trades wage provisions of the Davis-Bacon Act. But until the full weight of the AFL-CIO is put into play, the issue may drag on. Last

continued on page 202

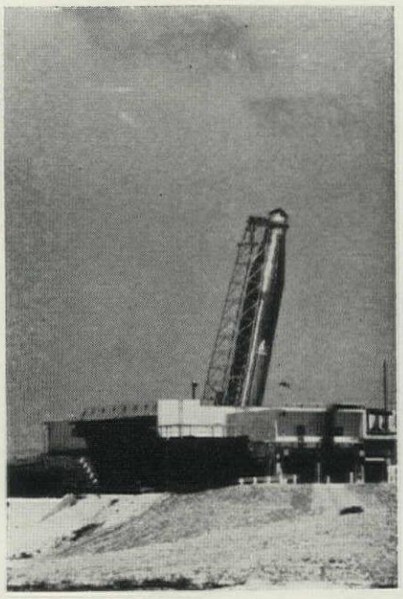
STUART BAIN

Radar research laboratory *at Prince Albert, Saskatchewan, opened last year, will probe the mysteries of space phenomena such as the aurora borealis, as part of a joint U.S.-Canadian space-research effort.*



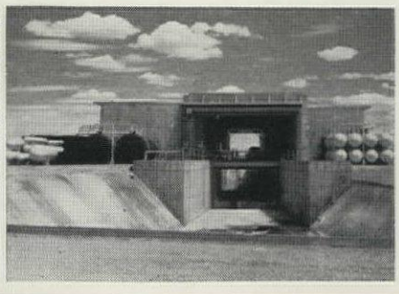
RCA SERVICE CO.

Radar picket station, *a recently completed installation in Thule, Greenland, is part of the three-base Ballistic Missile Early Warning System. Four giant radar surveillance antennas, like the one shown above, flank the communications center buildings, which are linked by copper-clad funnels.*



OFFICIAL U. S. AIR FORCE PHOTO

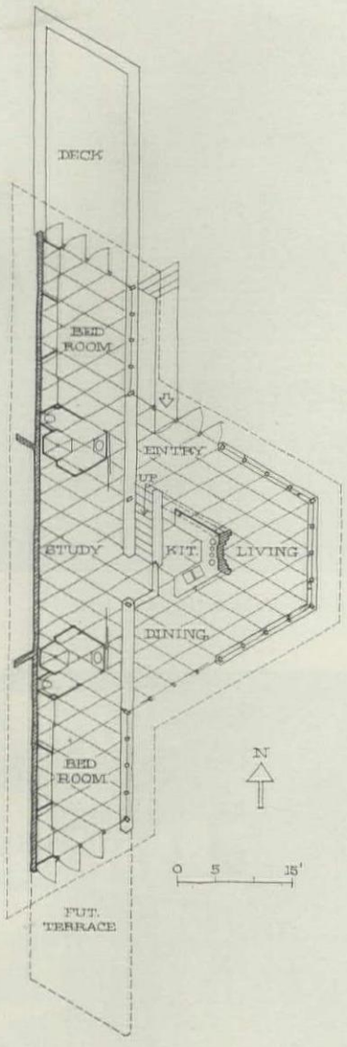
Atlas ICBM *is raised from its concrete "coffin" at Warren Air Force Base near Cheyenne, Wyo. for firing (above). The coffin itself is a steel and concrete hangerlike structure which has a steel sliding roof (below). Arrayed outside the coffin are fueling tanks. Unlike the "hard" Titan complexes, these Atlas bases would be unable to survive a direct thermonuclear hit.*



OFFICIAL U. S. ARMY PHOTO

Dining-living space flows freely under the sheltering treelike structure growing out of the central fireplace trunk.

Artistry in redwood



This wood house midway down a slope in Marin County, Calif. is the work of a reserved architect, Jack Hillmer, whose 20 years of practice have produced few buildings but very expressive ones. In his hands even a small commission becomes significant architecturally.

Designed for a bachelor, the house is built on a triangular grid which shows in the prominent roof beams, six of which radiate from the chimney as from a tree trunk. There are no full-height partitions to cut up the interior space or to distract the eye from the roof's structure and sheltering sweep, nor are the exterior walls allowed to interrupt the view of this powerful roof. The upper part of these walls is glass, letting the roof edge all the way around be seen like a great canopy. Even the beam ends, beyond the walls, are turned into equilateral triangles (photo, page 122) to fit into the basic pattern and, incidentally, to prevent the common trouble of twisting.

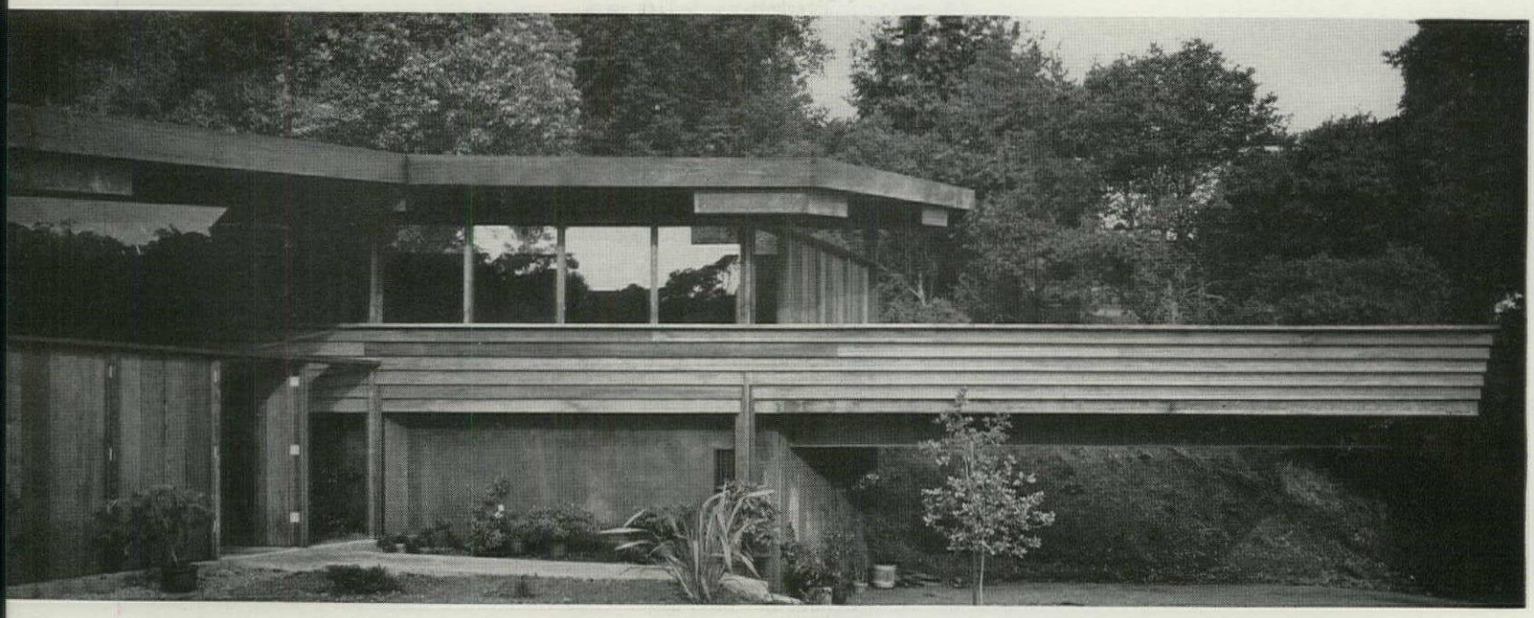
The second strongest element of the architectural concept is the lapped board railing of the bedroom balcony. It extends into the living-dining area, and out again, interrupted only by glass, visually tying together the inside and outside spaces. By day this railing seems stronger than the triangular pattern of the beams; by night the reverse is true.

The rest of the house is designed with complementary care. The detailing of the wood partitions and window walls, all redwood, is meticulous. Panels of glass are sometimes butted against each other in precise joints without mullions. What the house expresses architecturally, above all, is very rare in modern architecture —the kind of quiet, continuous character which binds together both large and small effects, keeping any single idea, even the fascinating ceiling, from taking over. (The coloration, mostly natural wood, helps in this, too.) It is a house full of small visual discoveries planned in long, painstaking hours over a drafting board; even the light pushbuttons are set in neat clusters into the woodwork and are color-coded, replacing the usual switches and plastic cover plates.

PHOTOS: ROY FLAMM

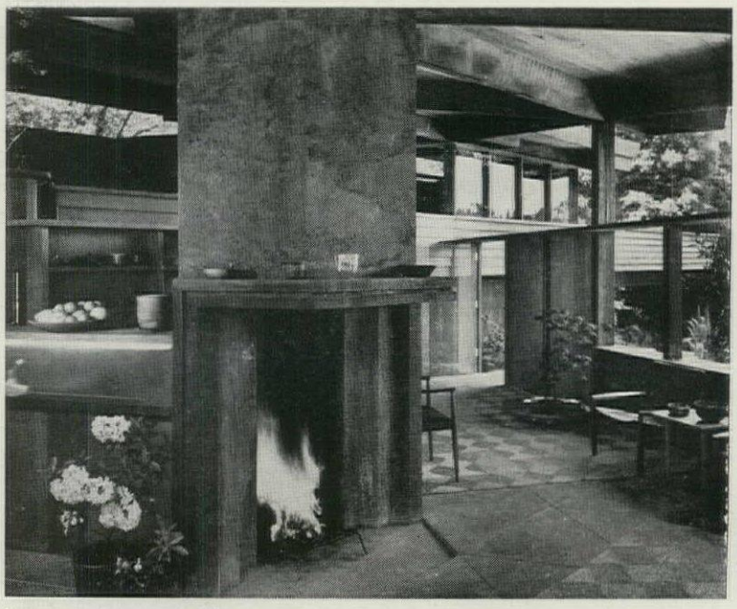
Hexagonal chimney and triangular skylights pierce the sloping roof.

Main entry is cleanly framed in redwood and glass.

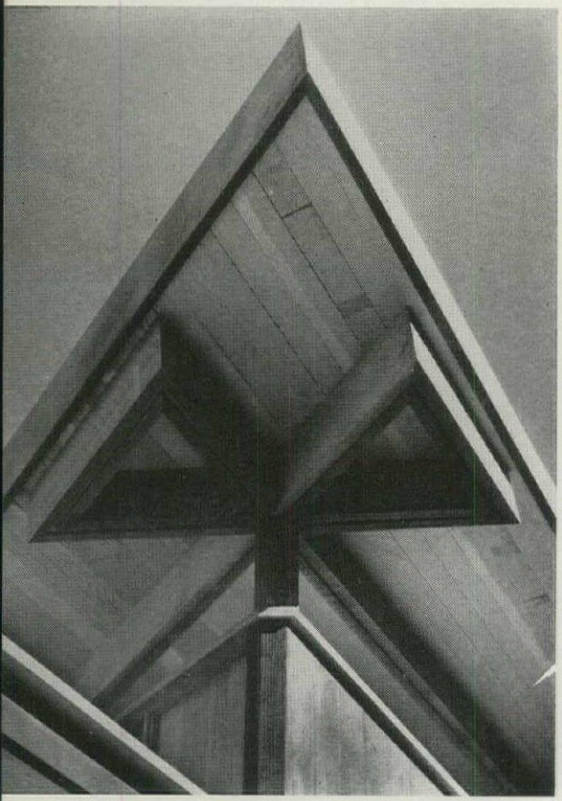


Huge steel-supported cantilever carries the bedroom balcony and frees the carport of structural obstacles. Main entry is at left.

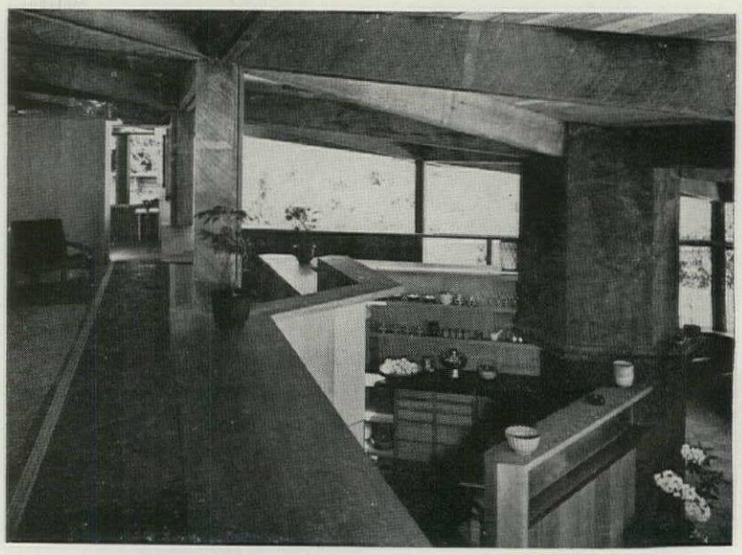
OWEN STEBBINS HOUSE, Marin Co., Calif.
JACK HILLMER, architect
McKINNON & McGEE, contractor



Concrete fireplace is the focus of the living-dining area.



Beam ends are mitered twice to form triangles.

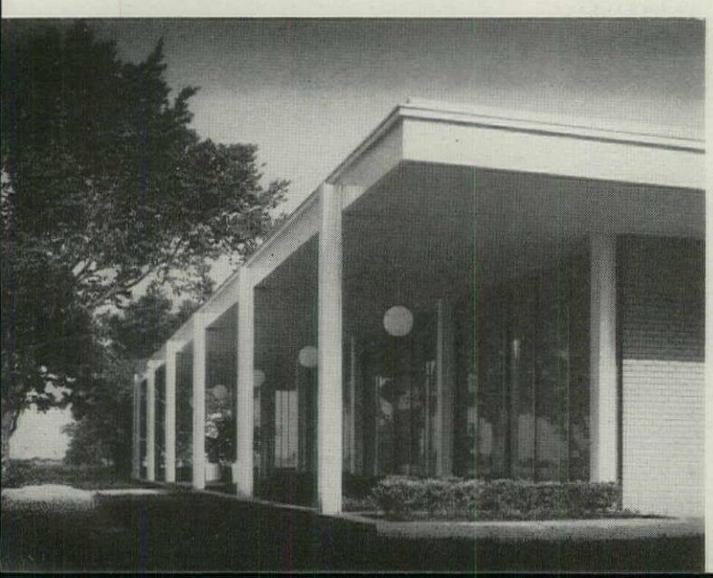


Bedroom mezzanine overlooks the living space—and the hillside beyond.

Dining area, like all other rooms in the house, borrows the ceiling of adjacent rooms to increase the feeling of spaciousness.

Convertible bank

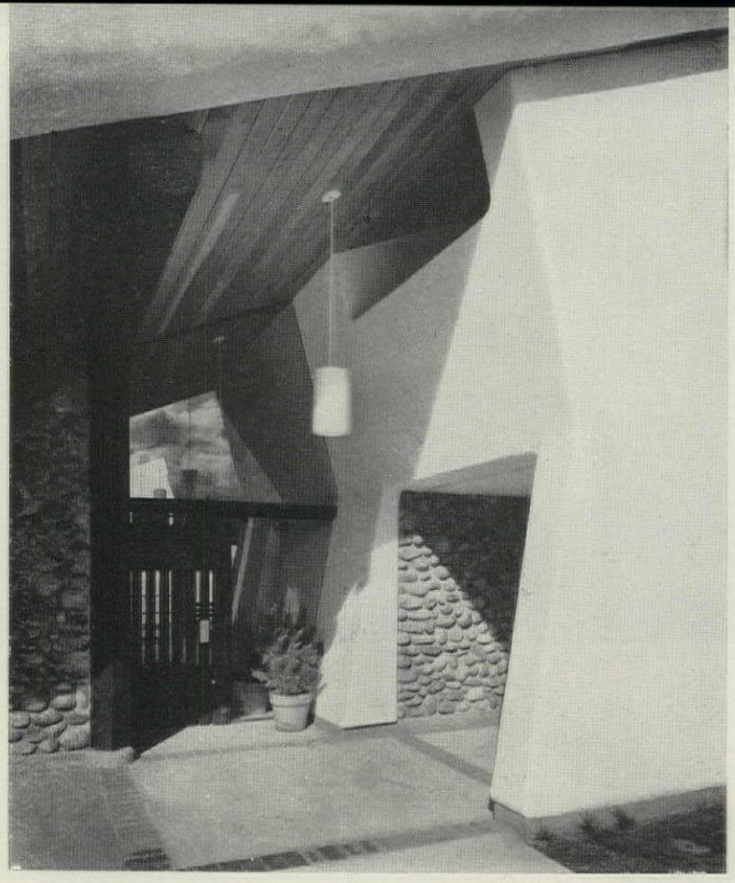
Businessmen who build in fast-growing suburbs, only to outgrow their quarters in a year or two, might take a tip from the new $52,000 Gulf Coast National Bank in Almeda, Tex., just south of Houston. Behind a parking lot expansible to twice its present size, the bank's trim, Miesian portico of white-painted steel shades interiors from hot sun on the south, and encloses pleasant planting areas of boxwood and low ivy. As business increases, the front wall of glass and aluminum sash can simply be moved forward to this portico line, and the exposed grade beams that separate the plant beds can be covered with flooring, adding another 1,000 square feet to the 3,000 square foot interior. Should the bank decide to move to still larger quarters or another location, the interior is designed with a clear-span roof and no inside bearing walls, so that it can be sold and used with a minimum of changes as a small office building, showroom, or store. The central bay comprising the sheltered entrance and main banking floor is paved in durable glazed brick; the adjacent officers' "platform" is set off simply by a carpet and colored panels above desks (below). Architect: Kenneth E. Bentsen. Engineers: Walter Moore (structural), Raymond Jenkins (mechanical). Interiors: Evans-Walsh. Contractor: Spaw-Glass, Inc.

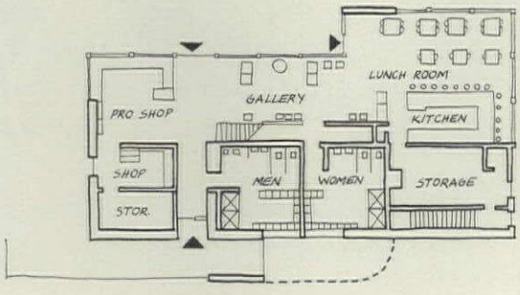


PHOTOS: F. WILBUR SEIDERS

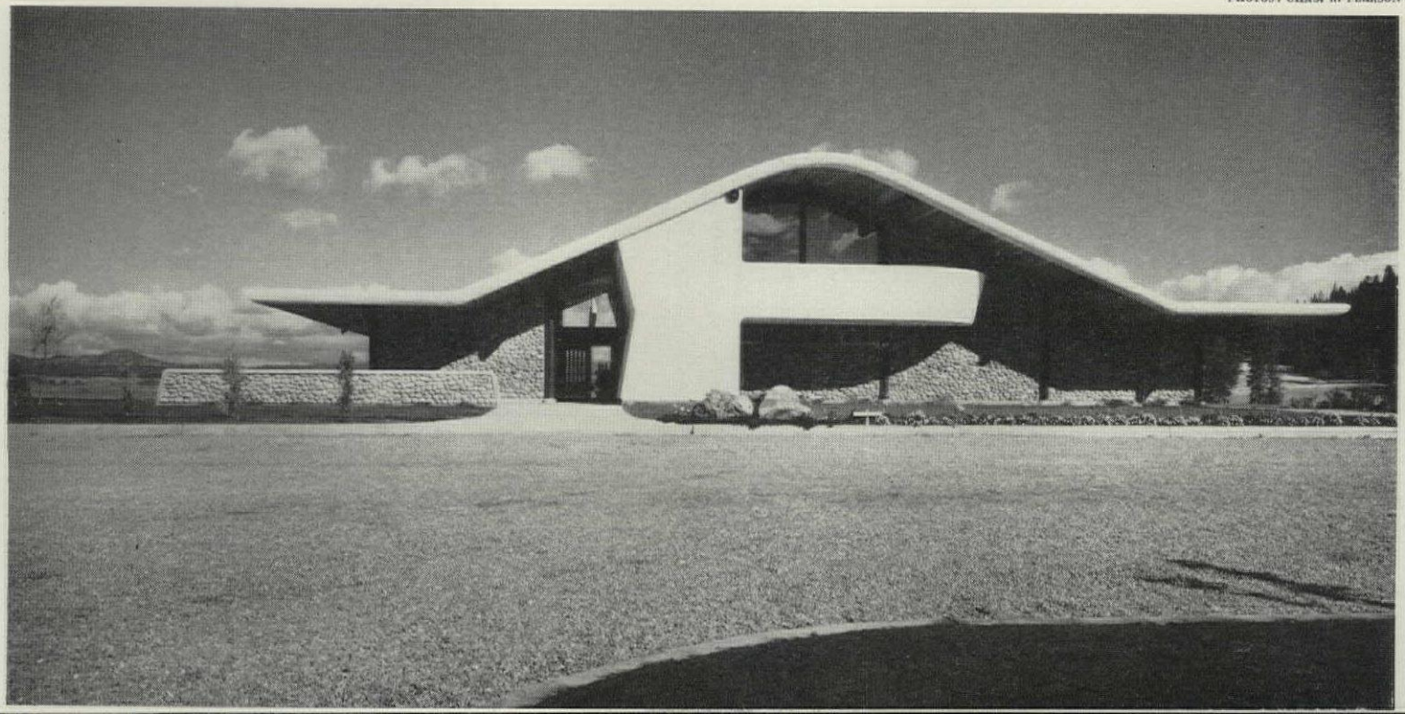
Formful club

Golfers arriving at Spokane County, Washington's new Liberty Lake public course, are greeted by this playfully swooping clubhouse, whose roof looks to the shape of nearby hills, and whose walls are roughly textured with stones gathered during construction of the course itself. Under an 8-foot overhang, the main entrance (right) is set off by a big, bonelike structure from which is cantilevered a curved, steel-trussed balcony finished in white stucco. This balcony adjoins an upstairs meeting room for community groups; in the back, a similar balcony gives the caretaker's apartment a view of the entire course. On the ground floor, locker and service rooms are lined up toward the entrance road; a pro shop, gallery lounge, and a restaurant with lunch counter and tables enjoy the greenery and view to the rear. Cost, including year-round air conditioning, was a modest $88,500, about $15 a square foot. Architect: Warren Cummings Heylman. Engineers: John P. Esvelt (structural), Joseph M. Doyle (electrical). Landscape architect: Robert Woerner. General contractor: Northwestern Construction, Inc.

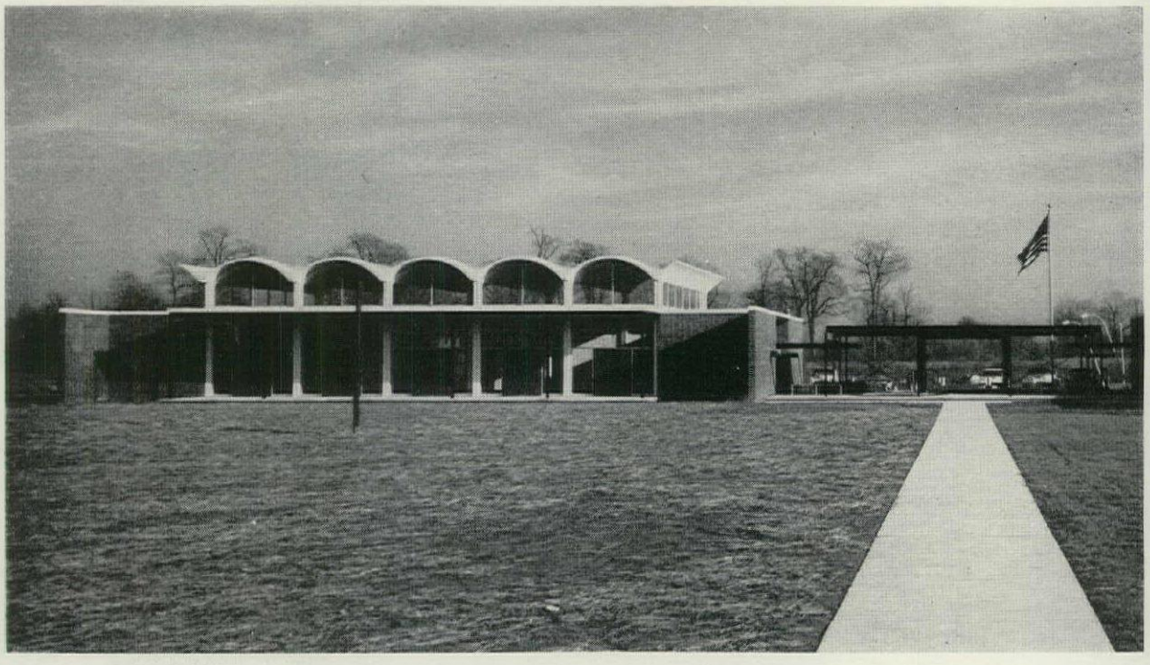




PHOTOS: CHAS. R. PEARSON

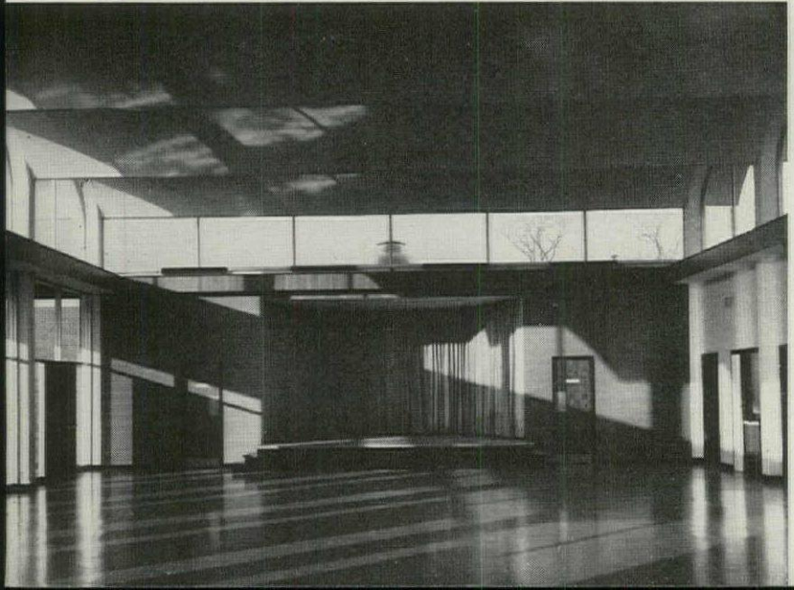


Under a vaulted roof, the recreation building opens out to an entrance porch along the front.

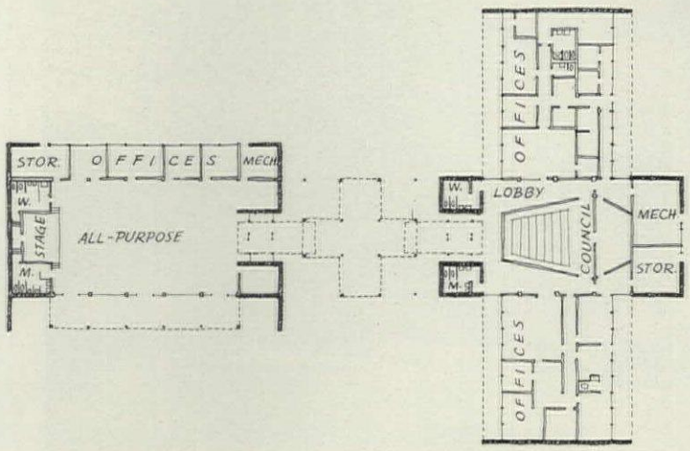


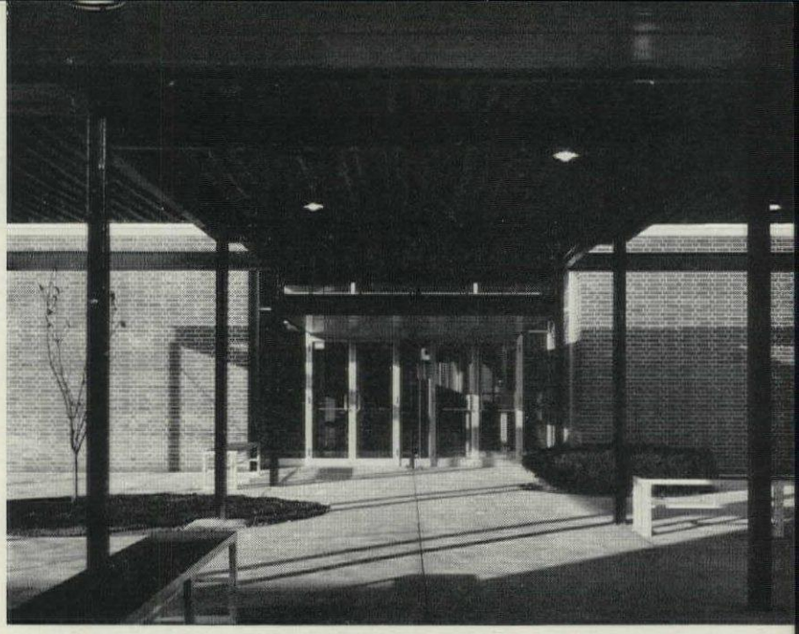
Three-in-one

Recreation hall with stage serves many community purposes.

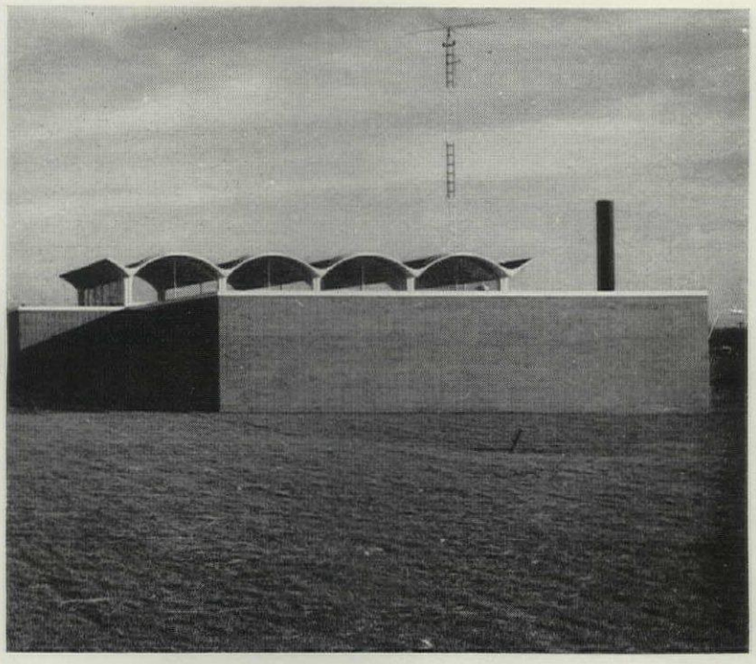


A far cry from the politics and porticoes of old-time city halls, this new municipal center for Cleveland's fast-growing Brook Park Village (population: 7,000) reflects a fresh approach to modern community life. It is designed to serve citizen activities as well as city business. Set back some 200 feet from the road, the building's scalloped roofs of thin-shell-concrete barrel vaults add lively focus to a flat, treeless site. To the right of a covered entrance court, these vaults rise above clerestory windows which light a public lobby and meeting hall. This hall, in turn, is flanked on one side by an administrative wing with up-to-date offices, on the other by a complete police department with its own two-cell jail





Canopied walk with benches connects the center's buildings.



PHOTOS: MARTIN LINSEY

Mayor's office is typical of the handsome, simple interiors.

town hall

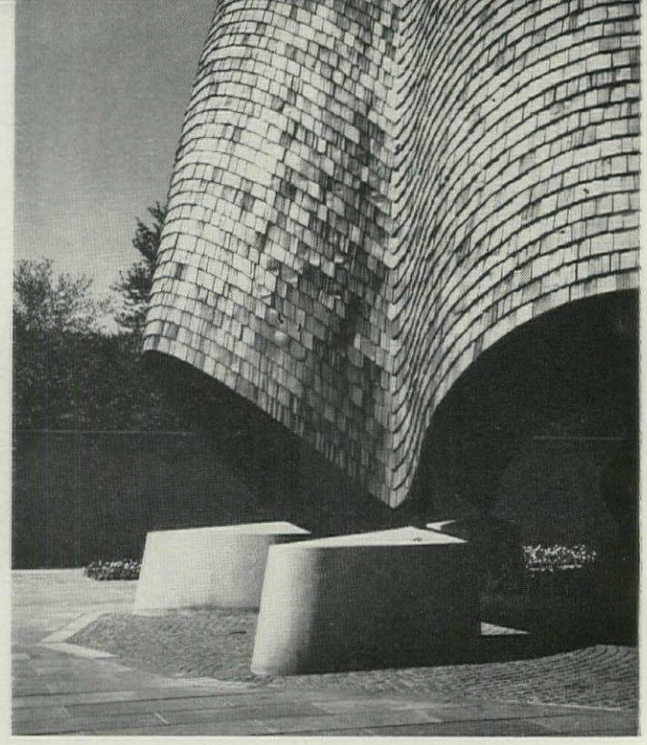
(see plan). Both wings can be expanded by knocking out the end brick walls.

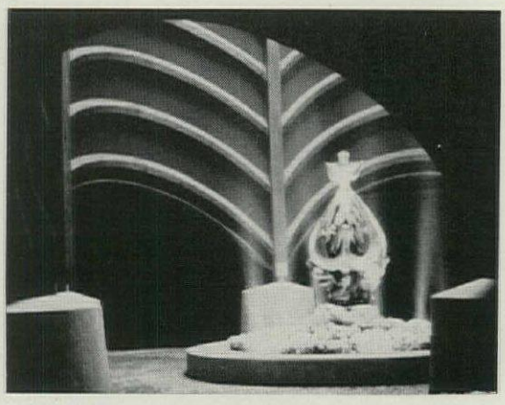
On the opposite side of the entrance court, separated so it can function independently from morning until late evening, is a 42 by 70 foot community recreation hall equipped with its own utilities, kitchen, and stage, and its own covered entrance-exit porch along the front (photos left). This vaulted hall serves organization meetings, adult dances, teen-agers' "canteens"; four smaller rooms along the rear accommodate club groups. Cost of the center, including sitework and furnishings, came to $438,000. Architects and engineers: Dalton & Dalton. General contractors: Schirmer-Peterson Co.

Service side suffers slightly from an exuberance of fixtures.

Shingled shrine

On the banks of the Wabash in New Harmony, Ind., Architect Philip Johnson has completed an arresting memorial to the Rappites who founded the town as a utopian religious community a century and a half ago. At the end of a 130 by 230 foot walled-temple garden, planted with myrtle, hackberry, and golden rain trees, rises a bell-shaped, gently undulating parabolic dome of laminated pine arches 50 feet high, covered with rough cedar shakes. To some it recalls a Hindu stupa or a Scandinavian bell tower, to others the soft, sheltering lines of the grand old American shingle style itself. Under the shingles, which are backed by a plastic vapor barrier and plywood sheathing, the arches curve upward from massive elliptical piers of limestone to a steel ring 16 feet across, at the center of which is an oculus 4 feet in diameter. The top of the dome is plastered white, dramatically reflecting light from spots buried in the flowers around a bronze "Virgin" by Sculptor Jacques Lipchitz (right). The shrine, part of a general cultural renaissance planned for New Harmony, was built by descendants of the original settlers with $300,000 from the Robert Lee Blaffer Trust. Structural engineers: Wilcox & Erickson. Lighting consultant: Richard Kelley. General contractor: Traylor Brothers.





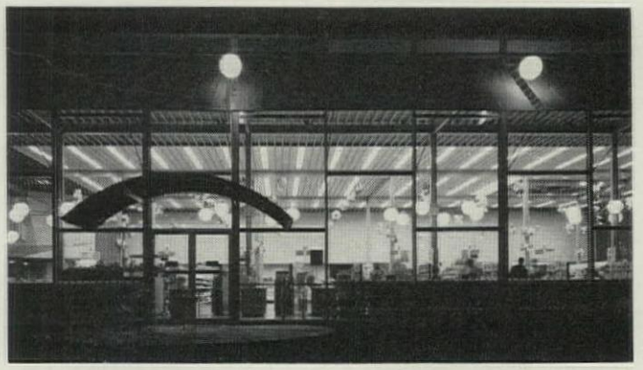
PHOTOS: JAMES K. MELLOW

PHOTOS: GOTTSCHO-SCHLEISNER, INC.

In the business of selling suburbia, architecture and industrial design can both play starring roles, though they sometimes tread on each other's toes as well. Lord & Taylor's new Chevy Chase branch department store outside Washington, D.C., for example, is simple, straightforward, and unimpeachably white (above). At its recessed main entrance, however, Industrial Designer Raymond Loewy has placed a slick package of pseudo-Palladian arches, coffered wall plaques, and flapping arena flags, which are only remotely related to the building's function, structure, or locale (architects: Fordyce & Hamby; contractor: Hegeman Harris Co.).

Two stores, two approaches

At the opposite end of the country, and the retail scale, a new Market Basket store outside Renton, Wash. encloses the more mundane functions of food-buying in a festive architectural frame (below). Its light steel structure is set off simply by tilt-up concrete panels faced with common brick cavity walls, and with glass set handsomely in standard aluminum sash. Curved door canopies, projecting light globes, and colored awnings for hot summer days are the only other decorations, and each one serves a useful purpose. Cost: a low $9.30 per square foot. Architects: Johnston, Campanella & Associates; contractor: Baugh Construction Co.



PHOTOS: ART HUPY

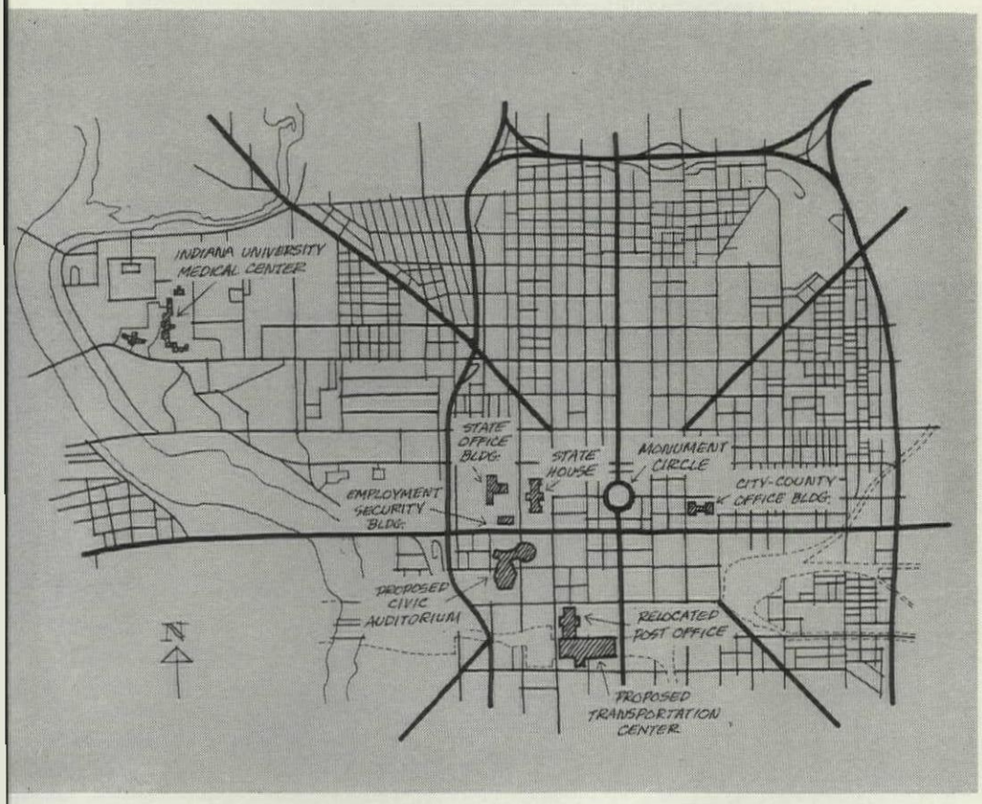
Indianapolis

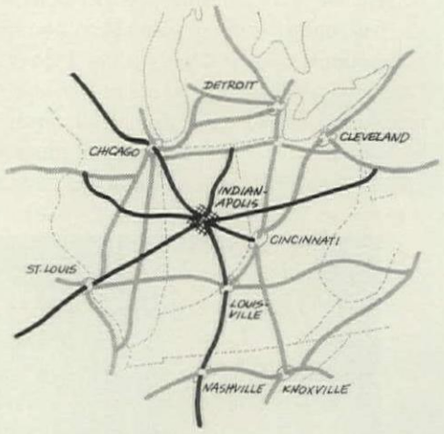
WILLIAM A. OATES

Backed only by local money, Indianapolis is running its own renewal race. Question: Can the tortoise sprint for the finish?

Before an early-morning session of the Indiana State Senate's Committee on the City of Indianapolis, an independent Hoosier spoke up vigorously last year against a bill that would have permitted the use of federal funds in the redevelopment of Indianapolis. Paul McCord (64), long-time chairman of the city's Redevelopment Commission, was pounding away on a favorite theme. "If we use federal funds in our redevelopment work, it will go slower, *not* faster," he emphasized. "When you take that kind of money, everything, even sometimes the selection of appraisers, has to wait on Washington. Indianapolis has cleared sites and built buildings while other cities have been stalled in red tape. We've seen what has to be done, and we've done it."

The committee, impressed, unani-





Shaped like a wheel *set on a grid, Indianapolis was originally planned to look like a classical capital by Alexander Easton, a disciple of Washington D.C.'s Pierre L'Enfant. The capitol itself, placed somewhat off center in the plan (see sketch), is only now re-emerging from the clutter of 140 years. The wheel remains a significant form for a city that will have more interstate highway connections than any other U.S. crossway (see map, above), and for a city that must depend increasingly upon highways.*

goes it alone

mously recommended the defeat of a House-approved federal aid bill. The Senate obediently killed the bill. Indianapolis was then free, and determined to show how much could be done by a city on its own with no federal participation. There is no question that Paul McCord's Indianapolis, a wheel-shaped capital city of giant construction sites and even bigger plans, has stepped forward energetically; but its results, far from being marked by lightning speed, have been characterized by being gradual and steady.

This record has been chalked up:

Item: Indianapolis started early. Its leading architects were talking redevelopment even during the war; and although Harold Ickes' public-housing development of 1936 was the last federal activity Indianapolis allowed, it helped set a precedent for the city in taking responsibility for its minorities. Indianapolis was one of the first cities after the war to take steps toward revitalizing its downtown, and the Redevelopment Commission was founded in 1945.

Item: 340 acres have been acquired and cleared since then, with an expenditure of $7.2 million in local public money. This rate of $21,000-plus per acre contrasts strikingly with the $230,000 per acre, mostly federal money, spent in New Haven to clear 158 acres. The difference is that Indianapolis was working steadily, and mostly in areas of scanty occupancy.

Item: 338 building lots have been sold by the Redevelopment Commission to a nonprofit home-building agency, Flanner House Homes, which allows buyers, mostly Negroes, to build up equity by means of a self-help work program. A total of 240 private homes have been financed thereby. This once again illustrates slow, steady progress —77 family units per year for the past three years in a city of 500,000 people.

Item: An extraordinary tax (10 cents per $100 of property valuation, later reduced to 5 cents) was levied to meet the expenses of the Redevelopment Commission in 1945. The tax has brought in to date a total of $3.3 million. In 1957 the Commission was given the power, rare in U.S. renewal work, to issue bonds.

Item: A metropolitan planning agency, coordinating zoning and other growth requirements for 24 incorporated cities, towns, and unincorporated communities within the Indianapolis area, has been operating since 1955. It has assisted development work on its own budget by charting the growth of slums and suggesting new land uses.

Item: The lobbying necessary to get legislation for both the Planning Dept. and the Redevelopment Commission through the rural-controlled state government has been managed by the forward-looking Indianapolis Chamber of Commerce.

Item: An estimated $8 million has been put up on redevelopment sites since 1945 ($6 million in the last three years). Now under way is another $100 million of buildings sparked by the city's efforts to renew itself.

More the money

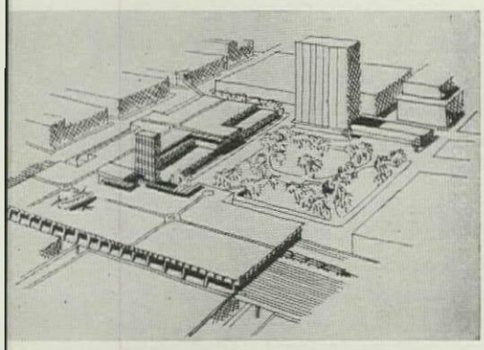
Varied and impressive as these accomplishments may be, they are not in themselves proofs of McCord's anti-federal-funds argument. In those few U.S. cities where successful renewal programs are being carried out, money alone, from whatever source, has not been the coiled spring that has made it run. That spring has rather been the creative use of various tensions within the living city. And a question more to the point than how does Indianapolis do it without federal funds is where do its leaders get the tensioned energy to overcome urban inertia?

One element of tension in Indianapolis is the Metropolitan Planning Dept. and its director, Planner Calvin S. Hamilton. Hamilton, young (35), design-conscious, impatient, believes strongly that the Senate Committee reached the wrong decision when it disallowed federal funds.

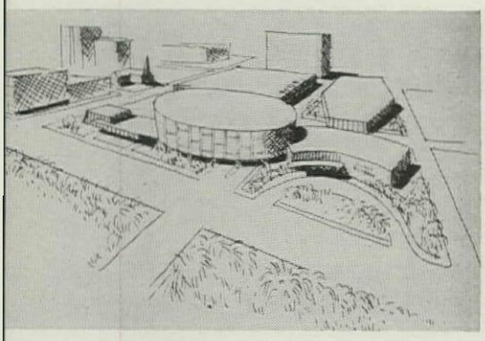
As an objective outsider, Hamilton is less impressed by the city's clearance program than others. He feels that blight is being arrested in the city center, where it has been an eyesore to shoppers and office workers, but that it is growing apace beyond the city limits. He is concerned that the city's problems are sprouting faster than its solutions.

Yet Hamilton is tolerated, even admired, by the most conservative elements in Indianapolis because of what he has done. Since he came to the city six years ago, he has set up a well-balanced planning team of experts who have been able to make planning and zoning stick where applied; he has drafted a master plan and comprehensive zoning ordinance for the entire metropolitan area that will be formally adopted in December; and by creative suggestions rather than legalized negatives he has been able to convince the overlapping agencies that make up any modern metropolis to coordinate their thinking. For example, his department's work in laying out an integrated $800 million capital improvements program (and getting it approved by the City Council) is now generally recognized as one of the most important planning contributions in Indianapolis since the city first came off the drafting boards. And a surprising 40 per cent of his design plan for the central business district has already been adopted.

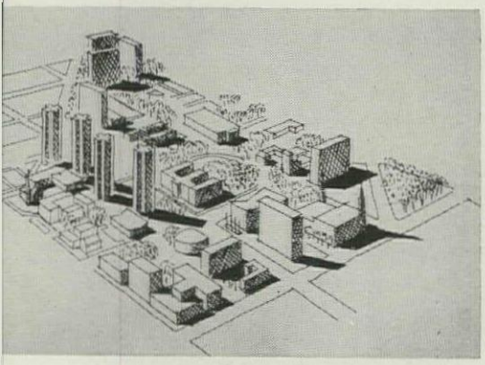
In these efforts Hamilton has had several factors working for him. Among them were: first, the geographical happenstance that Indianapolis is neatly situated in the center of Marion County (so most of the problems of metropolitan sprawl could be encompassed within the boundaries of one county); and second, the legal conception that his agency should float independently between city and county governments (thus allowing him a greater freedom from both than most metropolitan planners enjoy). But floating free of power politics is not the way to get things done in Indianapolis, Hamilton discovered. "Let's face it," he says, "urban redevelopment involves politics and politicians. No one can expect to get his ideas across without getting deeply involved in political maneuverings, pressures, and accom-



Project H *represents Indianapolis' attempt to bring back middle- and high-income apartment dwellers to the city. As the model shows, a group of high-rise apartments will be built in the eastern part of the 42-acre site, with a series of lower units interspersed.*



A downtown civic center, *another planning proposal, may do something to enliven nighttime Indianapolis. The building would contain an auditorium and exhibition space; commuters could take advantage of parking nearby.*



A combined transportation center *is one of the more impressive proposals of the Metropolitan Planning Dept. It is to be built above and around a reconstructed version of the existing Union Station. The complex would combine facilities for bus, train, and helicopter services.*

plishments of individuals or groups."

Another tension element in the Indianapolis power structure is the Civic Progress Assn., a confederation of large-caliber downtown businessmen who, with the Chamber of Commerce, have an obvious stake in keeping the city healthy. The CPA's 70-odd members command some $150 million worth of downtown real estate. Their president is Frank McKinney, a former Democratic national chairman and board chairman of the largest bank in Indiana. Their executive director is Jack Harris, a one-time all-American halfback who went from the Green Bay Packers to a 30-year career in public transportation, thence to the CPA.

Among the CPA's accomplishments great and small since 1957 are these:

▸ *An Urban Land Institute survey* which made it clear that something had to be done to stimulate downtown growth was financed by the CPA; also a Real Estate Research Corp. study of the city's hotel capacities.

▸ *Improvement of off-street downtown parking*—whereas there were 14,034 spaces in 1954, there are now, thanks to CPA efforts, 35,000 spaces.

▸ *A one-way street system* suggested by the CPA and endorsed by mayor Charles H. Boswell is now in effect. The mayor, faced with re-election in a city that has a history of not returning mayors for second terms, nevertheless dared put the one-way plans into effect the week before election. (He won by a plurality of 18,037 votes.)

▸ *Downtown face lifting* has been another CPA project; several score trees have been planted; coveys of pigeons and starlings have been banished; flower planting pots have been hung on lampstands.

Despite this record, or perhaps because of it, the CPA is considered by some to be more enthusiastic than enlightened. McCord says of the group: "It just seems strange that so many of them talk about building up the downtown area and then go ahead and build shopping centers out in the county." And the criticism is justified in Indianapolis as in other cities. No comprehensive economic rationale has yet been thought through; no significant attempts made to relate what is going on downtown (spotty activity in the face of an unmistakable trend toward suburban withdrawal) to new industries that are building on the city's periphery.

Furthermore, on the subject of federal funds, the CPA and the Chamber of Commerce are somewhat ambivalent. Their members like the conservative feeling that Indianapolis can control its own development program by paying all the bills, but feel uncomfortable about being left out of a nationwide effort. Says Harris: "We take the stand that it would be better if no money were allocated by the federal government for urban renewal. However, since it is, and since all taxpayers contribute, Indianapolis should receive its share. The money could be used for big projects."

The yearning toward the big project that is felt within the CPA undoubtedly results from the realization that its own activities and philosophies have been limited. Downtown as a shopping, commercial, and entertainment centrum is yet to be fully conceived. Individual questions of badly needed hotel space, to go with an arena or auditorium for which locations must be chosen, are all considered as isolated political issues. The CPA and the Chamber of Commerce, however, do serve the necessary purpose of carrying on the grinding work of keeping businessmen involved in city progress.

Renewal by limitation

Limited scale is also the curse and the credo of the Redevelopment Commission, a third element in the Indianapolis power structure. The new chairman of the Redevelopment Commission is Fred T. Green, president of the Home Loan Bank. Although Green testified before the Senate Committee in favor of bringing federal funds to Indianapolis (which is significant as an indication of gradual change from Paul McCord's teachings), and although Green has his own

views of how to accelerate the pace of Indianapolis' renewal, he continues to support the carefully limited policies that McCord originated. "From a practical viewpoint," he says, "these things can't be pushed too fast without stirring up too many people."

Here is what has been pushed through by the Redevelopment Commission within the past 15 years:

PROJECT A (complete): a relatively large but low-density, 178-acre area, previously mixed use, has been totally cleared; 181 single-family homes, 26 two-family units, and 146 apartments have been built, as well as a shopping center and other service facilities.

PROJECT B (complete): an ugly 8-acre area at the main gateway to Indianapolis has been reclaimed, put to commercial use.

PROJECT C (complete): 4 acres of marginal land have been cleared, sold to the Park Dept.; a recreational center will soon be built.

PROJECT D (complete): 18 squalid residential acres in the neighborhood of Indiana University Medical Center have been cleared, sold to the university and general hospital.

PROJECT E (about three-quarters complete): an old residential area of 164 acres laid out on small lots with no water and sewage systems is being cleared, and systems are being installed, mostly for sale to Flanner House Homes.

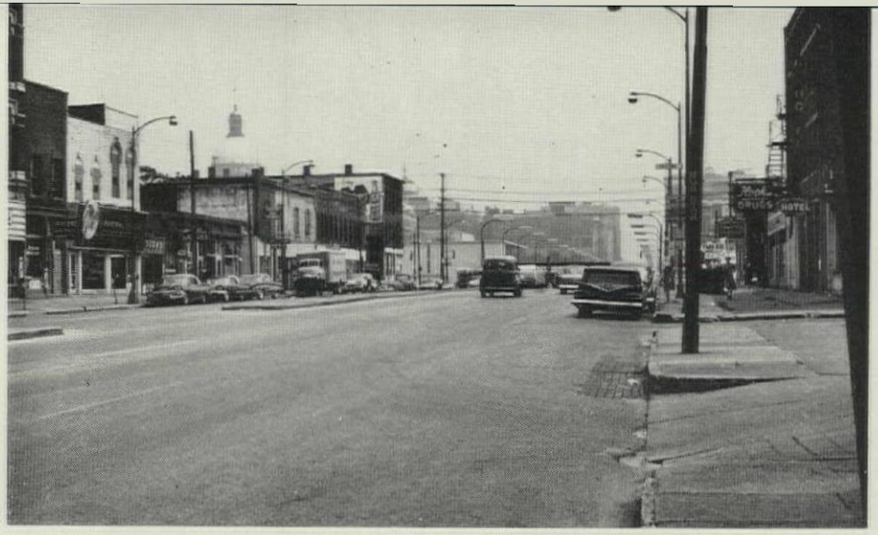
PROJECT F (about two-thirds complete): another small, 19-acre island of shacks is being cleared and sold to neighboring Indiana University School of Dentistry.

PROJECT G (planning stage): on an even smaller site, formerly occupied by homes and small businesses, a new commercial district will be built.

PROJECT H (planning stage): a middle-income apartment development of 1,000 units is to be built on 42 deteriorated acres in downtown Indianapolis—the most significant phase of the city's renewal—financed by the sale of bonds.

REHABILITATION PROJECT 1 and 2: the two sites together comprise slightly

continued on page 195



1

2

3

What Indianapolis architects are doing about their city

Four years ago the Civic Planning Committee of the Indiana Society of Architects began working with the Metropolitan Planning Dept. to bring out what beauty might be found in Indianapolis. The committee was, at that time, headed by Architect Edward Pierre; current chairman is Architect Paul Frank Jernegan. One of the committee's basic concerns was entrances and prospects —a concern that has not been satisfied in the case of the entrance to the city from the west on Washington Street (1) where tawdry buildings still block a capitol view. Another concern was for the great volume of public buildings that had to be built to keep pace with pyramiding state governmental functions. Although some of the new buildings in the shadow of the capitol are admirable, such as the State Employment Security Building by Associated Indiana Architects (see photo, page 198), there appears to be difficulty crowding them into the limited space available. Similarly, despite the fact that Indianapolis leaders are generally pleased with the success that the Redevelopment Commission and Flanner House Homes have had in helping salaried Negro workers move out of decayed neighborhoods (2) into their own homes (3), there are doubts concerning the rather unimaginative planning that has gone into the neighborhoods. A continuing effort on the part of Indianapolis architects has been to turn Monument Circle, which is now not the pleasant place it could be because of transit problems (4) and truck loadings, into a mall for shoppers and pedestrians. The flowerpot on the lamppost is, if nothing else, an indication that the forces of civic improvement are at work.

4

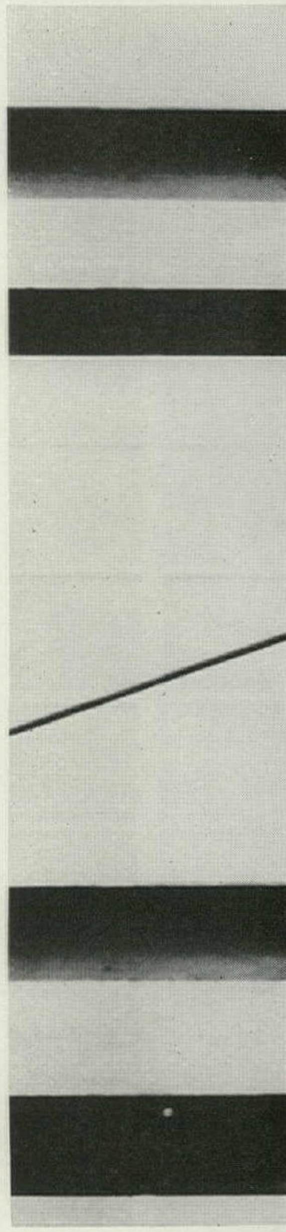
PHOTOS BY FRED COATS

Acrobats on steel

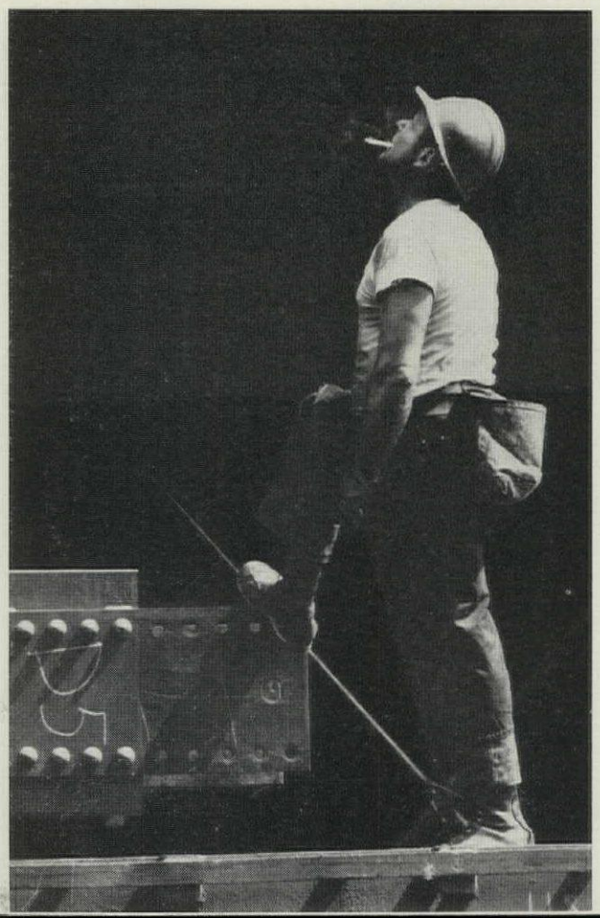
Hundreds of feet above the concrete sidewalks of our cities, seemingly suspended between heaven and earth, there lives a strange specie, half bird and half man: he is the steel erector, that incredibly fearless individual whose job it is to bolt together the structural skeleton of a new skyscraper while supporting himself on a tightwire or a toehold located somewhere in midair He is to the building industry what the astronaut is to flying—and what Nijinsky was to the ballet.

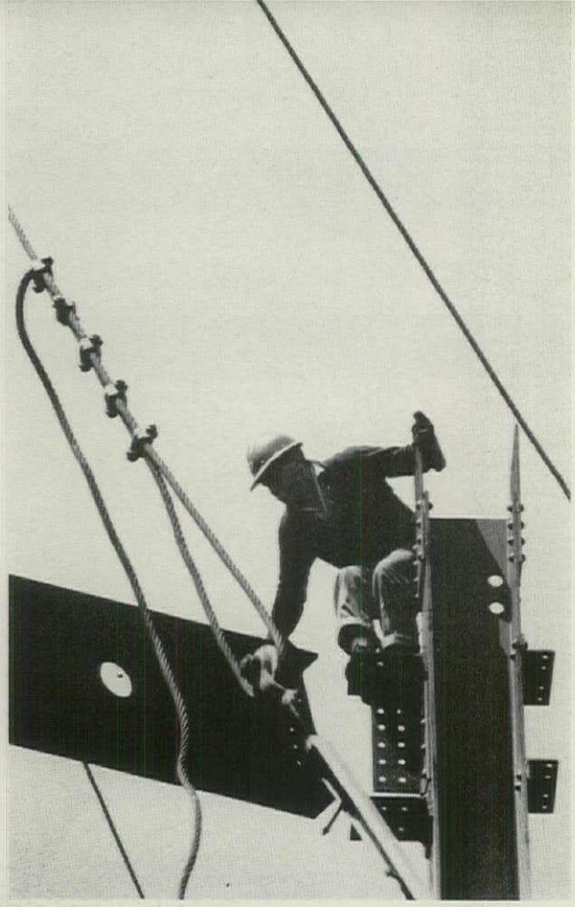
Why do these steel workers take on such a hazardous job? One reason is that the pay is good ($4.70 per hour in most metropolitan areas). Another is family tradition: some "connectors"—the men who, working in teams of two, put together columns and beams swung over to them by the raising gangs—are third-generation acrobats. A very few—not more than 2 per cent in the New York area—are American Indians by origin, and find most twentieth-century occupations not rich enough for their blood.

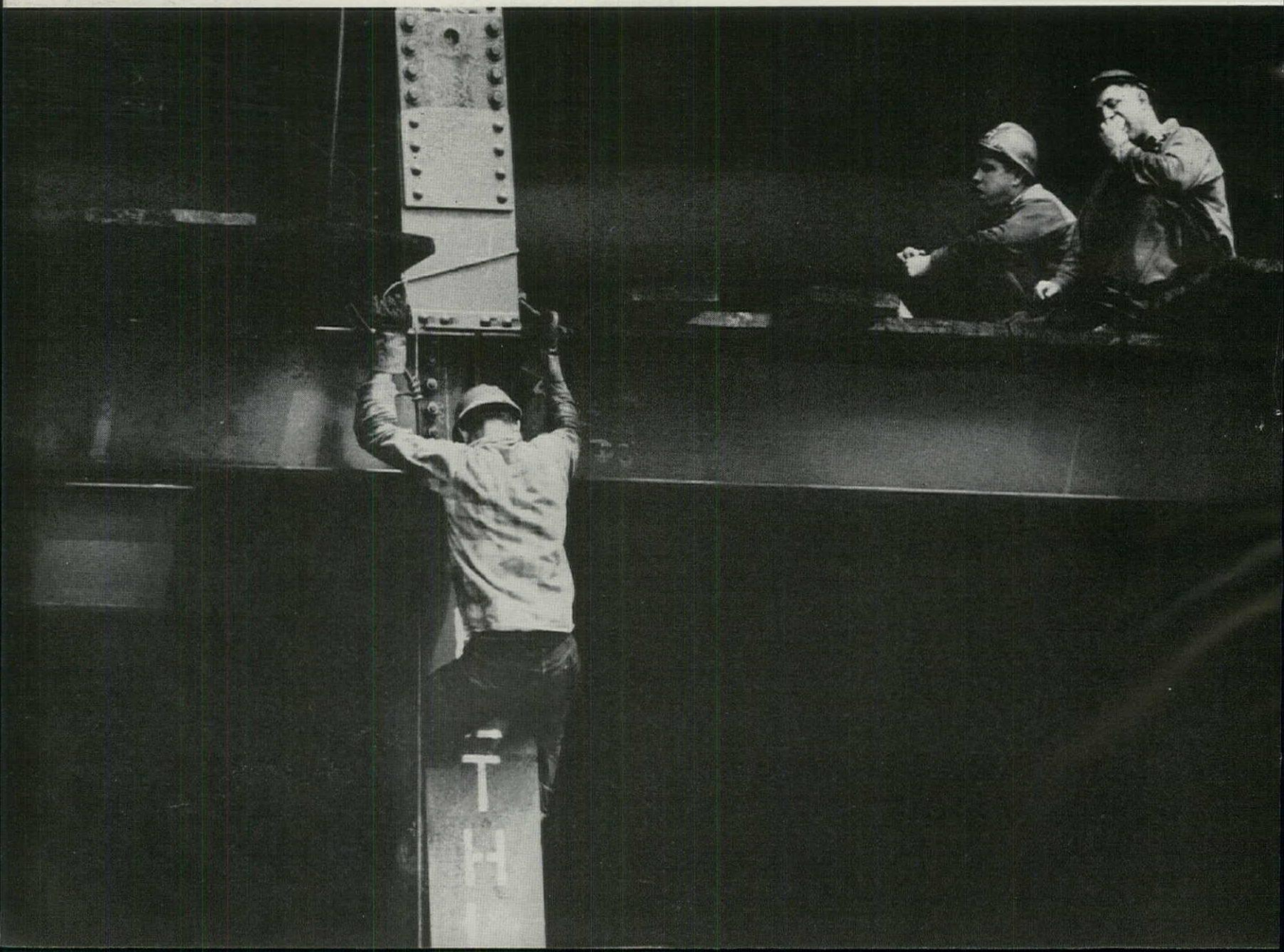
What about safety precautions? Wherever possible, steel connectors work above not more than two open floors, i.e., wooden planks are laid across steel beams two floors below them, to break any fall. But in many cases this is not practical, and the men just have to rely on their training and their sure-footedness. (The union now requires 2½ years of apprenticeship and a test before letting a man work as a steel erector.) Safety belts of the kind used by window washers are useless, for the men must be able to move around quickly and freely. What about the accident rate? "We don't like to think about it—don't like to figure it out," said one third-generation steel erector. "Whatever it is, it's too high."

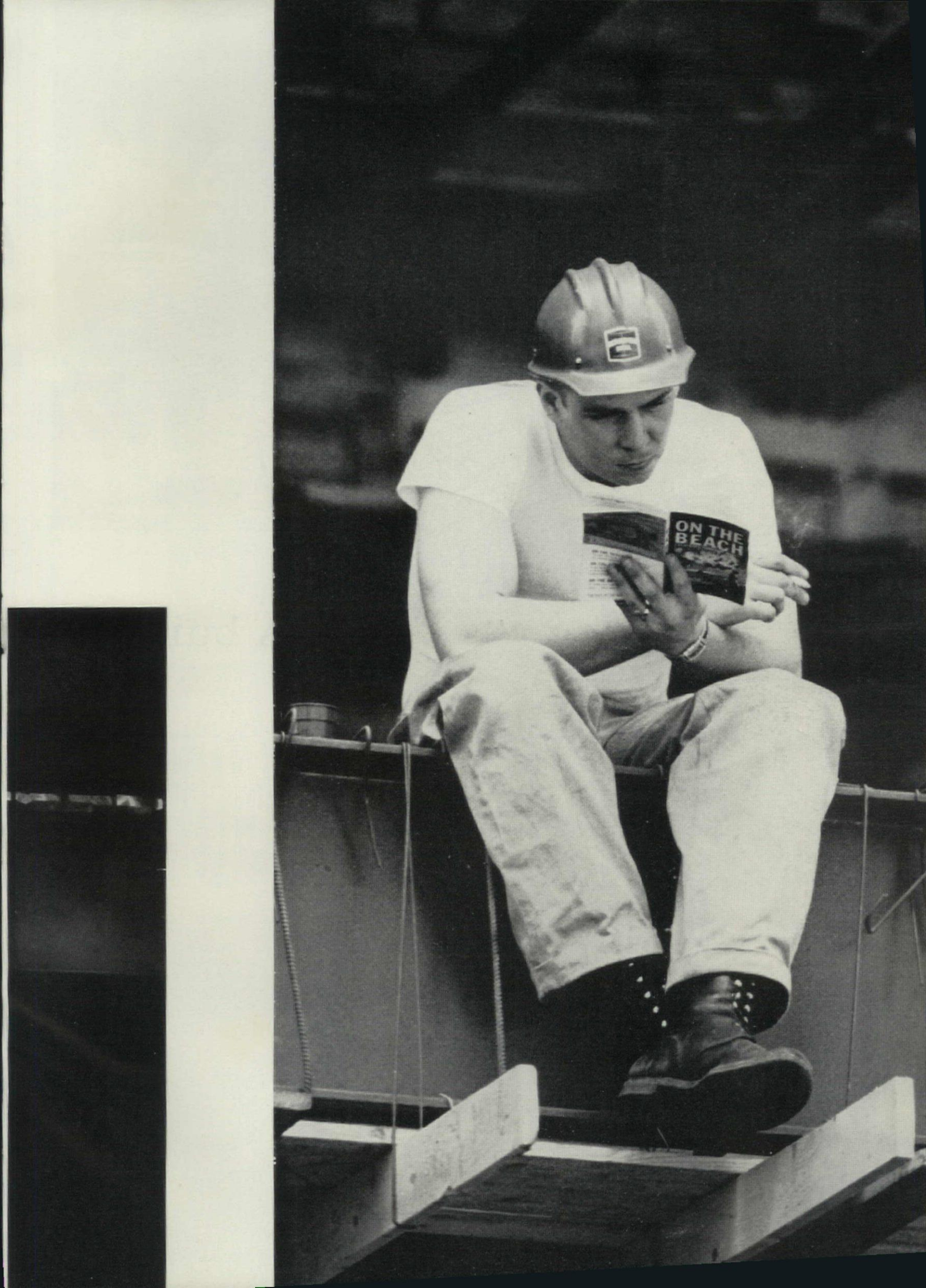


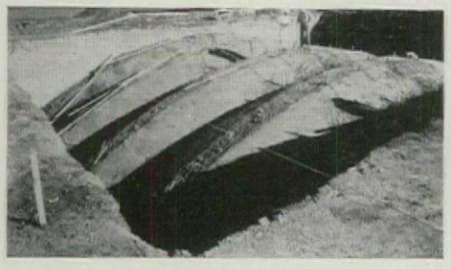
Photographs by Mort Schreiber





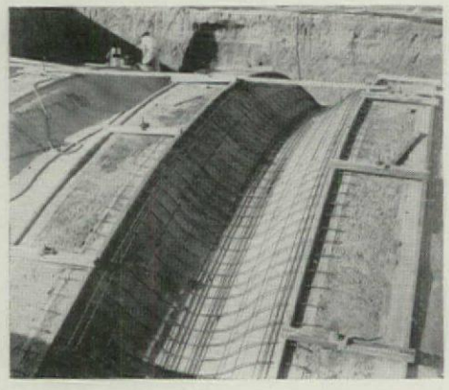



ON THE
BEACH

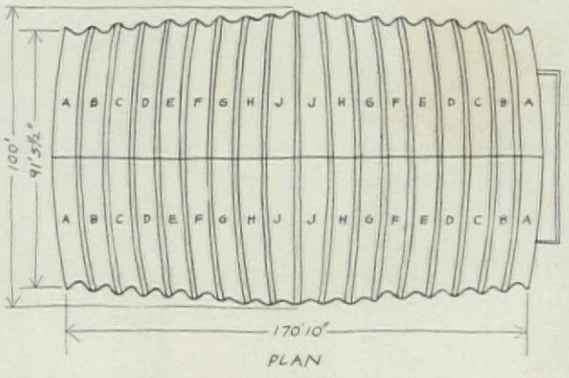


In the casting bed *(left), dug in the arena parking lot, the 36 arch sections were formed atop one another, pancake fashion. Photo (above) shows workmen putting finishing touches on one of the arch sections.*

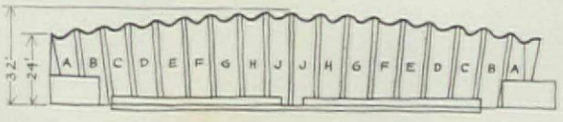
A building



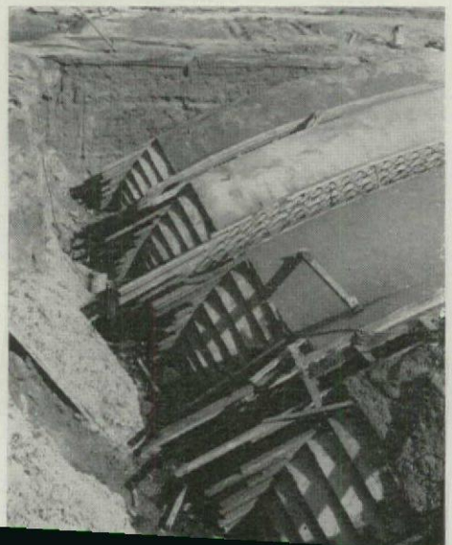
Reinforcement *consists of transverse steel rods, spaced 8 inches apart, plus 16 rods running the length of each arch section. Photo at left shows rods in place, ready for the first pour. Rods project at sides and ends of sections so that sections may be welded together during the assembly operation. Photo below (left) shows nested sections curing in the casting bed.*



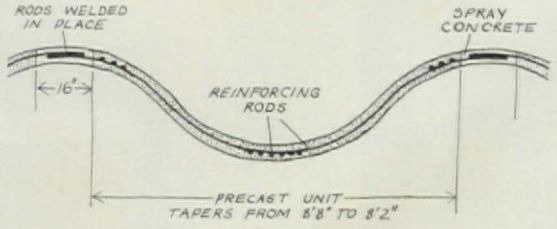
PLAN



SECTION



Roof plan *(right) shows how structure is divided into 36 arch sections of nine different sizes (designated alphabetically). Each of these is less than 9 feet wide; the largest pairs (J) form arches of about 100-foot spans in the center of the arena. The concrete sections are uniformly 3½ inches thick (bottom sketch).*



Lifting the arches: *two huge cranes lift the 10-ton precast arch sections into position, so that they may be welded and gunited together. The large center arches—shown going into place here—peak at a height of 32 feet. The smaller arches, at the ends of the arena, are 24 feet high. In all, the structure consists of 18 arches—the largest to span 100 feet; the smallest, about 91 feet.*

cast in earthen molds

The significance of this reinforced concrete ice-skating arena in southern California is not its unusual shape—a section of toroid—but rather the unusual method by which it was formed.

The structure's concrete arch sections were precast, one atop another, in contoured beds at the site, as shown in the photo (above left). These beds, four in all, were prepared with a concrete surface, then plastered smooth. First to be cast in each bed was one of the largest sections, those which would span over the center of the building. When the concrete in these sections had set, their surfaces were coated with a nonadhesive substance and the forms and reinforcing rods for smaller sections were positioned for the next pour — and so on until nine arch sections, each 3½ inches thick, were cast pancake fashion in each bed. With the pouring completed, the concrete set, and the 36 sections ready for placement, two 45-ton cranes moved onto the site and lifted the 10-ton arch sections into position.

Companion sections were placed simultaneously: each crane maneuvered one arch section, first setting it on its foundation, then, working together, joining the two sections at the peak of the arch. At this point, steel plates, which had been cast into the sections, were brought into precise alignment and welded. When all 18 arches were in place, the projecting ends of their transverse reinforcing rods were spliced and welded. Then the 16-inch-wide gaps between the arches were backed with plywood and filled with spray concrete.

The cost of the 18,600-square-foot arena, including its foundation, shell, parking facilities, and mechanical and electrical installations (but not including the rink freezing coils), was $108,000, or $5.80 per square foot. The cost of the shell itself was about $46,000. Architect Carl Maston, of Los Angeles, planned the project. The engineer was Richard R. Bradshaw, who believes that such reinforced concrete arch construction can be used safely for spans of 300 feet. Rains-McLellan Corp. was the general contractor. The owner of the arena is Ron Priestly, a former ice-skating champion.

Architect Maston sees wide usage of toroidal structures in the future: "Concrete is a plastic material and is most properly used in this fashion—large areas, clear spans—rather than to imitate the rectangular sections in conventional use. A building of this kind utilizes concrete for its true inherent qualities."

Inside the finished enclosure, *workmen install the skating rink's refrigeration coils.*

JULIUS SHULMAN

Space planes: a new idea in wood

The space plane is the latest idea to emerge from a fast-paced research program in wood. Only a year ago, the space plane was not sufficiently developed to merit attention with other of the wood industry's structural developments, such as the glue-laminated beam and the folded-plate roof (FORUM, Aug. '59).

Actually, the space plane is an extension of the folded plate. A folded-plate roof consists of rectangular plywood-sheathed diaphragms, tilted so that the long edges are level and the short edges inclined. The space plane, on the other hand, is made up of two or more diaphragms, usually triangular or polygonal, which interact and support vertical loads without beams or trusses.*

The space-plane buildings on these pages illustrate some of these physical differences. Note, for example, that chords—which are parallel in a folded plate—are nonparallel in the structures shown here. Thus, the simplest space plane would be polygonal in plan, with its chord members intersecting at a common center, and would look much like a pleated lamp shade. Such a structure can be designed for 200 foot spans.

Like the folded plate, a space plane either may be prefabricated as a double-faced stressed-skin panel or as an open-faced unit; or it may be conventionally framed and sheathed, provided the individual planes are engineered as diaphragms. Shop fabrication which takes advantage of adhesives develops the most efficient use of plywood and wood. In conventional construction, nails are usually used to transfer shear, but glue is also used occasionally to provide added stiffness. In either case, temporary support is necessary during construction, because the strength potential of a space plane is not realized until permanent connections between the diaphragms are made on the site.

To date, only a few space-plane structures have been built, despite certain real advantages inherent in this structural form. One reason for this is the lack of general design data: structural analysis is considerably more complex in a space-plane design than in conventional construction. The applied research section of Douglas Fir Plywood Assn., which has done most of the research on wood space planes, is developing such design data, along with loading test data on actual structures.

DFPA engineers see various advantages in space-plane construction which should win it wide acceptance in building. They believe that the plywood space plane offers the designer a greater design potential than any other clear-span technique. Where long, clear spans are required, space-plane construction makes it possible to eliminate much of the heavy and uneconomical framing often required for structures such as churches, bowling alleys, and auditoriums. Moreover, the possibility of prefabrication permits closer cost control, reduction of labor cost, better control over construction technique, and less dependence on weather.

To be sure, there are also disadvantages to this type of construction. The shape of a space plane sometimes makes it difficult to apply conventional roofing materials. Asphalt shingles are suitable in some instances, but spray-on synthetic materials—or plastic sheets joined with tape—seem most often to be the best solution. Another drawback is the complexity of engineering a space plane—as its shape becomes more elaborate, the complexity of the engineering increases. Finally, space-plane construction itself can be a problem, because, as already mentioned, the structure is not completely self-supporting until the last joint is finished.

Most of the plywood space planes built thus far function as one-piece roofs and require edge support from shear walls or concrete buttresses to resist lateral stress. But the potential is by no means confined to roofs: as the church building (right, below) suggests, space planes can form complete building shells. Such shells, whose shear is carried by the skin, yield a highly efficient use of materials.

*Whereas an open space frame gains its strength from the rigid connection of its framing members, a space plane becomes rigid and completely self-supporting only after the application of sheet material to two or more of its sides.

Children's theater *in Oakland, Calif. is a space-plane structure the sections of which are built like airplane wings. Architect Irwin Luckman designed this bilaterally symmetrical roof in the form of a four-pointed star.*

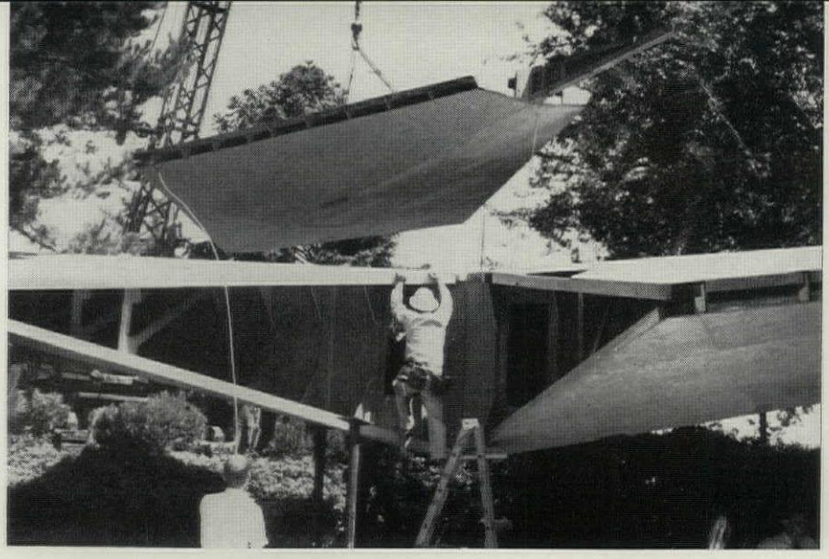
The roof was prefabricated in eight sections, two sections for each star point, as shown in the sketch. The roof, temporarily bolted together on the ground, was then disassembled into four double sections and trucked to the site where each double section was hoisted into place by a mobile crane. Each double section weighed about a ton, and measured 22 by 38 feet. As each section was added, the roof gained rigidity until it became a single, rigid structure, supported only by eight 3½-inch steel pipe columns.

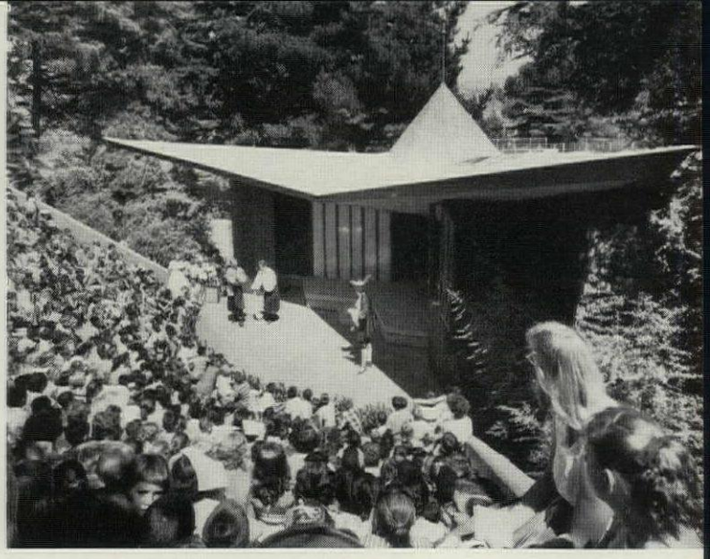
The roof sections are stressed-skin panels built up of 2 by 3 and 2 by 4 framing lumber and covered with ⅜-inch fir plywood. The biggest advantage of this roof system, says Luckman, is that much of the assembly can be done off the site, minimizing scaffolding and other requirements of in-place construction.

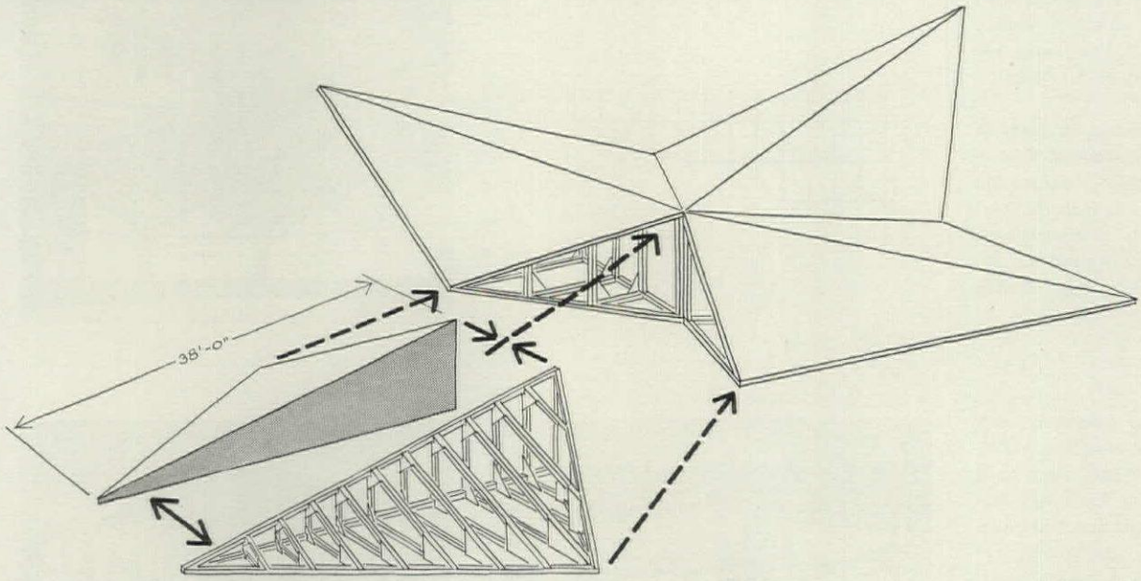
The cupola (photo, right) has no structural relationship to the roof system—it is merely a "visual" attachment. Luckman chose this design because he "wanted to get far away from the traditional medieval castles used for theaters of this type."

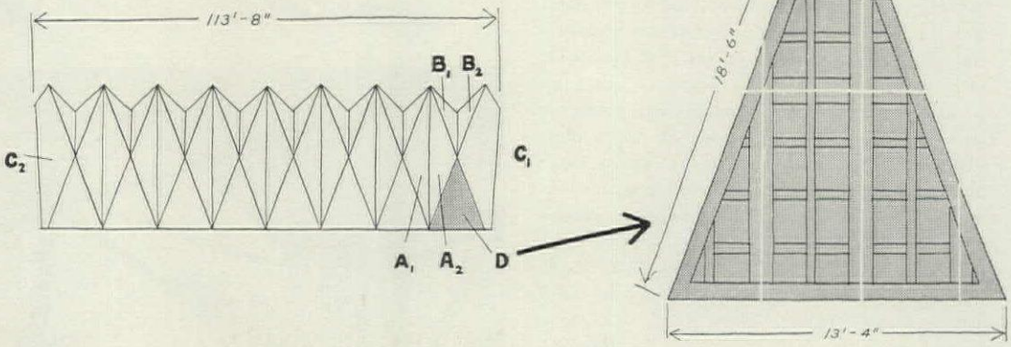
Church *in St. Louis is probably the most elaborate space plane yet built. The shell was assembled from 80 shop-fabricated stressed-skin panels in four different triangular shapes and sizes (sketches) ranging up to 47 feet in length. Three of these panels are mirror images: A_1 and A_2; B_1 and B_2; C_1 and C_2. The fourth, D, is repeated along the base. The panels were fabricated with ⅜-inch fir plywood skins, glue-nailed to a 2 by 8 foot perimeter frame and 2 by 4 stringers, 2 feet on center. The individual panels were joined into a complete shell with bent steel plates. Steel buttresses, attached to the first-floor and basement foundations, resist lateral thrusts. The roof has a clear span of 32 feet, a height of 35 feet, and a length of 114 feet.*

Architects Manske & Dieckmann chose this design to "take full advantage of the landscape." The height of the building and high elevation of the site make this Congregational church visible from all points of the countryside.

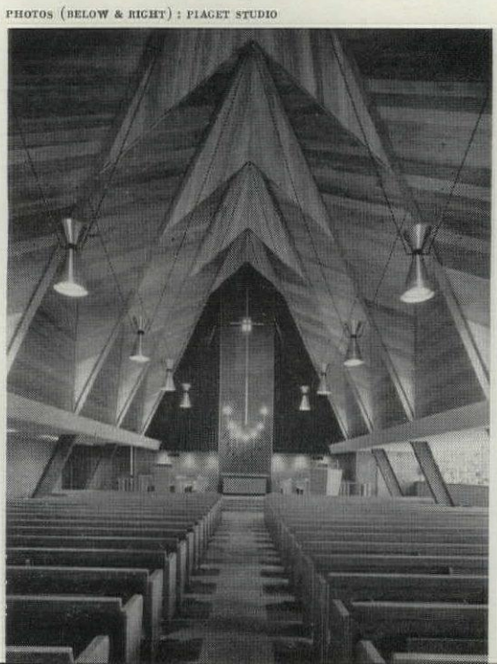


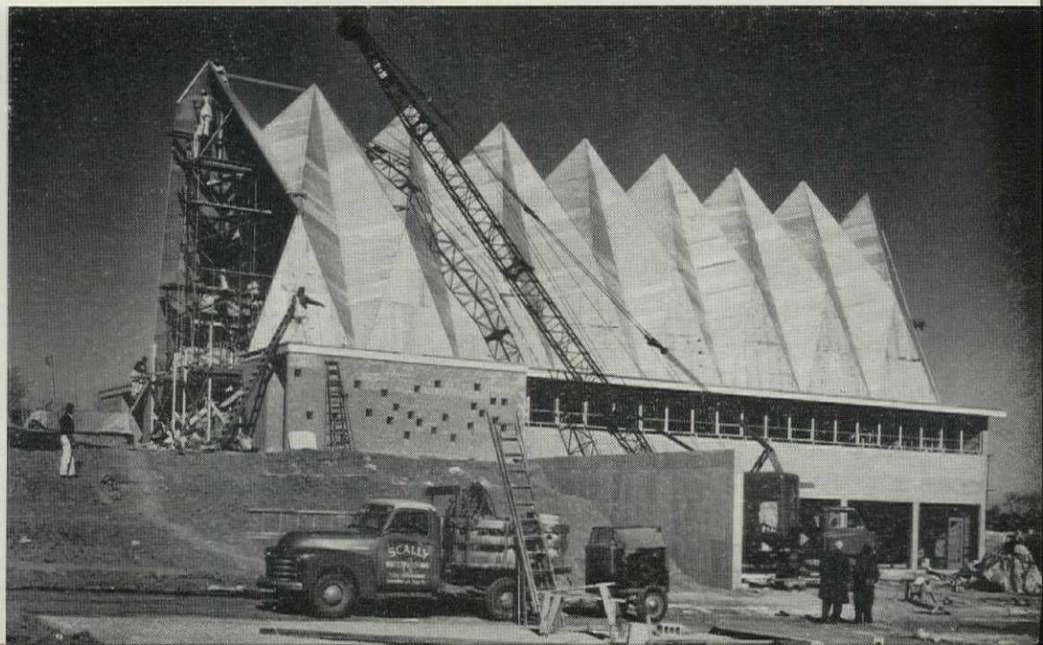


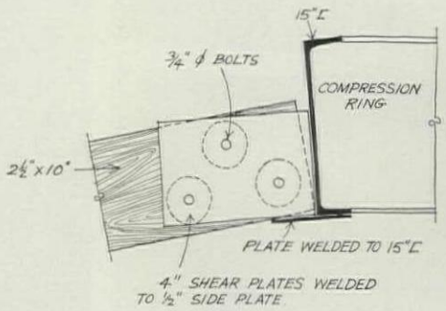


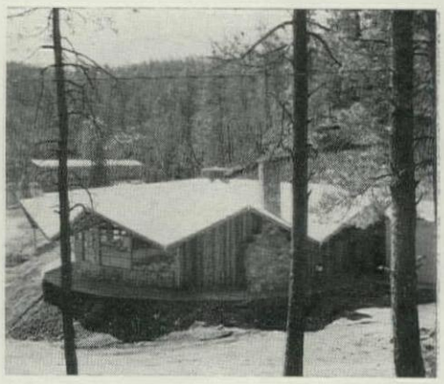


PHOTOS (BELOW & RIGHT) : PIAGET STUDIO



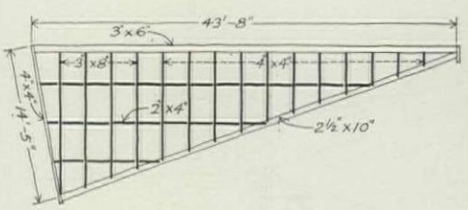


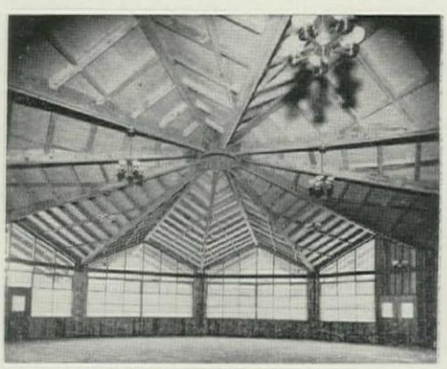




Dining hall *for the Methodist Mission in Sacramento, N. M. is a classic example of the circular folded-plate roof—the simplest form of space-plane structure. Note, for example, the roof's converging chords, which join at the steel ring at the center of the roof. In a conventional folded-plate roof, these elements would be rectangular, rather than triangular. This design, by Architects Brittelle-Ginner and Associates, Inc., proved to be slightly less expensive than other clear-span methods of construction.*

This ten-sided shell, spanning 67 feet, is composed of 20 triangular panels—43 feet, 8 inches long and 14 feet, 5 inches across the base. The panels' skins of ⅝-inch fir plywood were nailed to five sizes of dimensional lumber framing, precisely positioned in accordance with the panels' varying strength requirements.





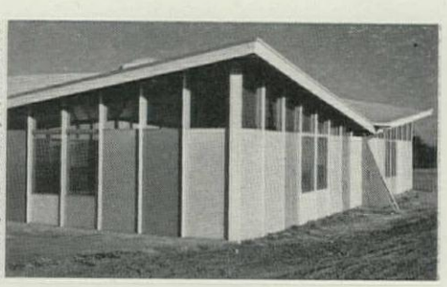
Folded-plate school: *the four detached buildings of the campus-planned Northeast Elementary School in Tacoma, Wash. are topped with folded-plate roofs. Two buildings contain four classrooms each; one has two classrooms, a library, and offices; the fourth is a clear-span multipurpose room and play court.*

The roof of each 65-foot-square building consists of eight triangular stressed skin panels; each has ⅝-inch exterior fir plywood for its top skin and ⅜-inch interior plywood for the bond skin, with spacers of 2 by 4 and 4 by 4 lumber.

The framework of the panels was made of minimal glue-laminated beams at ridges and valleys. These function as actual beams only during the placement of the roof components, after which they function as tension connectors for the folded plates.

The main supports for each roof are steel A-frames, at the midpoints of the four side walls. These frames, which rest on 1,500-pound concrete pads buried in the ground, absorb the thrust exerted by the roof at the ends of the roof valleys. Some additional support is provided the roof by 6 by 6 inch corner posts and 4 by 4 inch perimeter columns on 4-foot centers.

These buildings, designed by Architects Robert W. Evans and Gordon Johnston, cost just under $11 per square foot.



PHOTOS (RIGHT & LEFT): JOHN BICKEL

Men who know their hardware *choose* NORTON

"because of Norton's record of dependability and service."

says

Joseph W. Hock, A.H.C.

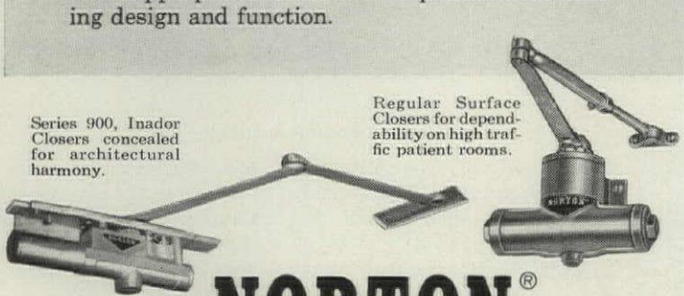
The Cincinnati Builders Supply Co.

"I always recommend Norton door closers on the buildings I'm bidding because of their record of dependability and service. I've seen thousands of Norton closers installed that require very little attention once they're in. That's why I recommended them for St. Joseph Hospital."

Mr. Hock supplied Norton door closers throughout the new St. Joseph Hospital in Lexington, Kentucky. Norton's quality and dependability is a result of over 80 years of door closer engineering and manufacturing.

Your builders' hardware man is a good man to know. He is one of the many persons who make important contributions to the building industry. A specialist in his field, he can assure selection of the most appropriate hardware compatible with building design and function.

St. Joseph Hospital, Lexington, Kentucky
Architect: Potter-Tyler - Martin & Roth, Cincinnati, Ohio
Gen. Contractor: Foster and Creighton Co., Knoxville, Tenn.
Distributor: The Cincinnati Builders Supply Co., Cincinnati, Ohio



Series 900, Inador Closers concealed for architectural harmony.

Regular Surface Closers for dependability on high traffic patient rooms.

1014

NORTON®

DOOR CLOSERS Berrien Springs, Michigan

NORTON DOOR CLOSER COMPANY
Dept. AF-90, Berrien Springs, Michigan
Please send me information on Norton door closers.

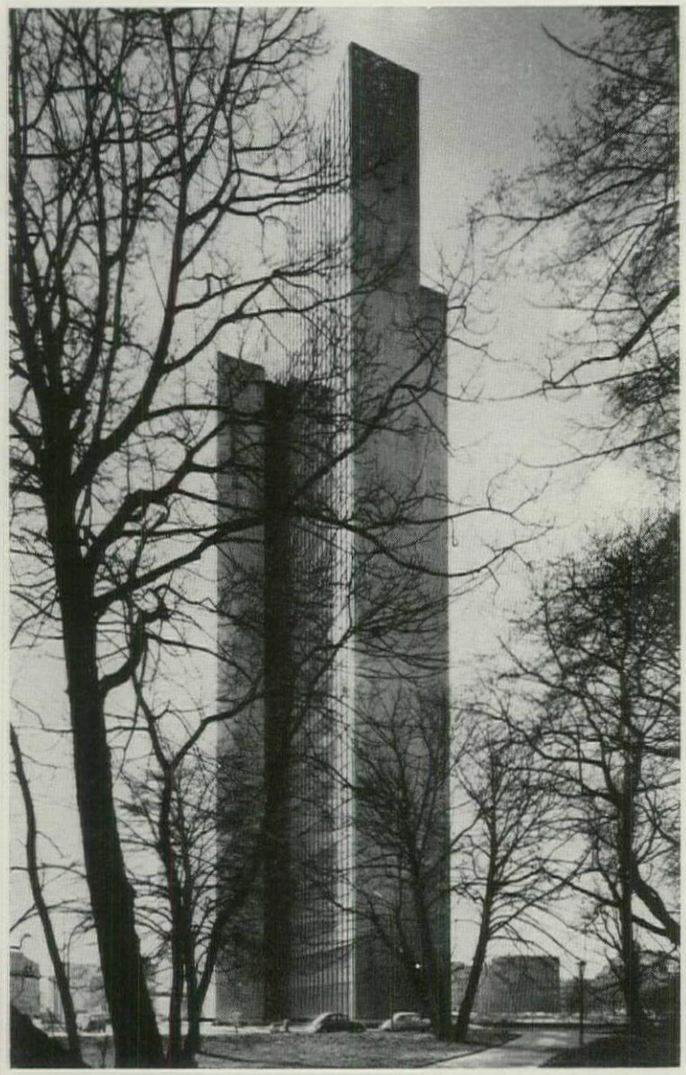
*Name*_____

*Title*_____

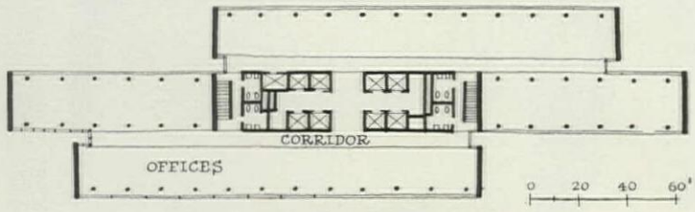
*Business*_____

*Business Address*_____

*City & Zone*_____ *State*_____



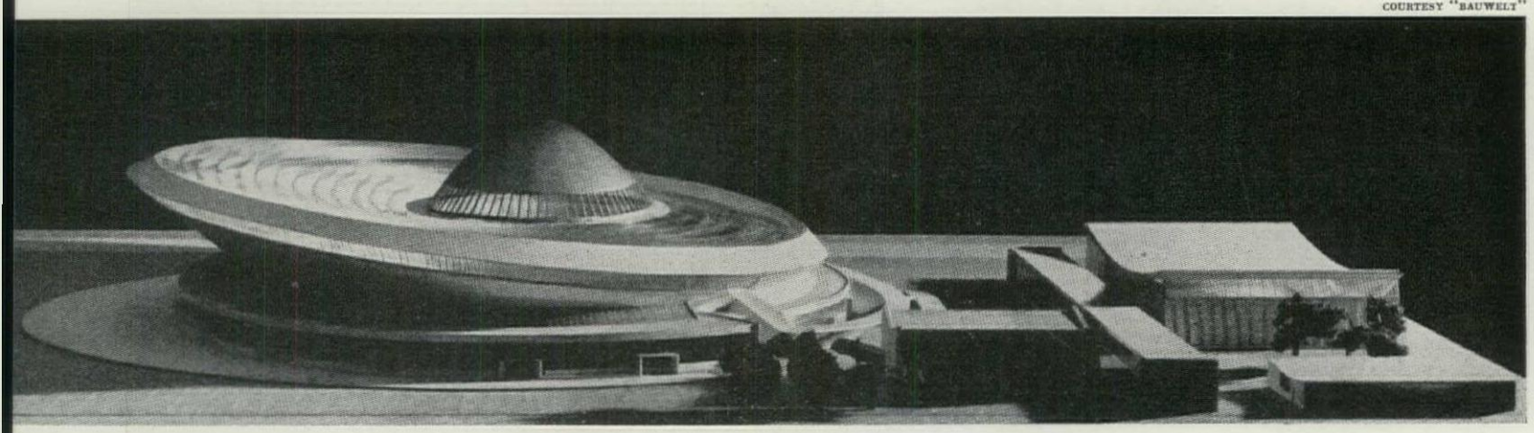
ARNO WRUBEL

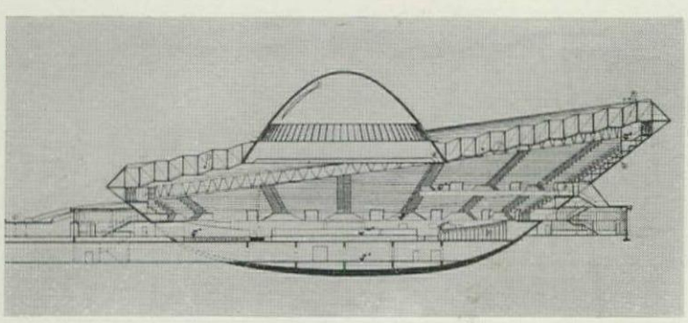


GERMAN TOWERS

In designing Phoenix-Rheinrohr's headquarters in Düsseldorf, Architects Helmut Hentrich and Hubert Petschnigg admitted that a typical, vast, modern office floor is not so flexible as it looks. (It is actually only flexible inside the bounds of the column bays, within which removable partitions may be erected at will.) The architects determined to use this limiting fact as the building's architectural theme: its 14,000-square-foot office floors are split in three parts (see plan above), each of which is one bay wide and fully flexible within its length; its exterior mass looks more like three nestling towers than one highly integrated building (photo at left); the gaps separating the towers are the between-bay corridors. In keeping with the client's position as one of Germany's leading steel manufacturers, the building has a steel frame; the curtain wall is made of stainless steel, clear glass, and gray anodized aluminum. Beneath the upper-floor dining rooms and executive offices are 18 office floors, and beneath the lawns surrounding the building are two parking levels. For all the building's logic, it commits the illogic of blocking parts of the city from a view of the park.

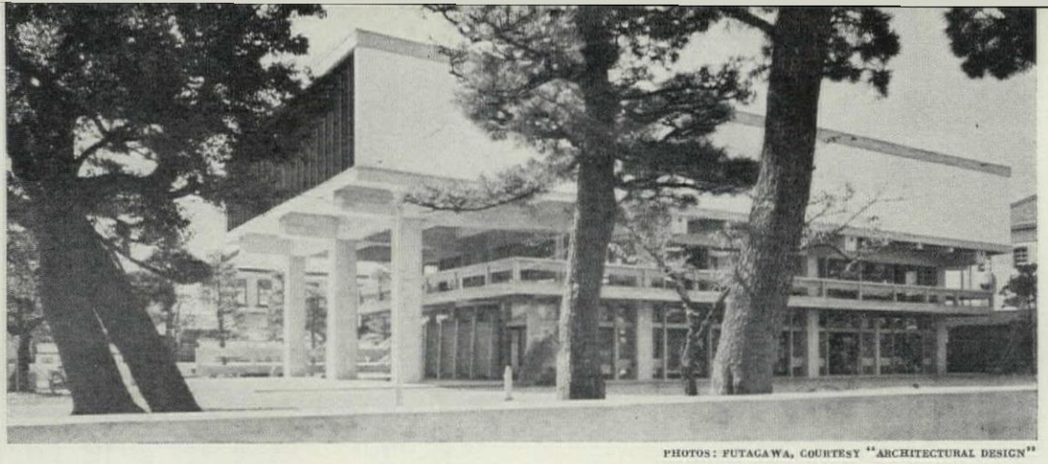
COURTESY "BAUWELT"



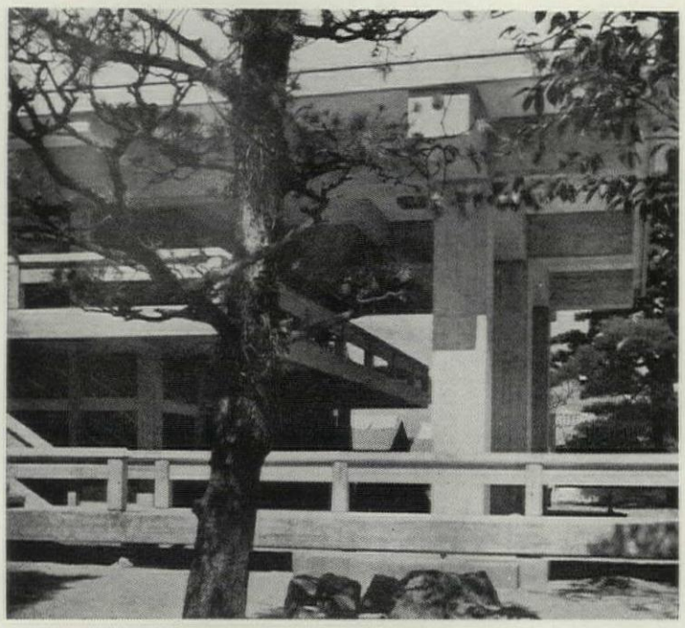


POLISH SAUCER

The model of the winning entry in a competition for a multipurpose sports hall in the Polish city of Katowice looks like a flying saucer making a sloppy landing. Actually, the saucer floats rather than flies, resting on a concrete hull. The sides of the 12,000-seat hall are built up from the hull; the roof is a series of concentric rings that transfer their forces into the innermost circle. Counteracting the forces at that point is the outthrust of the central dome that lights the arena beneath. Architects and engineers of the space-age proposal were J. Hryniewiecki, M. Gintowt, M. Krasinski, W. Zalewski, M. Wlodarz, and J. Zorawski.

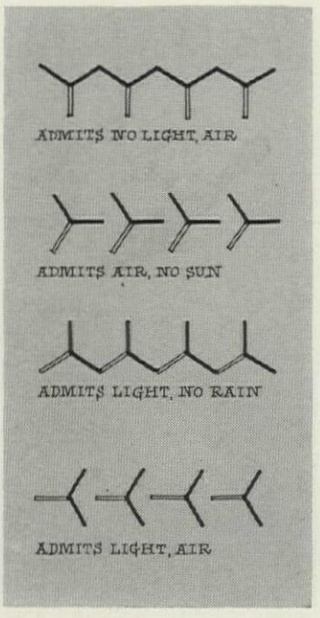


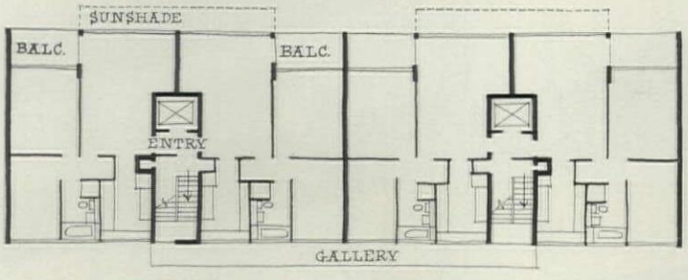
PHOTOS: FUTAGAWA, COURTESY "ARCHITECTURAL DESIGN"



JAPANESE LOUVRE

A three-story prefectural museum in Matsue, near Tokyo, is a notable addition to the architecture of Japanese civic buildings. It carries on the modern theme of expressing traditional wood post-and-beam structure in rough concrete and at the same time makes new contributions to spatial design and climate control. The top floor of the museum is for exhibits; the mezzanine, a melding of voids and solids, is for offices and conferences; the ground floor is for receptions and outdoor events. The windows of the main exhibit room are controlled by three-paneled, rotating louvers. Two of the panels are steel, the third glass, allowing a variety of conditions (see sketch).

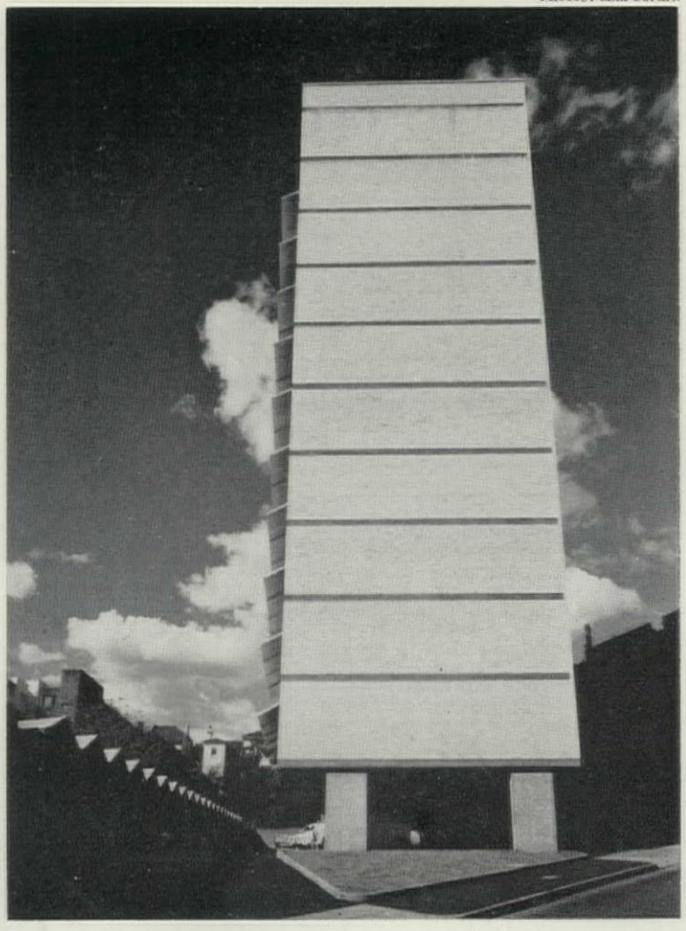


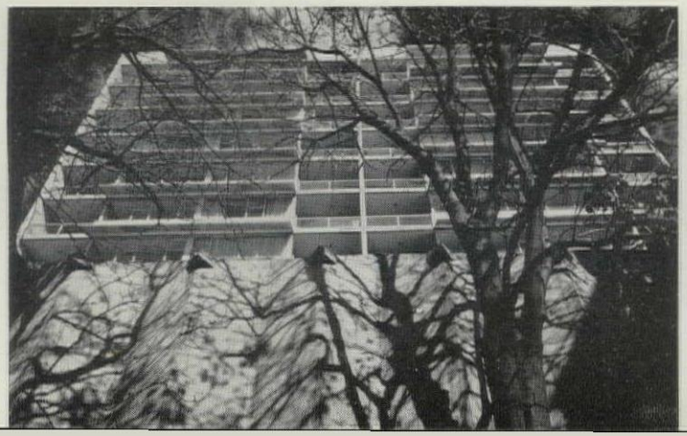


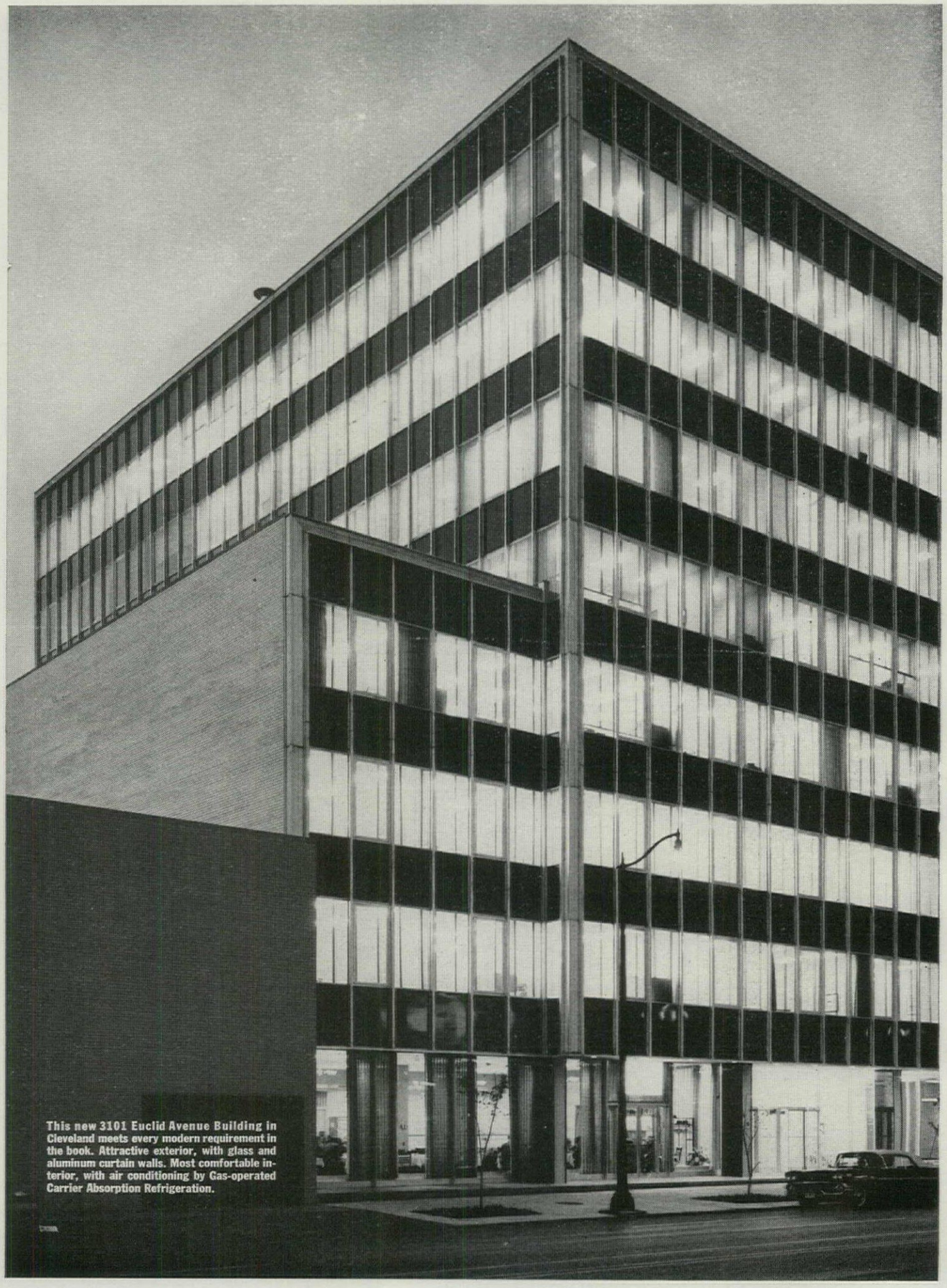
AUSTRALIAN CO-OP

Rising above Sydney Harbor and above its own folded-roof carport is this ten-story cooperative apartment block (photo below), designed by Architect Harry Seidler. From the public lobby, two elevators take owners up to private entries, each of which gives access to two of the 40 identical units. The only public corridors are galleries that are cantilevered out from the building's brick face. The galleries connect stair landings at every other floor. Because all living rooms face Australia's sunny north, the apartments are shielded by broad aluminum sun screens (photo at right), and living-room balconies are recessed.

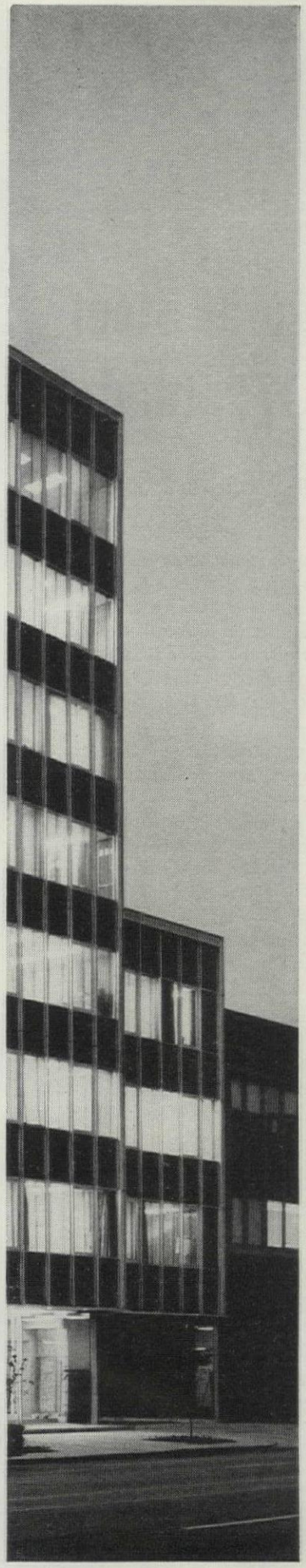
PHOTOS: MAX DUPAIN



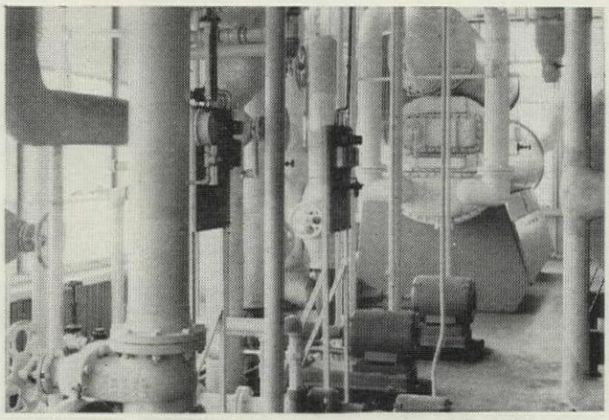




This new 3101 Euclid Avenue Building in Cleveland meets every modern requirement in the book. Attractive exterior, with glass and aluminum curtain walls. Most comfortable interior, with air conditioning by Gas-operated Carrier Absorption Refrigeration.



Attracts tenants with comfort cooling by GAS-operated CARRIER Absorption Refrigeration



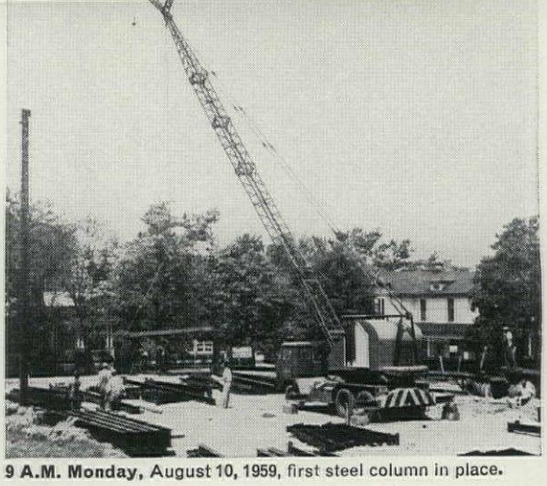
AIR CONDITIONING PENTHOUSE. This equipment in penthouse atop the building includes two gas-fired Bryant boilers, 300-ton capacity Carrier Absorption unit to chill water for the Carrier Weathermaster air conditioning system, and Carrier cooling towers, too. Roof-top installation frees basement area for other uses.

H. L. Vokes Company of Cleveland, designers and builders of the new 3101 Euclid Avenue Building in that city, are experts in two-way satisfaction. They satisfied their tenants and their own cost requirements with one of the most efficient types of modern air conditioning– Gas-operated Carrier Absorption Refrigeration.

Comfort cooling in this building starts at the same two gas-fired boilers that furnish heat in winter. The Carrier absorption unit uses low pressure steam from the boilers as the energy source for water chilling. Thus, no prime mover is needed. Boiler capacity is put to use on a year 'round basis. And thrifty gas keeps fuel costs low.

Judge for yourself the efficiency and economy of Gas-operated Carrier Absorption Refrigeration. Specific performance data and cost details are yours for the asking. Just call your local gas company, or write to Carrier Corporation, Syracuse 1, New York. AMERICAN GAS ASSOCIATION.

FOR HEATING & COOLING GAS IS GOOD BUSINESS



9 A.M. Monday, August 10, 1959, first steel column in place.

USS Structural Steel erected in 17½ hours

Greensboro Division of Guilford College

Talk about fast construction with steel—here's a story that will amaze you!

Early one Monday morning in Greensboro, North Carolina, a truck started unloading steel on a lot near the center of the city. The lot was vacant except for footings put there by the general contractor, H. D. Barnes, Inc., of Greensboro.

By 9 o'clock that morning a steel column was bolted to the footings, and the framework for the building was underway.

At 10:30 o'clock Wednesday morning, just 17½ working hours later, the framework was complete . . . ready for the next phase of construction.

The building contains 75 tons of USS Structural Steel fabricated by the Carolina Steel Corp. of Greensboro. It was erected by George E. Newton Company, also of Greensboro.

Quick deliveries—quick erection. Structural steel was chosen for the College because steel is readily available, goes up faster than any other material and is low in cost.

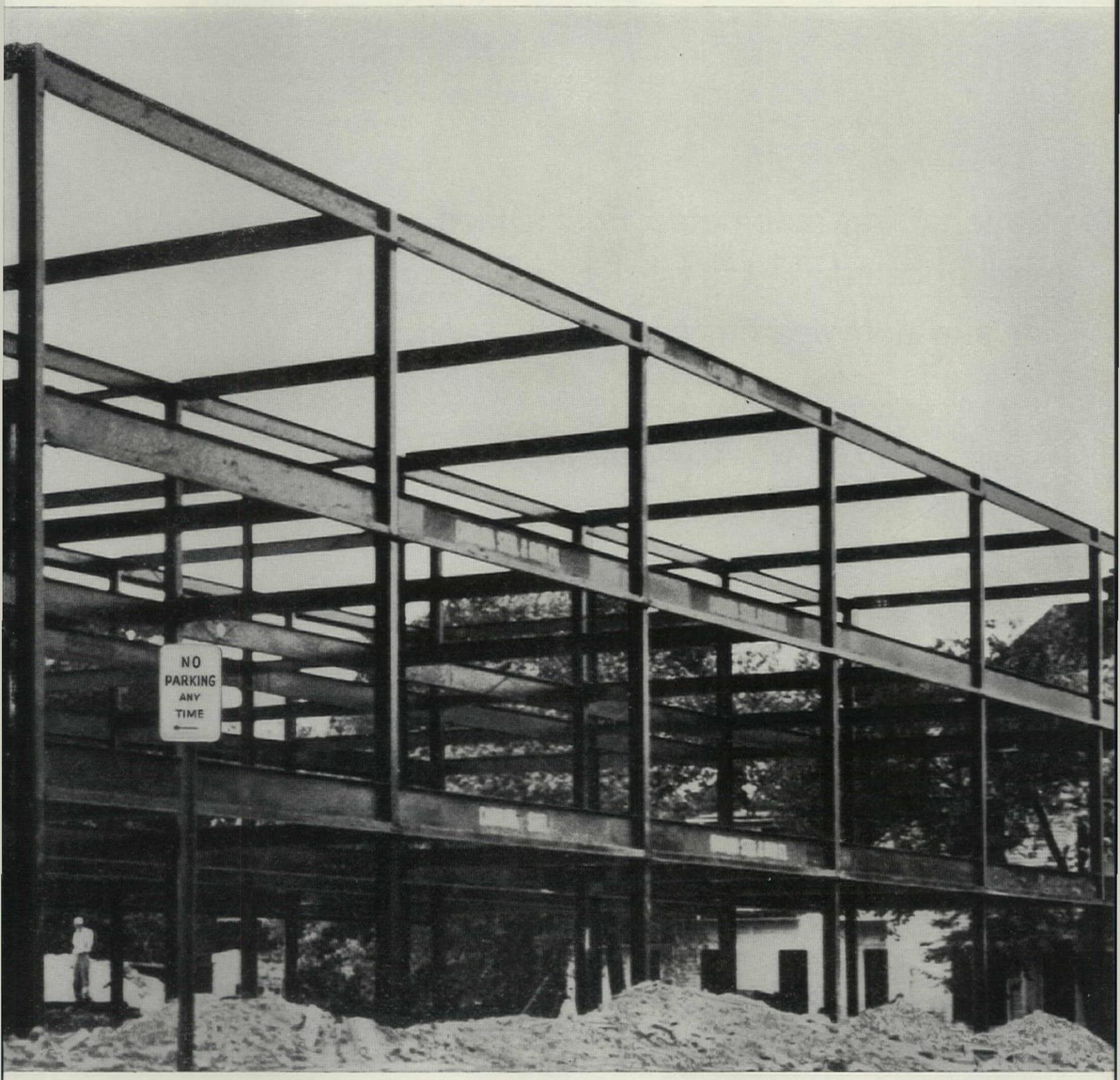
For your copy of "Hot Rolled Carbon Steel Shapes and Plates," a handbook containing design details, dimensions and weights, write to United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS is a registered trademark

10:30 A.M. Wednesday, August 12, 1959, steel framework completed, 17½ working hours later. You are weeks or months ahead when your building has a steel frame.

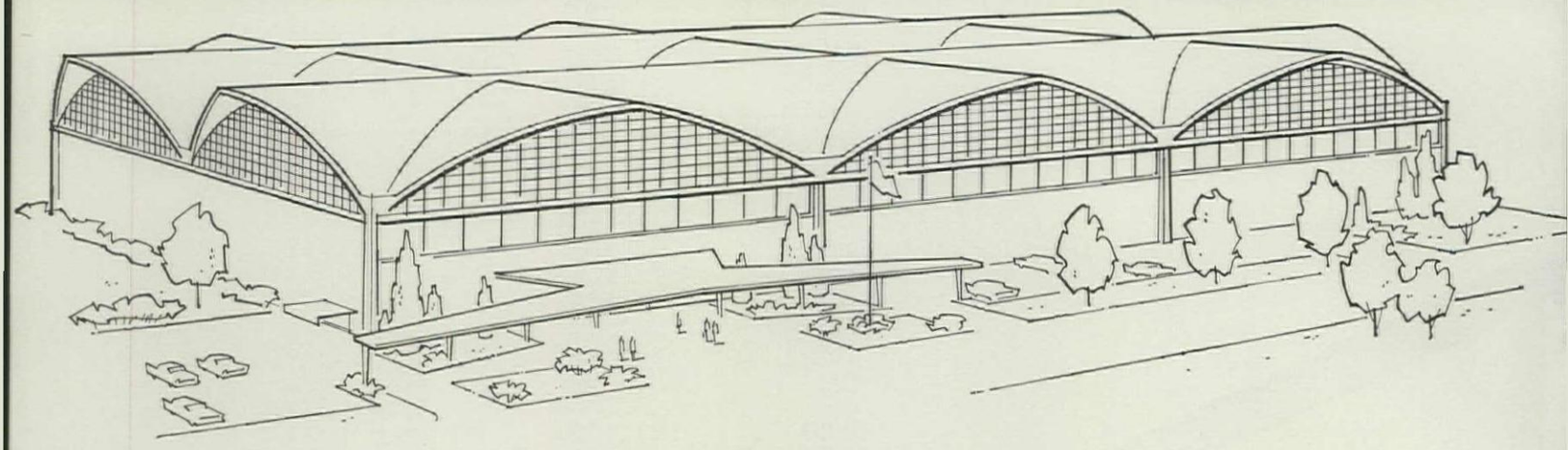
Finished building—Greensboro Division of Guilford College.
Architects and Engineers: McMinn, Norfleet and Wicker, Greensboro, N. C.

This mark tells you a product is made of modern, dependable Steel.



United States Steel Corporation—Pittsburgh
Columbia-Geneva Steel—San Francisco
Tennessee Coal & Iron—Fairfield, Alabama
United States Steel Supply—Steel Service Centers
United States Steel Export Company

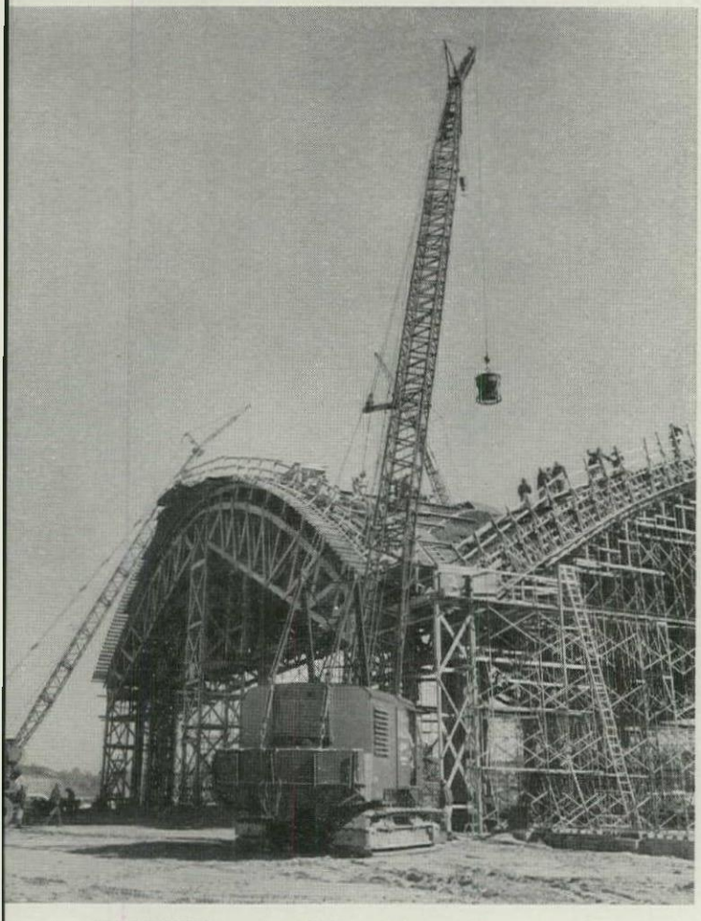
United States Steel



Nation's first automated Post Office uses prefabricated THINLITE curtain wall for sun and weather control

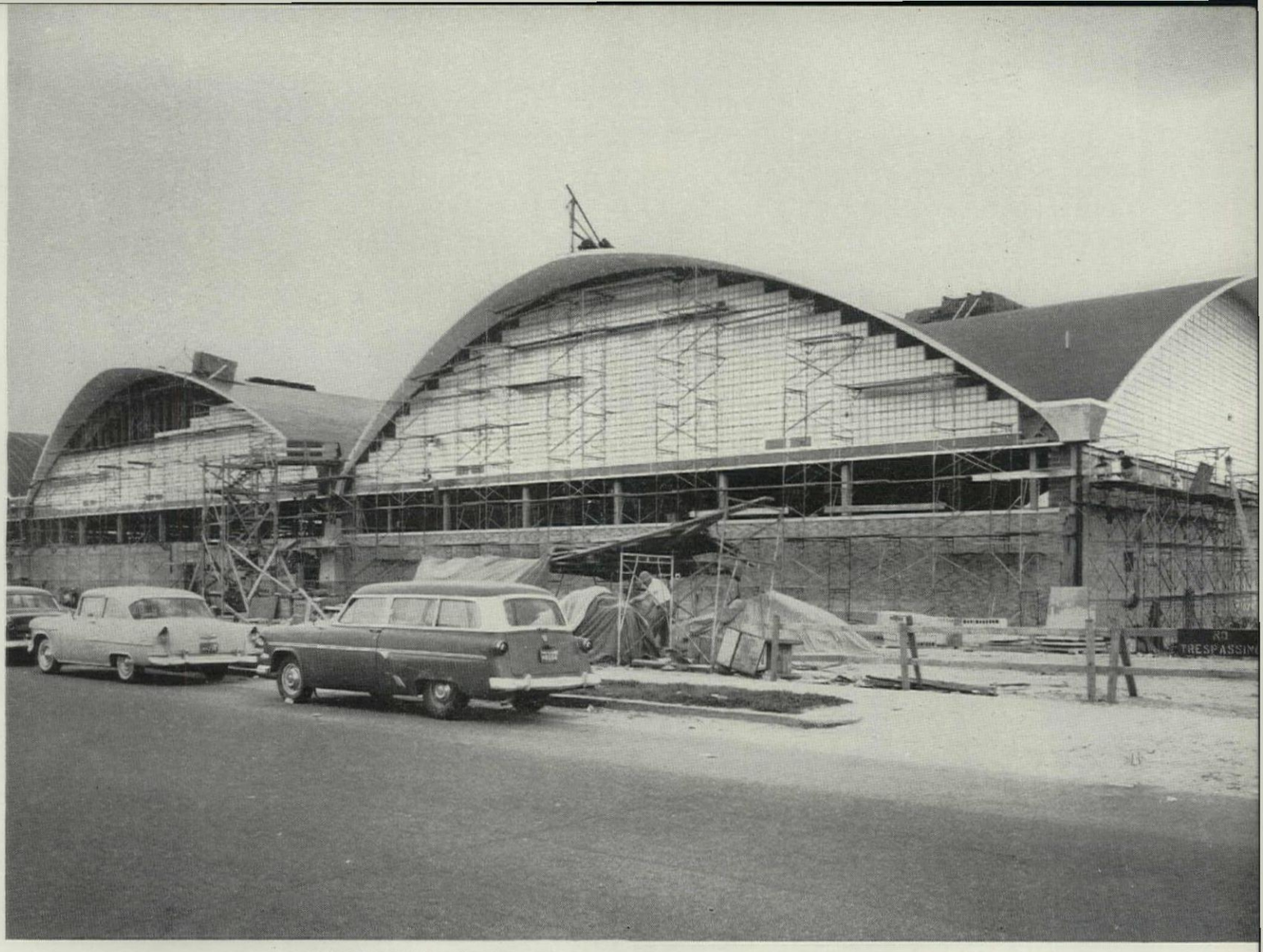
PROJECT TURNKEY in Providence, Rhode Island, is a $20 million postal laboratory . . . the nation's first fully mechanized Post Office. Charles A. Maguire & Associates, Providence, is the architect-engineer; Gilbane Building Company, Providence, is the general contractor. Intelex Systems Incorporated, subsidiary of International Telephone and Telegraph Corporation, is the prime contractor.

The new building, 420 feet long, 300 feet wide and 55 feet high, will be completely air-conditioned. Walls are topped with 31,000 square feet of Thinlite Curtain Wall for maximum control of daylight and temperature.

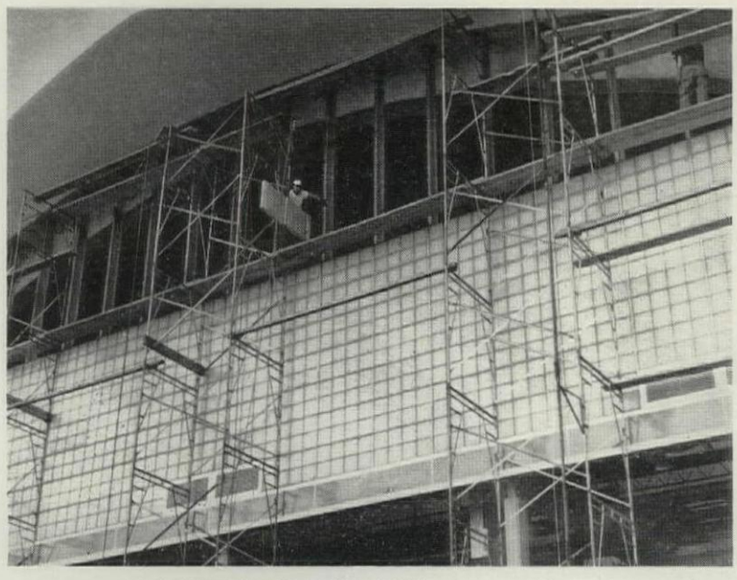


CONCRETE—some 800 cubic yards per roof unit—is poured in place above timber falsework. Falsework was moved to another segment after concrete had cured.

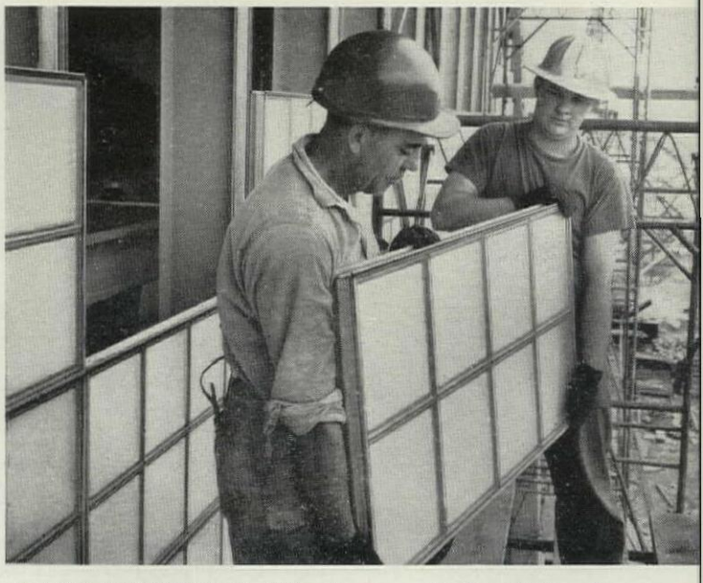
THIS HUGE NYLON BALLOON permits installation of highly sensitive electronic mail-handling equipment during building construction.



IN THE EARLY STAGES, Thinlite prefabricated panels fill the arches on Northeast and Southeast side of Project Turnkey.



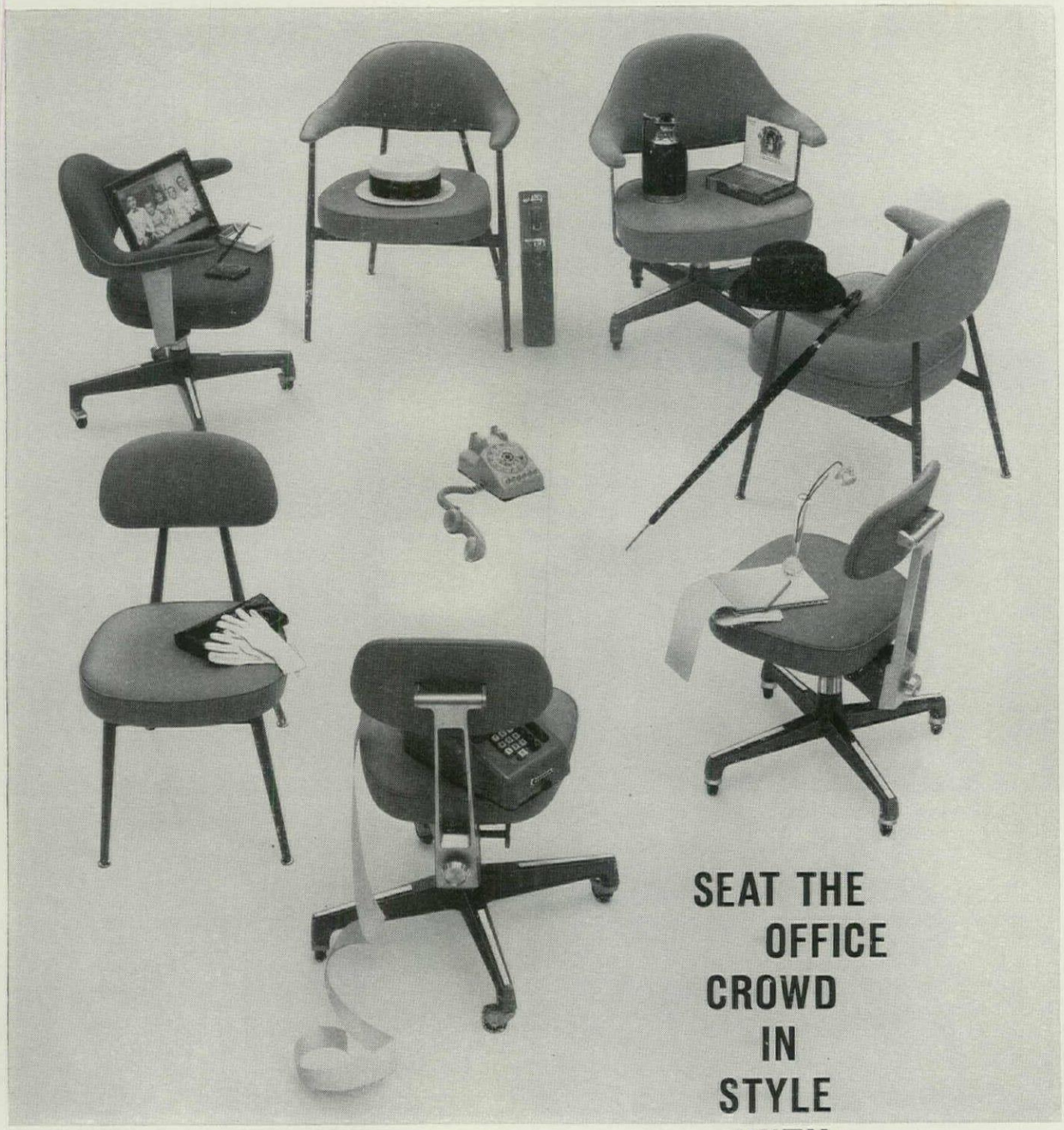
NO SPECIAL EQUIPMENT is required to secure Thinlite panels to the metal framework. Thinlite will help reduce heating and air conditioning loads.



THINLITE PANELS (4x2 feet) are easily handled and bolted into place. Neoprene gasketing assures a weathertight wall.

THINLITE CURTAIN WALL
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO



SEAT THE OFFICE CROWD IN STYLE WITH

the contoura group

...NEW FROM

CORRY JAMESTOWN

One look reveals the carefully articulated contemporary styling of the new CONTOURA GROUP. Here are business chairs designed by CORRY JAMESTOWN to free the office designer from seating stereotypes which have frustrated his efforts to achieve fully coordinated office designs. A broad range of upholstery fabrics and leathers plus a generous selection of color harmonies insures full decorating latitude. And your clients are rewarded with this bonus: a revolutionary new adjustment mechanism. For the first time, a swivel chair may be adjusted on-the-spot in seconds to conform not just to any build and posture but to any *sitting attitude* as well. Our new CONTOURA GROUP catalog offers complete information. Write Corry Jamestown Corporation, Dept. A-9, Corry, Pa.

Architect: Kenneth W. Brooks & Bruce M. Walker; Building: Washington Water Power Company, Spokane, Washington; Fixtures: Columbia Lighting.

How long will the glass last?

The signs and displays in this utility company lobby will be changed. And maybe, in time, so will the furniture.

Not so the glass lighting fixtures.

Because glass doesn't discolor. It doesn't warp. It doesn't wear away.

That's why glass, like the Crystal No. 70 you see in the picture, will still be doing its job when the building is ready for the wrecking crew. The hexagonal prisms will be there, directing light away from the glare zones, keeping the brightness level low, transmitting light true to the source without color distortion.

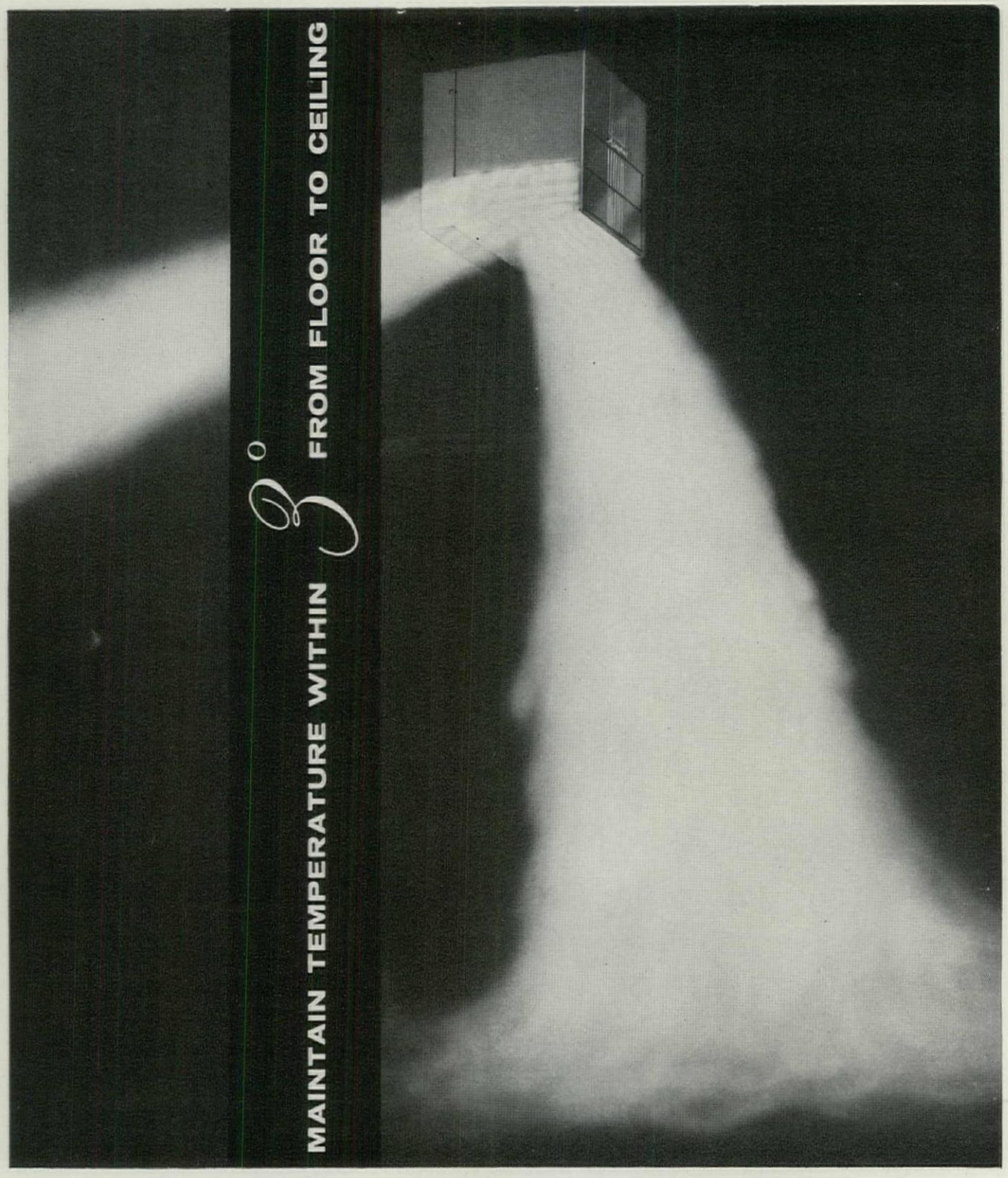
Just an occasional wiping with a damp cloth will keep these attractive lighting fixtures looking eternally new.

Is there any reason why your customers should settle for less than the functional good looks and long life of glass?

For the full story on this and other Corning lighting glasses that last, send for our new "Commercial Lighting Application Guide." Write to Lighting Sales Department, 64 Crystal Street, Corning, N. Y.

CORNING GLASS WORKS

CORNING MEANS RESEARCH IN GLASS



ARKLA-Humphrey

UNIT HEATERS

Arkla-Humphrey Multi-Directional unit heaters are accepting congratulations now. At long last, industry's toughest heating problems have been solved by the Multi-Directional!

Tests show a 15.38% fuel saving with only a 3° temperature differential from floor to 18' ceiling! Smoke photo above shows you why. The Multi-Directional is the first and only unit heater to discharge heat straight down, out in front, or from either side, or any combination of these three! Pulling the heat from the ceiling with top mounted fans eliminate overheated ceilings, too.

Write for complete information.

MANUFACTURED BY ARKLA AIR CONDITIONING CORPORATION
GENERAL OFFICES SHANNON BUILDING LITTLE ROCK, ARKANSAS

Plate No. 1094

Lobby walls are of Romany•Spartan ceramic mosaics in a custom pattern.

Design flexibility in ceramic tile

Operating room walls are of Romany•Spartan glazed tile, each individually designed and color styled.

Plate No. 1093

FRANK CUNEO MEMORIAL HOSPITAL, Chicago, Ill.
Architects: BELLI & BELLI CO. INC., Chicago, Ill.
Tile Contractor: McWAYNE COMPANY, Chicago, Ill.

Whether your decorative theme calls for standard patterns or custom designs in ceramic tile, you can depend on Romany•Spartan to meet your specific needs. In glazed wall tile there's a full range of sizes, shapes, finishes and trim with the newest, freshest colors and patterns. A broad range of ceramic mosaics is available, too, both glazed and unglazed. Choose solid colors, standard Buckshot® patterns, or mix them to suit yourself in patterns most pleasing to you. If it's ceramic tile, Romany•Spartan can fill your exact needs. Both 4¼" wall tile and all ceramic mosaics are available with the famous Quickset® back mounting for speedy installation. Want design help, information or a quotation? Call your nearby Romany•Spartan sales representative, or write United States Ceramic Tile Company, Department AF-15, Canton 2, Ohio.

ROMANY SPARTAN®

CERAMIC TILE

MEMBER

UNITED STATES CERAMIC TILE COMPANY

Terrazzo made with ATLAS WHITE cement at United Air Lines Terminal, New York International Airport. **Architects:** Skidmore, Owings & Merrill. **Terrazzo Contractor:** Port Morris Tile & Terrazzo Corp., New York.

Terrazzo for jet-age air terminals

Colorful terrazzo is usually specified for the nation's new air terminals. For this flooring material is durable, economical, easy to clean. Even under the most punishing traffic, terrazzo stays new-looking, safe, beautiful. No waxing or buffing or repairing, only an occasional wet mopping is required. Terrazzo can easily save up to 23¢ per sq. ft. per year in cleaning labor alone.

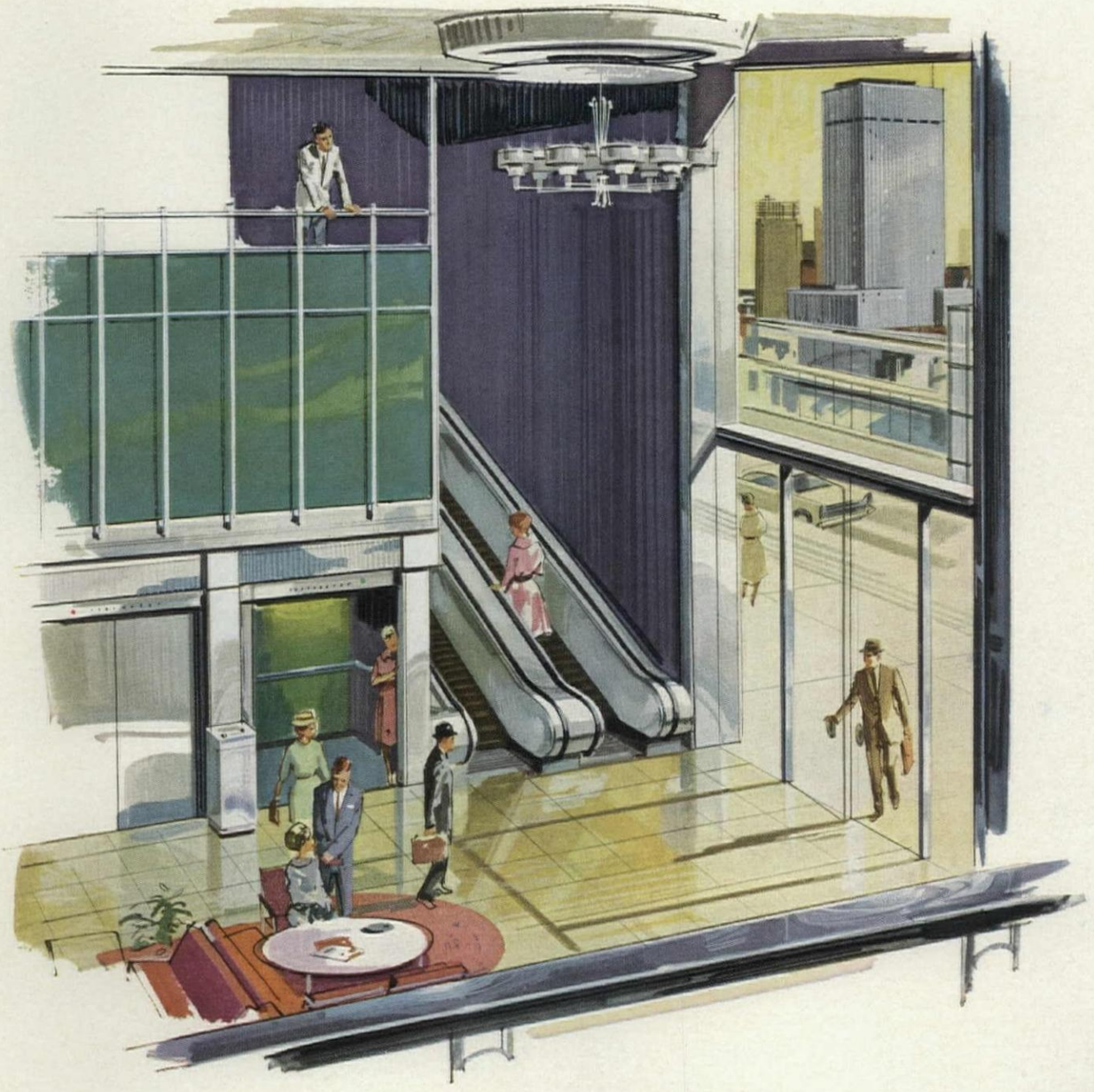
When planning terrazzo floors, consider the advantages of ATLAS WHITE portland cement. Only a white cement brings out the true color value of aggregates and pigments and assures sharp, vivid floor patterns. Write for brochure showing color reproductions of terrazzo with a white cement matrix; Universal Atlas, 100 Park Avenue, New York 17, N. Y.

Universal Atlas Cement
Division of
United States Steel

"USS" and "Atlas" are registered trademarks

WT-92

Offices: Albany · Birmingham · Boston · Chicago · Dayton · Kansas City · Milwaukee · Minneapolis · New York · Philadelphia · Pittsburgh · St. Louis · Waco



stainless steel

No other metal has the strength and beauty of Stainless Steel. In heavy use areas and for weather exposed panels and trim, its hard lustrous finish is easy to clean and economical to maintain for the life of a building. For the architect and the builder no other material performs so well today and promises so much for tomorrow.

There is nothing like stainless steel for ARCHITECTURE

Look for the **STEELMARK** on the products you buy.

McLouth Steel Corporation,
Detroit 17, Michigan

Manufacturers of high quality Stainless and Carbon Steels

McLOUTH STAINLESS STEEL

CAN COLOR CONDITIONING INCREASE YOUR CLIENTS' PRODUCTION?

Yes. But let's ask a specialist like Bob Bird. Bob is one of Du Pont's staff of "Color Counsellors"—sales representatives whose years of experience and specific training qualify them to provide expert, on-the-spot assistance in selecting the right paints in the right colors. Here's his answer:

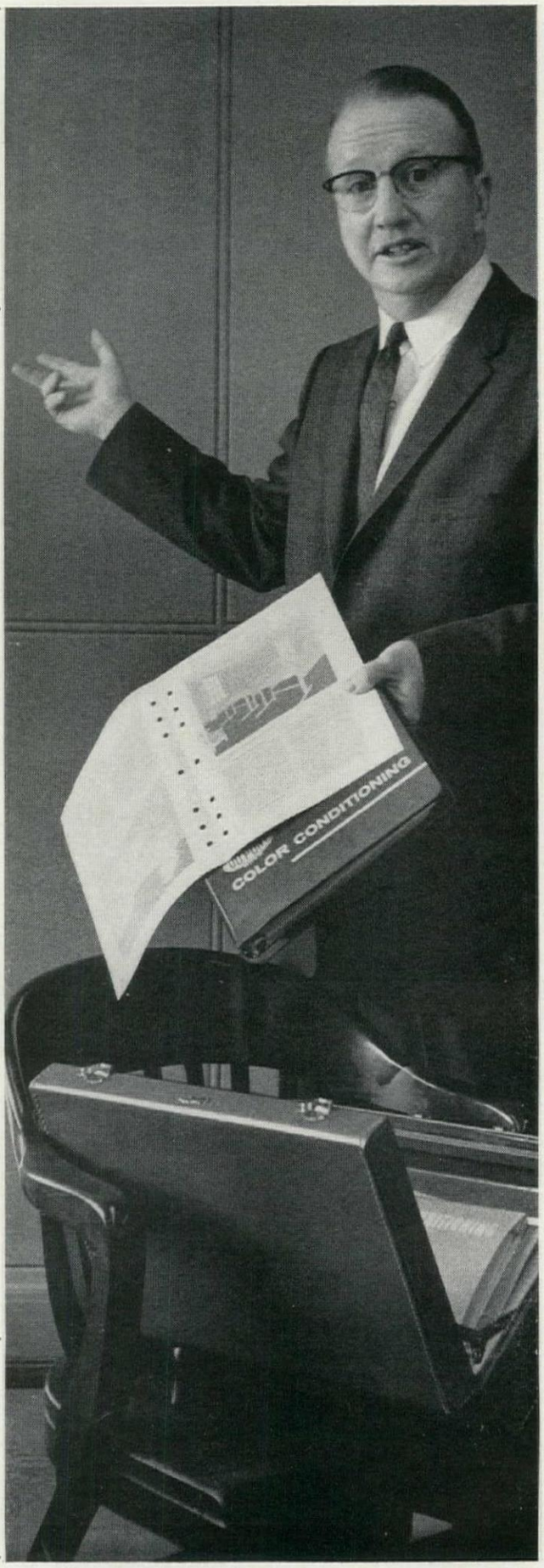
"There's more to this question of effective maintenance painting than many people realize. Of course, it starts with the selection of top-quality finishes. Your clients know their investment in Du Pont paints will pay off in terms of long-lasting protection and good appearance.

"But the job's only half done if you stop there. For maximum return on every maintenance dollar, Du Pont's system of Color Conditioning is a *must.* Tests show conclusively the power of color, scientifically applied, to make employees happier, safer and more productive. Du Pont Color Conditioning lets you harness this power to work profitably for your clients. By reducing absenteeism, boosting efficiency and promoting safety, Color Conditioning can literally increase their production!"

Bob Bird, or any of his counterparts throughout the country, would be happy to talk with you before you write your next paint specifications. For more information, plus the 28-page booklet, "How to Put Color to Work," write: E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Dept. AF-69, Wilmington 98, Delaware.

* * *

R. H. Bird has developed plenty of problem-solving experience in the field of maintenance painting during more than 20 years with Du Pont's Finishes Division. Enthusiastic about its many possibilities for more efficient maintenance at lower cost, he has developed Color Conditioning programs tailored to meet the needs of a wide variety of schools, hospitals, churches, office buildings and industrial installations. A member of the Construction Specifications Institute, Bob works closely with architects drawing up paint recommendations.



DU PONT COLOR CONDITIONING PAINTS

DU PONT

REG. U. S. PAT. OFF.

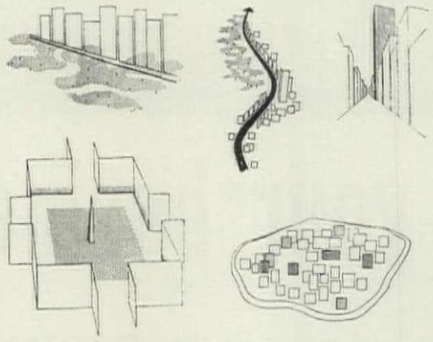
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Seeing cities . . . saving land . . . touting regions

THE IMAGE OF THE CITY. By Kevin Lynch. Published jointly by Harvard University Press and the Technology Press of the Massachusetts Institute of Technology, Cambridge, Mass. 194 pp. 6¼" x 8½". Illus. $5.50.

It bodes well that the first publication of the Joint Center for Urban Studies (a cooperative venture of M.I.T. and Harvard) should be *The Image of the City*, because Author Kevin Lynch has come up with a readable, tautly organized, authoritative volume that may prove as important to city building as Camillo Sitte's *The Art of Building Cities*.

Based on the well-known and generic researches conducted by Lynch and Gyorgy Kepes on the perceptual form of the city, the present work turns the research into a full-blown discussion of legibility and "imageability" in urban environment. Out of investigations conducted in Boston, Jersey City, and Los Angeles, Lynch has elicited five factors that are



fundamental factors in the perception of urban form. (As illustrated above, the factors are edges, paths, landmarks, nodes, and districts.) The distinctive qualities in these factors are the external stimulus in the formation of one's image of a city —an image forged in experience and anticipation.

This basic thesis is illustrated in effective symbols and maps which will, no doubt, become familiar "language" to urban designers. The thesis is tested in a special analysis of Boston's Beacon Hill and Scollay Square area reported in the appendix.

All this sounds very intellectual—and it is. But that does not in any way mean that the book is not practically meaningful for city designers or interesting for people who merely like to look at cities in a casual way.

"Looking at cities," says Lynch, "can give a special pleasure, however commonplace the sight may be." And later: ". . . A highly developed art of urban design is linked to the creation of a critical and attentive audience." Both objectives for the art and the audience are well served by Lynch's book.

THIS LAND OF OURS. By Alice Harvey Hubbard. Published by The Macmillan Co., 60 Fifth Ave., New York 11, N.Y. 272 pp. 5¾" x 8½". $4.95.

"Do what you can, where you are, with what you've got," said Conservationist Teddy Roosevelt. So says this book, designed for those who would better their communities by saving their natural heritage. A random roundup of 180-odd success stories at grass-roots level, it ranges from petunia contests and antibillboard drives to the United Nation's Community Development Program; from totem-pole beautification in Ketchikan, Alaska, to the battle of Oskaloosa, Iowa, where the womenfolk formed human chains around highway bulldozers until they left their fine old elms alone. A garden club on the march can be a fearsome force indeed, but as Garden Clubber Hubbard herself implies, it cannot substitute for male thinking, nor for strong, consistent conservation policies and planning on a local and national scale.

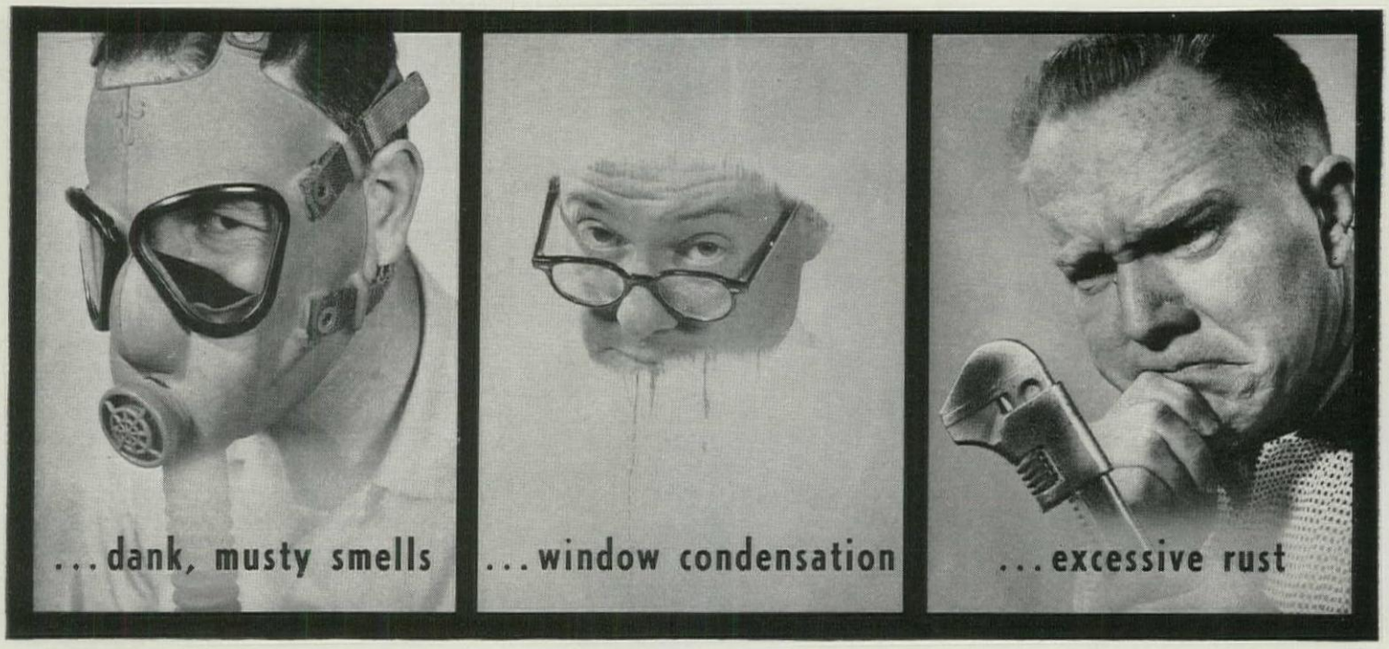
LAND FOR THE FUTURE. By Marion Clawson, R. Burnell Held, and Charles H. Stoddard. Published for Resources for the Future, Inc. by the Johns Hopkins Press, Baltimore 18, Md. 570 pp. 9¼" x 6¼". Illus. $8.50.

This broad and heavily statistical study of America's land inventory and needs, written by land, agricultural, and forestry economists on the staff of Resources for the Future, analyzes the changing uses of land in the U.S. and attempts to project them to the year 2000. Like other observers, they see urban pressures continuing to mount: the nation's population will grow to 310 million; 150 million more people will live in urban areas, calling for new investment in urban property of over $1.5 trillion, at an average $40 billion a year. Average family income may rise to as much as $15,000 a year (in 1955 dollars), and more people will want larger houses with more land. Land in cities will increase from 17 million acres to 41 million; recreation land will rise from 46 million to 95 million acres, even assuming that only half the demand is met. On the other hand, further increases in farm and forest-management efficiency will allow a slight decline in total area devoted to both. Like most studies, this one concludes with a call for more studies: for uses of by-passed areas in our spreading cities, for more attention to urban renewal and blight prevention, for more information on the land-use problems of smaller cities and towns, for ways of using highway building as a public means of influencing better land patterns, for further analyses of recreation.

continued on page 174

Mr. Architect...

the elimination of these



...protect your business reputation

The effective function of a structure and almost all the products used within a structure is greatly dependent on the protection provided by a true vapor seal. This fact is even more prevalent in today's expertly and tightly constructed buildings . . . old structures permitted moisture to escape while buildings built today with the benefit of better design and construction techniques along with modern materials trap this moisture inside and the problems resulting from excessive moisture soon follow. Dampness, window condensation, paint and insulation failures, mildew, rust and rot are problems that *can be eliminated* if a true vapor seal is used to isolate the structure from the site, the source of 80% of moisture that enters the structure. Because of pride of design and pride of construction, architects, and builders will not permit the use of inferior materials above-grade . . . it is even more important that the *best* vapor seal is used below grade. Protect your structure, the products within, and your business reputation by specifying and using the best vapor seal available — PM!

OUTSTANDING FEATURES OF PM*...

- Waterproof and virtually vaporproof. Water-vapor transmission rating is only .0066 grains per hour per square foot. Compare this rating to other products offered as vapor seals.
- Strong enough to maintain water-vapor transmission rating even after being subjected to pouring of aggregate, trundling of wheelbarrows, and installation foot traffic. Will not rupture or tear under normal handling.
- "PM" may be installed directly over tamped grade or fill . . . does not require gravel or sand bed. Joints are sealed with Catalytic (Non-Setting) Bonding Asphalt. Provides a *monolithic* vapor seal that will expand and contract in direct ratio with the concrete under which it is placed *without breaking bond.*
- "PM" will effectively function for the lifetime of the structure . . . important, because a vapor seal must function permanently—it cannot be replaced at a later date.

COMPARE "PM" FEATURES WITH ANY OTHER VAPOR SEAL AVAILABLE . . .

OTHER SEALTIGHT PRODUCTS . . .

- "CORKTITE" Impermeable Perimeter Insulation
- "DUO-PVC" Waterstops
- "HYDROMAT" Asphalt Liners
- Expansion Joints of all types
- Elastameric Butyl Caulk
- Joint Sealing Compounds
- CM-60 Polysulfide Joint Sealer
- Sewer Joint Compounds and many - many others.

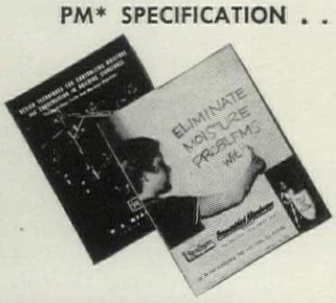
problems is of prime importance

with *Premoulded Membrane* Vapor Seal!

TRADEMARK

*PM is a recognized abbreviation for "Premoulded Membrane," the original *true* vapor seal.

NEW BOOKLET PLANNED TO BACK-UP YOUR PM* SPECIFICATION . . .



Too often the client or contractor may question the use of a specific product because they are not familiar with it or because a cheap substitute may be available. Recognizing this problem, we have prepared our Booklet No. 16 that presents in layman language the *need for* a *true* vapor seal and *how PM meets this need.* Order enough copies of Booklet No. 16 to give to a client if your vapor seal specification is ever questioned . . . it will answer all their questions.

FOR TECHNICAL INFORMATION . . .

- DESIGN TECHNIQUES MANUAL; a technical manual that presents in architectural technology moisture movement, condensation problems and modern methods for controlling moisture and vapor movements.
- CATALOG No. 1660 . . . tells need for a *true* vapor seal and how PM meets this need. Provides application-data, product specifications and installation-information.

SEALTIGHT®
PRODUCTS FOR BETTER CONSTRUCTION

W. R. MEADOWS, INC.

6 KIMBALL ST.
ELGIN, ILLINOIS

Please send, without obligation, the following information . . .

☐ _____ copies of Booklet No. 16

☐ Catalog No. 1660 ☐ Design Techniques Manual.

Name _____ Title _____

Firm _____

Address _____

City _____ State _____

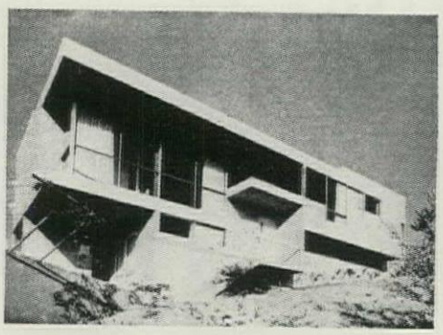
FIVE CALIFORNIA ARCHITECTS. By Esther McCoy. Published by Reinhold Publishing Corp., 430 Park Ave., New York, N.Y. 200 pp. 8½" x 10½". Illus. $10.

The five men whose works and lives are described in this handsome book shaped much of the architecture of the West Coast as we know it today. These men are Bernard Maybeck, Irving Gill, Charles and Henry Greene, and R. M. Schindler. Esther McCoy has written the chapters on Maybeck, Gill, and Schindler; Randell L. Makinson, who teaches at the University of Southern California, has contributed the chapter on the Greene Brothers. Both have done a fine job.

Their subjects, of course, were fascinating in the extreme: few architects of any period have shown as fertile an imagination as Maybeck, who was equally at home

From Maybeck's fantasy . . .

. . . to Schindler's syntheses.



in a kind of Beaux-Arts fantasy as he was in redwood Gothic, in monolithic concrete, and in the Shingle Style. Irving Gill, whose principal contribution lay in the development of rational methods and forms in reinforced concrete, was the equal, in this respect, of his Viennese contemporary, Adolf Loos, and probably introduced precise "cubism" to polite architecture in America. The Greene Brothers did more than any of their fellows to give contemporary, residential architecture in California its strongly Japanese characteristics—both in details and in general concepts of living. (They also added a dash of "Spanish Mission" and another dash of "Swiss Chalet.") And R. M. Schindler, who started out with Wright, did a great deal to synthesize the master's idiom with that of the European modernists. In doing so, Schindler de-

veloped a plastic and occasionally powerful style entirely his own.

In only two respects does this book seem to miss its mark: First, because the authors (with pardonable pride in their California heritage) tend to ignore or downgrade similar and sometimes earlier developments in other parts of the world. Indeed, more detailed references to parallel developments in the rest of the country or in Europe would, in some cases, give added importance to the authors' five heroes. Second, the inclusion of the much younger Schindler seems odd in terms of chronology, although one is grateful to have this remarkable man's work on record. But with Schindler in, the omission of Neutra can be explained only as being due to the availability of a great amount of published material on the latter's pioneering work.

THE SOUTH BUILDS. New Architecture in the Old South. By Edward Waugh and Elizabeth Waugh with Henry L. Kamphoefner, advisor. Published by The University of North Carolina Press, Chapel Hill, N.C. 17 pp. 8½" x 11". Illus. $12.50.

This book is not a testament to Southern regional architecture, as the reader might expect, but an indication that there isn't really very much regionalism down South. There is characteristic design—but characteristic of the architect (Victor Lundy's churches, for example), not of the latitude.

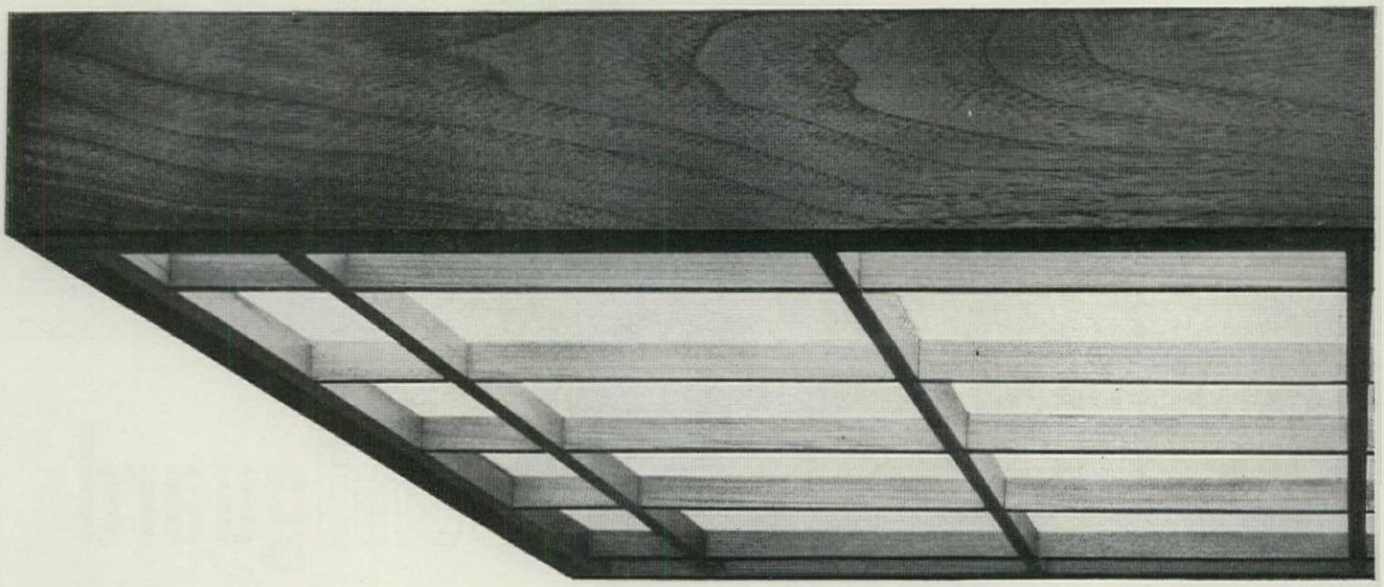
Another quality this book lacks, which somehow the reader comes to expect in regional design literature, is heaviness or academism. The authors are lively and highly opinionated: Frank Lloyd Wright's place in architecture can perhaps be best understood if he is thought of not as the first of the modern architects but as the last of the great Victorians"; "Mies van der Rohe's . . . is an architecture of the white corpuscles rather than the red." Obviously the Waughs are not talking merely about, or even to the area in which they live and work.

NATURE IN THE METROPOLIS—Conservation in the Tri-State New York Metropolitan Region. By William A. Nierling. Published by the Regional Plan Assn., Inc., 330 W. 41st St., New York 36, N.Y. 64 pp. .8½" x 11". Illus. $3.

Third of four publications in New York's Park, Recreation, and Open Space Project, this booklet by a well-known botanist and ecologist outlines in text, pictures, and maps the various land uses of the region's 7,000 square miles, suggests that 246 areas totaling 141,000 acres are in urgent need of conservation to maintain the vital balance of nature and man in the face of rapid population growth. Actual sites are not specified because of possible effect on their price, but are available to appropriate officials and private groups. This survey might serve as a model for other metropolitan areas worried about their own vanishing natural land. END

This is the embodiment of a design philosophy... a blending of function with aesthetics ...an imaginative application of appropriate materials to good lighting. The product is *Corona*, an appealing new treatment for fluorescents that transforms them into an effective decorative element. A wonderfully warm walnut frame surrounds the diffusing pane, while handsome birch

NEW! FLUORESCENTS



LIGHTC

Jersey City 5, New Jersey Showrooms: New York, Chicago, Dallas, Los Angeles

Corona is stocked by these Authorized LIGHTOLIER Distributors:

ALABAMA
Birmingham:
Mayer Elec. Sup. Co.

ALASKA
Anchorage:
Northern Supply Co.

ARIZONA
Phoenix:
Brown Wholesale Elec.
Tucson:
Beacon Ltg. Fix. Co.

ARKANSAS
Little Rock:
Adcock Ltg. & Sup.

CALIFORNIA
San Francisco:
California Elec. Sup. Co.

COLORADO
Denver:
Central Elec. Sup. Co.

CONNECTICUT
Bridgeport:
B. M. Tower Co., Inc.
Hartford:
Beacon Light & Sup. Co.
New Haven:
Grand Light & Sup. Co.
New London:
United Elec. Sup. Co.
Stamford:
Marie Co.
Waterbury:
Starbuck Sprague Co.
Suburban Supply Co.

DISTRICT OF COLUMBIA
Washington:
Maurice Elec. Sup. Co.
National Elec. Wholesalers

FLORIDA
Miami:
Farrey's Whlse. Hdwe. Co.

GEORGIA
Atlanta:
Electrical Wholesalers
Noland Co.

HAWAII
Honolulu:
Hawaiian Light & Sup. Co.

ILLINOIS
Chicago:
Efengee Elec. Sup. Co.
Englewood Elec. Sup. Co.
Harlo Elec. Sup. Co. Inc.
Hyland Elec. Sup. Co.
Metropolitan Elec. Sup.
Steiner Elec. Co.
Wholesale Elec. Sup. Co.
Elgin:
Fox Elec. Sup. Co.
Rockford:
Englewood Elec. Sup. Co.
Springfield:
Springfield Elec. Sup. Co.

INDIANA
Ft. Wayne:
Mossman-Yarnelle Co.
Gary:
Englewood Elec. Sup. Co.
South Bend:
Englewood Elec. Sup. Co.

IOWA
Des Moines:
Weston Lighting, Inc.

KANSAS
Kansas City:
W. T. Foley Elec. Co.

KENTUCKY
Louisville
Henry J. Rueff Co.

LOUISIANA
Baton Rouge:
Electrical Wholesalers Inc.
New Orleans:
Interstate Elec. Co.

MAINE
Bangor:
Standard Elec. Co.
Portland:
Holmes Elec. Supply Co.

MARYLAND
Baltimore:
Excello Public Serv. Corp.
Salisbury:
Artcraft Elec. Sup. Co.

MASSACHUSETTS
Boston:
Mass. Gas & Elec. Light Co.
Henry L. Wolfers, Inc.
Pittsfield:
Carr Supply Co.
Springfield:
Arco Elec. Sup. Co.
Eastern Elec. Sup. Co.
Worcester:
Atlantic Elec. Sup. Co.
Benjamin Elec. Sup. Co.

MICHIGAN
Detroit:
Madison Elec. Co.
Michigan Chandelier Co.
Flint:
Royalite Co.
Grand Rapids:
Purchase Elec. Sup. Co.
Jackson:
Electric Wholesale Sup. Co.
Pontiac:
Standard Elec. Co.
Saginaw:
Schmerheim Elec. Co.
Standard Elec. Sup. Co.

MINNESOTA
Duluth:
Northern Elec. Sup. Co.
Minneapolis
Charles A. Anderson & Co.
Northland Elec. Sup. Co.
St. Paul:
Lax Elec. Co.

MISSOURI
Kansas City:
Glasco Elec.
St. Louis:
M. K. Clark
Springfield:
Southern Materials Co.

MONTANA
Great Falls:
Glacier State Elec.

NEBRASKA
Lincoln:
White Elec.
Omaha:
Electric Fix. & Sup. Co.

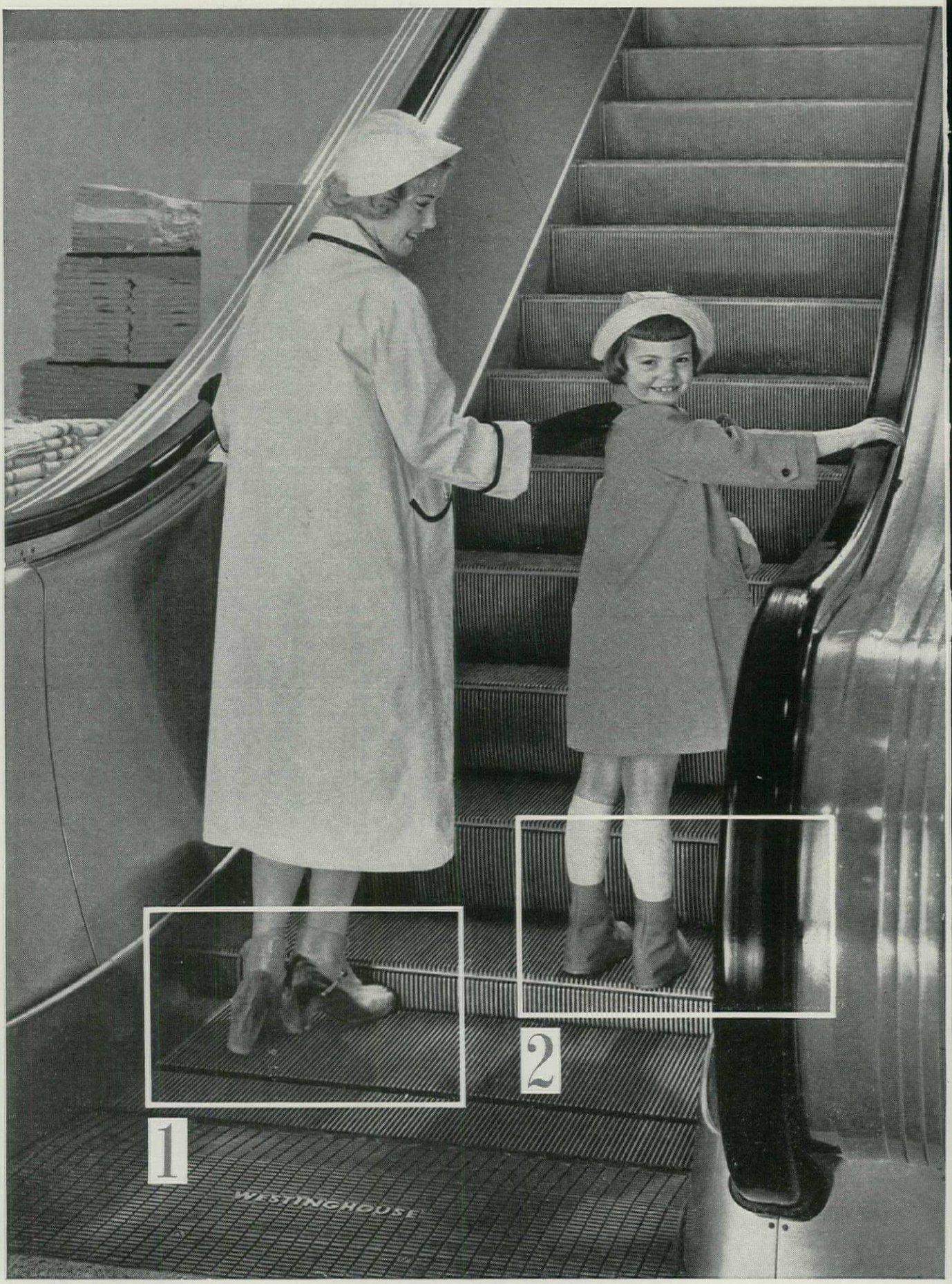
NEVADA
Reno:
Western Elec. Dists. Co.

NEW HAMPSHIRE
Portsmouth:
Mass. Gas & Elec. Light Co.

NEW JERSEY
Atlantic City:
Franklin Elec. Sup. Co.
Cherry Hill-Delaware Township:
Flynn's Camden Elec. Fix. Co.

NEW MEXICO
Albuquerque:
The Lighting and Main. Co.

NEW YORK
Binghamton:
Freije Elec. Sup. Co.
Buffalo:
Buffalo Incand. Light Co. Inc.
Niagara Falls:
Hysen Supplies Inc.


1
2
WESTINGHOUSE

Passengers ride carefree on Electric Stairways equipped with Westinghouse SAF-T-STEP

BECAUSE

New step design provides extra measures of safety

1 Saf-T-Step has a distinct built-in demarcation strip which is an integral part of each step tread. This indicates clearly and positively the step tread area to the boarding passenger. Thus, Saf-T-Step's demarcation strip is a major contribution to carefree electric stairway travel.

2 Saf-T-Step is fully grooved. Each step tread interlocks with a grooved step riser providing superior "combing action" for extra measure of safety. This action minimizes annoyance of articles, such as rain shoes, getting caught between stairway steps.

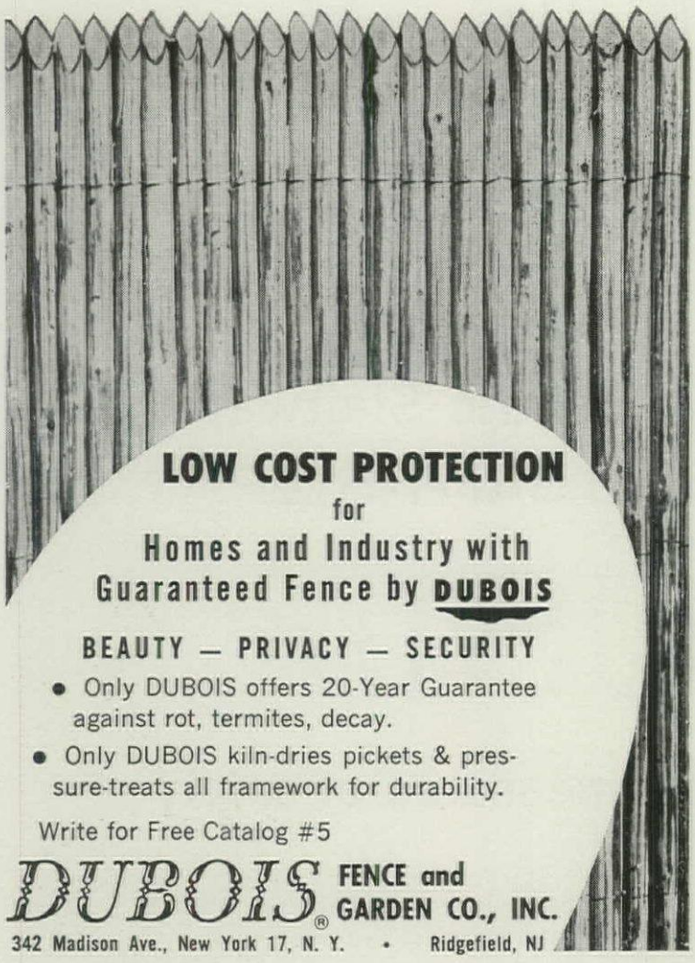
For years, Westinghouse research has been developing ways to improve further the many safety features engineered into electric stairways. This continuing research has resulted in another new development—the Saf-T-Step—available exclusively on Westinghouse Electric Stairways. Safety-conscious managements of office buildings, department stores, banks, transportation terminals and others are responding enthusiastically to this new Saf-T-Step design. If you are planning to install electric stairways, have you considered this new development? Literature containing detailed information and specifications is available. Write: Electric Stairway Research and Planning Dept., Westinghouse Elevator Division, 150 Pacific Avenue, Jersey City 4, New Jersey.

YOU CAN BE SURE...IF IT'S Westinghouse

J-98783AA

WESTINGHOUSE ELECTRIC STAIRWAYS

Westinghouse Electric Stairways with Saf-T-Step recently installed in the new department store of the Joseph Horne Company in East Hills Shopping Center, Pittsburgh, Pennsylvania.



LOW COST PROTECTION

for

Homes and Industry with Guaranteed Fence by **DUBOIS**

BEAUTY — PRIVACY — SECURITY

- Only DUBOIS offers 20-Year Guarantee against rot, termites, decay.
- Only DUBOIS kiln-dries pickets & pressure-treats all framework for durability.

Write for Free Catalog #5

DUBOIS® FENCE and GARDEN CO., INC.

342 Madison Ave., New York 17, N. Y. • Ridgefield, NJ

NIBROC® TOWELS

for Quality, Beauty, Utility, Economy

FACTS

About the newest in *Washroom Cabinets* and *Paper Towels* for industrial and commercial installations.

SEE

NIBROC Towel Specification Data in Sweet's Architectural File—27E-BRO.

WRITE

For useful A.I.A. File and detailed information about the complete line of NIBROC Towels and Cabinets. Dept. AF-09

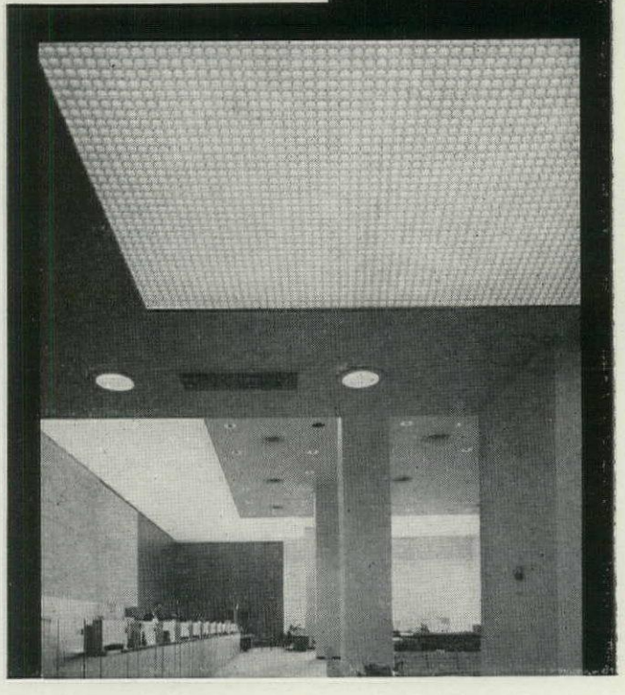
Another Quality Product Of

BROWN COMPANY

General Sales Offices: 150 Causeway Street, Boston 14, Mass.
Mills: Berlin & Gorham, N. H.

NEW INTERLOCKING LUMINOUS PANELS

FORM SINGLE NON-MODULAR CEILING EXPANSE



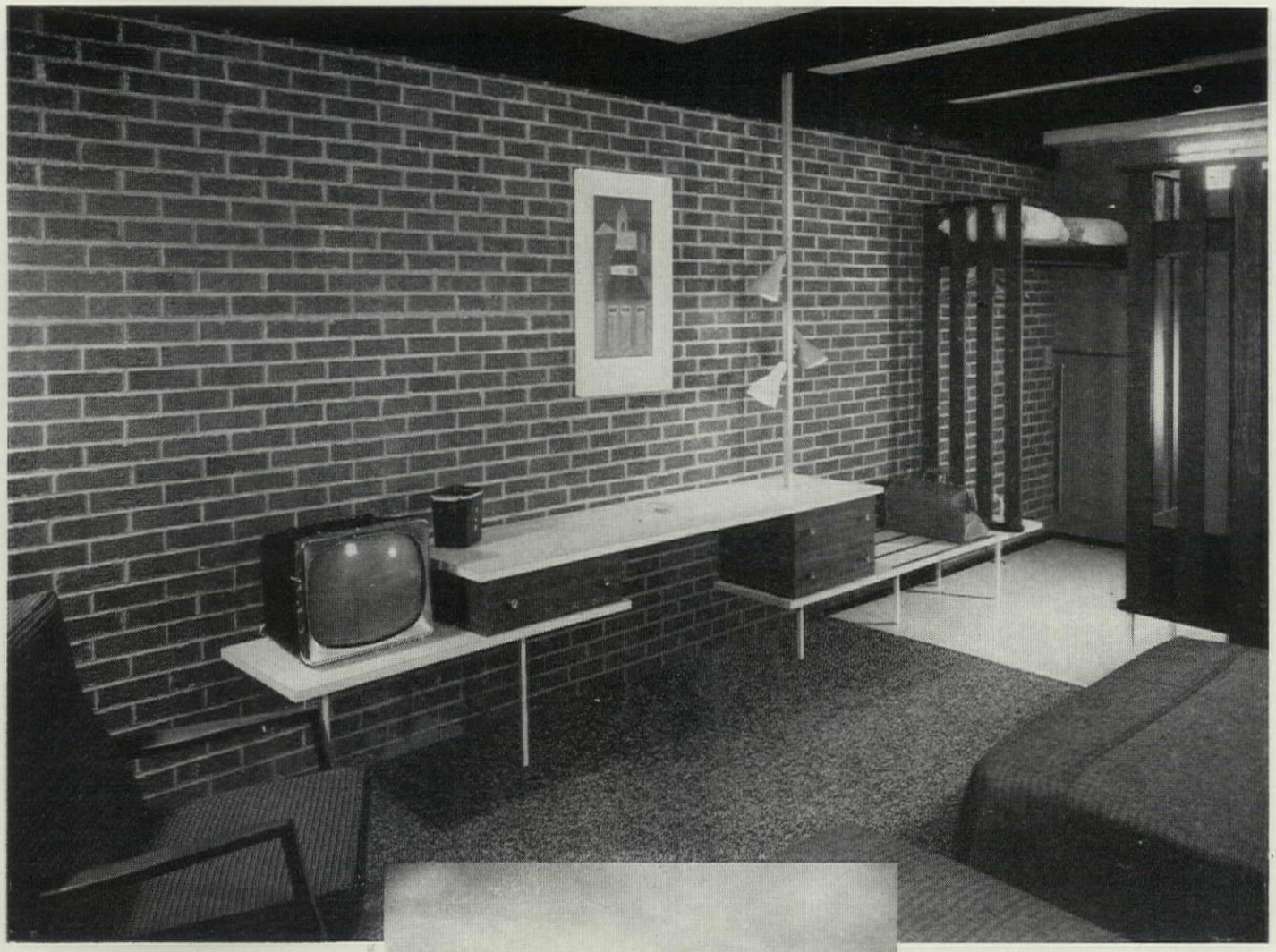
INFINILITE alone incorporates the new interlocking suspension system and unique circular louver design that result in a single, uniform luminous panel regardless of ceiling contour or area.

INFINILITE eliminates the costly complicated grid system; its interlocking panels are the key to fast, inexpensive installation. Provide important interiors with prestige—on a budget. INFINILITE is now available in a range of metallic and color finishes. Use your letterhead to request Catalog A-10 and samples of this new dimension in suspended ceilings.

UNION BANK, BEVERLY HILLS, CAL./SIDNEY EISENSHTAT & ASSOC., A.I.A./INTERIORS BY MARIA BERGSON ASSOC.

INFINILITE REGISTERED TRADEMARK PATENT APPLIED FOR

a product of Integrated Ceilings & Grilleworks, Inc.
11766 West Pico Boulevard, Los Angeles 64, California



The Howard Johnson Motor Lodge at New Castle, Delaware . . . one of many Howard Johnson motels furnished by Heywood-Wakefield.

Heywood contributes quality, flexibility and modern styling to the Howard Johnson Motor Lodges

Working with many leading hotel and motel contract distributors, Heywood-Wakefield has furnished dozens of the new Howard Johnson Motor Lodges. Flexible to changes in design, specifications and special requirements, Heywood is also flexible in its ability to produce in wood, plastics or steel. Drawing upon its background of 134 years in the home furniture business, Heywood has helped to pioneer many innovations such as the long counter unit, TV and luggage shelves and wall-attached headboards for beds.

HEYWOOD-WAKEFIELD
EST. 1826

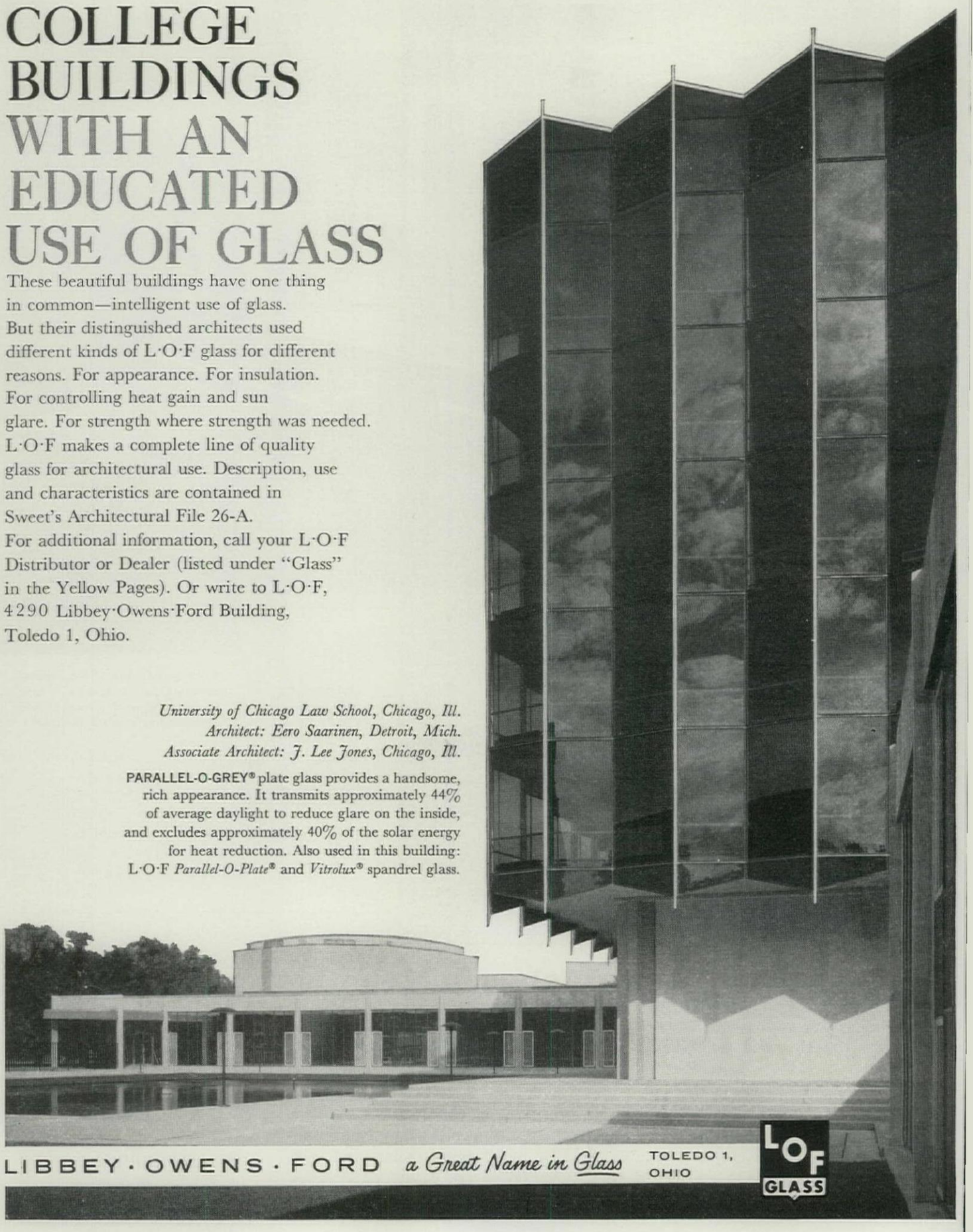
CONTRACT FURNITURE DIVISION

Gardner, Massachusetts

AUDITORIUM and THEATRE SEATING
SCHOOL FURNITURE • PORTABLE SEATING
and FOLDING CHAIRS
CONTRACT LINES FOR HOTELS and MOTELS

COLLEGE BUILDINGS WITH AN EDUCATED USE OF GLASS

These beautiful buildings have one thing in common—intelligent use of glass. But their distinguished architects used different kinds of L·O·F glass for different reasons. For appearance. For insulation. For controlling heat gain and sun glare. For strength where strength was needed. L·O·F makes a complete line of quality glass for architectural use. Description, use and characteristics are contained in Sweet's Architectural File 26-A. For additional information, call your L·O·F Distributor or Dealer (listed under "Glass" in the Yellow Pages). Or write to L·O·F, 4290 Libbey·Owens·Ford Building, Toledo 1, Ohio.



University of Chicago Law School, Chicago, Ill.
Architect: Eero Saarinen, Detroit, Mich.
Associate Architect: J. Lee Jones, Chicago, Ill.

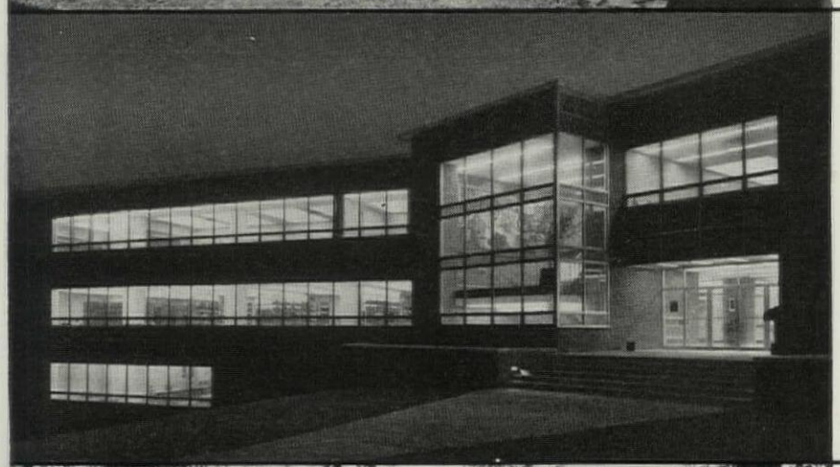
PARALLEL-O-GREY® plate glass provides a handsome, rich appearance. It transmits approximately 44% of average daylight to reduce glare on the inside, and excludes approximately 40% of the solar energy for heat reduction. Also used in this building: L·O·F *Parallel-O-Plate®* and *Vitrolux®* spandrel glass.

LIBBEY · OWENS · FORD *a Great Name in Glass* TOLEDO 1, OHIO

L O F GLASS

Smith College Dormitory, Northampton, Mass.
Architect: Skidmore, Owings & Merrill, New York, N. Y.

SPANDRELS OF VITROLUX, heat-tempered, polished plate glass with rich color fused to the back, add youthful beauty and cheerful character to this dormitory. *Vitrolux* is resistant to weathering, crazing and checking. Windows are glazed with L·O·F *Parallel-O-Plate.*

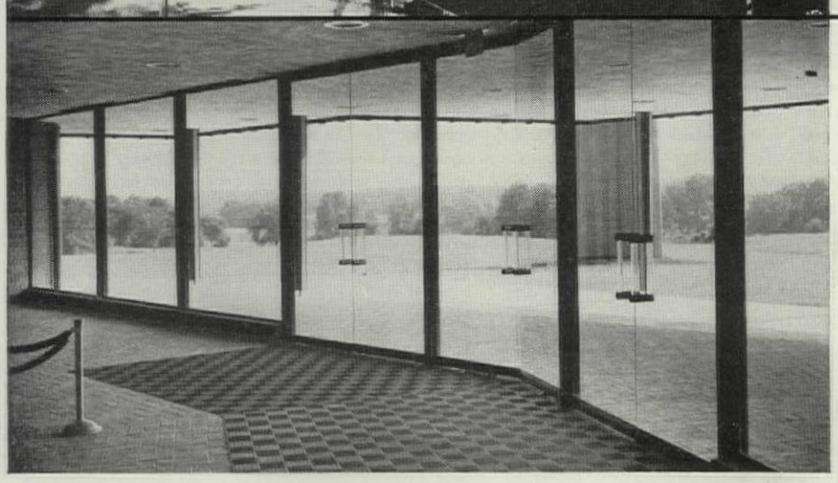


Western Michigan University Library, Kalamazoo, Mich.
Architect: Ralph R. Calder, Detroit, Mich.

THERMOPANE® insulating glass, made with L·O·F Heat Absorbing Plate and *Parallel-O-Plate*, insulates rooms from the weather. Reduces drafts near windows. Muffles outside noise. Heat Absorbing Plate subdues glare (transmits approximately 75% of average daylight), and excludes approximately 40% of the solar energy.

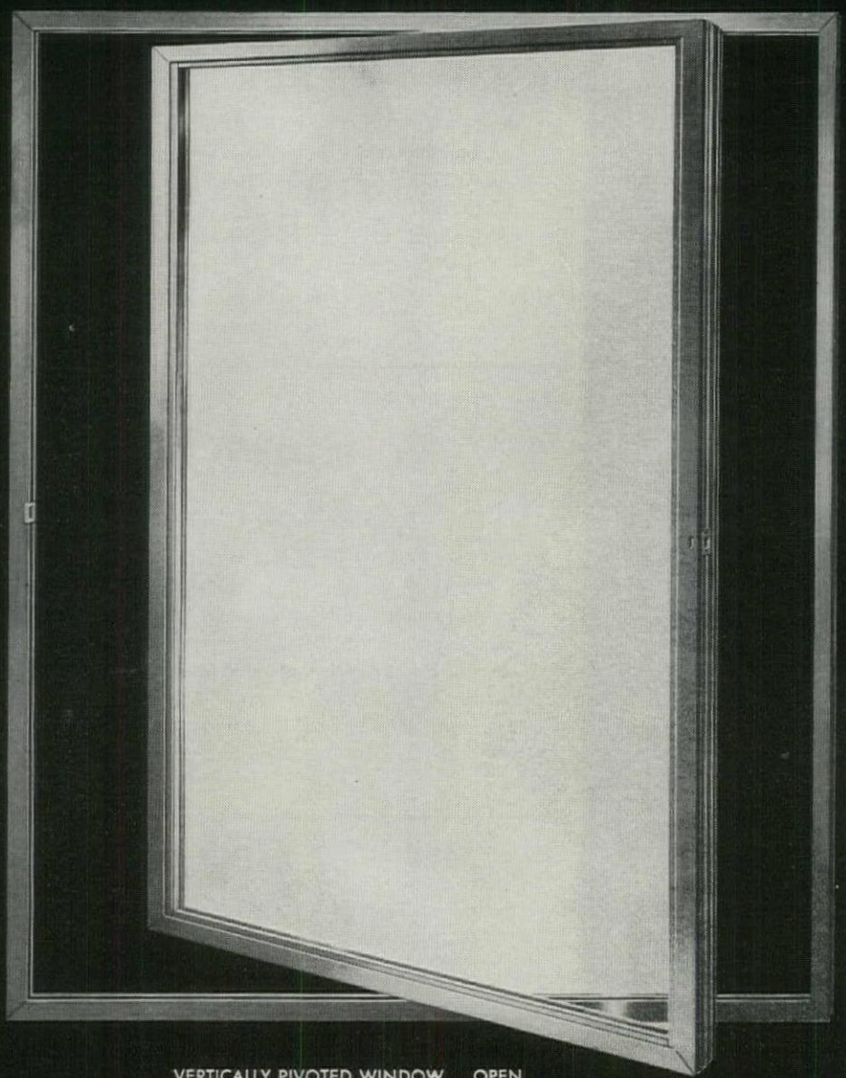
Lake Erie College Student Commons Building, Painesville, Ohio
Architect: Victor F. Christ-Janer & Assoc., New Canaan, Conn.

L-O-F PARALLEL-O-PLATE glass adds sparkle to this many-faceted, jewellike building. *Parallel-O-Plate* is twin ground for uniformity of thickness, parallelism and flatness of surfaces to provide more perfect reflections and maximum freedom from distortion.



Valparaiso University Student Chapel, Valparaiso, Ind.
Architect: Chas. Edward Stade & Assoc., Park Ridge, Ill.

THESE FRAME-FREE TUF-FLEX® doors invite guests into the building. And they can withstand, with virtually no maintenance, all of the traffic they help create. *Tuf-flex* is 3 to 5 times tougher than regular plate glass of the same thickness.

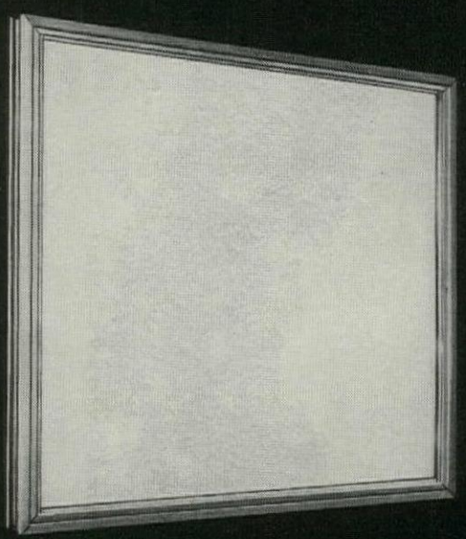


VERTICALLY PIVOTED WINDOW... OPEN

New Product

TRUSCON

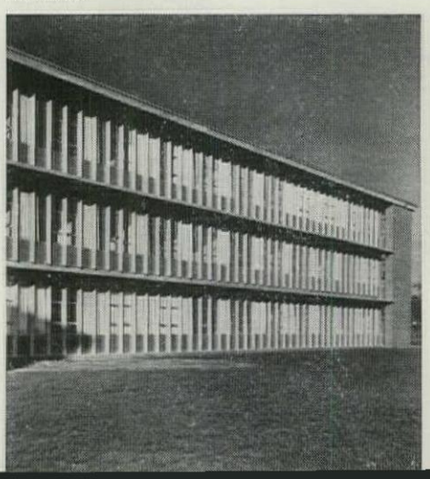
of the Month



VERTICALLY PIVOTED WINDOW... CLOSED

BUILD IN FUTURE CAPACITY! Republic ELECTRUNITE Electrical Metallic Tubing provides an economical grounded wiring system with room for future electrical expansion. By specifying ELECTRUNITE E.M.T. in the next larger size, you can build in tomorrow's future capacity at a cost no greater than with ordinary threaded conduit. Write for information.

TRUSCON VISION-VENT Curtain Wall Construction is a fast, economical method of building. Select practically any type of window. VISION-VENT is available with a choice of high-gloss panel colors, porcelain enamel, stainless steel, or aluminum. Send for data.



REPUBLIC STEEL LOCKERS meet virtually every architectural requirement for good planning. Big and roomy interiors are designed for convenience and comfort. Strong, sturdy, steel construction protects valuables and clothing. Bonderized for long service.

VERTICALLY PIVOTED ALUMINUM WINDOW

double weatherstripped around vent . . .

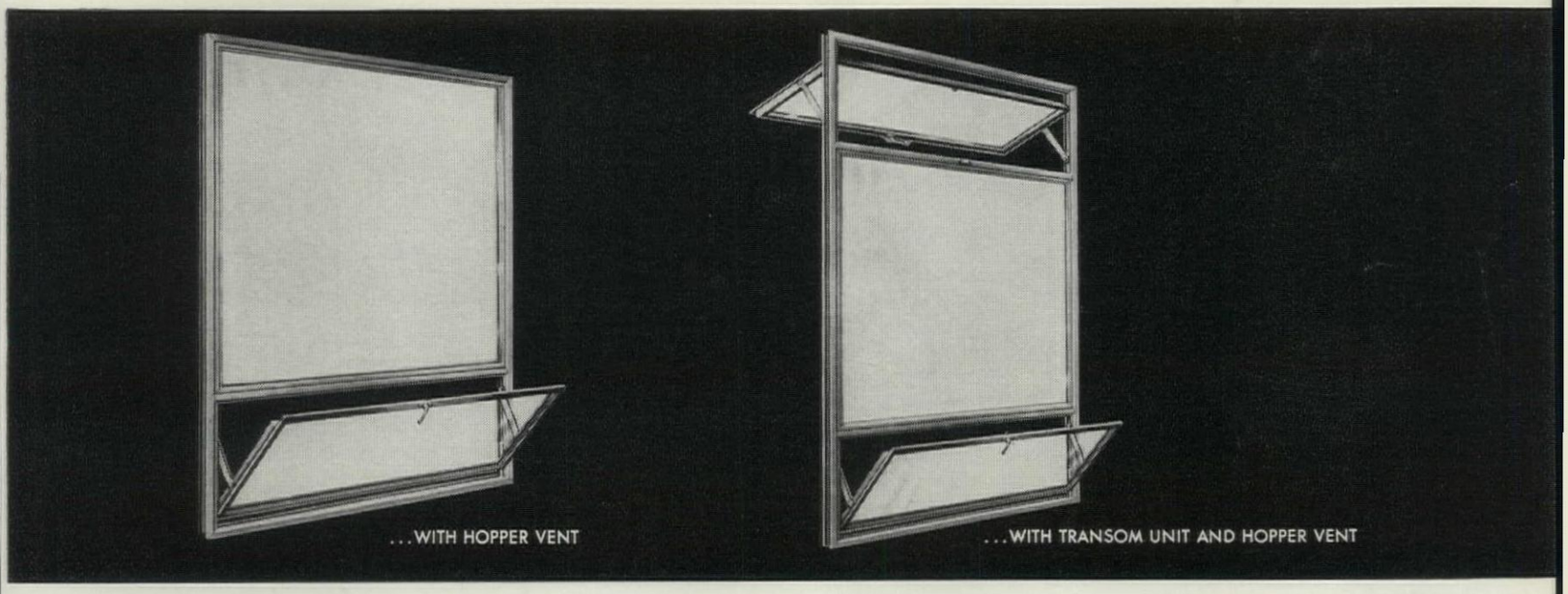
Rotates a full 360-degrees, and locks automatically in reverse position. Cleaning is done simply and safely from the inside.

Ideal for air conditioned buildings. Window is double weatherstripped around the entire vent perimeter. Positive vent corner construction and vinyl sponge frame corner fillers insure a tight seal.

Fresh air, too. This window is designed to accommodate a down-and-out transom unit or an up-and-in hopper vent, or both, using the same outside pivoted frame section around the entire unit.

There are a minimum of parts to require maintenance. Hardware is white bronze and stainless steel. It's quality constructed throughout, yet economically priced. Offers unlimited versatility and design and application.

Give owners and tenants this opportunity to more easily cleaned and sparkling windows. Investigate Truscon's newest—the Vertically Pivoted Aluminum Window, Series 55A. Check your telephone book for one of Truscon's 40 offices, or send coupon.



REPUBLIC STEEL

World's Widest Range of Standard Steels and Steel Products

REPUBLIC STEEL CORPORATION
DEPT. AF-9694-A
1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

Please send more information on the following products:

- ☐ Truscon Vertically Pivoted Aluminum Window
- ☐ Republic ELECTRUNITE® Electrical Metallic Tubing
- ☐ Truscon VISION-VENT® Curtain Walls
- ☐ Republic Steel Lockers

Name_____ Title_____

Firm_____

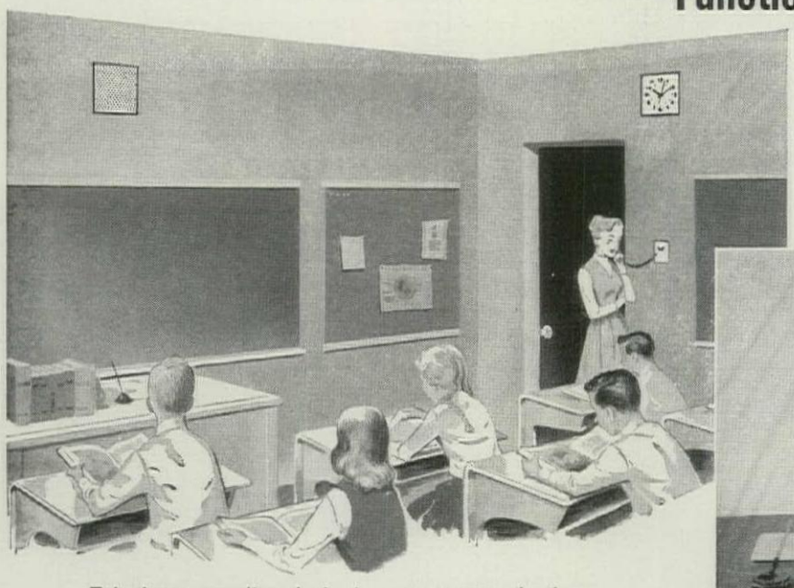
Address_____

City_____ Zone____ State_____

NEW for Schools...

PRACTI-CALL® ... the practical, all-purpose communication system

"Functionalism without Frills"



Telephone permits private, two-way communication.
Wall speaker provides for general announcements, special events, emergency instructions, etc.
Wiring is in same conduit as clock and program system.

PRACTI-CALL system is incorporated as part of clock and program system . . . utilizes same conduit, existing bell control board (background) . . . is operated by office secretary.

Here at last is an *economical, sensible* communication system designed especially for schools. PRACTI-CALL fills *all* school communication needs:

1. General announcements, news, special events, emergency instructions, etc. are communicated to all classrooms simultaneously through an "all call" speaker system.
2. Conversations requiring privacy (approximately 90% of all intra-school communication) are carried on over a private telephone system.

With all its flexibility of use . . . an adaptability never before available . . . PRACTI-CALL costs *substantially less.* No bulky, high cost console . . . no intricate mechanisms to go awry.

IMPRESSIVE INSTALLATION SAVINGS—All basic wiring runs in the *same conduit* as the school's clock and program system . . . effecting additional important savings on installation.

PIN-POINTED RESPONSIBILITY—Service, whether on clock and program system or communication system, is from a *single source* when PRACTI-CALL is specified with a STANDARD program system.

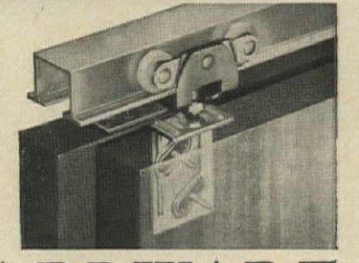
Request Bulletin No. 248 containing complete information and specifications.

STANDARD Time

THE STANDARD ELECTRIC TIME COMPANY

89 LOGAN STREET • SPRINGFIELD, MASSACHUSETTS

Seven out of ten charwomen concur: For superior response to "kneeing," it's Grant 7000 Sliding Door Hardware. Write for your copy of the Grant catalog.



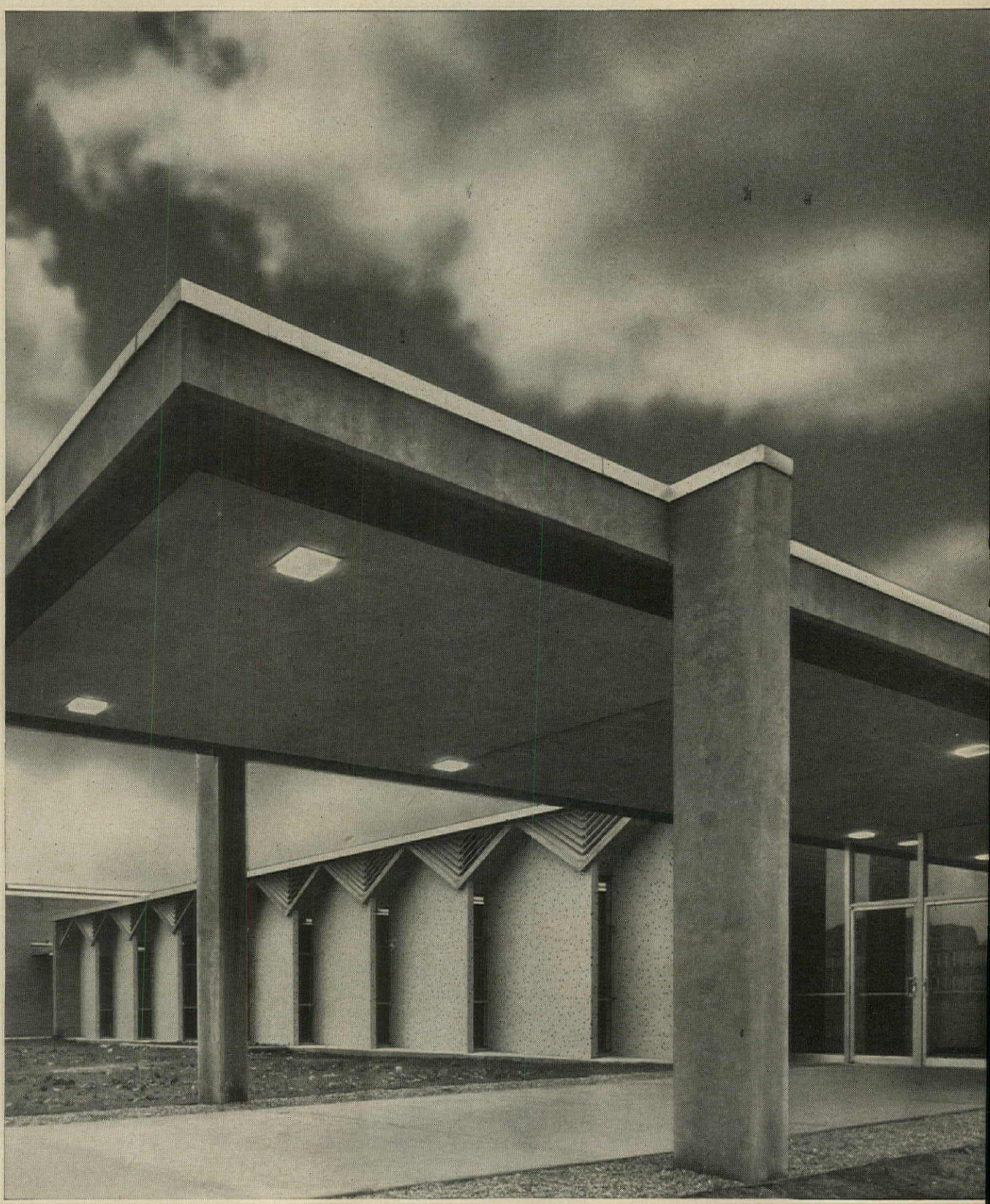
GRANT SLIDING DOOR HARDWARE

GRANT PULLEY & HARDWARE CORPORATION

Eastern Division/ 5 High Street, West Nyack, N. Y.
Western Division/ 944 Long Beach Ave., Los Angeles 21, Calif.

sliding door hardware • drawer slides • drapery hardware • pocket frames • pulls • special sliding hardware • closet rods

DOW | BUILDING PRODUCTS



Memorial Student Union Building, Southern Connecticut State College. Architect: Carl R. Blanchard, Jr., A.I.A., New Haven, Connecticut.

STYROFOAM®

delivers permanently low "K" factor, lower costs for Connecticut college building

Low thermal conductivity—"K" factor—was a major point in the choice of Styrofoam† to insulate the Memorial Student Union Building at Southern Connecticut State College. The building—which will house dormitories, apartments, cold storage areas, dining rooms, and activities rooms—required permanent insulation.

The application required an insulation with low moisture absorption, a low thermal conductivity factor, and one that would act as its own moisture barrier. Styrofoam was specified as the sole insulation material in the building—for all exterior cavity walls, for the foundation perimeter, and for all interior low temperature rooms.

Labor cost savings were also an important benefit from using Styrofoam. For example, one use of Styrofoam was in the exterior wall which was designed as a plenum chamber. Inside this 10″ plenum cavity, the interior face of the exterior wall was insulated with Styrofoam applied by means of a water base adhesive.

The use of Styrofoam helped save construction costs by eliminating the need for battens, i.e., nailing of 2 x 2's over the insulation, as would be required with other insulation materials.

Because of its unique water and water-vapor barrier properties that bar moisture and won't absorb water, Styrofoam provides permanent, low-cost insulation efficiency for comfort and low temperature space. And its light weight makes installation fast and easy. For more information, write THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1701LH9.

Other Dow building products

SCORBORD* —(Pat. applied for) Superior rigid insulation for foundation perimeters, slab floors. Exclusive pre-scored feature speeds installation.

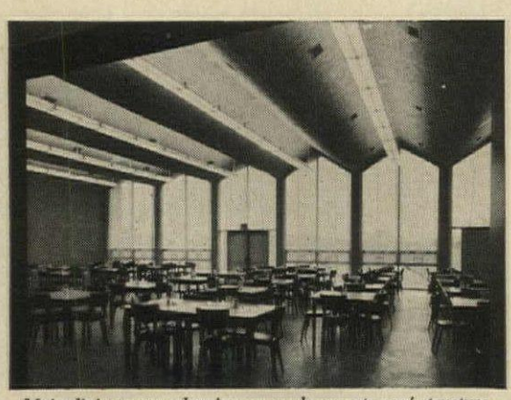
ROOFMATE* —Lightweight rigid insulation for built-up roofs serves as its own moisture barrier. Reduces blistering, resultant leaks.

POLYFILM* —High quality polyethylene film for temporary enclosure or moisture barrier under slab or insulation.

SARALOY* 400 —elastic sheet flashing conforms to surface contours. Bonds to any construction material. Won't crack. *TRADEMARK

†Dow's registered trademark for its expanded Polystyrene

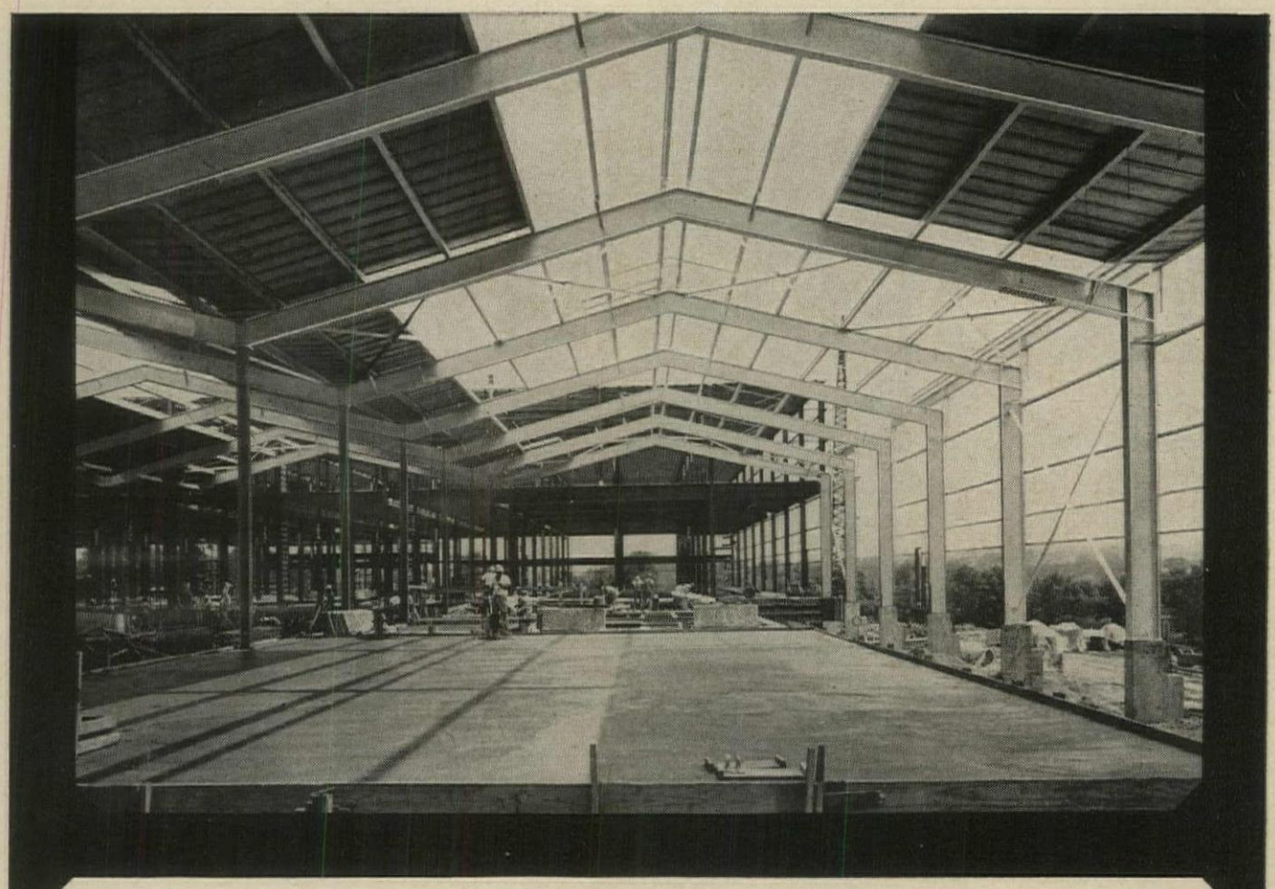
Both walk-in refrigerators are insulated with Styrofoam.



Main dining room, showing exposed concrete roof structure.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

See the "DOW HOUR of GREAT MYSTERIES" on TV



Compare the clean, simple lines of this structure with the heavier, haunched construction apparent in elastically designed buildings. Savings accrue through faster, easier, prefabricated construction as well as through lighter weight steels.

There's an Inland Structural Steel for every new construction idea

Plastic Design

is today more and more coming into widespread use in one and two-story rigid-frame structures. It presents welcome opportunities for reducing labor, time and material costs, for plastic design is based not upon the concept of maximum stress of a member—but upon the *load-carrying capacity of the entire structure.*

In elastic design, the entire member must be designed for the maximum moment. In plastic design, since the moment is distributed to the structure as a whole, no single member need be over-designed and substantial savings—from 5% to 35% in labor and materials—are possible. In addition, since the more indeterminate the structure the greater the saving, design time can actually be reduced by as much as 80%.

If you are contemplating the design or construction of a new building, remember that plastic design is applicable only to a ductile metal such as steel. The considerable savings possible, make it well worth your careful investigation.

Plastic design is accepted by all four National Building Codes as well as many state and municipal codes. For complete information on this modern, cost-cutting construction method, see your local fabricator who now has structural steel available in all shapes and sizes—or call the American Institute of Steel Construction office in your area.

Use Steel *For Modern Construction*

more than 100 acres; if the "paint-up, clean-up" methods prove effective, it is hoped that similar projects on a larger scale can soon be undertaken.

The basic decision within the Commission that continuity should be stressed in Indianapolis rather than a sweeping renewal program has, thus, not brought dramatic results. Only small, desperately decayed areas have been singled out for clearance; many renewed blocks indeed seem suffocated by surrounding neighborhoods, almost as bad as they once were; even within renewed areas some old but "standard" dwellings and commercial buildings remain that stand out with the painful urgency of a tooth one cannot afford to have fixed.

Furthermore, the kind of redevelopment Indianapolis has waged virtually eliminates low-rental housing (which is usually found in areas capable of being cleared without political complications). Neither the owner-occupied Flanner House homes (page 133), which require average monthly mortgage payments of $76, nor the $16 million Project H, which seeks to hold middle- and high-income renters in the downtown area, has room for the irregularly employed, low-income apartment dweller.

Another indication that the work of the Redevelopment Commission does not proceed without a kind of make-ready expediency is the story of how downtown merchants are persuaded to improve their deteriorated properties. When, for example, the Civic Progress Assn. brought it to the attention of the Commission that a number of properties near the railroad station on South Illinois Street were unsightly and falling into bad repair, the Commission drafted a letter to the owners that brought prompt action. The letter said, in effect: "clean up or else. . . ." This approach is possible because the owners understand fully that the Commission is equipped with condemnation powers, that the pistol held against their heads is loaded. (It has so far been used but rarely.)

The Commission uses similarly direct, informal tactics in the two rehabilitation areas it has opened up. Although definite progress is already visible, rehabilitation is a continuous process, allowing no predictable completion dates.

Challenges ahead

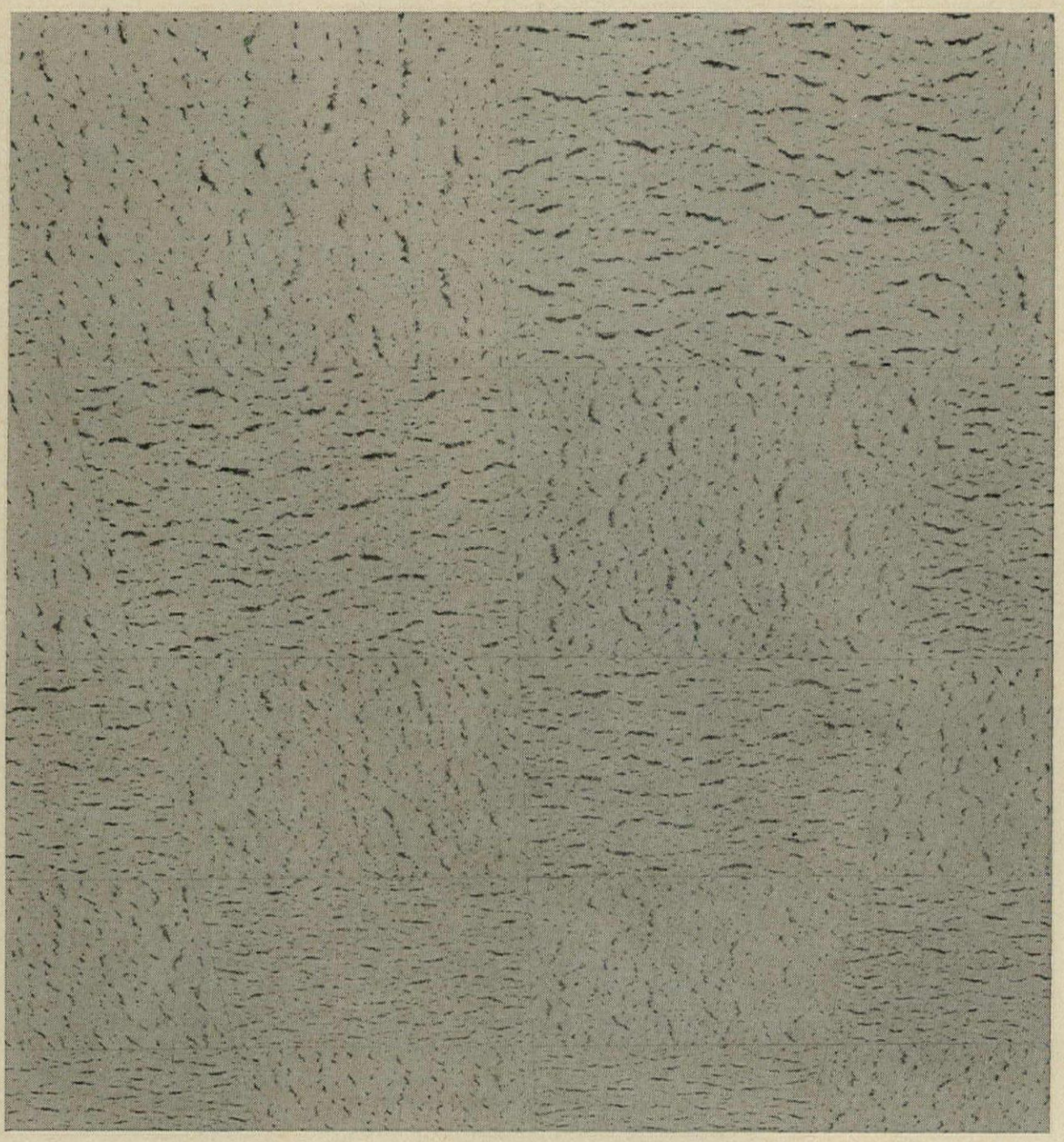
The magic that may lie in private money as opposed to federal funds seems, then, to have little to do with the way renewal is actually effected in Indianapolis. The magic lies more in the clever use of available power mechanisms and in the severe limitation of scale of the projects tackled.

It also appears from comparing the projects already completed in Indianapolis (like the elimination of skid row on South Illinois Street) with those that yet remain to be tackled (like the plan for recreational development of the city's frontage on the White River) that the most commercially attractive, politically inoffensive elements of the master plan are those which have been undertaken first. This undoubtedly sound approach, which has succeeded in winning the cooperation of the business interests in Indianapolis for the work of the Planning Dept. and Redevelopment Commission and in channeling the energies of the power structure toward renewal may, however, lead to difficulties.

One small indication of the difficulty that will be encountered is the bitter, on-going fight over the location of the new county jail. Hamilton, and the forces in the city that think in terms of visual and functional organization, want a full block site so that other governmental functions can be combined with the jail to make an integral grouping. On the other hand, the owners of the aged but still sound buildings now on the site protest that they should not be forced to abandon their locations because of an "abstract" idea. And Indianapolis' conservative elements, which tend to downgrade the need of city, county, and state governments in the face of business needs, are coming to the support of the property owners.

It is precisely this sort of crack in the coalition that may make the larger problems of future Indianapolis more difficult to solve. The biggest problem is public transportation. In Indianapolis, as in many other middle-aged cities, transit is now a matter of an ailing bus line, the trolley having long since departed, and the private car being the only vehicle that people really like to ride in.

continued on page 198



Fissured Armstrong Acoustical Fire Guard

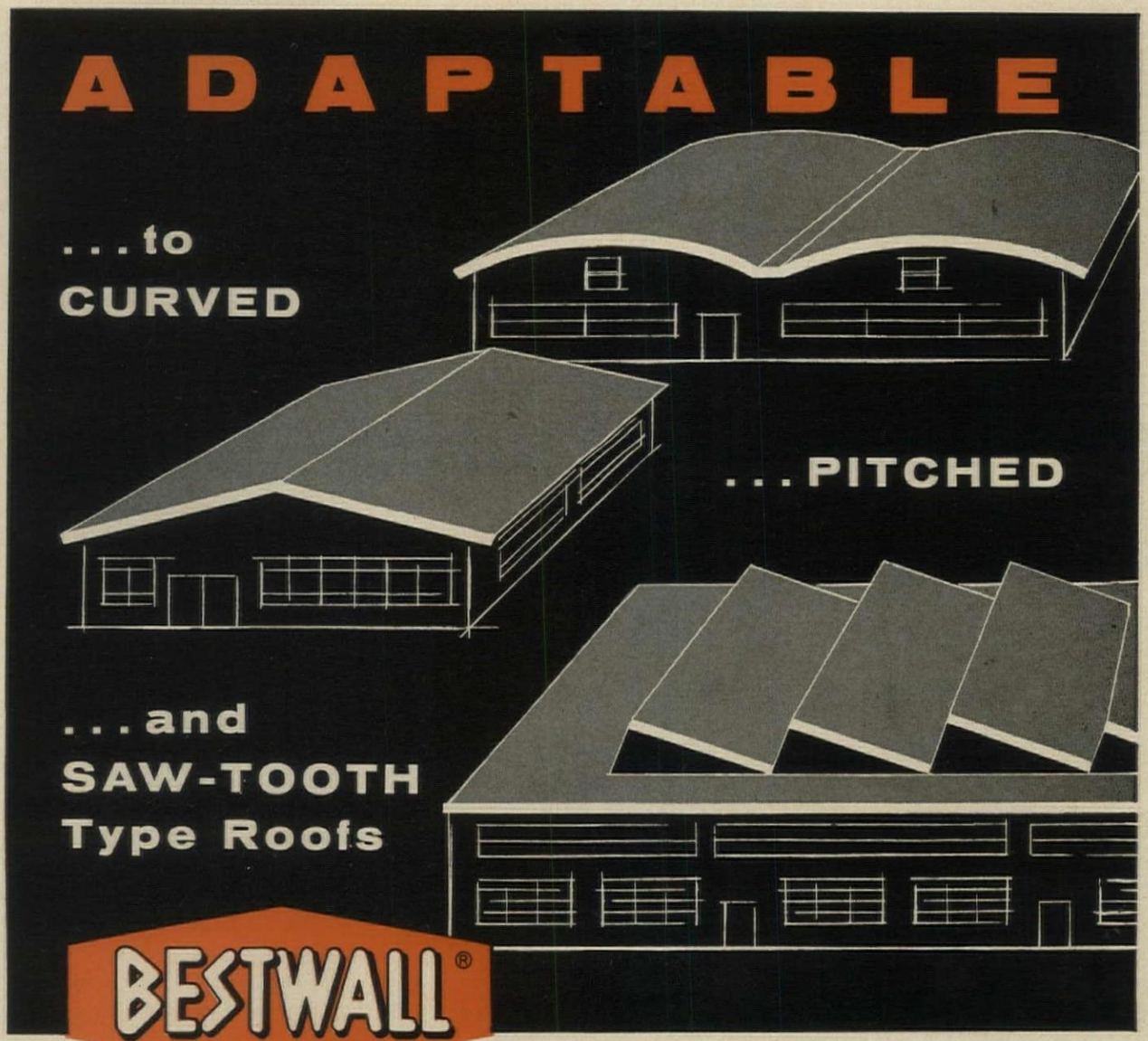
——now available in square-edge detail——

The photograph tells the story. Ceilings have a smooth, uninterrupted flow with Fissured Armstrong Acoustical Fire Guard . . . now available in square-edge, as well as bevel-edge, detail.

To learn more about Acoustical Fire Guard—the first time-design-rated acoustical ceiling tile—contact your Armstrong acoustical contractor (he's in the Yellow Pages) or Armstrong district office. Or write Armstrong Cork Company, 4209 Rooney Street, Lancaster, Pennsylvania.

Armstrong ACOUSTICAL CEILINGS

1860-1960 Beginning our second century of progress



"FIRESTOPPER" Poured-in-Place GYPSUM ROOF DECKS

Versatility is one of the most important advantages of Bestwall "Firestopper" Poured-in-Place Gypsum Roof Decks. They can be used on curved, pitched, warped, saw-tooth and other types of irregular roofs as well as flat decks.

Many different types of form boards can be used to provide additional fire protection, sound conditioning and thermal insulation qualities when required.

Welded sub-purlins and the reinforced Bestwall "Metro-Mix" gypsum slab add rigidity to the primary framing steel on which they bear and will provide uplift resistance.

May we have the opportunity to prove to you that . . . .

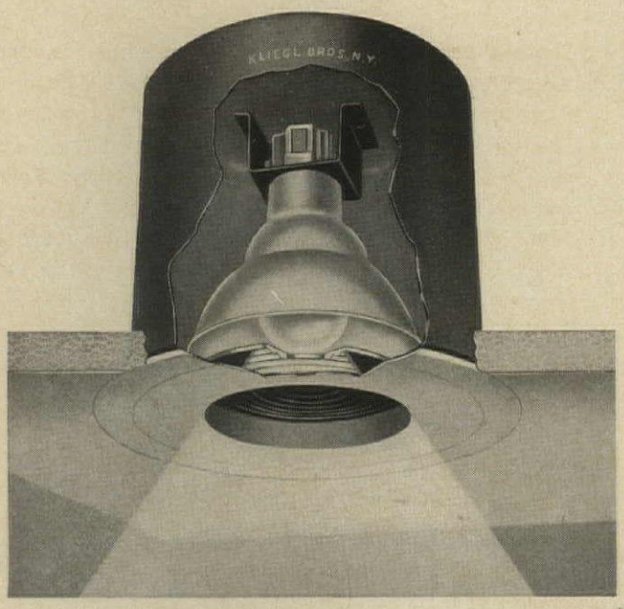
YOUR BEST BUY IS FIREPROOF GYPSUM BESTWALL® BUILDING PRODUCTS

BESTWALL GYPSUM COMPANY
Ardmore, Pennsylvania
Plants and offices throughout the United States

A series of interim measures have been adopted to keep the Indianapolis Transit System in business. The most recent of them was a CPA-supported bill passed by the state legislature last year to give the line a kickback on the gas tax. This measure, which involves $100,000 a year, is obviously no real answer to the problem. A more expensive and longer-range proposal, which would have put tracks for express trains down the middle divider of certain new freeways to serve the need of Indianapolis' swelling commuting population, has not been approved because of disagreement among the agencies involved. More money will have to be raised and spent, and larger realms of power organized before the transportation picture becomes unmuddled.

The same thing can be said for the problem of keeping Indianapolis' planning structure expandible enough to cover new needs. Studies indicate that by 1975 one-fourth of all workers in the Indianapolis area will be commuters from outside the county. Furthermore, there is an increasing need to acquire more land for new industries as well as for old firms that seek to renew themselves by moving out from their cramped, vertical sites within the city. Both Hamilton's farsighted 1958 zoning ordinance that reserved some 10,550 acres for industry within Marion County and Mayor Boswell's aggressive measures for land acquisition (10,000 acres earmarked or annexed) are already regarded as inadequate. The difficulties of planning a workable and agreeable highway ring pattern are only beginning. But the usual problem of whether the neighboring counties will be willing to—or can be pressured into—abandoning a measure of their hegemony for the benefits of a truly regional planning body looks extremely sticky at this point.

It is because of these large-scaled challenges, which involve long-range benefits to Indianapolis rather than immediate profits, that some Indianapolis leaders are beginning to have their doubts about the wisdom of trying to do it all themselves. The intimate, slow-moving, ground-level removal that has gone on in the city, and the uneasy alliance of public and private groups that have made it work, may prove inadequate for the ever greater problems of the modern metropolis. But, as Paul McCord points out from his office overlooking Monument Circle: "This kind of renewal works here; we understand it and believe in it. And until something else comes along that works better, this is the way we want it." END



Regressed Lens Downlights with Designed Optics by Kliegl

. . . the Great Name in Lighting!

Designed Optics . . . properly controlled general area illumination from a concealed lens downlight. Using a specially designed hidden lens support cone and a Fresnel Lens with black painted risers, Kliegl Regressed Lens Downlights give a soft illumination without side glare or surface brightness.

Kliegl Regressed Lens Downlights are optically designed to give excellent performance and easy maintenance. A special flush face plate design produces the distinctive "clean look" when installed.

Plan to use Kliegl Regressed Lens Downlights on your next project. For complete information, write for our Architectural Lighting Catalog.

lighting

KLIEGL BROS.

UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.

321 W. 50th ST., NEW YORK 19, N. Y.

ORIGINATORS AND MANUFACTURERS OF KLIEGLIGHTS

HALLMARK OF QUALITY

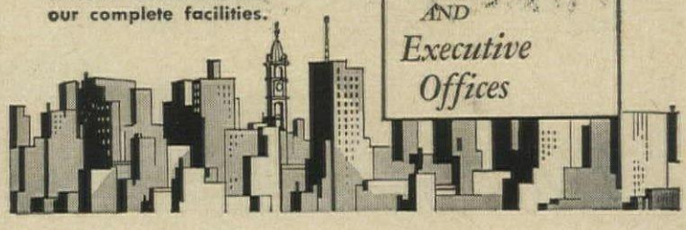
McCLOSKEY GRANT *Corporation*

Philadelphia 32, Pa.

CUSTOM **INTERIORS** *for Stores, Banks, Restaurants AND Executive Offices*

Creators of custom cabinetwork and special metalwork. Special designs produced to your specifications.

Write for information on our complete facilities.



Another FIRST for WILKINSON

Electrically Interlocked CHUTE DOORS

Electrical interlocking prevents the use of more than one intake door at the same time in multi-story buildings.

Wilkinson electrically interlocked chute doors automatically lock when any one door is opened. When this door closes and after a predetermined time delay, all doors are unlocked.

The advantages! First, it eliminates drafts when chute doors are opened—an important sanitary feature. Second, it prevents loading from two, three, or more floors at once—a decided safety feature.

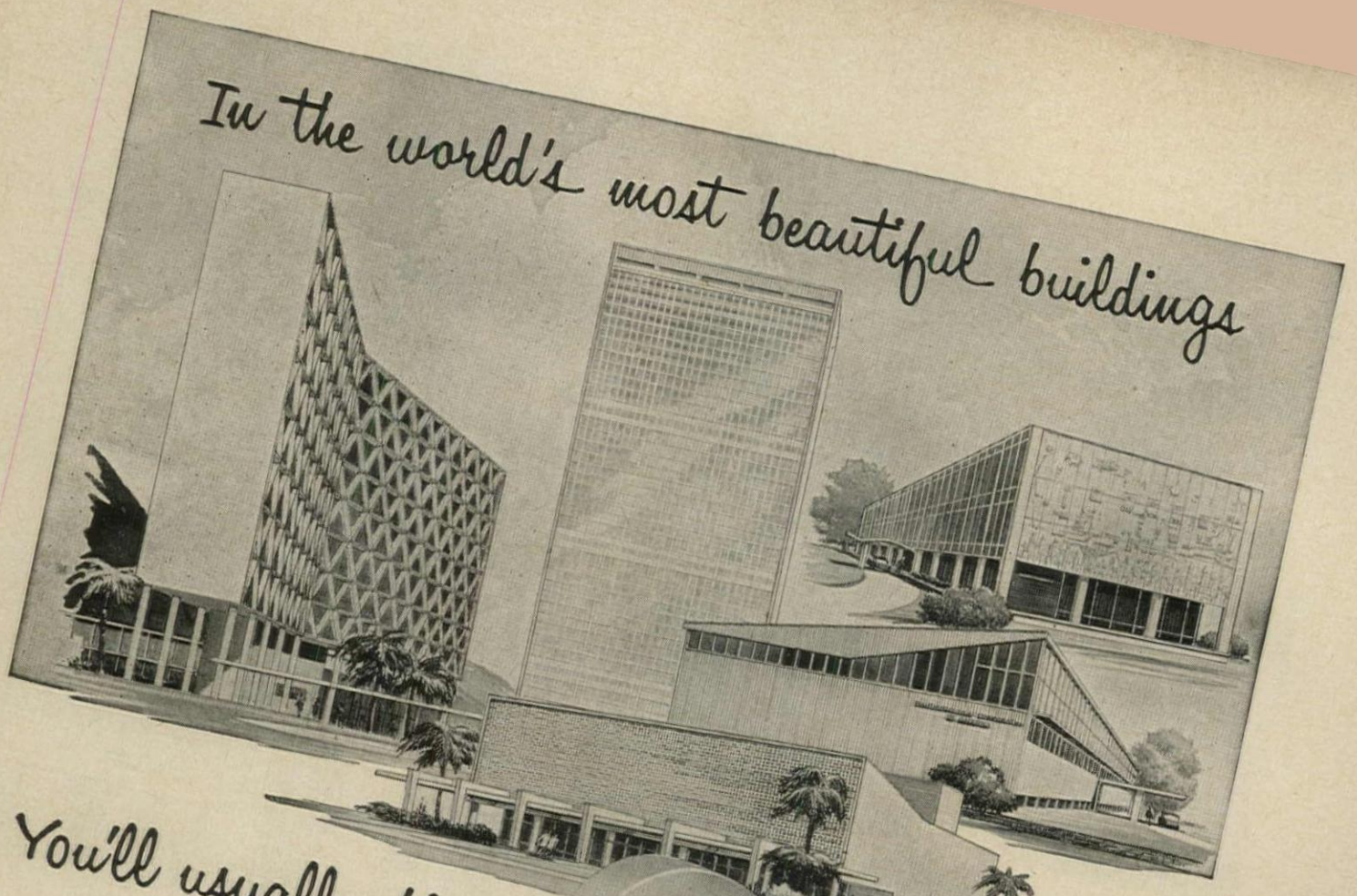
This is another exclusive feature for Wilkinson Chutes . . . another reason for specifying Wilkinson.

See our catalog in Sweet's Architectural File.

WILKINSON CHUTES, INC.

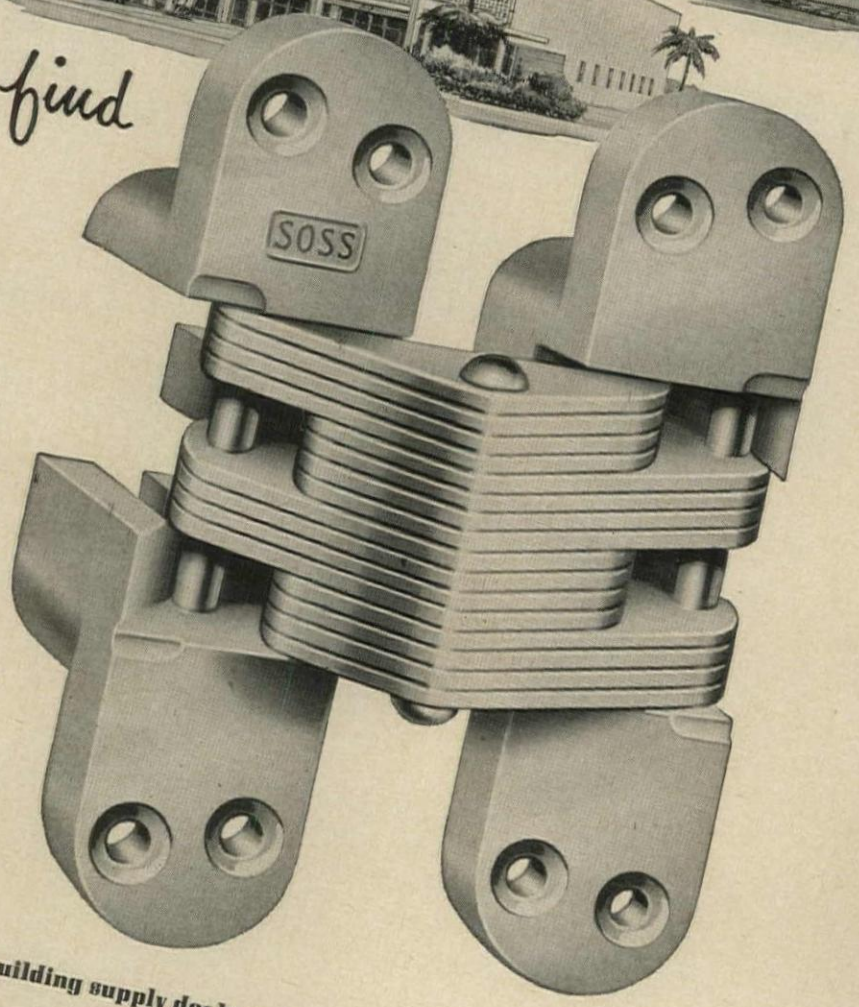
619 East Tallmadge Ave., Akron 10, Ohio

In the world's most beautiful buildings



You'll usually find

SOSS
INVISIBLE
HINGES

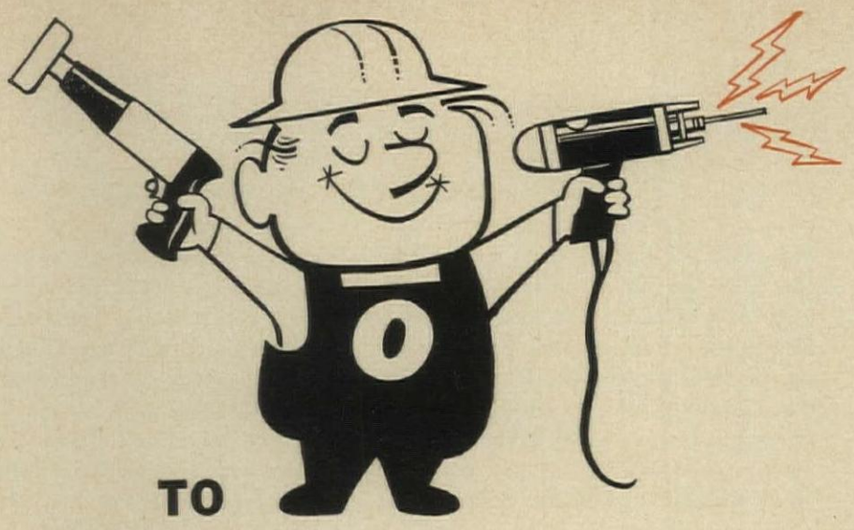


"The Hinge
That Hides Itself"

for complete information and prices, see your building supply dealer or hardware dealer, or write us.

SOSS MANUFACTURING COMPANY

Dept. AF-10, P. O. BOX 38, DETROIT 13, MICHIGAN



TO

"FASTEN ONTO SOMETHING GOOD"

(OR TO DRILL IT OR CUT IT) KNOW THE MAN WHO CAN SHOW YOU HOW

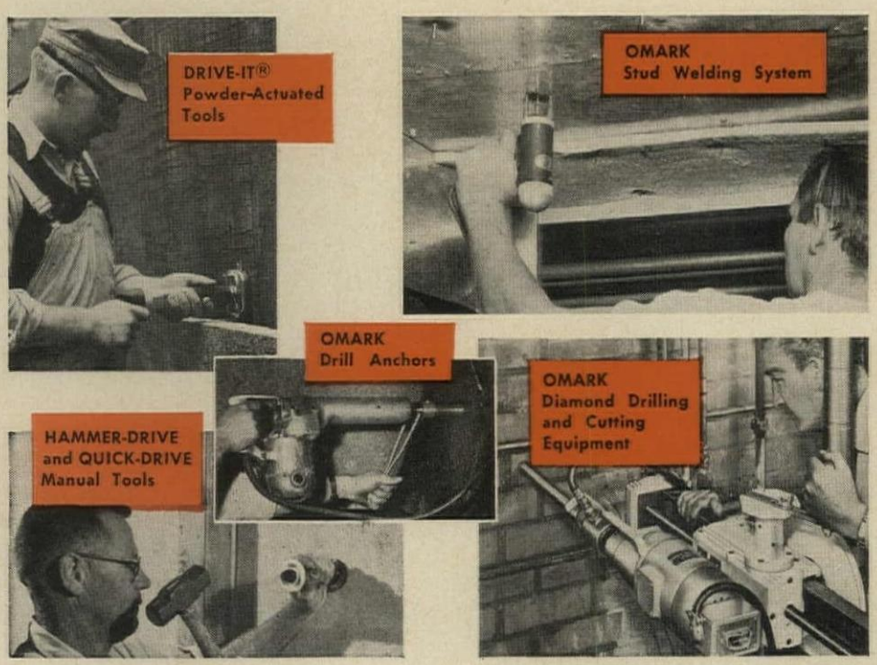
Specifically, for multiple fastening in building and construction with metals of all kinds . . . and for fastening to, drilling or cutting concrete, it pays to know the man from OMARK.

He not only offers you a variety of systems for doing such work. He also brings you experienced on-the-job counsel, and an engineering service to help you specify exactly the right equipment for doing the job, rapidly, dependably and economically.

Join the increasing number of engineers, designers and contractors who are finding that, in the fields of metal fastening, and concrete fastening, drilling and cutting, the man from OMARK is "the man who can show you how." Phone him at your nearest OMARK direct factory branch.

OMARK

Fastening, Drilling and Cutting Equipment For Building and Industry



OMARK Industries, Inc.

Home Plant and Offices:
9701 S.E. McLoughlin Blvd., OLive 4-6531
Portland 22, Oregon

Eastern Distribution Center
10515 Reading Road, PRinceton 1-3131
Cincinnati 41, Ohio

OMARK Industries (1959), Ltd.
165 York Road, Guelph, Ontario, Canada

Sporting Arms, Ltd.
Adelaide, South Australia

Svenska-OREGON AB
Kopparberg, Sweden

On-the-job, single-source service from factory branches in major cities

OMARK-Northeast, Inc.
Southwest Park, Routes 1 and 128
Westwood, Massachusetts, DAvis 6-5680

OMARK-Northeast, Inc.
New York Division, 40-18 Crescent Street
Long Island City, N.Y., EMpire 1-2290

OMARK-Mideast, Inc.
5801 Torresdale Ave., Philadelphia, Pa.
Pioneer 3-1219

OMARK-Mideast, Inc.
4153 Hayward Dr., Baltimore 15, Md.
Liberty 2-5474

OMARK-Southeast, Inc.
1806 West Platt St., Tampa, Florida
8-3647, 88-1551

OMARK-Southeast, Inc.
1543 N.W. 54th Street, Miami, Florida
OXford 1-6781

OMARK-Southeast, Inc.
1500 West Church Street, Orlando, Florida
GArden 4-0815

OMARK-Southeast, Inc.
Atlanta Division, 440 Northside Drive N.W.
Atlanta, Ga., JAckson 5-6426

OMARK-Wisconsin, Inc.
5100 West Bluemound Rd., Milwaukee, Wis.
SPring 1-4420

OMARK-Midwest, Inc.
5404 West Fullerton St., Chicago 39, Ill.
TUxedo 9-2662

OMARK-St. Louis, Inc.
8610 Natural Bridge, St. Louis, Mo.
HArrison 8-2702

OMARK-St. Louis, Inc.
(Kansas City Branch)
4008 Baltimore Street, Kansas City, Mo.
PLaza 3-4935

OMARK-Ohio, Inc.
10515 Reading Road, Cincinnati 41, Ohio
PRinceton 1-4330

OMARK-Ohio, Inc.
437 Holtzman Avenue, Columbus, Ohio
CLearbrook 8-5322

OMARK-Ohio, Inc.
1556 Richard Street, Dayton 3, Ohio
CLearbrook 4-4931

OMARK-Southern, Inc.
1900 Veteran's Memorial Hwy.
Metairie-New Orleans, La., VErnon 3-6411

OMARK-Southern, Inc.
2039 Grant Street, Mobile, Ala.
GRant 9-0315

OMARK-Southwest, Inc.
1305 Akard Street, Dallas, Texas
RIverside 7-7001

OMARK-Southwest, Inc.
3713 S. Littlejohn, Ft. Worth, Texas
JEfferson 4-4314

OMARK-Southwest, Inc.
3111 Leeland Avenue, Houston, Texas
CApitol 5-4865

OMARK-West Coast, Inc.
746 Ellis Street, San Francisco 9, Calif.
PRospect 5-6243

OMARK-West Coast, Inc.
(Southern)
401 E. Washington Blvd., Los Angeles 15, Calif.
RIchmond 7-0691

OMARK-West Coast, Inc.
(Southern)
1815 Hancock Street, San Diego 1, Calif.
CYpress 6-6146

See the yellow pages under "tools" for your OMARK dealer's name.

month, AFL-CIO Head George Meany failed to attend a meeting of architect-engineers, contractors, and missile manufacturers called by the Secretary of Defense. Meany is reportedly miffed because more labor representatives were not invited, and seems to be disinclined to help until the military grants AFL-CIO more recognition.

Besides trying to unravel the labor snarl, the Defense Dept. has also been streamlining its own missile-base construction apparatus. Several weeks ago both the Air Force, which lets initial contracts to architect-engineers for base development, and the Corps of Engineers, which reviews designs and supervises construction, centralized their construction branches. The Air Force has given its Air Materiel Command full responsibility for building all operational ICBM sites (it was formerly the responsibility of the Ballistic Missile Division, a part of the Air Research & Development Command); and the Corps has put all its missile supervision work under a new Ballistic Missile Construction Office. This new office will replace the old field office and district office setup, and, by shortening the chain of command, make it easier to control construction. The Corps is also attempting to cut out the activities of "job brokers" who low-bid a construction job, then farm out as much as 90 per cent of the work to subcontractors. A new Corps policy will require prime contractors on ICBM jobs to do at least 15 per cent of the construction work themselves.

Architects, engineers, builders, and military men themselves feel that much of the delay in missile-base building is due simply to the fact that space-age construction is still a new experience for everyone in it. There are few ground rules, and the changes in missile development itself, as well as policy shifts affecting their deployment and housing, make it unlikely that there will ever be very many firm rules. But architect-engineer firms and contractors that have so far played major roles in missile and space-development work have shown their enthusiasm in the vigor with which they attempt to garner new contracts for such work (DMJM's Philip Daniel made 154 round trips to Washington in one 15-month period). Although it is true that a relative handful of firms have done the lion's share of architect-engineer work (due largely to the fact that a firm gains a favored position once it has licked some of the massive problems involved in missile and space design), the services themselves favor a policy of getting as many firms into the work as possible.

And once a firm is in, something of the exotic nature of space exploration and missile defense seems to rub off on it. For instance, Philip Daniel talks optimistically about building "a lanai in the sky with a picture window and swimming pool! . . . You have the same problems in space stations as in a five-room house." However, if the past short history of space architecture is any guide, the picture-windowed lanai in the sky will be obsolete the day it is finished. END

Baltimore, Md., Dept. of Recreation and Parks
Consulting Engineer: Peter Carver Associates
General Contractor: Lawrence Plumbing and Heating, Inc.
Pipe Jobber: Southern Supply Co., Inc.

2000 skating enthusiasts or 200 parked cars make no difference with **steel pipe** on the job

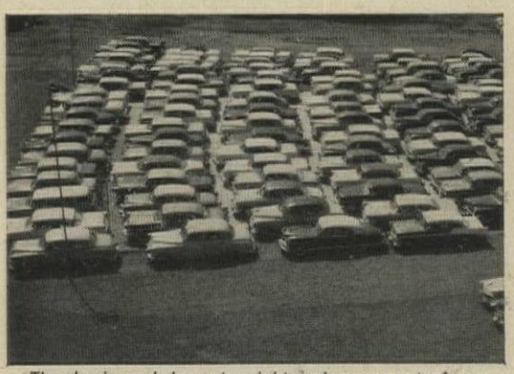
Baltimoreans can be proud of their combined ice skating-parking area just outside the new Memorial Stadium. And with reason. In winter they can enjoy ice skating at its best. When crocuses harbinger spring, the rink disappears. In its place, a parking lot serves spectators of the events held in the adjacent stadium.

Versatile? Yes. Cost cutting, too—because of *steel pipe*. For *steel pipe* makes possible this dual-purpose area. When it's skating time, a *steel pipe* refrigeration system, imbedded in the 85-foot by 185-foot concrete slab, freezes 1½ inches of water into mirror-smooth ice. Yet, the *steel pipe*, acting as reinforcing in the concrete, has the structural strength to withstand the load of cars parked on the area during the spectator events seasons.

Only *steel pipe* can do this job so dependably, so economically. Its coefficient of expansion during alternate freeze/thaw cycles is comparable to concrete. Its strength, proved joining methods, durability assure virtually maintenance-free service. *Steel pipe* is the proved tubular product for refrigeration, for ice skating rinks, for vent and drainage, plumbing and air conditioning, transmitting gases and liquids. It serves well and long in such varied applications as electrical conduit, protective railing, fire sprinkler systems and other uses.

No wonder *steel pipe* is *first choice*.

COMMITTEE OF STEEL PIPE PRODUCERS
150 East Forty-Second Street, New York 17, New York



The day-in and day-out weight and movement of cars offer no structural problem for steel pipe on this combined skating rink/parking area.

STEEL PIPE IS FIRST CHOICE

- Low cost with durability
- Strength unexcelled for safety
- Formable—bends readily
- Weldable—easily, strongly
- Threads smoothly, cleanly
- Sound joints, welded or coupled
- Grades, finishes for all purposes
- Available everywhere from stock

Insist on MADE IN USA Steel Pipe

C-4

RED TOP* Cement Plaster, RED TOP Gauging Plaster, and GRAND PRIZE* Finishing Lime on USG® Metal Lath all play a major role in creating the spherical beauty of this auditorium lobby of the Massachusetts Institute of Technology.

Architects: Eero Saarinen & Associates, Bloomfield Hills, Mich.

Plastering Contractor: Muir Bros. Co., Roxbury, Mass.

PLASTER CAPTURES THE CONTOURS OF CREATIVE THOUGHT

Versatile plaster offers an infinite variety of visual drama, plus assured performance for any design

From an unfolding rosebud might have come the inspiration for the continuously curving interior surfaces of the auditorium at the Massachusetts Institute of Technology, as shown at the left. The sweeping boldness of the design demanded a material with exceptional flexibility. The answer, of course—plaster.

Only plaster permits such complete freedom of expression . . . follows, with such absolute fidelity, every intricate curve and plane in the architect's plans. And only plaster combines such visual and textural beauty with durability, lightness, fire-resistance and acoustical excellence.

Whatever your concept, bring it to reality with new United States Gypsum lathing and plastering systems, and with the help of your skilled plastering contractor. For only plaster truly . . . *captures the contours of creative thought.*

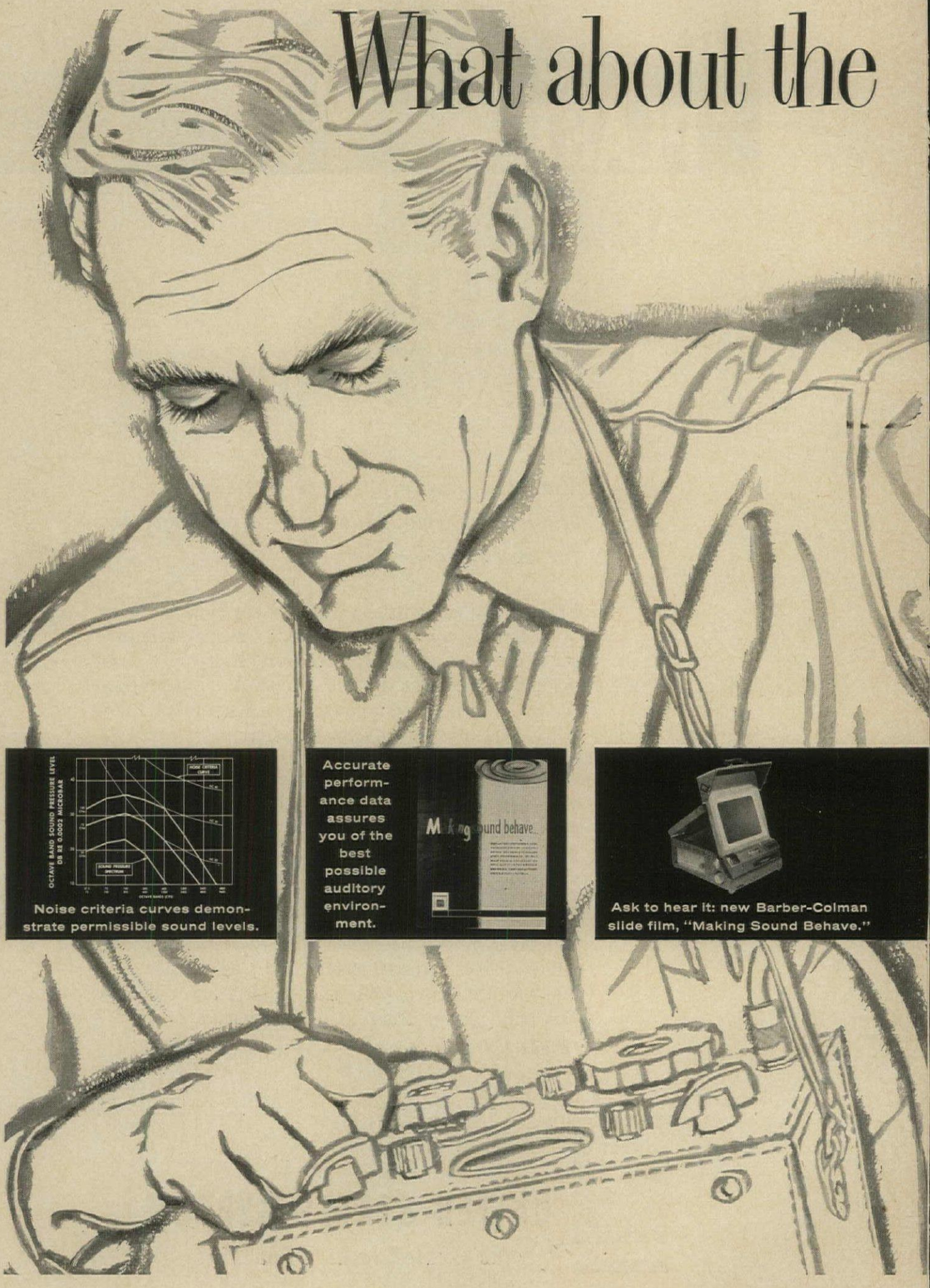
USG UNITED STATES GYPSUM

UNITED STATES GYPSUM

the greatest name in building

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

What about the



Noise criteria curves demonstrate permissible sound levels.

Accurate performance data assures you of the best possible auditory environment.

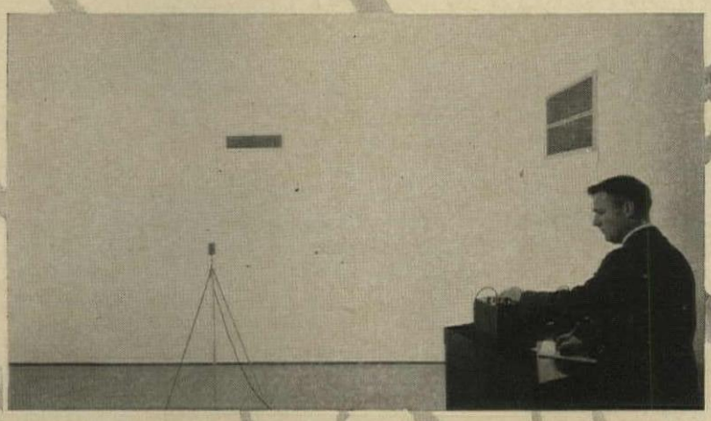
Ask to hear it: new Barber-Colman slide film, "Making Sound Behave."

auditory environment?

Facts about air distribution sound levels of importance to engineers and architects

An architect skillfully uses both color and light to create the proper environment. A good analogy exists between an architect working with frequencies of light (color) and an engineer creating ideal air distribution specifications with sound.

Until recently engineers used only the decibel level in selecting air distribution equipment. Today this is not



enough to assure comfortable environment, for sound must be measured and specified not only in terms of over-all magnitude, but also in magnitude at different frequency levels.

To help you create the proper auditory environment, Barber-Colman has built modern sound laboratories where engineers break down into eight octave bands the sound of air passing through Uni-Flo diffusers. The decibel value of each band then is charted for a complete range of capacities.

The results are twofold: data is available for comparison with noise criteria curves which are used for specifying permissible sound levels in different frequency bands; scientifically proved performance data is provided for correct selection of air distribution equipment.

Ask for literature and be sure to see — and hear — Barber-Colman's new slide film, "Making Sound Behave."

BARBER-COLMAN COMPANY
Dept. I, 1135 Rock Street, Rockford, Illinois

BARBER COLMAN

Beauty . . . cycles . . . paradise . . . money

WHAT'S BEHIND BEAUTY?

At the recent conference on architectural education at Sagamore, New York Architect Lawrence B. Anderson, head of M.I.T.'s Department of Architecture, condemned the willingness of U.S. designers to hide unsolved social questions behind pretty buildings.

The optimistic tradition in American culture (together wtih our emphasis on material well-being through technology and the need to influence public taste in connection with consumption) has tended to lead even our most able architects toward the idea that beauty in architecture is a matter of formal organization for visual effect. This effect is of a kind that can readily be appreciated by the man in the street, even though it may not be expressive of any underlying reality. Such superficial prettiness and even artificial grandeur seems to be coming back now that "modern" is accepted as a style and now that its earlier vigorous functional and social philosophy is more or less forgotten in our affluent society.

Specifically, what demanding architectural themes of philosophical importance are being avoided here?

▸ Kenzo Tange speaks repeatedly of the need for architecture to represent the "naked human being." Alvar Aalto's one commission in the U. S. was a protest against what he called our cellophane-packaged drugstore architecture. Le Corbusier, in his later years, evinces more and more his revolt against the rational design argument of organization man. There is a whole generation of sensitive young men in other countries who dislike our packaging approach, our willingness to institutionalize everything and give it a façade, our tolerance for the esthetic cliché.

▸ Every year a population equal to that of greater Philadelphia is put into new housing on suburban land. This is the biggest commitment we are making in conversion of land use and in fixing the architectural environment. But professional skill in architecture and in planning are very little used in this activity. It is dominated by the entrepreneurs, with a little bit of regulation by local building codes and zoning laws. The large-scale speculative builder is in a competitive, intricate market. The public makes the easy assumption that what is good for him is good for the country.

▸ Then there is the enormous program of superhighways. This is clearly a public utility and so should be executed in the best long-term interests of all the people. But no way has been found to introduce consideration for anything but the immediately expedient factors.

▸ We still have both urban and rural slums. These exist as islands of degrading poverty that resist being washed away by prosperity. Although the destitute poor are now in a minority, they are still always with us. Our economy has learned to do without child labor and can afford to retire almost everyone at about 60, while still continuously reducing the work week. We can probably also afford to eliminate poverty and the slums, even though this means subsidizing people who can make little or no contribution in return. If we could do this it would be easier to eliminate those physical evidences of destitution and despair that are a disgrace on our landscape.

These thoughts suggest the generalization that we have many tasks of a public and social nature where some good architecture would help. Unfortunately we have a rather bad record, architecturally speaking, for our public services. The expression "public housing project" conjures up an image of hopelessly inept design entirely without amenity, a place that no one with a grain of self-respect would give as his address. Similar pictures come to mind when we think of the county hospital, the city hall, or even the municipal library. And if you think the country is full of delightful schools like those of John Reid or Bill Caudill you choose not to look within the city limits.

BREAKING UP THE CYCLE

Writing in a technical bulletin of the Urban Land Institute, Dr. Homer Hoyt ventured the guess that zoning and other controls may have done away with the traditional, dangerous real estate cycle.

The future of real estate values is being affected by many factors (such as zoning, differential tax rates, long-run popular growth) of which the economic ups and downs of the real estate cycle may no longer be, as they once were, the most important and critical factor. Methods of national regulation, which have controlled in recent years the extreme aberrations of the business cycle, have also so far controlled the real estate cycle. Local zoning regulations and differential tax assessments are also influencing the volume and direction of urban growth.

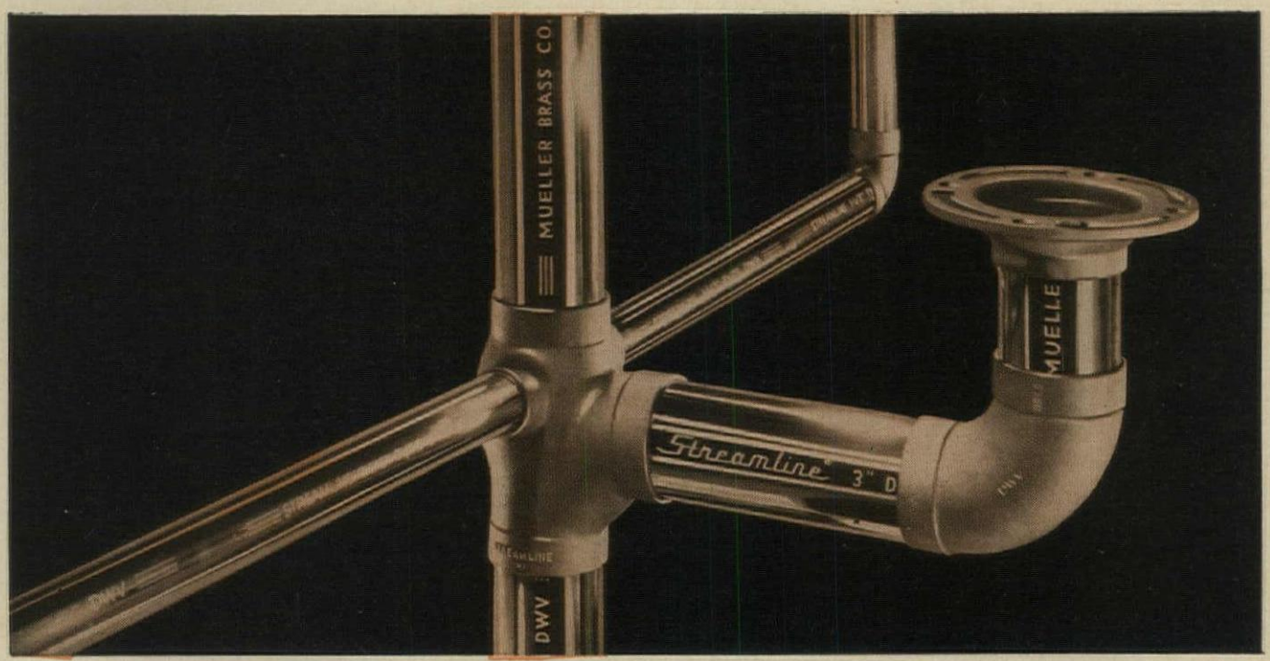
The extreme fluctuations of the real estate cycle may thus have been a manifestation of a youthful, highly individualized society of small businessmen, laborers,

continued on page 211

Streamline® DWV* COPPER

*(DRAINAGE, WASTE AND VENT)

TUBE AND SOLDER-TYPE FITTINGS CAN SAVE YOU UP TO 15% AND YOU GET A BETTER INSTALLATION TOO!



You can install STREAMLINE DWV COPPER TUBE AND FITTINGS at savings up to 15% and get the most modern drainage system possible . . . a compact, space-saving system that's lightweight, sanitary, non-rustable and clog proof.

COMPARISON WITH RUSTABLE MATERIAL PROVES INSTALLED COST OF STREAMLINE DWV COPPER TUBE AND FITTINGS *IS LOWER!**

3" ALL COPPER DWV DRAINAGE INSTALLATION

	COST TO PLUMBING CONTRACTOR
Stack Fittings and Tube	$62.46
Drainage Branch Lines	50.89
Solder and Flux	1.31
Labor	60.00
TOTAL COST OF INSTALLATION	$174.66*

3" GALVANIZED AND DURHAM DRAINAGE INSTALLATION

	COST TO PLUMBING CONTRACTOR
Stack Fittings and Pipe	$53.01
Drainage Branch Lines	30.91
Lead and Oakum	1.00
Labor	120.00
TOTAL COST OF INSTALLATION	$204.92*

3" IRON DRAINAGE INSTALLATION

	COST TO PLUMBING CONTRACTOR
Stack Fittings and Pipe	$26.52
Drainage Branch Lines	30.78
Lead and Oakum	4.87
Labor	120.00
TOTAL COST OF INSTALLATION	$182.17*

*This comparison is based on actual material and labor costs in effect on January 7, 1960, in a mid-west metropolitan area of 75,000 population.

Complete technical information on Streamline DWV Copper Tube and Solder-Type Fittings is included in big, new 32-page Bulletin D-459. Send for your free copy today.

MUELLER BRASS CO.

MUELLER BRASS CO., PORT HURON 9, MICHIGAN

294

See what an all-glass "skin" of PPG SOLARGRAY® TWINDOW® does for this magnificent new building!

Architects: Greacen & Brogniez, Houston, Texas • Associate Architect: J. Victor Neuhaus III, Houston, Texas
General Contractor: Marshall Construction Co., Houston, Texas

The beautiful new six-story building on the corner of Fannin and Hadley Streets, Houston, Texas is the headquarters for Gibralter Savings Association. Its gleaming surface is one continuous skin of glass—22,382 sq. ft. of SOLARGRAY plate glass TWINDOW. TWINDOW insulates, eases the load on air conditioning, cuts down on outside traffic noise. The outer pane of each TWINDOW unit is SOLARGRAY heat-absorbing, glare-reducing plate glass. SOLARGRAY's neutral gray tint shuts out about 50% of the sun's heat, eliminates glare problems, yet lets plenty of refreshing light come through. Other products supplied and erected by PPG for this building: PITTCO® 25-X framing, polished plate glass, HERCULITE® doors and sidelights, TUBELITE® door frames, and mirrors. Ask your PPG architectural representative for specific data. Or, check your PPG General Glass Catalog in Sweet's.

Pittsburgh Plate Glass Company

Paints • Glass • Chemicals • Fiber Glass In Canada: Canadian Pittsburgh Industries Limited

and farmers. That former economic phase of our national life was subject to few controls by federal or local government, and was the mirror of alternating moods of optimism and depression of masses of people.

It remains to be seen, of course, whether our mixed economy, with its combination of national and local controls, will eliminate the real estate cycle altogether, or whether it will break out from the underground caves in which it may be hiding to assert itself again with its old-time violence.

PARADISE DECLINED

During the past summer, "The New Yorker" deigned to look at the suburban real estate columns of the local press.

A paradisaic land begins on Page 2R—for "Real Estate"—of the Sunday *Times*, and we have taken to strolling through it once a week. The line of country described in the *Times* R ads is spectacular. We visualize it as an endless expanse of wooded mounds, swaying perpetually. Every site is described as Gently Rolling and either Heavily or Thickly Wooded, and each of these eminences is occupied by a Brilliant Housing Extravaganza or a Crowning Achievement in Luxury Building, which may be either a Breath-taking Georgian Home or a Ranch Home with a Gloriously Orginal Façade. Huge is the smallest any site is—as in the Huge, Wooded ¼-Acre Sites offered by a Crowd-Stopping, History-Making New Community. Another advertises 10,000-square-foot Junior Estates—a ¼ acre minus a few hundred square feet. A ½ acre calls for a more potent adjective—Magnificent. An acre is the largest unit of area, and guarantees Old-Fashioned Spaciousness.

The fairy castle we liked best "contained"—no house in R Land ever just *has* anything—Graciously Conceived Floor-to Ceiling Dressatories and a Sun-Splashed Dining Area, a Gracious Living Room, and an Impressive Foyer. It is a Uniquely Luxurious Split-Level Design in an Oversized Estate Setting (the acreage is not specified). We liked also, needless to say, the "uniquely designed sprawling ranch"—thrown off balance, no doubt, by the rolling country—"set on a full acre of land" that "awaits the proud owner who has already made his mark in life."

Last week, we took a sheaf of this new authentic American poetry with us to a daisy field in a pasture we know well and lay down to read it. Like Piers Plowman, we fell asleep and dreamed a dreadful dream—that Split-Level, Bi-Level, Raised-Level Contemporary and Early-American Ranch-House Igloos in the French Provincial Tradition of Early Victorian Spacious Elegance were sprouting under and all around us, like Formica-topped parasol mushrooms, with Muzak, hot-and-cold status, and 30-year mortgages with sunken suicide clauses. In the dream, we got our left ankle caught between a Pecky Cypress Exposed Beam and a Completely Covered Portico Entry on two houses that were growing too close together. (In real life, we suppose, the developers thin them out, like lettuce plants, when this occurs.) We awoke and were happy to recognize our surroundings, which have never been described in R and never, we trust, will be.

TRANSIT—A FEDERAL PROBLEM

The case for regarding metropolitan transportation as a national rather than local problem was recently made by the mayor of St. Louis, Raymond R. Tucker, appearing in Washington before a Senatorial subcommittee as president of the American Municipal Assn.

Many people would agree with everything that has been said about the need for subsidized metropolitan transportation but then say: "This is a local problem which should be solved at the local level; why are you coming to the federal government for help?"

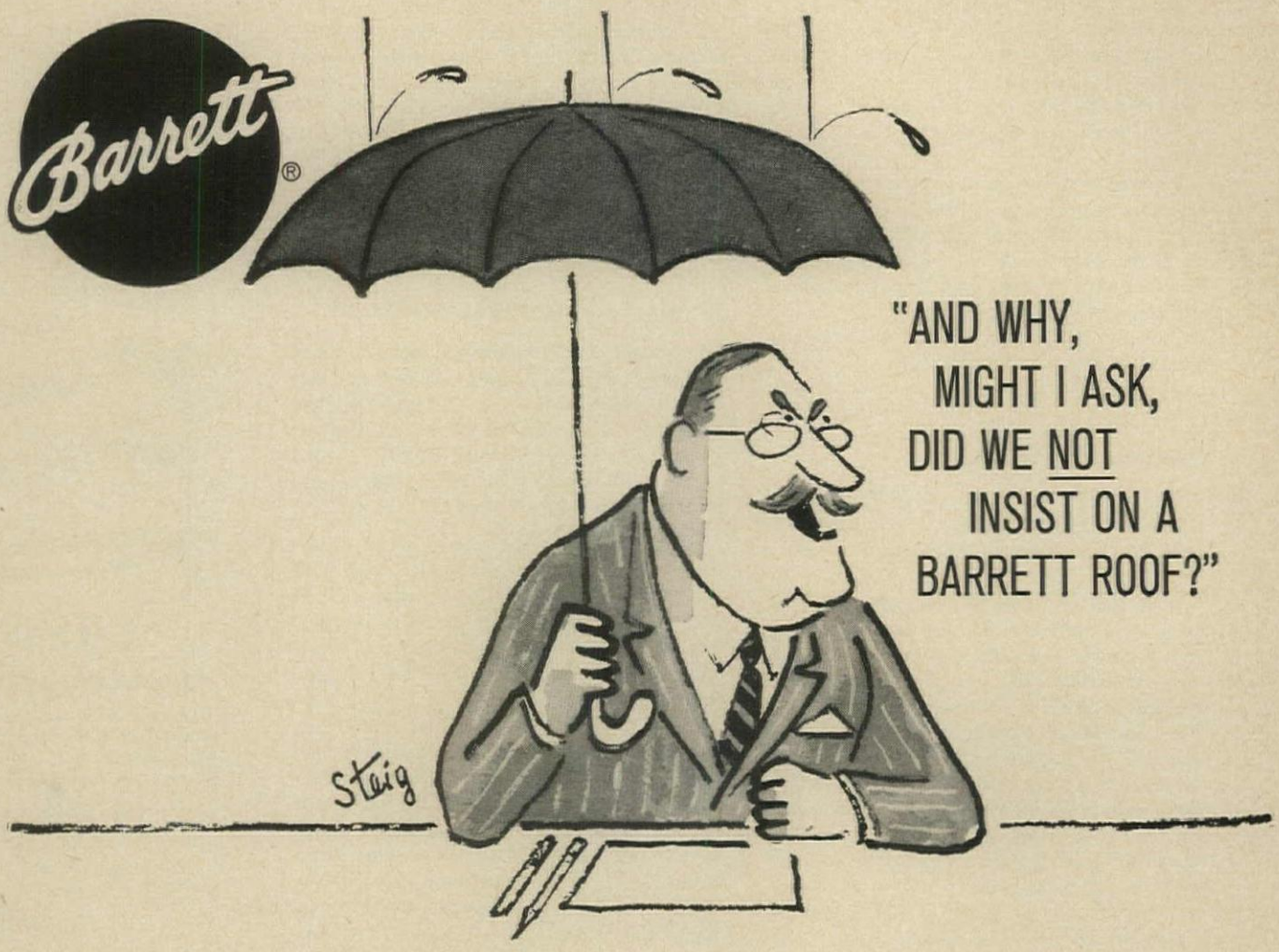
In the first place, when they say "locally," who do they mean? By its very nature the mass-transportation problem is metropolitan in nature. It is created because of the mass movement in and out of the core city during the same hours of hundreds of thousands of people from a vast area crossing city, county, and even state lines. There is no locality with jurisdiction to handle the problem in its full implications. The core city can at best solve only part of the problem, the counties and states only another part.

Second, the problem is national in scope because two-thirds of our people live in these metropolitan areas. Our whole national economy, our national defense, and the pursuit of our foreign policy suffer staggering losses as a result of the millions of man-hours lost to our national effort because of the strangulation of movement in our metropolitan centers.

Third, our nation has a tremendous investment in a federal highway program, the largest public works program ever embarked upon in this country. On the one hand, the development of our federal highway program has aggravated the problems of mass transportation, and on the other hand the collapse of mass transportation will bring about staggering increases in federal highway expenditures.

Fourth, legislation proposed to date does not call for grants or subsidies by the federal government, but long-term, low-interest loans to assist local public bodies in underwriting the cost of these improvements. These loans would be used to help finance acquisition, construction, or improvement of equipment and facilities for use in mass-transit or commuter service. I think it is particularly appropriate for the federal government to ease the burden of high interest payments we must make to finance these improvements, because it has been federal government policies which have raised our interest rates.

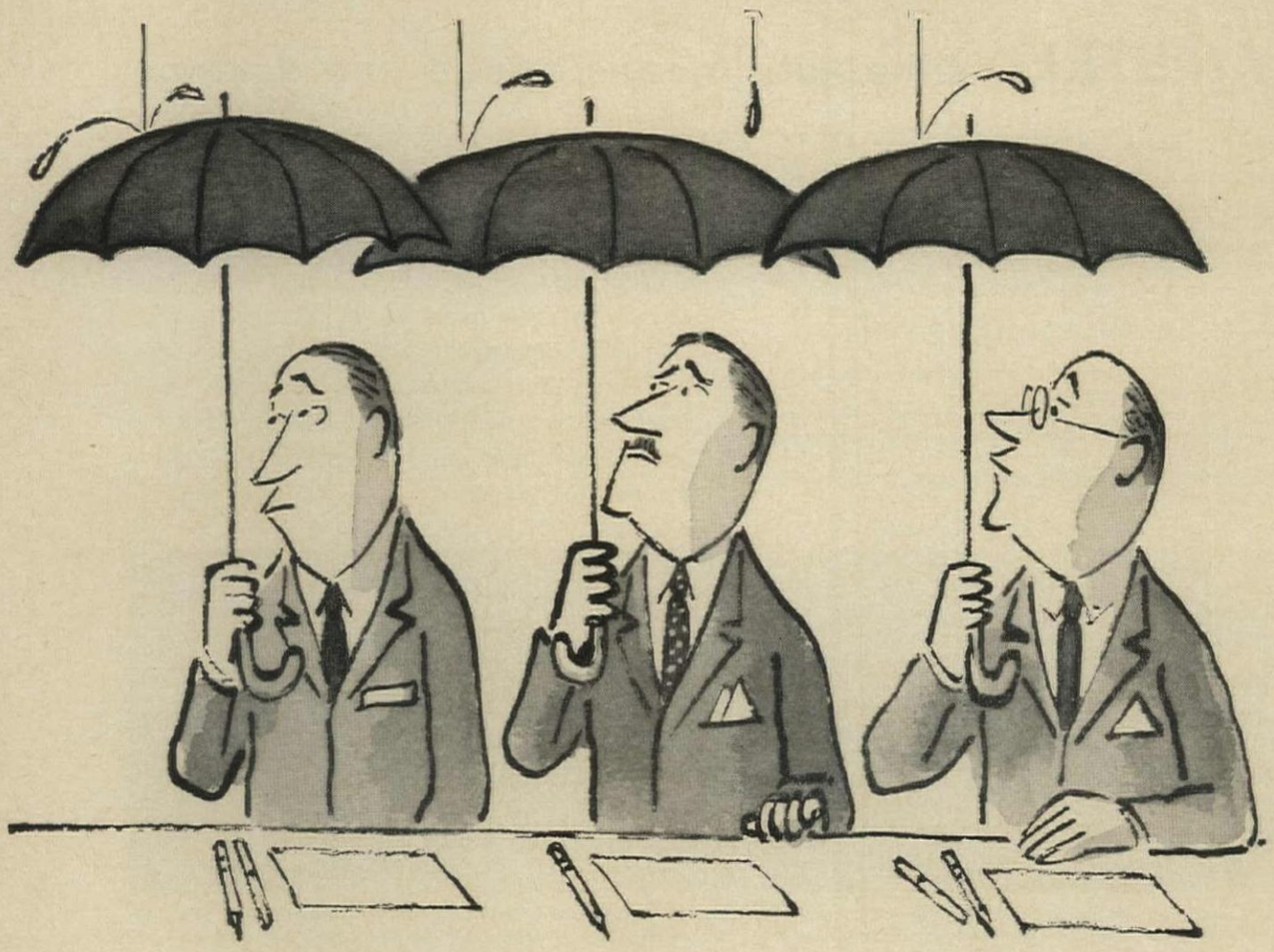
continued on page 215



FOR A QUALITY ROOF, IT'S BARRETT

- FINEST MATERIALS... BOTH ROOFING AND ROOF INSULATION
- APPLIED BY BARRETT APPROVED ROOFERS
- BACKED BY BARRETT ROOF INSPECTION SERVICE

Taking chances can be fun. But if you like to play it safe—at least where roofs are concerned—specify Barrett. Pitch or asphalt, applied over Barrett surface-sized roof insulation, adds up to roofs that will be giving trouble-free service when the present board chairman's son is board chairman.



ACROSS THE BOARD

Barrett's SPECIFICATION® Roof is the **only** 25-year bonded pitch and felt roof. For buildings requiring an asphalt flat roof, we've got the best, too—the new ANCHORBOND†. And now we've added the finest fiberboard roof insulation. For 106 years, Barrett has offered the finest in built-up roofing materials.

BARRETT IS OUT TO HELP YOU! With a line of dependable, highest quality building materials that includes: ASPHALT SHINGLES • ROLL ROOFINGS • FIBERBOARD PRODUCTS • ALUMINUM SIDING • GYPSUM PRODUCTS • PROTECTIVE COATINGS AND CEMENTS.

BARRETT DIVISION
40 Rector Street, New York 6, N. Y.

Allied Chemical

†Trade Mark of Allied Chemical Corporation

STRAN-STEEL simplicity means speed and savings

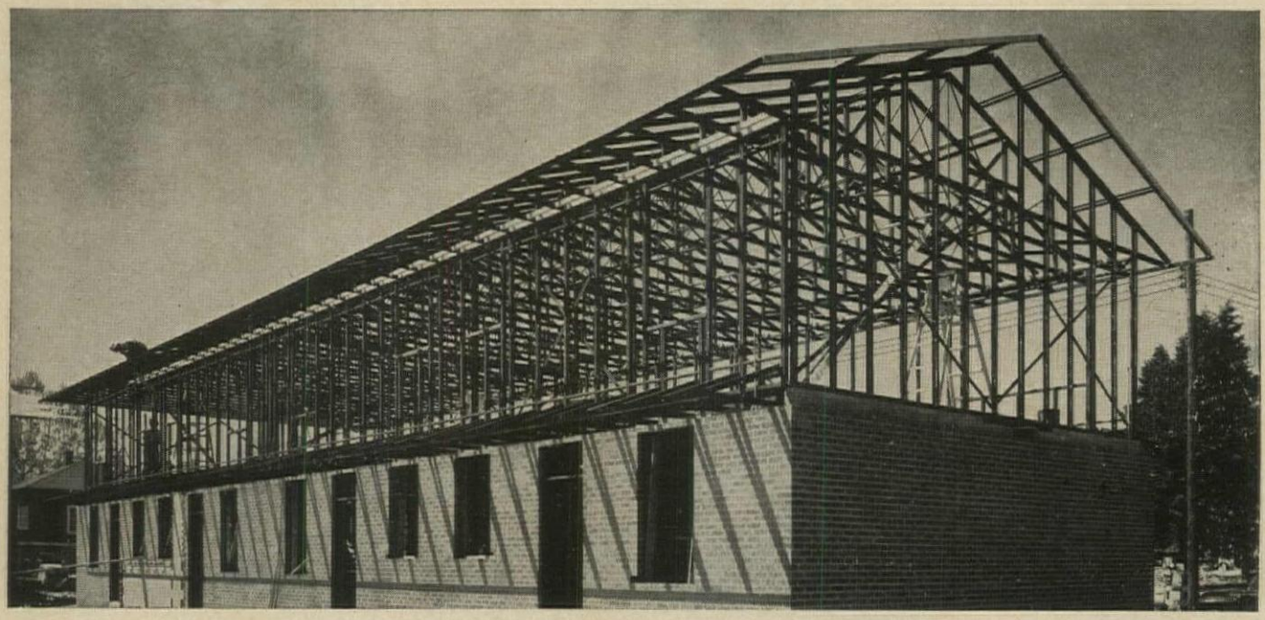
A $4,000,000 multiple-dwelling project in Memphis, Tennessee, proves the advantages that can be yours with Stran-Steel lightweight steel framing.

- Easy on-site assembly and hand construction eliminates need for crane rental, speeds job completion.
- Field sub-assembly brings factory economies to the job site.
- Practical Stran-Steel nailable floor joists were installed without cutting or detailed shop drawings. Joists for 90′ buildings were installed in one day.
- Corrugated steel deck was nailed directly to joists in less than half the time—and cost—of welding.
- Sub-assembly of wall sections permitted the raising by hand and plumbing of second-story walls for 90′ building in just 90 minutes.
- Strong lightweight trusses were raised manually and welded in place—one every five minutes.

Want production building economies like these? They're yours in noncombustible Stran-Steel structural components. Easily adaptable to your own requirements, they'll save you time and material. Your Stran-Steel dealer, a light steel specialist, will give you personal service and on-the-spot delivery. Get specifications on the complete line of Stran-Steel architectural products. Mail the coupon or phone the Stran-Steel Architectural Products dealer near you. He's listed in the Yellow Pages under Steel.

Eason, Anthony, McKinnie & Cox designed 31 Memphis project apartment buildings with Stran-Steel components. Sidewalls and trusses were assembled on wood jigs near building sites.

Every five minutes, workers lifted 31′ trusses weighing only 140 pounds into place—including welding to the top channel of the load-bearing wall.



Perfect alignment of trusses shows straight roof eave. No shims were used. Hood houses lead pipes for radiantly heated floor. All steel in this 90′ building was erected in three days.

Stran-Steel®

Stran-Steel Corporation, Dept. AF-6, Detroit 29, Michigan
Please send more information on the uses of Stran-Steel architectural systems.

Name_____
Title_____ Phone_____
Firm_____
Address_____
City_____ Zone_____ State_____

STRAN-STEEL IS A DIVISION OF **NATIONAL STEEL CORPORATION**

NEEDED: SAVINGS FOR BUILDING

In "The Mortgage Banker," FORUM Consultant Miles Colean called for wider and more imaginative efforts to tap new sources of savings to finance the mortgages necessary for the next decade of building.

The total outstanding U.S. mortgage debt on residential and commercial property is in the neighborhood of $184 billion—the largest single category of the national debt, except that of the federal government. The net increase last year was close to $24 billion. Of both total outstanding and average annual increment mortgages on one-to-four-family structures mortgage servicing amounts to about three-fourths. By 1970, outstanding home-mortgage debt may well be pushing the $300 billion level and total mortgage debt, $375 billion.

Where will such an amount of money come from? Today mortgage lending is a highly institutionalized process. All but about 12 to 15 per cent of it, moreover, comes from four classes of institutions: savings and loan associations, life insurance companies, mutual savings banks, and commercial banks. Of these, only savings and loan associations may be confidently counted on to maintain their recent rate of increase in mortgage holdings. During the new decade, the others can be expected to show declines in respect to their own mortgage investments as a ratio of the total. The difference must be made up elsewhere, and despite the most optimistic estimates of savings and loan growth, an increasing part of it will probably have to come from outside the present principal institutional sources. That there is a trend in this direction is evidenced by data prepared by the Department of Commerce for the past several years. The outside sources I refer to are individuals, pension funds, endowments, and other trust funds.

Existing facilities for tapping these sources are primitive. One of the challenges of the decade will be to develop better facilities. The possibilities are great. The potential of direct individual investment in mortgages is a thoroughly unexplored quantity but the growth of the mutual security investment funds suggests that, if suitable media were available, the results would be rewarding. About the pension and endowment areas there can be no question. Asset growth here is at a rate exceeding that of any of the principal institutional groups I have mentioned.

Some new institutional inventiveness is in order. A few encouraging efforts are under way, but more needs to be done. The original concept of private national mortgage associations, which was discarded in the legislation of 1948, might be dusted off and looked over for its possible applicability. The regulated investment company or mutual fund in the securities field offers another promising model that could, with some changes in the Internal Revenue Act, be readily adopted to the purpose.

THOSE BIG COSTLY CITIES

Testifying before the House subcommittee on housing, Architect Robert Snyder came out strongly against urban redevelopment at the cost of human scale and individual solvency. Snyder is head of the department of architecture at the Cranbrook Academy of Art.

How can we possibly permit ourselves to stimulate the redevelopment of these so-called supercities with government subsidies? If we are to justify ourselves as planners in the literal sense of the word, how can we ignore the very basic purpose for which we plan: the edification of man? Why should we continue to paste together obsolete and ill-conceived machines for communal living, when the evidence against their usefulness is so great?

We are all aware of the fact that our national economy is based upon the interaction of men (primarily living in the East) and raw materials (found mostly in the West). But how much does it cost us to bring these two together? I couldn't even

continued on page 216

venture an intelligent guess, so vast is the problem.

Now, if these great metropolitan areas do not meet the needs of man, and if they are too costly, and if they are in the wrong places, why should we spend untold billions for their rehabilitation? We could be investing the same money in such a way that we would take advantage of all of the positive factors of man's productivity and so use our resources—human and material—that we could increase our standard of living indefinitely and so expend our economy for the welfare of all.

I believe we have an obligation to ourselves to examine these problems more critically. I believe we have an obligation to future generations to plan more intelligently for their spiritual and material welfare, if we are to justify our existence as sound planners and thinkers.

I believe we must refocus our attention upon urban development rather than urban redevelopment. We must stop thinking that our present urban structures are going to take care of the new Americans who will join us in the succeeding years. We must stop thinking staticly and assume a more dynamic approach. We must develop a "new town" approach with cities no larger than 120,000 as being a more realistic solution to the future. Above all, we must reinvest our earnings in a more solvent economic tomorrow.

OH, TO BE IN ENGLAND

"The Economist" recently reported on the boom in British architectural practice specifically, and on British building generally.

New work commissioned from private architects in Britain in the first quarter of this year reached a record value of £361 million (for dollar equivalents, multiply by $2.80), an increase of one-third over both the previous quarter and the first quarter of last year. According to a survey made by the Royal Institute of British Architects, commissions for new work for public authorities showed the greatest proportionate increase—£110 million against £53 million a year earlier; the value of new hospital building commissioned during the first three months of this year was about four times that of the first quarter of 1959, reflecting the increased share of government expenditure on hospitals at the beginning of this year. New commissions for educational buildings also rose, to £56 million against £27 million in the preceding quarter and £26 million a year earlier.

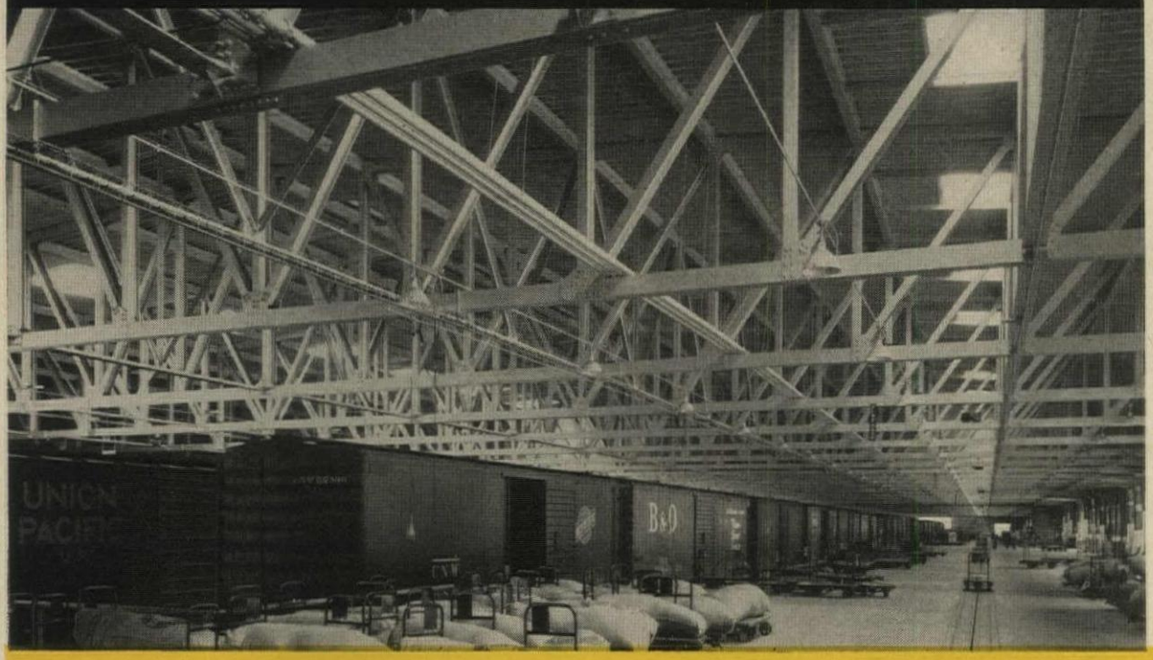
Commissions for new housing rose to £126 million, against £94 million a year earlier. About 85 per cent of this total represented work for private developers; while local councils now account for about 45 per cent of the new houses actually built in Britain, many local authorities either employ their own architects or build to contractors' plans which have not been drawn up by an architect. Commissions for banks and office buildings declined slightly, to £20 million. How much of an indication of future building activity (as opposed to potential demand) can be gained from the RIBA's survey remains to be seen. Not only is about half the building in Britain (and almost all the private industrial building) done without using the services of a private architect, but an indeterminate part of new work commissioned is abandoned before contracts are let and work begun. The credit restrictions already imposed by the government could have a considerable effect on work commissioned in the first quarter, as well as on work now being commissioned.

The RIBA states that there are now almost 3,100 private architects' practices in Britain, an increase of 4 per cent since the middle of 1958; the number of architectural staff has increased at the same rate, and now totals over 15,000. But the volume of work has increased at a much greater rate during that time: many offices would like to take an additional staff, but cannot find them, and the RIBA Appointments Department now lists over 300 vacancies in London and the Home Counties alone. This may tend to slow the progress of building work in the design stage unless the volume of new work commissioned declines in coming months. END

According to architect Leo A. Daly, this large freight depot was designed to provide completely enclosed facilities for loading, unloading, and storing train cargos. The long clear-span allows uninhibited movement for efficient freight handling, and calls for admitting natural daylight - with some provision for venting gases and smoke in the case of fire.

FREIGHT DEPOT BY LEO A. DALY CO.

DAYLIGHTING BY WASCO



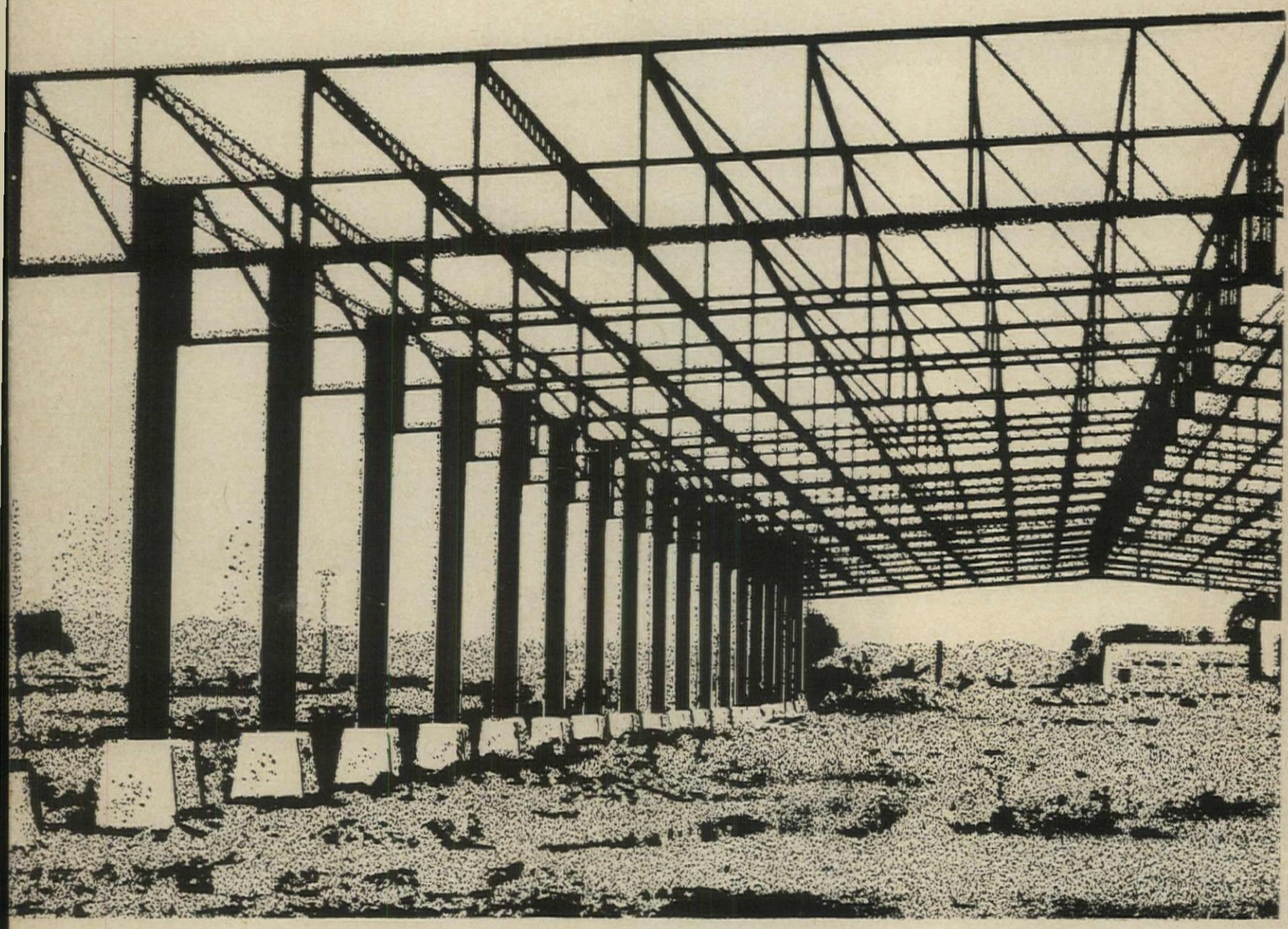
Architect Daly solved the daylighting problem in the best way possible by specifying 64 trouble-free, weatherproof Wasco Skydomes in two rows . . . running the length of the depot. This design floods the interior with pleasant, glare-free natural light that eliminates the expense of artificial lighting during the day. And he solved the need for automatic fire venting by adding Wasco Pyrodomes and Pyrovents to the roof (55 in all), located adjacent to each structural bay to halt the spread of damaging smoke or heat.

Only Wasco makes Skydomes . . . the original daylighting units . . . proved in more than ten years of service. Skydomes are available in many types — to help you solve any problem in daylighting, fire venting or roof ventilation. Call your Wasco representative, or see Sweet's File 20a/Wa.

GOOD DAYLIGHTING DESIGN STARTS WITH

WASCO SKYDOMES

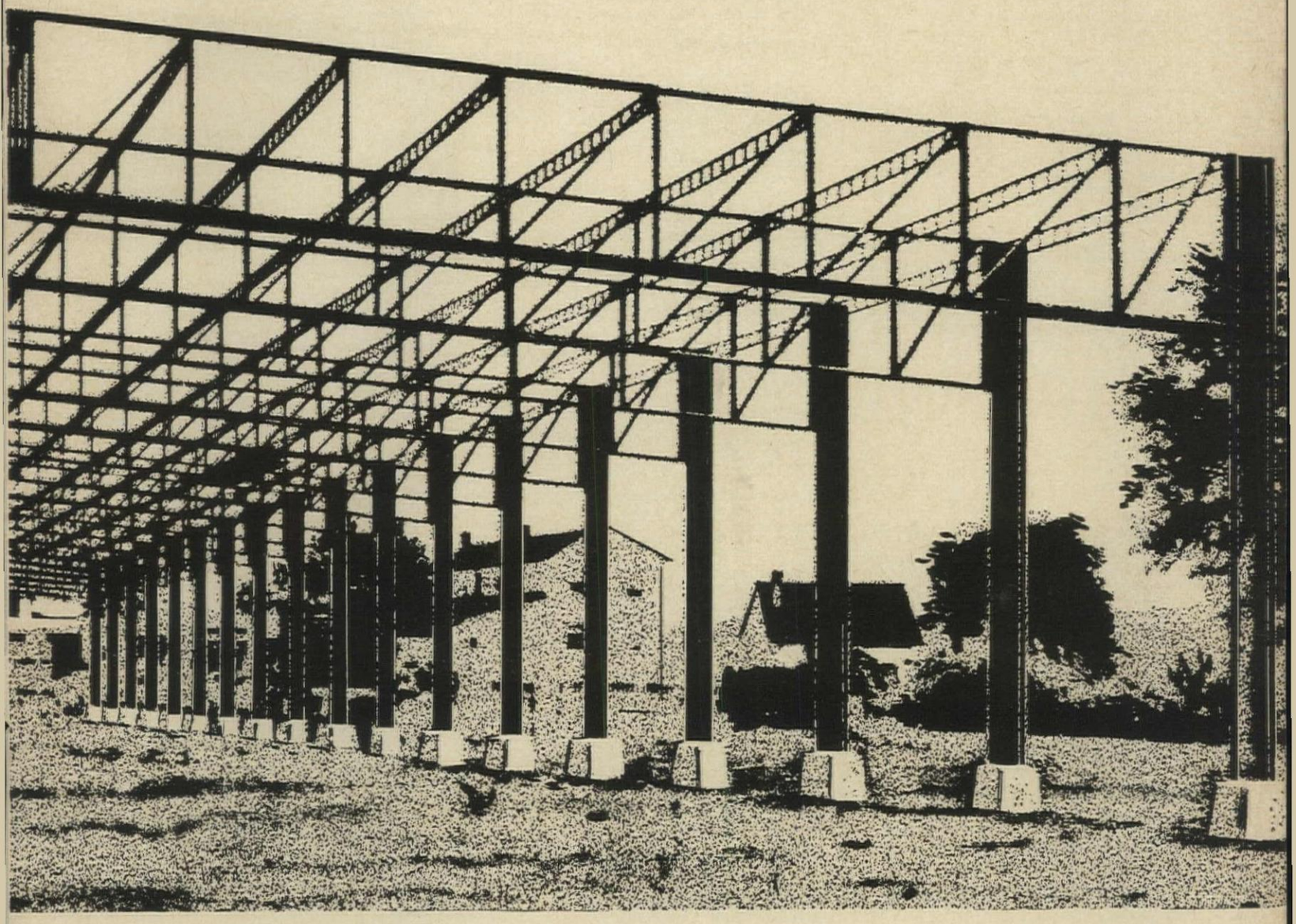
WASCO PRODUCTS, 5 BAY STATE RD., CAMBRIDGE 38, MASS.
IN CANADA: WASCO PRODUCTS (CANADA) LTD., TORONTO, ONT.



Steel pipe building frames make a strong structure lighter

Swiss Fabricating, Inc., of Pittsburgh, Pa., saves money for customers by using USS National Butt-Welded Steel Pipe for lower-cost, faster-erected building frames. This particular building will house an automobile sales agency consisting of a show room, parts and service departments and a body shop. The building is 350′ long with 80′ clear span steel pipe trusses.

Steel pipe is strong, yet it's light enough to cut the weight of a structural frame by approximately one-third. In a test performed on a 60′ clear span building designed to support 65 pounds per square foot roof load, a load of more than 182 pounds per square foot was safely handled through uniform loading. Deflection at



the peak was less than 3 3/16".

Because it weighs less, steel pipe reduces shipping costs. It also cuts maintenance costs, because there's less surface area. Less to clean. Less to paint.

USS National Butt-Welded Steel Pipe is ideal for many structural applications in buildings such as: trusses, columns, posts, scaffolds, towers, frames. It is available in sizes ½" thru 4" from your local National Tube Distributor.

For additional information, write National Tube Division, United States Steel, 525 William Penn Place, Pittsburgh 30, Pa. Ask for Bulletin #2, entitled "Pipe for Mechanical and Structural Applications."

USS and National are registered trademarks

This mark tells you a product is made of modern, dependable Steel.

National Tube Division of United States Steel

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors
United States Steel Export Company, New York

Ad Index

Italic line indicates advertising agency

from your

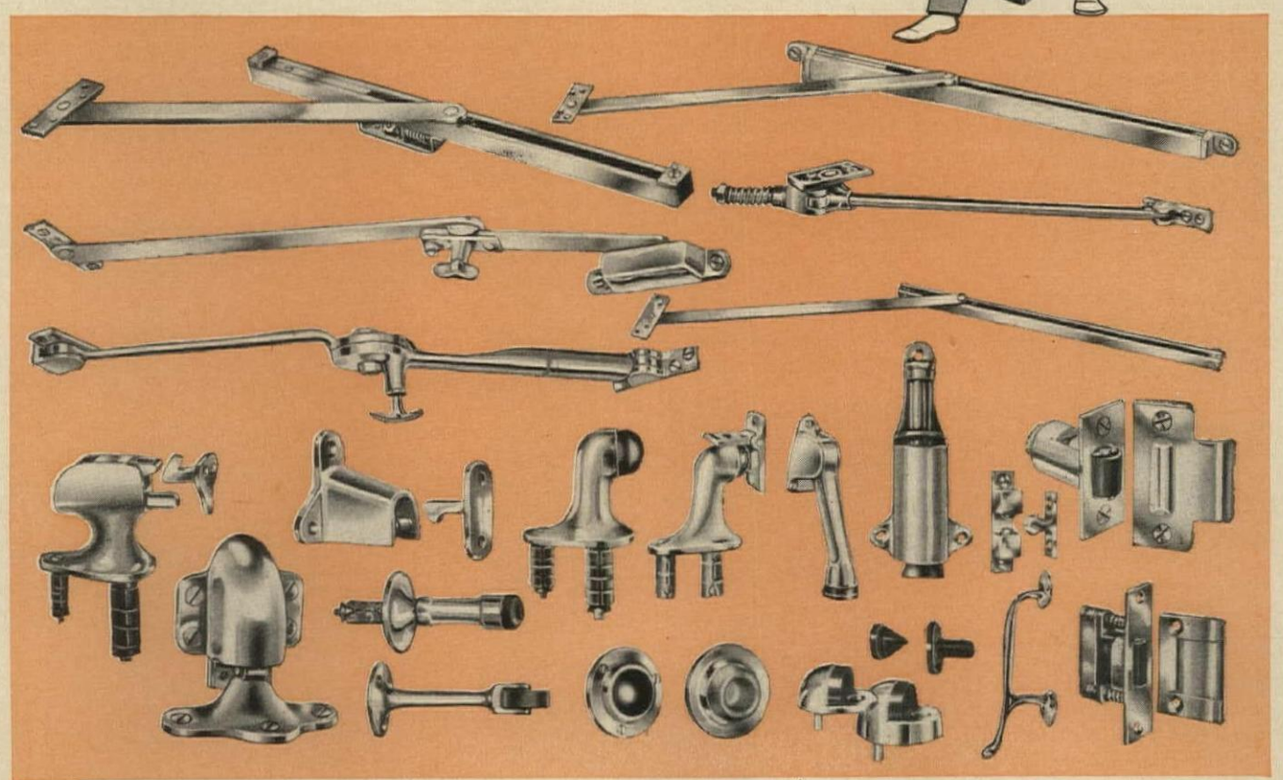
GJ DOOR CONTROL SPECIALIST

. . . the only complete line of door control hardware, enabling you to select to fit your exact functional and budget requirements.

. . . experienced analysis of every order with engineering aid when required.

. . . quality, the finest in materials and workmanship, consistent for over 35 years.

Your specification means more when you write in ***" . . . shall be GJ."***



GLYNN·JOHNSON CORPORATION

4422 n. ravenswood avenue
chicago 40, illinois

Letters

NEEDED ENCOURAGEMENT

Forum:

Many thanks for your article on Louis Kahn's medical laboratory at the University of Pennsylvania (FORUM, July '60).

In case you doubted it, and I think you sometimes do, there are a few of us who are still young enough, and perhaps foolish enough, to be seeking immortality instead of riches.

An article like this encourages us, and we sorely need it.

ROBERT F. HIGHTOWER
Architect, Grand Junction, Col.

HOW BIG THE MOTEL?

Forum:

Your article, "The changing hotel market" (FORUM, Aug. '60), is much appreciated as a compilation of data on the rapid growth of the hotel field, especially the motor-hotel segment.

But one figure needs clarification. You say the average motel consists of 55 units. But at other times you have said the average motel has 25 units.

ROBERT C. FREEMAN
Editor, "The Hotel Monthly," Chicago

▪ FORUM *was defining* new *motels, the average size of which is 55 units. The average size of all motels, new and old, is 25 units.*—ED.

Forum:

By definition, the concept of a *motor hotel* adjacent to an airport seems to contain a basic flaw.

WILLIAM N. BONHAM
Architect, Los Angeles

▪ *Like a coach flight on a jet airline?*—ED.

HIGH BIDDER

Forum:

Usually accurate FORUM slipped up in its July story on the award of Philadelphia's Eastwick project to Reynolds Metals Co. and Samuel A. and Henry A. Berger.

Is it not true that the Redevelopment Authority's choice of the plan designed for Reynolds-Berger by Dr. Constantinos A. Doxiadis "disregarded the fact that the competing home builders' corporation had offered a higher land price." A careful analysis of both bids reveals that the Reynolds-Berger offer is clearly higher than that of the competing Philadelphia Builders Eastwick Corp.

It is true that the lone member of our Authority, who dissented from the award to Reynolds-Berger, said the home builders' bid was higher. But your article neglected to mention that the undersigned promptly denied that this was so.

MICHAEL VON MOSCHZISKER
Chairman, Redevelopment Authority of the City of Philadelphia

GUGGENHEIM INSULTED

Forum:

Frank Lloyd Wright was accustomed to insults during his lifetime, among them the transformation of the Larkin Building into a parking lot and a university's threat to the Robie House. New York has succeeded in outdoing them all in the form of a white brick apartment house being completed across the street from the Guggenheim Museum (photo below). It has been argued that the museum is not in the best location. But the architectural and art world and New York are both grateful and proud of Wright's presence: it would have been proper to do his presence honor. This we have failed to do.

Throughout history the recognized masterworks have enjoyed friendly relationships with their neighbors. When will we start respecting the recognized masterworks, our architectural heritage?

ROBERT TENNENBAUM
Architect, New Haven, Conn.

TEAMWORK OR DEATH

Forum:

Perhaps the Burchard Case (Burchard was charged with having permitted an engineering corporation to practice architecture illegally under the guise of a "fictitious, nonexistent" complementary architectural partnership—FORUM, July '60) will become a *cause célèbre*. It may indeed precipitate cogent discussion, leading to a revamping of professional codes and procedures and ultimately to the architect's resumption of his central and essential role in society. Should this be the happy result, Charles Burchard will surely merit the A.I.A. Gold Medal.

Unlike some of the more doctrinaire of my A.I.A colleagues, I see little sense in bloodying our heads battering at the "package-dealers," engineers, and industrial designers whose services have been tailored to meet the demands of modern society. Instead, I urge that we reassume our high tradition as master builders and drive the encroachers from the temple by applying our superior imagination and ingenuity to produce evocative, efficient, economical buildings—on schedule, and as members of building industry teams. If we fail to do this, the profession as we know it will become extinct. Then, at some future date, the most skilled and imaginative builders will again begin to call themselves architects.

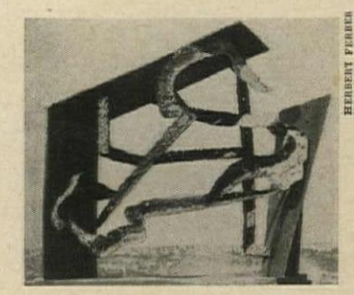
LEONARD J. CURRIE
Head, Department of Architecture
Virginia Polytechnic Institute
Blacksburg, Va.

FREEDOM FOR SCULPTORS

Forum:

This latest effort of Sculptor Herbert Ferber (photo above, right), his pioneering in the impact of space on the viewer from within a form and with its manifestations over and about the viewer, will add to the experience that form can convey. It will also further the sculptor's freedom with form uncontrolled by the bonds of utility imposed on architecture. This presentation in your issue (FORUM, Aug. '60) can open a new frontier to arts and new emotional reactions.

MAX ABRAMOVITZ
Architect, Harrison & Abramovitz
New York City



HERBERT FERBER

HOSPITAL DESIGNERS

Forum:

Through some oversight or misunderstanding, the architects who designed the nuclear survival hospital in San Antonio (FORUM, July '60)—Page, Southerland & Page (Whit Phillips, associate)—were not mentioned in your article. Although associated with Phelps & Dewees & Simmons on the project, we were responsible for its design.

LOUIS F. SOUTHERLAND
Architect, Page, Southerland & Page
Austin, Tex.